**1 . Date: 25-09-2024Armed ISR / ISTAR - MALE - General - PlatformAarok, French MALE Combat Drone from Turgis Gaillard Set to Enter ProductionURL: https://armyrecognition.com/news/aerospace-news/2024/aarok-french-male-combat-drone-from-turgis-gaillard-set-to-enter-production**

The French company Turgis & Gaillard is about to begin production of its own MALE (Medium Altitude Long Endurance) combat drone, named Aarok, as reported by Ouest France. Designed and manufactured in France, the Aarok represents a new technological development in the French military industry. First unveiled at the Paris Air Show, this drone stood out for its ability to carry a heavy weapons load while being equipped with sophisticated sensors for surveillance and intelligence missions. Follow Army Recognition on Google News at this link

Competing with American drones like the Reaper, the Aarok can fire missiles with a range of 35 km, allowing it to avoid certain air defense systems such as Russian Pantsir batteries, which have a range limited to 20 km.(Picture source: Aarok)

Part of the assembly of this drone will soon take place in Saint-Malo, a project entrusted to Gaillard ASA, a subsidiary of Turgis & Gaillard. Gaillard ASA, less known to the general public, specializes in the manufacturing and maintenance of aeronautical systems, land vehicles, and both civilian and military ships. Its establishment in Saint-Malo was confirmed by the recent sale of a 1,700 m² plot, intended for the construction of a 700 m² building. This new facility will be used to assemble prototypes, including parts of the Aarok drone. This key step in the Aarok’s production highlights Turgis & Gaillard’s ongoing expansion in the defense sector.

The Aarok is a MALE drone with a maximum takeoff weight of 5.5 tons, a wingspan of 22 meters, and a fuselage length of 14 meters, making it larger than the American Reaper. It is powered by a 1,200-horsepower turboprop engine coupled with a five-blade propeller. This drone is designed to carry up to 1.5 tons of payload, including weapons, intelligence sensors, and multi-mode radars. Its endurance reaches 24 hours with a full payload, extending to 30 hours for intelligence-only (ISTAR) missions. It can cruise at a speed of 250 knots at an altitude of 30,000 feet. Competing with American drones like the Reaper, the Aarok can fire missiles with a range of 35 km, allowing it to avoid certain air defense systems such as Russian Pantsir batteries, which have a range limited to 20 km.

In terms of sensors, the Aarok can be equipped with an optronic pod like the Euroflir 610 from Safran, which was showcased alongside the drone at the Paris Air Show. This sensor includes high-resolution optics, a laser designator, a rangefinder, and an automatic target recognition system. Thanks to its large payload capacity, the Aarok can also carry a versatile radar with maritime capabilities and ground mapping modes. Additionally, it can be equipped with electronic warfare systems (ELINT, SIGINT) and can act as a radio relay on the battlefield.

The Aarok is a MALE drone with a maximum takeoff weight of 5.5 tons, a wingspan of 22 meters, and a fuselage length of 14 meters, making it larger than the American Reaper. (Picture source: Aarok)

For combat missions, the Aarok can carry two 500 kg guided bombs or four 250 kg bombs, as well as lighter weapons. It can also be equipped with up to 16 air-to-surface missiles. This drone is designed for multi-role missions, including airstrikes, intelligence, and surveillance operations, and can operate on various types of terrain due to its automatic takeoff and landing system.

The French military already uses attack drones such as the MQ-9 Reaper, an American-made MALE drone, mainly used for strike and surveillance missions. However, the Aarok represents a significant step toward France’s technological autonomy in the field of combat drones. Developing national drones like the Aarok allows France to avoid reliance on foreign technologies while controlling the design and evolution of systems according to its own operational needs.

In a context where mastery of new military technologies is becoming crucial, the Aarok offers a strategic opportunity to strengthen France's sovereignty in defense. Turgis & Gaillard's project thus helps secure the technological future of the French armed forces and their allies.

**2 . Date: 16-07-2024Armed ISR / ISTAR - Small - General - PlatformBreaking news: Ukraine Develops REX Drone Capable of Carrying 10 kg Bombs 50 kmURL: https://armyrecognition.com/news/aerospace-news/2024/after-the-baba-yaga-ukraine-has-created-the-rex-a-homemade-drone-capable-of-carrying-more-than-10-kg-of-bombs-up-to-50-km**

After the hexacopter Babayaga, an extremely heavy bomber drone capable of carrying a 12-kilogram load over a distance of about ten kilometers, the Ukrainian team at Armadrone has introduced the REX. This drone, modeled with wings similar to an airplane (unlike the Babayaga), is the latest complete unmanned destruction system. It can locate, fix, track, and strike a target up to 45 km away, then assess the attack result. REX is designed to drop various types of explosive ordnance on enemies, ranging from 2 to 8 with a total weight of 10 kg. Follow Army Recognition on Google News at this link

Two Ukrainians engineers preparing with inerts bombs REX UAV in August 2024 (Picture source: Armadrone)

This multifunctional system is intended for reconnaissance, surveillance, fire adjustment, and inflicting fire damage operations. It has an operational range of 45 km and can fly for 1.5 hours with a takeoff mass of 16 kg and a maximum speed of 35 m/s. Developed by the Armadrone team in Ukraine and Poland, which has 7 years of experience in the field of combat drones, REX integrates advanced technologies and components, including Israeli ones. The high precision in strikes is crucial to minimize the risk of civilian casualties in combat zones. Moreover, its ability to be launched by limited means, such as by a team of two preparing and launching the drone, coupled with its endurance and payload, makes this drone particularly interesting in the ongoing war.

The system is developed taking into account combat experience and military needs. The Armadrone team in Ukraine and Poland, with 7 years of experience in creating combat drones, worked on the development. For now, information on this drone is limited as the production team is still in the phase of operational testing. We also know that REX can drop its bombs one by one or in a cascade to maximize the destructive and psychological effect on enemy positions.

REX UAV droping series of 6 inerts bombs during test in august (Picture source: Armadrone)

**3 . Date: 18-11-2024Armed ISR / ISTAR - MALE - General - Airbus to Unveil First Prototype of SIRTAP Tactical Drone by Spring 2025URL: https://armyrecognition.com/news/aerospace-news/2024/airbus-to-unveil-first-prototype-of-sirtap-tactical-drone-by-spring-2025**

Airbus has reached a milestone in the development of the SIRTAP (Sistema RPAS Táctico de Altas Prestaciones), its next-generation tactical drone designed for the Spanish Armed Forces. The final assembly line located in Getafe, near Madrid, is now operational to assemble the first two prototypes. The first unit is expected to be completed by spring 2025, followed by a series of ground tests. A flight test campaign will then commence by the end of the year.

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Capable of flying for more than 20 hours at a maximum altitude of 21,000 feet, the SIRTAP Drone can operate day and night under challenging weather conditions, including maritime environments (Picture source: Airbus)

The SIRTAP, designed to meet the growing demands for reconnaissance, surveillance, and tactical support, stands out for its advanced performance and exceptional versatility. Capable of flying for more than 20 hours at a maximum altitude of 21,000 feet, this drone can operate day and night under challenging weather conditions, including maritime environments. It is equipped with ice protection systems and extreme temperature management, making it suitable for demanding operational environments.

Its modular design allows for quick disassembly, including its wings, enabling easy transport in aircraft such as the C295. This feature ensures rapid deployment in the field, a critical asset for modern military operations. With a payload capacity exceeding 180 kg, the SIRTAP can integrate various sensors, including electro-optical/infrared systems (EO/IR/LD), SAR/GMTI radar, and electronic warfare equipment (EW, ELINT, COMINT). It is also equipped with maritime detectors and target designation systems, enhancing its ability to adapt to diverse missions.

The SIRTAP program reflects Spain's strategic ambition to bolster its technological and industrial sovereignty in defense. The Spanish Armed Forces plan to acquire nine complete systems, each comprising three drones and a ground control station. This project highlights Spain's commitment to modernizing its military capabilities while supporting its domestic defense industry.

This initiative comes amidst strong competition in the European drone market. Similar programs are emerging, such as Safran’s Patroller in France or the Eurodrone, developed jointly by Airbus, Dassault Aviation, and Leonardo, involving France, Germany, Italy, and Spain. However, the European drone market remains dominated by non-European players, particularly General Atomics with its MQ-9 Reaper and Israel’s Elbit Systems. With the SIRTAP, Airbus aims to strengthen European autonomy in this strategic sector.

Globally, the tactical drone market is experiencing rapid growth, driven by increasing demand for military and civilian applications. These systems play a central role in modern conflicts, providing essential capabilities in surveillance, reconnaissance, and strike operations.

With the assembly of the first prototype underway, the SIRTAP program continues to demonstrate its momentum and strategic importance. The upcoming tests will validate the drone’s systems before flight testing begins, assessing its performance and operational effectiveness. This flagship project underscores Spain’s ambition to become a key player in the field of tactical drones while solidifying its position within the European defense industry.

**4 . Date: 19-08-2024Armed ISR / ISTAR - MALE - General - ArmamentAKINCI UCAV Integrates New ALPAGUT Loitering Munition from ROKETSAN/STMURL: https://armyrecognition.com/news/aerospace-news/2024/akinci-ucav-integrates-new-alpagut-loitering-munition-from-roketsan-stm**

During a recent flight test, images of which were revealed on the X account of @Defence\_IDA on August 17, 2024, a prototype of the ALPAGUT loitering munition, jointly developed by ROKETSAN and STM, was spotted mounted under the wing of an AKINCI combat drone (UCAV) designed by Baykar. This test also involved other advanced munitions such as the MAM-T, guided by IIR/TV, and the TEBER-82, equipped with wings to enhance its range and accuracy. Follow Army Recognition on Google News at this link

Akinci UAV with ALPAGUT Loitering munition spotted in Turkey (Picture source: X/@Defence\_IDA )

The AKINCI, Baykar's flagship product, represents a significant advancement in combat drones. Designed for reconnaissance and attack missions, the AKINCI is capable of carrying a wide range of armaments, including air-to-air missiles, guided bombs, and, as recently observed, loitering munitions like the ALPAGUT. This drone has exceptional endurance, with a flight autonomy of up to 24 hours, and it can operate at an altitude of 40,000 feet. Equipped with advanced reconnaissance and attack capabilities, the AKINCI is powered by two turboprop engines, allowing it to carry an impressive payload. Its integration of various weapon systems, such as guided munitions and smart bombs, enhances its versatility and effectiveness on the battlefield.

The ALPAGUT munition was first unveiled at the SAHA EXPO 2022 in Turkey, sparking great interest in its capabilities and potential deployment from the AKINCI UCAV. ALPAGUT is a propeller-driven loitering munition, meaning it can stay in flight for an extended period before diving on its target with precision. This capability allows it to monitor enemy movements and strike sensitive targets with devastating effect.

The recently observed prototype shows minor modifications compared to earlier models, although its overall design remains similar. ALPAGUT is equipped with an 11 kg warhead, sufficient to neutralize a wide range of targets such as armored vehicles and lightly fortified positions. It also boasts an impressive operational range of over 60 km, allowing the operator to precisely choose the timing and location of the attack. ALPAGUT is controlled by a ground operator, making it somewhat of a hybrid between an FPV drone and an intelligent loitering munition, similar to those developed by Russia or Rheinmetall.

Unmanned combat aerial vehicle Akıncı of Bayraktar at Teknofest 2019. (Picture source: wikimédia)

The integration of ALPAGUT on the AKINCI opens up new possibilities for armed forces using these systems. The combination of an advanced UCAV platform with a loitering munition offers a significant strategic advantage, enabling long-range strikes from the launcher and with a different timing. The loitering nature of the munition allows it to stay in flight for a long time before striking its target. Additionally, ALPAGUT's autonomy and flexibility make it a formidable weapon for complex missions where avoiding enemy defenses is crucial.

With these capabilities, the AKINCI UCAV and ALPAGUT munition could play a central role in future operations led by Turkey, whether for surveillance, neutralization of high-value targets, or support for ground forces in contested environments. Today, Turkey is conducting operations in the eastern part of its territory and in a zone unilaterally declared as a buffer zone in northern Syria. ALPAGUT is therefore developed to meet the needs of these theaters of operations. Turkey has the unique characteristic of conducting operations on its own soil, where great precision is required due to the political and collateral damage implications of these operations.

The sighting of ALPAGUT under the wing of the AKINCI marks an important milestone in the evolution of combat drone capabilities. This combination of technologies demonstrates the ongoing advancements in aerial weaponry, offering increasingly sophisticated and lethal solutions for modern conflicts. The coming months will be crucial for the development and integration of these systems, as tests continue to refine their performance for eventual operational deployment.

Alpagut official relase pictures. (Picture source: ROCKETSAN)

**5 . Date: 20-09-2024Loitering Munition - Mini - Contract - Anduril Industries Secures U.S. DoD Contract for Launched Effects Technology DevelopmentURL: https://armyrecognition.com/news/aerospace-news/2024/anduril-industries-secures-u-s-dod-contract-for-launched-effects-technology-development**

Anduril Industries has been awarded a $9 million contract by the U.S. Department of Defense to develop and demonstrate launched effects technology using the Agile-Launched, Tactically Integrated Unmanned System (ALTIUS). This contract, managed by the Army Contracting Command at Redstone Arsenal, Alabama, is part of a broader effort by the U.S. military to explore advanced unmanned systems capable of operating across multiple domains. The project is scheduled for completion by September 16, 2029. Follow Army Recognition on Google News at this link

This new contract builds on recent developments in the U.S. Army's exploration of launched effects technology, particularly focusing on Anduril’s ALTIUS 700 model (Picture source: Anduril)

The ALTIUS platform, developed by Anduril Industries, is a multi-mission system designed to be launched from ground, air, or sea. Its capabilities range from standoff Intelligence, Surveillance, Reconnaissance, and Targeting (ISR&T) to kinetic engagements, radio frequency decoy operations, signals intelligence (SIGINT), communications relay, and even cyber warfare tasks. The flexibility of the system, which can be deployed across various platforms, makes it an integral part of the U.S. military's efforts to enhance operational capabilities in contested environments.

This new contract builds on recent developments in the U.S. Army's exploration of launched effects technology, particularly focusing on Anduril’s ALTIUS 700 model. Earlier this year, the Army indicated plans to make a rapid fielding decision by 2025 for a prototype based on the ALTIUS 700. The U.S. Army Special Operations Aviation Command (USASOAC) has been evaluating how to integrate these capabilities, with small drones being deployed from other platforms mid-flight. In December 2023, the Army conducted a test flight of the ALTIUS 700 prototype from a UH-60 Black Hawk helicopter, which provided crucial data on launch, flight, landing, and recovery. This test was part of a broader risk reduction strategy, ensuring the system's reliability before moving toward full deployment.

Anduril Industries leads the development of the ALTIUS 700 air vehicle, with Collins Aerospace providing the mission system, and Aurora Flight Sciences serving as the integrator. Several other companies contribute to the system's payload capabilities. Further tests are planned throughout 2024, with the Army focusing on a fully integrated version of the launched effects system. If successful, a final operational test will guide the Army’s rapid fielding decision in fiscal year 2025.

The U.S. Army sees launched effects as essential for large-scale combat operations, enabling advanced collaboration between manned and unmanned systems. These systems are expected to enhance commanders' ability to detect, identify, locate, and target threats in challenging operational environments. The ALTIUS 700 has played a significant role in these efforts, but the Army is also testing smaller versions, such as the ALTIUS 600, and is considering new designs and payload configurations.

The flexibility of the ALTIUS system, particularly its ability to launch from various platforms and accommodate multiple payload types, underscores its potential value in future combat scenarios. The Army is particularly interested in short-range systems capable of deploying payloads like electro-optical/infrared sensors, kinetic kill systems, communications relays, and radio frequency decoys.

This contract award signals continued investment by the U.S. military in developing unmanned systems capable of enhancing operational effectiveness across multiple domains, including ground, air, and sea operations.

The flexibility of the ALTIUS system, particularly its ability to launch from various platforms and accommodate multiple payload types, underscores its potential value in future combat scenarios (Picture source: Anduril)

**6 . Date: 01-08-2024ISR / ISTAR - HALE - General - Australia Welcomes First MQ-4C Triton Unmanned Aerial VehicleURL: https://armyrecognition.com/news/aerospace-news/2024/australia-welcomes-first-mq-4c-triton-unmanned-aerial-vehicle**

On July 31, 2024, the Australian government officially unveiled Australia’s first MQ-4C Triton Remotely Piloted Aircraft System, dubbed ‘AUS 1’. The unveiling ceremony took place at RAAF Base Tindal in the presence of the Deputy Prime Minister. Follow Army Recognition on Google News at this link

Australia MQ-4C Triton Unmanned Aerial Vehicle officially dubbed AUS 1 (Picture source: Australia MoD)

The MQ-4C Triton, a high-altitude, long-endurance aircraft, is designed to provide continuous surveillance of Australia’s maritime approaches. It will complement the crewed P-8A Poseidon fleet operated by the Australian Defence Force (ADF), forming a ‘family of systems’ aimed at enhancing intelligence, surveillance, and reconnaissance capabilities for defense operations.

The four MQ-4C Triton aircraft will be stationed at RAAF Base Tindal in the Northern Territory and operated by the reformed No. 9 Squadron of the RAAF, based at RAAF Edinburgh in South Australia.

This project represents a substantial investment of $900 million in the Australian industry. The investment covers the construction of facilities, network integration, engineering, logistics, component manufacturing, and maintenance support services.

Additionally, the Department of Defence has signed an interim maintenance support contract valued at $220 million with Northrop Grumman Australia. This contract will create 110 highly skilled technical jobs in South Australia and the Northern Territory, thereby strengthening local industry and supporting the regional economy.

The Deputy Prime Minister emphasized the importance of this program for national security, stating, "The MQ-4C Triton is a significant advancement for our surveillance and reconnaissance capabilities. It will play a crucial role in protecting our maritime borders and ensuring the security of our nation."

The MQ-4C Triton is capable of flying at very high altitudes for extended periods, providing uninterrupted surveillance coverage. This capability is essential for a country with a vast maritime area to monitor.

The introduction of the MQ-4C Triton marks a significant step in enhancing Australia’s defense capabilities, ensuring that the RAAF is equipped with the most advanced technologies to address contemporary security challenges.

The MQ-4C Triton is an advanced unmanned aerial vehicle (UAV) developed by Northrop Grumman specifically for the United States Navy. It is designed to carry out long-duration surveillance and reconnaissance missions in maritime environments. The Triton has impressive capabilities that enable it to operate at high altitudes, remain in the air for over 30 hours, and reach speeds of up to 330 knots.

One of the key features of the Triton is its powerful surveillance sensor, the AN/ZPY-3 Multi-Function Active Sensor (MFAS). This X-band AESA radar provides a 360-degree field-of-regard and can survey large areas of sea and land, covering millions of square miles within a 24-hour period. It is also capable of operating in all weather conditions, ensuring target identification regardless of the environment.

The Triton is equipped with advanced technology to automate target classification. It can capture high-definition radar pictures and use the onboard Automatic Identification System (AIS) to classify targets without human intervention. This automation reduces the workload for operators who only need to set the operating parameters of the aircraft.

In addition to its capabilities at high altitudes, the Triton has the ability to descend rapidly to lower altitudes. It is built with a robust fuselage to withstand potential hazards such as hail, bird strikes, and lightning.

At lower altitudes, the Triton utilizes the Raytheon MTS-B multi-spectral EO/IR sensor, which enhances its surveillance capabilities with laser designation, pointing, and range finding features. It can also stream live video to ground forces.

The Triton is powered by a Rolls-Royce AE 3007 turbofan engine, providing 8,500 pounds of thrust and demonstrating over 23 million hours of proven reliability. Triton's Electronic Support Measures (ESM) identify and locate signals emitted by maritime vessels, thereby enhancing its detection and surveillance capabilities.

Triton's multifunction active sensor radar offers unparalleled 360° views, enabling the detection and identification of sea targets with great precision. Triton's Automatic Identification System (AIS) tracks ships and identifies those that have turned off their AIS, a tactic often used by criminals. The electro-optical/infrared multispectral targeting system (MTS-B) captures high-resolution images as well as full-motion videos, offering multiple fields of view.

Triton is equipped with thermal/mechanical devices on the leading edge of the wings and V-tail, as well as a heated engine inlet to prevent ice build-up. These devices enable it to fly in marginal weather conditions without issues.

With a wingspan of 131 feet, Triton can cover long distances and stay airborne for 24 hours without refueling. It can reach a maximum altitude of over 55,000 feet and has an operational range of 8,200 nautical miles. In a single flight, Triton can monitor an area of 1 million square miles of ocean.

Northrop Grumman MQ-4C Triton Unmanned Aerial Vehicle (Picture source: Northrop Grumman)

**7 . Date: 27-09-2024General - PlatformAzerbaijan's Deftech Unveils a New Generation of Drones at ADEX 2024: From Local Design to International AmbitionsURL: https://armyrecognition.com/news/aerospace-news/2024/azerbaijans-deftech-unveils-a-new-generation-of-drones-at-adex-2024-from-local-design-to-international-ambitions**

At the fifth edition of the ADEX 2024 International Defense Exhibition held in Baku, Azerbaijan's Deftech company presented a new generation of drones. These locally developed unmanned aerial systems (UAVs) caught the attention of participants due to their advanced capabilities, covering both reconnaissance and precision strike missions. Among the drones unveiled were the DT-001, DT-101 VTOL, F-1500, F-5000E, AD-G4, and MT-100. According to the event organizers, approximately 90% of the production of these systems relies on local technologies, reflecting Azerbaijan's growing industrial and technological capacity. Follow Army Recognition on Google News at this link

The DT-101 VTOL is a long-endurance surveillance and targeting drone, equipped with a vertical takeoff and landing system (VTOL) (Picture source: Army Recognition)

The development of these drones occurs in several stages, as explained by Anar Iskandarov, a representative of the local production company. "The processes of designing these devices and shaping their aerodynamic characteristics are carried out by local specialists," he stated. Once the design is finalized, the drones undergo rigorous testing before entering production. With the help of new technologies, Azerbaijan is capable of producing UAVs for both reconnaissance and attack purposes, meeting the growing international market demand.

Since the 44-day war, which saw extensive drone use on the battlefield, international interest in Azerbaijani UAVs has significantly increased. According to Iskandarov, many countries are now interested in importing these advanced systems. One of Azerbaijan's strategic priorities is to enhance its drone export potential, as evidenced by the enthusiasm of the delegations present at ADEX 2024.

Among the models showcased, the DT-101 VTOL is a long-endurance surveillance and targeting drone, equipped with a vertical takeoff and landing system (VTOL). This model weighs between 55 and 75 kg depending on the mission configuration and has a wingspan and fuselage length of 3.6 meters. Powered by four VTOL electric motors and a 180 cc thermal engine, it can reach altitudes between 3,000 and 5,000 meters, with a flight endurance of five to ten hours. It is equipped with electro-optical (IO/EO) cameras, multispectral cameras, LIDAR, cooled FLIR systems, and SIGINT/ELINT pods for electronic warfare missions.

The DT-001 model, meanwhile, is an armed drone designed for long-duration missions, with a maximum takeoff weight between 75 and 120 kg. It shares the same dimensions as the DT-101 but is equipped with a 360 cc thermal engine, giving it a higher cruising speed of up to 130 km/h. In addition to its surveillance capabilities, this model can carry payloads for attack missions, including cameras, LIDAR systems, and electronic countermeasures. It is also equipped with anti-aircraft munitions with a range of 40 km.

The DT-001 model, meanwhile, is an armed drone designed for long-duration missions, with a maximum takeoff weight between 75 and 120 kg (Picture source: Army Recognition)

The F-1500 and F-5000E strike drones stand out for their ability to operate in hostile environments. The F-1500 model can carry thermobaric warheads weighing between 0.5 and 2.5 kg, with a maximum range of 40 km. Compact and agile, it is optimized for rapid interception missions. The larger F-5000E model has a wingspan of 2.2 meters and can carry a 5 kg payload, including anti-personnel warheads, armor penetrators, and thermobaric charges.

The MT-100 model is distinguished by its long-endurance surveillance capabilities, rising to an altitude of 100 meters to observe wide areas. Powered by electric motors, it is equipped with a 30x optical zoom camera and can also be mounted on armored vehicles for rapid deployment. Its navigation system, enhanced by a multi-channel GPS system resistant to jamming, makes it a valuable asset for deep tactical operations.

Finally, the rotor-equipped AD-G4 attack drone, capable of carrying up to four 82 mm mortar warheads, is designed for offensive missions against armored vehicles. Equipped with day/night navigation and communication systems, it can also intercept enemy signals, offering operational versatility on the battlefield.

In conclusion, these new UAVs, entirely designed and produced in Azerbaijan, highlight the country's growing role in defense technologies. With increasingly sophisticated local production and growing international interest, Azerbaijan appears ready to strengthen its position as a key supplier in the combat drone market.

The F-1500 (left) strike drones, optimized for hostile environments with thermobaric and anti-personnel payloads, and the MT-100 (right) long-endurance surveillance drone, equipped with a 30x zoom camera and jamming-resistant GPS, offer versatile capabilities for rapid interception and deep tactical operations. (Picture source: Army Recognition)

**8 . Date: 26-09-2024Armed ISR / ISTAR - Tactical - General - PlatformBAE Systems Australia Set for First Test Flight of Its STRIX Unmanned Aerial SystemURL: https://armyrecognition.com/news/aerospace-news/2024/bae-systems-australia-set-for-first-test-flight-of-its-strix-uncrewed-aerial-system**

BAE Systems Australia (BAESA) is preparing to conduct the first test flight of its STRIX Unmanned Aerial System (UAS), scheduled for mid-October 2024. This innovative project promises to transform military aerial operations with its unique vertical take-off and landing (VTOL) capability, combined with impressive range and substantial payload capacity. Follow Army Recognition on Google News at this link

BAE Systems Australia STRIX Unmanned Aerial System (Picture source: BAE Systems)

STRIX™ is a revolutionary UAS designed to deliver impactful battlefield projection through its runway independence, extended range typical of fixed-wing aircraft, and reliable autonomy. Developed by BAE Systems, STRIX™ incorporates disruptive technologies that ensure flexibility, cost-effectiveness, and scalability in response to evolving threats.

With its VTOL capability, STRIX™ does not require a runway, allowing it to be quickly deployed, even in high-risk environments. Its compact footprint allows it to be transported in a standard 20-foot container, making it an easily deployable platform for various missions, whether they are long-range operations or autonomous strikes. It is capable of carrying a 160 kg payload over a distance of up to 800 km.

STRIX™ is designed for multi-role missions, such as electronic warfare (EW) operations, support for rotary-wing aircraft units, as well as autonomous strike, intelligence, surveillance, and reconnaissance (ISR) missions, targeting, anti-submarine warfare (ASW/ASUW), and collaboration with manned platforms.

With a maximum takeoff weight of 950 kg, STRIX™ cruises at a speed of 140 knots, with a maximum speed of 200 knots. Its range varies based on the payload: with a 50 kg payload, it can cover a distance of 1510 km with an endurance of 5.25 hours, while with a 160 kg payload, it reaches 800 km with a 3-hour endurance. At full capacity with a 200 kg payload, its range is 540 km. STRIX™ can operate at altitudes ranging from 2,000 to 15,000 feet, offering significant operational flexibility.

STRIX™ benefits from BAE Systems' expertise in autonomy, drawing from its work on vehicle management systems for platforms like the MQ-28A Ghost Bat, as well as the development of the optionally crewed M113 combat vehicle program. This experience allows STRIX™ to provide goal-based mission planning and a wide range of potential payloads, making it a versatile UAS capable of executing a full F2T2EA mission chain (Find, Fix, Track, Target, Engage, Assess).

In summary, STRIX™ promises to transform the capabilities of uncrewed aerial systems by offering enhanced autonomy and flexibility, while meeting the demands of modern missions in areas as diverse as strike, intelligence, surveillance, electronic warfare, and anti-submarine warfare, serving the full spectrum of military forces.

**9 . Date: 26-09-2024Armed ISR / ISTAR - HALE - General - PlatformBayraktar KIZILELMA: Production Prototype Successfully Completes Its First FlightURL: https://armyrecognition.com/news/aerospace-news/2024/bayraktar-kizilelma-production-prototype-successfully-completes-its-first-flight**

The production prototype of the Bayraktar KIZILELMA, Turkey’s first unmanned combat aircraft, has reached a significant milestone by successfully completing its maiden flight. This new aircraft, bearing the tail number TC-ÖZB3, conducted this historic flight on September 25, 2024, from the AKINCI Flight Training and Test Center in Çorlu, in the Tekirdağ province. Follow Army Recognition on Google News at this link

The Bayraktar KIZILELMA is an unmanned combat drone developed in Turkey, designed for air combat missions with high maneuverability and a low radar signature (RCS) (Picture source: Bayraktar)

The Bayraktar KIZILELMA is an unmanned combat drone developed in Turkey, designed for air combat missions with high maneuverability and a low radar signature (RCS). Powered by a turbofan engine, it can reach a cruising speed of 0.6 Mach and a maximum speed of 0.9 Mach, with a payload capacity of 1.5 tons and an endurance of over 4 hours. It can operate at an altitude of 25,000 feet, with a service ceiling of 45,000 feet. Equipped with an AESA radar and an electro-optical targeting system, the KIZILELMA is capable of autonomous missions, including takeoffs and landings on short-runway aircraft carriers. It can carry laser-guided munitions, missiles, and long-range cruise missiles. It comes in subsonic, transonic, and supersonic versions.

Transferred to the center in July, the Bayraktar KIZILELMA PT-3 successfully passed a series of critical ground tests before its flight, including engine run-up tests, automatic taxi tests, rolling tests, and takeoff tests. This prototype, representing an advanced production version, cleared these stages successfully, paving the way for its flight under the supervision of Selçuk Bayraktar, Chairman and CTO of Baykar.

Although the test flight was short, it allowed for the completion of important system identification activities. After the flight, Selçuk Bayraktar stated that further tests would continue to refine the aircraft's capabilities and expressed his best wishes for the success of the project for the country and the nation. The KIZILELMA, with its third production version, incorporates significant advancements both structurally and in avionics architecture. Its afterburner-equipped engine enables the aircraft to approach the speed of sound, while aerodynamic improvements provide better maneuverability at high speeds. Additionally, the AESA radar installed on the aircraft ensures high situational awareness, essential for executing complex missions.

Since the launch of the Bayraktar KIZILELMA project in 2021, funded entirely by Baykar's resources, progress has been rapid. The prototype, produced in November 2022, completed its first flight in December of the same year after successfully passing a battery of ground tests. This project is part of a dynamic of accelerated innovation that continues to push the boundaries of Turkish aeronautics.

Equipped with an AESA radar and an electro-optical targeting system, the KIZILELMA is capable of autonomous missions, including takeoffs and landings on short-runway aircraft carriers (Picture source: Bayraktar)

The KIZILELMA also made a mark with its performance at TEKNOFEST 2023, where it performed formation flights alongside the Bayraktar AKINCI UCAV, SOLOTÜRK F-16, and Turkish Stars F-5 jets over Istanbul. These exceptional achievements are seen as a prelude to the future of air combat, where unmanned combat systems will play a prominent role.

In addition to its technical prowess, the KIZILELMA stands out for its ability to operate from short-runway vessels, particularly the TCG Anadolu, providing Turkey with a strategic advantage in overseas missions and the defense of the "Blue Homeland" (Mavi Vatan). This capability broadens the operational horizons of Turkish forces, enabling rapid and targeted interventions from the sea.

Baykar, the company behind the KIZILELMA, has solidified its position as a global leader in the field of armed unmanned aerial vehicles (UCAVs). Since its beginnings in UAV research and development in 2003, Baykar has generated 83% of its revenue from exports. In 2023, the company achieved $1.8 billion in exports, ranking among Turkey’s top ten companies in terms of export volume. These achievements earned the company multiple awards, including the "Export Champion" title, granted by the Defense Industry Agency and the Turkish Exporters Assembly (TİM).

In 2023, Baykar represented one-third of Turkey’s total defense and aerospace sector exports. To date, the company has signed export agreements with 33 countries for the Bayraktar TB2 UCAV and with 10 countries for the Bayraktar AKINCI UCAV. With 97.5% of its contracts based on exports, Baykar has established itself as the world’s largest exporter of armed unmanned aerial vehicles.

This dynamic of accelerated development and the increasing operational capabilities of its aerial systems position Baykar as a key player on the global military aerospace stage, with the Bayraktar KIZILELMA at the forefront of this technological revolution. The successful first flight of this third production prototype only reinforces this trajectory of innovation, as testing continues to further perfect this promising aircraft.

**10 . Date: 14-11-2024Armed ISR / ISTAR - MALE - Requirement - ArmamentBelgium Discusses Arming MQ-9B SkyGuardian Drones in Defense CommitteeURL: https://armyrecognition.com/news/aerospace-news/2024/belgium-discusses-arming-mq-9b-skyguardian-drones-in-defense-committee**

The debate over arming military drones has resurfaced in Belgium, with discussions held on November 13, 2024, during a Defense Committee meeting considering the possibility of equipping the MQ-9B SkyGuardian drones with offensive capabilities. Currently, these drones are used exclusively for observation missions, but advocates for their armament argue that it could significantly enhance Belgium’s defense capabilities in an increasingly volatile international landscape.

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In June 2024, the Belgian army announced that the first six Belgian crews had completed their initial training at General Atomics in North Dakota, with additional training scheduled (Picture source: Belgian Army)

At the center of these discussions are the MQ-9B SkyGuardian drones, which Belgium acquired in 2018 at a total cost of 160 million euros, purchasing two units. Developed by General Atomics, the MQ-9B is a next-generation remotely piloted aircraft system (RPAS) designed for medium-altitude, long-endurance (MALE) missions. With a wingspan of 79 feet (24 meters), the drone can fly over the horizon for 40+ hours in all weather conditions, while safely integrating into civil airspace. Equipped with the Lynx Multi-mode Radar, advanced electro-optical/infrared (EO/IR) sensors, and automatic takeoff and landing features, the SkyGuardian provides robust surveillance capabilities.

The SkyGuardian’s design allows it to carry up to 2,155 kg in payload across nine external hardpoints and an internal bay, suitable for integrating various sensors and precision-guided munitions. It reaches a maximum speed of 210 KTAS and boasts a range exceeding 6,000 nautical miles. Compliant with NATO standards (STANAG 4671) and civil airspace regulations, the MQ-9B includes a detect and avoid system, de-ice/anti-ice capabilities, and an airframe built to endure up to 40,000 hours of operation, making it versatile for intelligence, surveillance, and reconnaissance (ISR) missions—and potentially offensive operations if armed.

The ongoing discussions emphasize the utility of armed drones in recent conflicts, particularly in Ukraine, where such systems have shown rapid and effective response capabilities on the battlefield, reducing risks to soldiers. Proponents argue that arming drones could offer Belgium a strategic advantage, modernizing its defense posture and aligning it more closely with the practices of NATO allies.

The topic of arming the SkyGuardians has been debated in Belgium since their acquisition in 2018, with various discussions over the years exploring both tactical benefits and ethical implications. In 2021, a strategic committee highlighted the advantages that armed drones could bring to Belgian defense forces, but concerns around ethical and political issues kept them restricted to surveillance missions.

In early 2024, a proposal to arm the drones was presented but faced opposition due to ethical and legal considerations, leading to its temporary withdrawal. Later, as discussions continued, an alternative parliamentary majority showed interest in advancing the measure, but ultimately, caution prevailed, and the decision was deferred to the current executive's ongoing evaluations. Following recent elections, a working group within the Belgian Defense Committee has resumed the examination of armed drones as part of broader considerations around "autonomous weapons."

If approved, arming Belgium’s drones could offer significant strategic advantages. Operationally, this shift would provide precision strike capabilities, reducing reliance on fighter jets, which are costly and logistically challenging to deploy. Armed drones could also deliver close air support to ground forces, boosting their security and operational reach.

Additionally, with their long-endurance capabilities, these drones would allow continuous monitoring of sensitive areas, ready to respond immediately to identified threats. Aligning Belgium’s drone capabilities with NATO allies would strengthen interoperability, enhancing coherence in joint military operations, particularly in scenarios that require precision strikes to secure intervention zones.

**11 . Date: 23-07-2024Tanker - HALE - Pitch - Boeing Anticipates Production Contract for MQ-25 Stingray Unmanned Aerial Refueling Aircraft by Mid-2025URL: https://armyrecognition.com/news/aerospace-news/2024/boeing-anticipates-production-contract-for-mq-25-stingray-unmanned-aerial-refueling-aircraft-by-mid-2025**

At the Farnborough International Airshow, which began on July 22, 2024, Boeing announced preparations for a significant phase in the development of its MQ-25 Stingray, an unmanned aerial refueling aircraft designed for the U.S. Navy (USN). Troy Rutherford, the MQ-25 program manager at Boeing, stated that the USN is expected to issue the first request for proposals (RFP) for low-rate initial production (LRIP) in the second half of 2024, with a contract likely to be awarded by mid-2025. Follow Army Recognition on Google News at this link

Primarily designed to extend the combat range of carrier-based aircraft such as the F/A-18 Super Hornet and F-35C Lightning II, the MQ-25 enhances operational flexibility and endurance (Picture source: Airbus)

The MQ-25 Stingray is an unmanned aerial refueling aircraft developed by Boeing for the U.S. Navy. Primarily designed to extend the combat range of carrier-based aircraft such as the F/A-18 Super Hornet and F-35C Lightning II, the MQ-25 enhances operational flexibility and endurance. It represents the first operational carrier-based unmanned aircraft in U.S. naval aviation, marking a significant advancement.

The aircraft is equipped with sophisticated avionics and an aerial refueling system capable of delivering approximately 15,000 pounds of fuel 500 nautical miles from the carrier, fundamentally transforming the role and capability of carrier air wings.

Currently, six MQ-25s are under production at Boeing's facility in St. Louis, Missouri. Of these, one is intended for static tests while the other five are development, engineering, and manufacturing (EMD) models. These EMD models are vital as they serve as aerial test vehicles, laying the groundwork for the eventual LRIP. The first flight of an MQ-25 EMD is scheduled for December 2025.

Additionally, Boeing plans to relocate MQ-25 production to MidAmerica St. Louis Airport in Mascoutah, Illinois, by the end of 2025. This move is part of a broader strategy to transition the MQ-25 program from development to full-scale production.

In a significant development effort, Boeing's team is also focusing on internally funded software improvements. This new software would enable a USN F/A-18 Super Hornet or E-2D Hawkeye to remotely control MQ-25s. The main function of this capability is to allow aircraft requiring refueling to directly command the Stingray on its flight path and refueling operations.

This software advancement is crucial as much of it is newly created to meet the specific requirements of a new ground control station and USN contractual standards. The need for new software arises from the fact that the prototypes, which first flew in September 2019, operate under different technological frameworks.

**12 . Date: 28-08-2024ISR / ISTAR - Mini - General - Engine / PowersourceBoeing Completes 7-Hour Flight with Hydrogen-Powered SKIRON-XLE DroneURL: https://armyrecognition.com/news/aerospace-news/2024/boeing-completes-7-hour-flight-with-hydrogen-powered-skiron-xle-drone**

On August 28, 2024, Aurora Flight Sciences, a Boeing company, announced that it had completed a seven-hour test flight with the SKIRON-XLE, a small drone powered by a hydrogen fuel cell. The test took place at an airfield in Virginia, marking a progression in flight endurance for Group 2 drones. Follow Army Recognition on Google News at this link

Boeing Hydrogen-Powered SKIRON-XLE Drone (Picture source: Boeing Aurora Flight Sciences )

The SKIRON-XLE is part of the company's unmanned aerial system (UAS) lineup, which also includes the battery-powered SKIRON-X model with a 3.5-hour flight endurance. The SKIRON-XLE features electric vertical takeoff and landing capabilities combined with fixed-wing horizontal flight. It meets FAA Part 107 standards for UAS operations and is ready for beyond visual line of sight (BVLOS) flight.

For this flight, the drone was equipped with two five-liter hydrogen tanks, an Intelligent Energy brand fuel cell, a Trillium HD45 EO/IR camera, and a lithium polymer (LiPo) auxiliary battery. The total takeoff weight was 54 pounds. The drone landed after seven hours of flight, having depleted all of its hydrogen tanks while still maintaining a sufficient safety margin in its battery.

Jason Grzywna, Senior Director of Products at Aurora Flight Sciences, stated that the SKIRON-XLE achieves longer flight durations while remaining easy to use and deploy. He added that the drone exemplifies Aurora’s role as an innovator and integrator of advanced flight technologies.

The SKIRON-XLE, specifically designed for long-range reconnaissance, was first announced in June 2024. It features three payload mounting locations and offers custom payload integration. The ground control station for the drone is equipped with Kutta Technologies' Unified Ground Control Station (UGCS) software, and a 2.4G 10W radio with a tracking antenna that enables a command and control range of up to 75 km.

The SKIRON-X drone combines hybrid VTOL and fixed-wing capabilities, facilitating vertical take-offs and landings while extending range and endurance due to its fixed-wing design. It is designed for simplified operations with user-friendly mission planning software that enables easy implementation of mission changes, even mid-flight. This drone is operated by a two-person crew and features a quick setup process. Its flexible ISR payload offers superior ground resolution with options for EO/IR camera payloads, and a modular nosecone design for rapid payload swaps or custom integration. The system boasts military-grade radio for long-range, high-bandwidth communications and is mesh network compatible, enhancing its versatility in various operational scenarios. Additionally, the SKIRON-X is Part 107 compliant, allowing for broader operational and training flexibility and includes anti-collision lights to enhance safety.

The SKIRON-X is adept in a variety of use cases: It excels in ISR missions, providing high-resolution imagery and maintaining a low noise profile, essential for covert operations. It is also suitable for research and development, particularly in testing autonomous technologies and multi-vehicle unpiloted operations, with customizable options for integrating various R&D payloads. In firefighting, it can significantly aid in assessing the state and spread of fires, optimizing firefighting strategies and resource allocation. For operations requiring extended communication capabilities, such as BVLOS missions or acting as a communications relay, SKIRON-X supports extended flight times and communication ranges necessary for operating over challenging terrains or in emergency scenarios.

**13 . Date: 19-09-2024Tanker - HALE - General - PlatformBoeing Develops New Land-Based Version of MQ-25 Autonomous Aerial Refueling System for US Air ForceURL: https://armyrecognition.com/news/aerospace-news/2024/boeing-develops-new-land-based-version-of-mq-25-autonomous-aerial-refueling-system-for-us-air-force**

On September 16, 2024, at the Air & Space Forces Association’s Air Space & Cyber Conference, Boeing unveiled a new land-based version of its unmanned MQ-25 tanker, specifically adapted to meet the future refueling needs of the U.S. Air Force (USAF). This new design significantly expands the capabilities of the device, aiming in particular to refuel Collaborative Combat Aircraft (CCA) in contested airspace. Follow Army Recognition on Google News at this link

Boeing MQ-25 Autonomous Aerial Refueling System (Picture source: Wikimedia)

According to Boeing officials, this new land-based model of the MQ-25, named the MQ-25 Land-Based Variant (LBV), features a wingspan extended to 92 feet from the 75 feet of the Navy's Stingray version. This modification eliminates the need for folding wings, a requirement for the carrier-based version, and increases the fuel capacity in the wings by 40%.

Although this project is developed internally at Boeing, it is designed in consultation with the Air Force. It aligns with the Air Force’s ongoing analysis of the Next-Generation Aerial Refueling System (NGAS), whose conclusions are expected this fall. This analysis anticipates an integrated approach involving multiple systems, including a smaller autonomous tanker for operations in high-risk areas.

John Scudi, interim director of the MQ-25 advanced capabilities program and senior manager of business development at Boeing, emphasized that the land-based adaptation of the MQ-25 could also serve intelligence, surveillance, reconnaissance, airborne early warning, and electronic warfare missions. The LBV was presented at the conference with an image showing the device receiving fuel from a KC-46’s wing refueling pods. Notably, the LBV uses a hose-and-drogue system instead of a refueling boom, initially focusing on aircraft equipped with a receiver probe.

Scudi also mentioned that the use of the LBV could be extended to refuel CCAs, anticipating possible adaptations to meet the more complex needs of future CCA increments. Additionally, the LBV could be used to refuel U.S. Navy fighters already equipped with receiving receptacles.

The innovative design of the LBV seeks to maximize the investment already made by the U.S. Navy in the MQ-25 program, with the main change being the widened wings. After thousands of hours of modeling and simulation, Boeing settled on the 92-foot wingspan, which not only increases fuel capacity but also adds two additional 3,000-pound pylons that could carry refueling equipment or other systems, including weapons.

As a reminder, the MQ-25 Stingray, intended for the Navy, is an unmanned aerial refueling aircraft developed by Boeing for the U.S. Navy. Designed primarily to extend the combat range of carrier-based aircraft such as the F/A-18 Super Hornet and the F-35C Lightning II, the MQ-25 increases operational flexibility and endurance. It represents the first operational carrier-based unmanned aircraft in U.S. naval aviation, marking a significant advancement.

The aircraft is equipped with sophisticated avionics and an aerial refueling system capable of delivering approximately 15,000 pounds of fuel 500 nautical miles from the carrier, fundamentally transforming the role and capability of carrier air wings.

Currently, six MQ-25s are under production at Boeing's facility in St. Louis, Missouri. Of these, one is intended for static tests while the other five are development, engineering, and manufacturing (EMD) models. These EMD models are essential as they serve as aerial test vehicles, laying the groundwork for the eventual Low-Rate Initial Production (LRIP). The first flight of an MQ-25 EMD is scheduled for December 2025.

Additionally, Boeing plans to relocate MQ-25 production to MidAmerica St. Louis Airport in Mascoutah, Illinois, by the end of 2025. This move is part of a broader strategy to transition the MQ-25 program from development to full-scale production.

In a significant development effort, Boeing's team is also focusing on internally funded software improvements. This new software would enable a USN F/A-18 Super Hornet or E-2D Hawkeye to remotely control MQ-25s. The main function of this capability is to allow aircraft requiring refueling to directly command the Stingray in its flight path and refueling operations.

**14 . Date: 17-09-2024Armed ISR / ISTAR - MALE - Contract - Bosnia and Herzegovina Orders Bayraktar TB-2 Drones from TürkiyeURL: https://armyrecognition.com/news/aerospace-news/2024/bosnia-and-herzegovina-orders-bayraktar-tb-2-drones-from-tuerkiye**

Bosnia and Herzegovina has confirmed the acquisition of at least six Bayraktar TB-2 tactical drones from Türkiye, aiming to strengthen its military capabilities in a region marked by tensions. Bosnian Defense Minister Zukan Helez announced that the first units would be delivered starting in January 2025, with operators already undergoing training in Türkiye. Follow Army Recognition on Google News at this link

The TB2 is a Medium Altitude Long Endurance (MALE) drone capable of conducting intelligence, surveillance, and reconnaissance (ISR) missions, as well as armed attacks (Picture source: Bayraktar)

Since the Dayton Accords were signed in 1995, the country has been divided into two autonomous entities: the Croat-Bosnian Federation and the Republika Srpska, under the supervision of a collegiate presidency rotating between representatives of the three communities (Serbs, Bosniaks, and Croats). Despite this structure, tensions persist, fueled by external influences. Serbia exerts its influence through Republika Srpska, led by Milorad Dodik, who has expressed secessionist ambitions. Meanwhile, Croatia maintains close ties with the Croat community in Bosnia and Herzegovina. Türkiye, on the other hand, supports the Bosniak community and has been strengthening its military cooperation with Sarajevo since 2021. Turkish President Recep Tayyip Erdogan reiterated his country's support during a meeting with his Bosnian counterpart Denis Bećirović on September 14, stating, "We have always stood by Bosnia and Herzegovina since its declaration of independence, and we will continue to do so." He emphasized the importance of the country's territorial integrity and sovereignty. The Bosnian Armed Forces, whose equipment is largely outdated, will benefit from these new drones to modernize their arsenal. Currently, their aerial fleet primarily consists of a few Bell UH-1, Mi-8T, and Gazelle helicopters. The Bayraktar TB-2 drones, with a wingspan of 12 meters, a length of 6.5 meters, and a take-off weight of 650 kg, can carry four guided missiles, including MAM-L and MAM-C models. They offer a 24-hour endurance with a range of about 150 km. The Bayraktar TB2, developed and manufactured by the Turkish company Baykar, entered production in 2014 and has since been acquired by several countries, including Türkiye, Ukraine, Qatar, Libya, and Azerbaijan, with over 110 platforms currently in service in Türkiye alone. The TB2 is a Medium Altitude Long Endurance (MALE) drone capable of conducting intelligence, surveillance, and reconnaissance (ISR) missions, as well as armed attacks. It has a line-of-sight (LOS) communication range, an endurance of up to 27 hours, and an operational altitude of 18,000 feet, with a maximum service ceiling of 27,000 feet. Equipped with advanced features such as fully autonomous take-off and landing, automatic flight control with a triple-redundant autopilot system, and a 150 kg payload capacity, the Bayraktar TB2 can carry four laser-guided smart munitions, including Roketsan MAM-L and MAM-C. It allows for precision strikes using an onboard laser pointer for target acquisition. The TB2 has proven its combat effectiveness in operations in Syria, Libya, and the Nagorno-Karabakh conflict, playing a crucial role in neutralizing various air defense systems, radars, and armored vehicles. These drones gained significant attention during the conflict in Ukraine, where they were used by Ukrainian forces. Additionally, Kosovo ordered a dozen units in 2023, citing ongoing tensions with Serbia. Meanwhile, the European Union continues to oversee the EUFOR Althea mission in Bosnia and Herzegovina to ensure compliance with the Dayton Accords and prevent any resurgence of conflict. Despite this international presence, internal tensions persist, fueled by foreign influence and the ambitions of certain factions. The acquisition of Bayraktar TB-2 drones by Bosnia and Herzegovina reflects a desire to strengthen its defense capabilities and uphold its sovereignty in the face of regional challenges. This decision also signals a strategic rapprochement between Sarajevo and Ankara in military cooperation.

**15 . Date: 24-09-2024ISR / ISTAR - MALE - Contract - Brazilian Air Force Acquires New Hermes RQ-900 Surveillance Drone after CrashURL: https://armyrecognition.com/news/aerospace-news/2024/brazilian-air-force-acquires-new-hermes-rq-900-surveillance-drone-after-crash**

On September 24, 2024, the Brazilian Air Force (FAB) announced the purchase of a new Elbit Hermes 900 (RQ-900) drone to replace the one lost in May during a rescue mission in the state of Rio Grande do Sul. This acquisition, made official in the Official Gazette of the Union on September 10 through Contract Extract No. 50/2024, amounts to 50 million reais, approximately 9 million US dollars. Follow Army Recognition on Google News at this link

Ebit System Hermes RQ-900 Surveillance Drone (Picture source: Wikimedia)

The agreement was signed between the São Paulo Aeronautical Material Park (PAMA-SP), responsible for maintaining various military aircraft, and AEL Sistemas, the Brazilian subsidiary of Israeli manufacturer Elbit Systems. The purchase was made without a public tender, in accordance with Brazilian public procurement law, to ensure logistical standardization of the armed forces' equipment.

The drone lost in May 2024 belonged to the First Squadron of the Twelfth Aviation Group (1º/12º GAv) of the FAB, based at Santa Maria Air Base (BASM). The aircraft was on an aerial surveillance mission to support rescue operations for flood victims in southern Brazil when it suffered a technical failure and crashed. The drone, an Hermes RQ-900 model, is known for its medium-altitude, long-endurance (MALE) flight capabilities, allowing it to monitor large areas for extended periods.

The acquisition of the new drone was justified by the need to maintain uniformity in the Brazilian armed forces' equipment. The Elbit Hermes 900 drone, already widely used by the FAB, is a crucial component of Brazil’s aerial surveillance and rapid response strategy, as demonstrated by its use during recent natural disasters.

The FAB is not the only branch of the Brazilian military using drones in its operations. The Brazilian Army and Navy also operate unmanned aerial vehicles (UAVs) for various strategic purposes. These initiatives include the Army Aviation Program, the Integrated Border Monitoring System (SISFRON), and the Full Operational Capability Acquisition Program (OCOP), which foresee increased use of drones for surveillance, reconnaissance, and border security.

Drones such as the Hermes RQ-900 have proven useful not only in traditional military operations but also in disaster relief missions, as seen during the devastating floods in Brazil. The RQ-900 model is capable of flying at medium altitudes for over 30 hours, providing real-time imagery to ground teams and enabling better coordination of rescue efforts.

The Hermes RQ-900 drone boasts impressive technical specifications, making it a top-tier surveillance and reconnaissance platform. Designed to be operated by a two-person ground crew, it can carry a payload of 450 kg, offering considerable flexibility for sensors, communication equipment, or weaponry. With a length of 8.3 meters and a wingspan of 15 meters, the aircraft has a gross weight of 1,100 kg, powered by a Rotax 916 engine producing 160 kW (210 hp), allowing it to reach a maximum speed of 220 km/h. In terms of endurance, it can remain airborne for up to 36 hours at a maximum altitude of 9,100 meters, providing extended coverage for long-duration missions. Additionally, it is compatible with weapons systems such as the Spike missile, enhancing its role not only in surveillance but also in targeted strike operations.

The Hermes 900 is equipped to carry up to four six-person life-rafts, mounted on its wings. Using its onboard maritime radar, the UAS detects survivors in distress. Upon identification, the UAS deploys its Electro-Optic/Infra-Red (EO/IR) payload for visual confirmation. A rapid calculation of the optimal drop point is then performed, allowing the UAS to release the life-rafts from a low altitude of 600 feet, delivering them precisely at a safe distance from the survivors. The life-rafts undergo a controlled inflation process upon release, which is completed when they reach the water.

The Hermes 900 is a next-generation multi-role MALE (Medium-Altitude Long-Endurance) UAS, developed by Elbit Systems. It is designed for over-the-horizon, persistent multi-mission operations and boasts a best-in-class payload capacity of 350 kg. The Hermes 900 is suitable for missions such as area dominance and persistent ISTAR (Intelligence, Surveillance, Target Acquisition, and Reconnaissance), as well as ground support, maritime patrol, and integrated multi-platform, multi-sensor operations.

With its cutting-edge, flexible payload configurations, the Hermes 900 is capable of carrying a range of systems, including standard and long-range EO/IR/laser, SAR/GMTI & MPR, COMINT/DF, COMINT GSM, COMMJAM, ELINT, EW, hyperspectral systems, large area scanning systems, and wide-area persistent surveillance payloads.

Mission management is handled with a high degree of autonomy via the Hermes Ground Control System (GCS), which can coordinate both Hermes 900 and Hermes 450 operations simultaneously. The system supports two concurrent missions from a single GCS using two ground data terminals (GDTs). The Hermes 900 has been adopted by the IDF and various international customers, positioning it as a leading MALE UAS.

**16 . Date: 30-08-2024Armed ISR / ISTAR - Small - General - Brazilian Army Enhances Its Fight Against Illegal Mining with the Deployment of Nauru 500C DronesURL: https://armyrecognition.com/news/aerospace-news/2024/brazilian-army-enhances-its-fight-against-illegal-mining-with-the-deployment-of-nauru-500c-drones**

On July 27, 2024, the Brazilian Army announced a renewed effort to combat the illegal mining that is devastating indigenous territories by deploying the high-tech drone, Nauru 500C. This unmanned aerial vehicle, transported by an H-36 Caracal helicopter from the Falcon Squadron of the Brazilian Air Force, represents a significant advancement in surveillance and environmental protection efforts. Follow Army Recognition on Google News at this link

XMobots Nauru 500C Unmanned Aerial Vehicle (Picture source: Brazilian MoD)

Developed by XMobots, the Nauru 500C is an advanced platform designed for surveillance and reconnaissance operations, particularly suited to challenging environments and security missions. It is distinguished by its exceptional four-hour flight autonomy, allowing extensive coverage of monitored areas. Thanks to its VTOL (Vertical Take-Off and Landing) design, it can operate in confined or hostile areas, which is crucial for missions in hard-to-access regions such as dense forests or high-risk urban zones.

The drone is equipped with high-resolution sensors that enable precise mapping of large areas. With sensors such as the XM3, it can capture high-quality images with planimetric accuracy of less than 5 cm at 120 meters above ground level. This capability is enhanced by integrated RTK (Real-Time Kinematic) technology, ensuring high precision for projects requiring exact measurements. Suitable for BVLOS (Beyond Visual Line of Sight) operations, the Nauru 500C can be equipped according to the specific needs of the mission, including multispectral cameras for precision agriculture or ISR systems for surveillance and reconnaissance. This allows it to support various types of missions, thereby increasing its flexibility and applicability in different operational contexts.

Under the supervision of the Management and Operations Center of the Amazon Protection System (CENSIPAM), the Nauru 500C has been specifically deployed to map and monitor areas affected by unauthorized mining activities, particularly in the Boa Vista region and the Yanomami territory. These regions, often inaccessible and difficult to monitor, will benefit from the advanced technology of the drone to perform reconnaissance and real-time information collection missions. Captain Bruno Tunes, one of the leaders of CENSIPAM, explains the importance of this initiative: "By working jointly with civilian and military entities such as ICMBio, IBAMA, the Federal Police, and the Armed Forces, we can not only monitor but also take proactive measures against environmental violations. The Nauru 500C is a valuable tool in our arsenal, allowing extensive and continuous monitoring of targeted areas."

Thanks to these capabilities, the Nauru 500C positions itself as a powerful tool for security, surveillance, and reconnaissance applications, providing operators with the ability to conduct complex missions with efficiency and precision. For more information on its technical specifications.

**17 . Date: 09-09-2024Armed ISR / ISTAR - Small - General - PlatformBrazilian Army Tests XMobots Nauru 1000C Vertical Take-Off and Landing Drone for Surveillance MissionsURL: https://armyrecognition.com/news/aerospace-news/2024/brazilian-army-integrated-xmobots-nauru-1000c-vertical-take-off-and-landing-drone-for-surveillance-missions**

The Brazilian Army has integrated the Nauru 1000C drone into its operations, in collaboration with the Brazilian manufacturer XMobots. This unmanned aerial system (UAS) is designed for defense and surveillance missions. Operational tests were conducted by the 7th Mechanized Cavalry Regiment from August 27 to 29, 2024, in Sant’Ana do Livramento to assess its capabilities. Follow Army Recognition on Google News at this link

Xmobots Nauru 1000C Vertical Take-Off and Landing Drone (Picture source: Xmobots)

The Nauru 1000C is a VTOL (Vertical Take-Off and Landing) type drone, equipped with a hybrid propulsion system. It has a wingspan of 7.7 meters, a length of 2.9 meters, and can reach a maximum altitude of 10,000 feet with a ten-hour endurance. Its cruising speed is 60 knots.

The drone integrates redundant autopilot systems for enhanced safety. It is equipped with XSIS sensors that include an electro-optical camera, an infrared sensor, a laser rangefinder, and SAR and GMTI systems for surveillance. The mobile ground control station can accommodate three drones and includes data terminals with telecommunication systems.

The army received over 860 hours of theoretical and practical training on operating the drone, provided by trainers accredited by the National Civil Aviation Agency of Brazil. This program ensures that operators are qualified to effectively use the Nauru 1000C.

The Nauru 1000C is primarily deployed in defense, security, and surveillance missions, marking a significant advance in the Brazilian Army's operational capabilities.

The Brazilian Army has adopted the Nauru 1000C drone, developed by XMobots, to enhance its surveillance and defense capabilities. This drone is specially designed for complex operations where precise and prolonged surveillance is crucial. It can be controlled from a 2.5-ton mobile station, set up in a container, which serves as an operational shelter.

The shelter is designed to store three remotely piloted drones, three ground control stations, and two ground data terminals that integrate telecommunication systems with automatic targeting. This allows for significant flexibility and responsiveness during field operations. The shelter also provides space for the operational team, ensuring comfort and efficiency during missions.

The ground control station is equipped with 21.5-inch touchscreens, instruments for the RPA’s primary data, and command and control systems to pilot the UAS and manage its mission payloads. This advanced technology enables precise management of the drone and optimal exploitation of its surveillance and reconnaissance capabilities.

The integration of the Nauru 1000C into the Brazilian Army's arsenal meets several strategic objectives. Firstly, it enhances the army's capability to conduct ISTAR (Intelligence, Surveillance, Target Acquisition, and Reconnaissance) missions, which are essential for border surveillance and national security. Secondly, Brazil seeks to modernize its military equipment and increase its self-reliance in the manufacturing of defense technologies. Lastly, the Nauru 1000C allows effective surveillance in various weather conditions, which is crucial for a country with as diverse environments as Brazil.

As a reminder, on July 27, 2024, the Brazilian Army unveiled its strategic deployment of the Nauru 500C drone to enhance its operations against the illegal mining activities devastating indigenous territories. This high-tech drone, developed by XMobots, marks a significant improvement in the army's ability to conduct surveillance and reconnaissance missions.

**18 . Date: 27-12-2024Fixed Wing - Armed ISR / ISTAR - HALE - General - Breaking News: Turkish air Force to Receive First Operational Anka-3 Stealth Unmanned Combat Aerial VehicleURL: https://armyrecognition.com/news/aerospace-news/2024/breaking-news-turkish-air-force-to-receive-first-operational-anka-3-stealth-unmanned-combat-aerial-vehicle**

The Turkish Air Force (TurAF) will receive its first operational Anka-3 stealth Unmanned Combat Aerial Vehicle (UCAV) from Turkish Aerospace Industries (TAI), marking a significant milestone in Turkey's efforts to develop indigenous unmanned aerial systems. The delivery, reported by the X account Turkish Century on December 26, 2024, represents a critical step in modernizing the Turkish military's drone capabilities, following the success of the earlier models in the Anka series. The Anka-3 is designed to be a highly versatile platform, capable of carrying out various missions from reconnaissance and surveillance to precision strikes. Follow Army Recognition on Google News at this link

The Anka-3 is Turkey's advanced stealth unmanned combat aerial vehicle (UCAV), designed for versatile missions including reconnaissance, surveillance, and precision strikes. (Picture source: ScreenShot Youtube video)

The Anka-3 is a cutting-edge Turkish-made drone equipped with several advanced features that set it apart from its predecessors. One of the key characteristics of the Anka-3 is its stealth design, which significantly reduces its radar cross-section and allows it to operate in contested airspace with a much lower risk of detection by enemy radar systems. The drone is powered by a jet engine, enabling it to achieve speeds of up to 0.7 Mach (around 425 knots) and to operate at altitudes of up to 40,000 feet. This high performance is complemented by a maximum takeoff weight of 6,500 kg, with the ability to carry a payload of up to 1,200 kg, including advanced munitions such as the SOM-J cruise missile and Small Diameter Bombs (SDBs).

What makes the Anka-3 especially notable is its operational versatility. While it was initially developed as a reconnaissance and surveillance platform, the Anka-3 can also execute precision strike missions. The drone’s ability to stay airborne for up to 10 hours makes it ideal for long-duration missions, and its capacity to operate over extended ranges via beyond-line-of-sight (BLOS) communication systems ensures that it can be deployed in complex, dynamic environments. This flexibility will allow the Turkish Air Force to use the Anka-3 across a wide spectrum of military operations, from strategic intelligence gathering to tactical strikes.

The delivery of the Anka-3 to the Turkish Air Force not only enhances Turkey’s defense capabilities but also provides an opportunity for the country to continue building its expertise in drone warfare. As the TurAF integrates the Anka-3 into its operations, Turkish drone pilots will gain valuable hands-on experience with one of the most advanced UCAVs in the world. This experience will be critical in developing new tactics and strategies, particularly in effectively employing the Anka-3 in modern combat scenarios. In addition, the operational use of the Anka-3 will provide military planners with valuable insights into how these advanced drones can be integrated into broader military strategies.

The Anka-3 is also a symbol of Turkey's broader strategy to reduce reliance on foreign military technologies by developing and producing its own advanced systems. This is particularly important for the Turkish Air Force, which has been looking to expand its fleet of unmanned systems to enhance its operational capabilities. The successful deployment of the Anka-3 also underscores the strength of Turkey's indigenous defense industry, which has been rapidly growing and expanding its influence both within Turkey and on the global stage.

In the near future, the Anka-3 will likely be joined by other advanced drones, such as the Kızılelma UCAV, developed by Baykar. The Kızılelma, which is designed for both air-to-air and air-to-ground combat, will complement the Anka-3 in the Turkish Air Force's growing fleet of unmanned systems. The Kızılelma’s ability to operate from short runways, such as those found on Turkey's amphibious assault ship TCG Anadolu, makes it a highly versatile platform for various military applications. Together, the Anka-3 and Kızılelma will give the Turkish Air Force a potent combination of stealth, speed, and firepower, allowing Turkey to take a leading role in the rapidly evolving field of unmanned aerial warfare.

With the delivery of the Anka-3, Turkey is firmly positioning itself as a major player in the global drone market, showcasing its ability to produce world-class UAVs. The country's growing capabilities in this field have already attracted interest from several international buyers, and the Anka-3, with its advanced stealth features and high-performance specifications, is expected to be a key asset in Turkey's defense export portfolio. As the Turkish Air Force continues to integrate these advanced systems, it will enhance its military capabilities and provide a blueprint for other nations looking to strengthen their unmanned systems fleets.

In conclusion, the induction of the Anka-3 into the Turkish Air Force marks a new chapter in Turkey's defense modernization efforts. This advanced UCAV will not only enhance the operational flexibility of the Turkish military but will also provide a significant boost to the country's defense industry. With the integration of the Anka-3, and the potential future addition of platforms like the Kızılelma, Turkey is set to become a global leader in unmanned aerial warfare, with the capability to shape military strategies and defense technologies for years to come.

**19 . Date: 03-09-2024Armed ISR / ISTAR - MALE - Contract - Canada to acquire MQ-9B SkyGuardian Drones to monitor Arctic OceanURL: https://armyrecognition.com/news/aerospace-news/2024/canada-to-acquire-mq-9b-skyguardian-drones-to-monitor-arctic-ocean**

The Canadian government has confirmed its plans to enhance its technological presence in the Arctic by purchasing 11 high-tech drones from an American company for a total of $2.5 billion. These MQ-9B SkyGuardian drones, manufactured by General Atomics, will be based at 14 Wing Greenwood in Nova Scotia and 19 Wing Comox in British Columbia, with some of their missions also focusing on the Arctic. Follow Army Recognition on Google News at this link

General Atomics MQ-9B SkyGuardian Drone (Picture source: Canada MoD)

Originally, the drones were to have their own advanced operational site in the Arctic to facilitate specific operations with two aircraft and maintenance personnel. However, this plan has been modified. The drones will now be deployed as needed at existing advanced operational bases in the Arctic, sharing space with other Royal Canadian Air Force planes. These bases will benefit from new or renovated hangars, integrated into NORAD's modernization efforts.

The Arctic environment poses particularly rigorous challenges for drone operations. Extreme conditions, with temperatures dropping to -35 degrees Celsius, isolated and icy runways, and limited satellite coverage, require specific adaptations. The transmission of flight instructions and surveillance data is crucial, and adapting the drones to these constraints has delayed delivery initially scheduled for 2025 to 2028.

In addition to environmental challenges, the lack of experience among Canadian military personnel in operating large drones has been noted as an additional obstacle. Nevertheless, the MQ-9B SkyGuardians are designed to be versatile, capable of carrying various weapons, including 250- and 500-pound bombs, as well as low-collateral-damage munitions, for both domestic and international missions.

In addition to surveillance and attack missions on international targets, the drones will play a crucial role in national sovereignty patrols, surveillance of major events, and information gathering during natural disasters.

A new $65 million command center is also under construction in Uplands, Ottawa, and is scheduled to be completed by 2028. This 6,000 square meter facility will house nearly 200 military personnel responsible for operating and controlling the drones. This announcement follows a controversy where the Canadian Forces and National Defence initially declared the location secret, although public documents later clarified and exposed the details of the project.

This investment in drone capabilities underscores Canada's commitment to maintaining its sovereignty in the Arctic while modernizing its defense capabilities in cooperation with NORAD's requirements, despite the daunting challenges posed by the Arctic environment.

The MQ-9B SkyGuardians are designed for long-endurance missions, capable of flying for over 28 hours over distances up to 7,200 kilometers. They will operate with a maximum take-off weight of 5,670 kilograms and can reach speeds of up to 390 km/h, with an operational ceiling of 13,500 meters. The fleet will include six remote cockpits, manned by pilots, sensor operators, and mission intelligence coordinators, allowing the Canadian Armed Forces to conduct extensive surveillance operations using a variety of sensors.

**20 . Date: 14-10-2024Cargo - MALE - General - China Announces Production of First 6-Ton Zhang Ying R6000 Tiltrotor UAVURL: https://armyrecognition.com/news/aerospace-news/2024/china-announces-production-of-first-6-ton-zhang-ying-r6000-tiltrotor-uav**

China has unveiled the first images of the Zhang Ying R6000, produced at the Wuhu Aviation Industrial Park. This 6-ton tiltrotor UAV, initially showcased by private company United Aircraft at the 2024 Singapore Airshow, is the world’s first in its category. Designed to carry ten passengers, the R6000 is currently intended for civilian missions, focusing on cargo and passenger transport, and features advanced technical specifications that set it apart from traditional aircraft.

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The R6000 was displayed in commercial livery at the Singapore Airshow 2024, highlighting its civilian application, while images on United Aircraft’s website also reveal it in Chinese Air Force livery, reflecting the company’s military-civil integration strategy (Picture source: United Aircraft)

With a cruising speed of 550 km/h, a maximum altitude of 7,620 meters, and a range of 4,000 kilometers, the R6000 demonstrates China’s technological ambitions in aviation and its approach to civil-military integration.

The R6000, also referred to as the UR6000, was displayed in a commercial livery at the Singapore Airshow, underscoring its initial role for civilian applications. However, images on United Aircraft’s website also show the UAV in the livery of the Chinese Air Force, an acknowledgment of the military-civil integration policy encouraged by the company. According to a United Aircraft representative, the tiltrotor is primarily designed for civilian operations, a statement aimed at reducing speculation regarding possible military applications.

The R6000 project builds on United Aircraft's prior success with uncrewed coaxial helicopters developed for firefighting and emergency response missions. Previous models, such as the 600-kg TD550 and 350-kg TD220, have enabled the company to gain expertise in autonomous systems across various applications. Flight tests of the TD220, initiated a decade ago under company founder Tian Gangyin, eventually secured a military contract, establishing United Aircraft’s standing in the Chinese aviation sector.

The R6000 project builds on United Aircraft's prior success with uncrewed coaxial helicopters developed for firefighting and emergency response missions (Picture source: United Aircraft)

The R6000’s architecture includes an innovative design, featuring a straight, top-mounted wing and two vertical tails that enhance aerodynamics in horizontal flight and stability during vertical flight transitions. United Aircraft has kept the engines confidential, though the propulsion system is reported to include a variable-speed gearbox to adjust thrust between vertical and horizontal flight modes.

As a forward-looking tiltrotor model, the R6000 reflects United Aircraft’s strategy of combining military and civilian technology. The first prototype is expected to be presented later this year at the Zhuhai Airshow. Although the model is currently intended for civilian missions, it remains of interest to international defense analysts, given the company’s recent successes in the military sector.

With its large-capacity design, the R6000 could redefine standards for long-range UAVs, capable of transporting passengers or cargo at unprecedented speeds and altitudes for an uncrewed aircraft of this size. Through this innovation, China not only affirms its technological capabilities in civil aviation but also pushes the boundaries of civilian and military applications.

**21 . Date: 16-07-2024Cargo - MALE - General - PlatformChina releases first video of national made heavy cargo droneURL: https://armyrecognition.com/news/aerospace-news/2024/china-release-first-video-of-national-made-heavy-cargo-drone**

China has unveiled a video of its cargo drone, the HH-100, tested last April, developed by Xi'an Aircraft Industry (a subsidiary of the Aviation Industry Corporation of China (AVIC)), now known to be manufactured by Tengden Industries, a company specialized in the aerospace industry. On April 3rd, the drone conducted taxiing and pre-takeoff maneuvers, and on June 12th, 2024, the HH-100 completed its first flight. This opens up new possibilities for freight delivery in remote areas, with many potential applications for the Chinese military in terms of delivery and even evacuation of the wounded.

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HH-100 during tests on the taxiway (Picture source CGTN)

With a robust design that supports a maximum takeoff weight of 2,000 kilograms and a payload capacity of 700 kilograms, this local innovation is poised to significantly enhance the speed and efficiency of delivering essential supplies in crisis zones. The taxiing and ground maneuvers were tested in April 2024, and the first flight took place in June 2024.

The HH-100's operational capabilities allow it to travel up to 2,000 kilometers at cruising speeds of 300 km/h, ensuring rapid delivery of food, medicine, and other critical supplies to affected areas. This range and speed surpass many existing models, enabling quicker reactions to urgent needs, which is crucial during the initial hours following a disaster when roads are often unavailable.

Moreover, the drone's ability to operate at altitudes up to 5,000 meters makes it particularly valuable in reaching remote or hard-to-access regions often hit hardest by natural calamities. Whether navigating through mountainous terrains or areas cut off by floods, the HH-100 can safely and efficiently transport aid where needed.

Introducing such technology could dramatically cut down the response time in disaster-stricken areas, thereby saving lives and reducing the overall impact of natural disasters. As countries around the world grapple with the increasing frequency and intensity of these events, the deployment of advanced drones like the HH-100 could become a critical component in national emergency management strategies.

China's development of the HH-100 underscores its commitment to leveraging technology for humanitarian aid. This move enhances its disaster response capabilities and sets a benchmark for global disaster relief efforts. As the world looks towards more innovative solutions to tackle emergency scenarios, drones like the HH-100 are likely to play a pivotal role in shaping the future of disaster response.

This unique drone system combines a UAV with a dedicated ground station. The HH-100 boasts several key advantages: affordability, high cargo capacity, and the distinction of being entirely built using domestically sourced components.

The service is scheduled to begin in the fall of 2024. It represents a solution for natural crises in remote areas, but the drone can also provide a more conventional cargo delivery option. However, it is certain that the drone will reduce transportation costs and human variables. This paves the way for the development of increasingly larger drones, and perhaps even passenger transport drones in the coming years.

HH-100 released video (Picture source X/@Nickatgreat1220)

**22 . Date: 28-06-2024General - PlatformChina Reportedly Tested Advanced Fighter Jet with Detachable DronesURL: https://armyrecognition.com/news/aerospace-news/2024/china-reportedly-tested-advanced-fighter-jet-with-detachable-drones**

According to the South China Morning Post, China has reportedly succeeded in testing a new aircraft that combines a stealth fighter with two detachable drones. This innovative design was demonstrated at an airport located at the southern edge of the Mu Us Desert in Ningxia, northwestern China. However, no photos of this aircraft have been obtained. Follow Army Recognition on Google News at this link

AI-generated illustration image showing a Chinese fighter jet working in cooperation with UAVs. (Picture source: Army Recognition)

The stealth fighter, equipped with a twin-engine turbofan and an integrated fuselage with delta wings, executed a maneuver during the test flight. Segments of each wing detached from the main aircraft, transforming into two "flying wing" drones powered by electric fans. This information should be taken with caution as no images of this event have yet been shared.

However, Chinese media continue to explain the test proceedings: "Despite a brief jolt caused by the sudden reduction in wing area and the shift in the aircraft's center of gravity, both the fighter and the drones quickly stabilized, demonstrating the effectiveness of the aerodynamic design and automatic control algorithms."

According to Du Xin, a senior engineer at the Aeronautical Technology Institute of the China Aerodynamics Research and Development Center (CARDC), this successful test flight validates a new concept for the next-generation fighter of the Chinese Air Force. The design represents an advanced mode of collaborative manned/unmanned combat, integrating multiple aircraft with different functions for coordinated flight.

In an article published on May 29 in the Chinese journal Advances in Aeronautical Science and Engineering, Du and his colleagues explained that this approach addresses issues such as speed discrepancy and range incompatibility between manned and unmanned aircraft, achieving complementary advantages.

Yang Wei, the chief designer of the J-20 aircraft, mentioned that China's future stealth fighters will focus on combat alongside drones. The J-20, China's primary stealth fighter, is undergoing tests for a two-seater variant to enhance interaction capabilities with drones.

The next-generation stealth fighter design includes two drones attached to the trailing edge of the aircraft's delta wings. Unlike previous attempts to fix aircraft to the wingtips, Du's team adopted a "rear edge docking configuration," connecting the leading edges of the drones to the trailing edge of the main wing. This configuration allows for more stable flight but poses significant challenges due to drastic changes in the aircraft's center of gravity and focal point during separation.

Du's team developed a new algorithm to accurately analyze various disturbances, including wind changes, during separation. Both the jet and the drones use the FCC-100 flight control computer from Northwestern Polytechnical University, capable of complex calculations and reliable control.

The test flight date remains classified, but the project reportedly demonstrates advances in aircraft stability and control, paving the way for real-world applications. Chinese scientists are also exploring new technologies such as plasma stealth equipment and airflow for future fighters. However, as no official communication has been made public about the test, it is prudent to remain cautious about the veracity of this information, and we must wait for potential additional information from Chinese authorities.

**23 . Date: 17-05-2024ISR / ISTAR - Small - General - Colombia Enhances Surveillance Capabilities with Israeli VTOL Thunder B DronesURL: https://armyrecognition.com/news/aerospace-news/2024/colombia-enhances-surveillance-capabilities-with-israeli-vtol-thunder-b-drones**

According to the Spanish newspaper Infodefensa, dated May 16, 2024, the Colombian National Police (PNC) will integrate the VTOL (Vertical Take-Off and Landing) Thunder B tactical drones from BlueBird Aero Systems into their arsenal. This technological upgrade aims to replace the BlueBird SpyLite drones, in use since 2015. The Thunder B model has been selected for its ability to meet specific intelligence, surveillance, and reconnaissance needs, thanks to its advanced vertical take-off and landing capabilities. Follow Army Recognition on Google News at this link

BlueBird Thunder B Vertical Take-Off and Landing Drone (Picture source: IAI)

The PNC's choice of Thunder B drones, equipped with VTOL capabilities, demonstrates a strategic evolution in their surveillance approach. These drones, intended for intelligence, surveillance, and reconnaissance (ISR) missions, are particularly suited to the tactical demands of the armed forces due to their agility in take-off and landing maneuvers.

According to the terms of the agreement made in 2022 with BlueBird Aero Systems, three Thunder B units will initially be received, although the exact delivery date remains to be confirmed. These advanced devices offer an impressive range of 150 kilometers and can remain on a mission for up to 13 consecutive hours, with full HD video transmission capabilities.

The technical specifications of the Thunder B are also noteworthy. The drone measures 1.9 meters in length, 4 meters in width, and 0.34 meters in height, with a maximum weight of 13 kilograms. Capable of flying at speeds up to 120 km/h, it can reach a ceiling of 5,100 meters. Take-off and landing maneuvers are powered by batteries, while horizontal flight is propelled by combustion.

This acquisition is a key step for the PNC, enhancing its ability to conduct surveillance operations more effectively and with high-tech technology, suited to the varied challenges of modern security and defense missions. The Thunder B drones are thus expected to play a crucial role in Colombia's intelligence strategies, demonstrating the country's ongoing commitment to improving its defense and security capabilities.

The VTOL system is designed for pinpoint vertical takeoff and landing, enabling operation in confined areas at any time. This system is highly adaptable, equipped with a range of high-performance sensors, communications tools, and sophisticated software algorithms tailored for various missions. Additionally, it ensures covert operations with minimal acoustic, visual, thermal, and radar signatures, and it is engineered to maintain functionality in environments where GPS is compromised, thanks to its multi-layer protection against GPS jamming.

The system also features advanced datalinks that uphold mission continuity even in COMJAM environments through the integration of three communication links. It is robust and designed to operate optimally in severe weather conditions and extreme terrains. The VTOL is user-friendly, with rapid deployment capabilities, a small required crew of just two, and no necessity for a prepared area. It includes an intuitive, mission-oriented Ground Control Station (GCS). Furthermore, the system is highly reliable, incorporating multiple system redundancies and advanced, field-proven avionics. It also offers low life-cycle costs, with affordable acquisition and maintenance expenses.

**24 . Date: 05-09-2024Loitering Munition - Mini - General - PlatformCyberHEAT: Advanced Loitering Munition System based on Ukraine war feedbackURL: https://armyrecognition.com/news/aerospace-news/2024/cyberheat-advanced-loitering-munition-system-based-on-ukraine-war-feedback**

The CyberHEAT is an advanced loitering munition system developed by the Military Armament Technology Institute. It is designed to deliver precise strike capabilities while adapting to various operational conditions. This device is specifically engineered to carry the GX-4 family warheads and stands out for its operational flexibility. Follow Army Recognition on Google News at this link

CyberHEAT ammunition presented by WITU at MSPO 2024. (Picture source: Army Recognition)

The CyberHEAT is distinguished by its ability to take off vertically from any surface, thanks to its "winged" design. This feature allows it to operate from constrained spaces, thereby increasing its versatility in operational settings. Additionally, the system can also be dropped from a carrier platform, providing an extra dimension to its deployment options.

The system is designed for single-person operation, facilitating its integration into military operations. It offers a flight time of 45 minutes and an operational range of 20 kilometers, with a maximum unidirectional range of 40 kilometers. Its maximum speed reaches 150 km/h, while its optimal speed is 70 km/h. The CyberHEAT can attain a maximum altitude of 3000 meters (9842 feet).

The CyberHEAT is designed to function under electromagnetic interference due to its ability to dynamically adjust the power and frequency of its radio link. It can also operate without GNSS support, enhancing its resilience in disrupted environments.

In terms of communication, the system uses encrypted telemetry on 868/900/915 MHz frequency bands. For video transmission, it is equipped with either 5.8 GHz digital or 1.3 GHz analog technologies, offering flexibility depending on operational needs.

The CyberHEAT is equipped with a digital 1080P camera with a wide-angle lens or an analog camera with a resolution ranging from 720P to 1080P, providing high-quality imaging for surveillance and reconnaissance missions. The system’s armament consists of GX-4 warheads, tailored to the specific requirements of strike missions.

At the WITU stand, CyberHEAT loitering munitions capable of carrying lighter Belma GX-4 warheads (weighing 1.6 kg) were also showcased. The advantages of this solution include the capability to launch from any surface without the need for a special launcher. CyberHEAT can also be dropped by the CyberHUB multirotor aircraft described above. The system is designed to operate in the presence of significant electromagnetic interference and without satellite navigation assistance. The operational range of CyberHEAT extends from 20 km (with the possibility of returning to the starting point) up to 40 km. Experience from the war in Ukraine shows that once fired, munitions will not return, primarily for the safety of the operator.

**25 . Date: 04-12-2024Fixed Wing - Research - HALE - General - PlatformDassault's Neuron Combat Drone Resumes Operations to Shape Future of French Air ForcesURL: https://armyrecognition.com/news/aerospace-news/2024/dassaults-neuron-combat-drone-resumes-operations-to-shape-future-of-french-air-forces**

According to information published by Challenges magazine on December 4, 2024, after a decade of successful trials and a brief period in storage, the Neuron stealth combat drone demonstrator, developed by Dassault Aviation, is set to resume operations. This strategic decision marks a critical step in the advancement of French aerial capabilities as the Ministry of Armed Forces prepares for the deployment of a future stealth drone to operate alongside the Rafale fighter jet in its F5 configuration, planned for the early 2030s.

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The DGA plans to contract Dassault to reactivate the Neuron, bolstering France's combat drone leadership (Picture source: Dassault)

The Neuron, a flying testbed, demonstrated its capabilities between 2012 and 2022, completing 170 test flights. These trials validated groundbreaking technologies, including advanced stealth features, controlled autonomy, and integration into connected command environments. Currently stored at Air Base 125 in Istres, the drone will soon be restored for a new series of tests. The French Defense Procurement Agency (DGA) is expected to grant Dassault Aviation a contract to reactivate the demonstrator, reaffirming France's standing among global leaders in combat drone development.

Developed through an ambitious European partnership involving six countries—France, Italy, Sweden, Spain, Greece, and Switzerland—the Neuron is more than a technological program. It has enabled European engineering teams to sustain and enhance advanced technological expertise. Its achievements include precision strikes from an internal weapons bay, stealth evaluation against radar and infrared threats, and autonomous air-to-ground missions. The program also highlighted the efficiency of an innovative industrial management model based on integrated digital collaboration among European partners.

The Neuron's return coincides with a significant announcement: the development of a combat drone to complement the Rafale F5, the future iteration of France's flagship fighter jet. Scheduled for operational readiness by 2033, this drone will embody next-generation military technologies. Drawing on the Neuron's advancements, it will feature advanced stealth capabilities, close collaboration with piloted aircraft, and autonomous control with human oversight. This integration is designed to enhance the French forces’ technological edge in future conflicts.

France's strategy places it as a key player in the evolving competition for combat drone technology. While the Neuron remains a demonstrator, it lays a foundation for industrial and operational sovereignty. By combining autonomous drone capabilities with piloted platforms, this initiative redefines aerial operations, making them more adaptable, responsive, and resilient.

This effort goes beyond technology validation. By reactivating the Neuron and advancing a new stealth drone, France demonstrates its foresight in addressing the demands of modern warfare. These innovations provide an immediate edge in aerial dominance while establishing a framework for the next generation of integrated systems, where drones and aircraft collaborate in swarms to navigate increasingly complex and digitalized battlefields. This technological ambition also highlights opportunities for broader European cooperation to remain competitive on the global stage.

**26 . Date: 08-05-2024Armed ISR / ISTAR - Small - General - PlatformDSA 2024: Meet Falcon-SIHA, DASAL's Latest Drone Equipped with a 1000-Shot Rifle.URL: https://armyrecognition.com/news/aerospace-news/2024/dsa-2024-meet-falcon-siha-dasals-latest-drone-equipped-with-a-1000-shot-rifle**

At the Defence Service Asia (DSA) 2024 in Malaysia, DASAL introduced the Falcon-SIHA, an advanced rotary-wing drone designed for executing diverse missions efficiently. The Falcon-SIHA features a two-axis stabilized motion system, which allows it to operate with enhanced precision, crucial for deploying its stabilized 5.56 mm rifle capable of carrying up to 1000 rounds. The drone’s recoil-dampening system increases its stability and firing accuracy.

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The Falcon-SIHA by DASAL equipped with a 1000-Shot Rifle at DSA 2024 (Picture source: ArmyRecognition)

This drone is optimized for day and night missions, with capabilities to display and record images and videos in real-time. It supports autonomous and semi-autonomous flights, adjusting to mission requirements as needed. The Falcon-SIHA's smart battery management system ensures continuous mission capability, and it can autonomously return to its base if the communication link is lost.

With a maximum take-off weight of 70 kg, the Falcon SIHA can reach a maximum flight altitude of 3000 meters above sea level and fly at a maximum horizontal speed of 55 km/h. It has a payload capacity of 15 kg, an operational radius of 6 km, and can fly up to 25 minutes on a single charge.

In terms of navigation and communication, the Falcon SIHA includes a redundant GNSS system with tracking mode, and offers optional features such as obstacle avoidance, anti-jam GNSS solutions, and LTE/4G communication capabilities. It can also define no-fly zones and supports various types of map data.

DASAL, a recognized name in the defense sector, continues to expand its range of drones with the Falcon family, which includes models like the Falcon SIHA, Falcon DAD, and Falcon-C15. Each drone is tailored to meet specific needs in various mission environments, demonstrating DASAL’s commitment to innovation and advanced technology.

The Falcon-DAD, also known as the "Drone Hunter," is a rotary-wing drone specifically designed to neutralize or capture threatening drones. Like the Falcon-SIHA, it has a maximum take-off weight of 70 kg, operates within temperatures of -20°C to +50°C, and has an operational radius of 6 km. It can reach a maximum flight altitude of 300 meters and fly up to 25 minutes.

The Falcon DAD is equipped with an integrated net system to effectively capture adversary drones. It also utilizes data from its integrated radar and imagery from an electro-optical and infrared camera system to accurately identify and neutralize aerial threats.

Technical specifications for the Falcon DAD include day and night mission execution, real-time image and video display and recording, autonomous and semi-autonomous flight capabilities, and a plug-and-play gimbal. The drone also features a smart battery management system to support mission endurance.

Additional features include the capability to define no-fly zones, support for various map types compatible with RASTER and DTED formats, and optional functions like obstacle avoidance, anti-jam GNSS solutions, and LTE/4G communication. The system also ensures an autonomous return to base in case of communication link failure.

**27 . Date: 13-05-2024Small - General - PlatformDSA 2024 : Pen Aviation unveils Pen 35 last born of Reco UAVURL: https://armyrecognition.com/news/aerospace-news/2024/dsa-2024-pen-aviation-unveils-pen-35-last-born-of-reco-uav**

At DSA 2024, Pen Aviation unveiled the latest member of its family of fixed and rotary wing unmanned aerial systems, the PEN35, available in both fully electric and hybrid versions. Founded in Malaysia in 2016, Pen Aviation specializes in customized solutions for the aviation market and began designing and producing UAS under the Pen UAS brand in 2019. Follow Army Recognition on Google News at this link

Presentation of Pen35 at DSA 2024 in Malaysia (Picture source: Army Recognition)

To date, the company's portfolio included two rotary-wing models, the fixed-wing PEN 55Vone, a helicopter-type aircraft with a maximum takeoff weight of 55 kg and a payload of 15 kg, and the much larger PEN 1360, where the name also indicates the takeoff weight, with a payload of 770 kg at full fuel. A fixed-wing model with VTOL capabilities, the PEN 23, comes in two models, VE and VH, with electric and hybrid propulsion respectively, and a maximum weight of 23 kg. The Pen 23 has already received an order from a military client, which the company declined to mention.

Two propulsion systems are also offered for the new family member, the PEN 35, which has a clear maximum takeoff weight of 35 kg. The PEN 35's architecture is very similar to that of the PEN 23, featuring an aerodynamic fuselage, high carbon and fiberglass wings, and a double tail beam. However, the tailplane layout is different; the smaller airframe has a sort of inverted V structure while the PEN 35 features a horizontal plan with vertical rudders. The propulsion group providing forward thrust when the aircraft flies aerodynamically is located at the rear of the fuselage, powering a two-blade propeller; under each of the booms, which extend in front of the wing, are two rotors each powered by an electric motor, the four providing sufficient lift for takeoff and landing. A four-legged landing gear ensures enough ground clearance to keep the rotors off the ground and provide adequate distance for potential optronic payloads, the prototype exhibited at DSA being in a fully clean configuration.

The PEN 35 measures 2360 mm in length, 700 mm in height, and has a wingspan of 3920 mm. It carries a useful payload of 8 kg and can fly at a maximum speed of 140 km/h, with a cruising speed between 90 and 125 km/h, and up to an altitude of 5,000 meters. Endurance varies between the VE electric and VH hybrid configurations; the former lasts 3.5 hours while the latter, which includes a thermal engine for forward propulsion, reaches up to 8 hours. It can also be equipped with a 400 W alternator to handle energy-intensive payloads. The standard data link ensures an operational range of 40 km, but a range of 100 km can be achieved using a different link.

The PEN 35 ground mobile control station weighs 25 kg and measures 1199 x 419 x 234 mm. It is designed to minimize human workload, with all functions including takeoff and landing automated. The PEN 35 is certified SAIL II thanks to its redundant system architecture and can thus fly beyond visual line of sight (BVLOS). Four levels of data transfer system (DTS) are available, the main one being based on RF with frequencies selectable by customers to comply with local requirements, a backup DTS based on SATCOM, an emergency DTS based on RF operating on 868 MHz or 433 MHz, and finally a safety DTS operating on 2.4 GHz, the latter being optional. The PEN 35 is equipped with a flight termination system with a safety parachute.

The PEN 35 is proposed for intelligence, surveillance, and reconnaissance missions, search and rescue, security, mapping, or cargo delivery. It can be equipped with several types of gimbaled electro-optical sensor suites. DGMIND SAS France, a spin-off of Pen Aviation specializing in digital solutions aimed at automating operational processes of UAS, provides the ADATMMA module (Automatic Detection And Tracking of Multiple Moving Assets) that enables the detection and tracking of multiple targets simultaneously with real-time geolocation. Three different ADATMMA packages based on AI are available, respectively for land, maritime, and search and rescue missions. The PEN 35 can be equipped with a phone locator, a loudspeaker, self-inflating floats, and other types of payloads.

During the DSA show, Pen Avionics signed a memorandum of understanding with Safran Electronics and Defense. Thanks to this strategic alliance, both entities will be able to define work-sharing elements for the integration of Safran's airborne optronic systems, Euroflir 410, on the PEN UAS systems, including the PEN1360V, and explore opportunities for mutually beneficial cooperation.

**28 . Date: 17-05-2024Armed ISR / ISTAR - HALE - General - Eurodrone Program Advances with Successful Preliminary Design ReviewURL: https://armyrecognition.com/news/aerospace-news/2024/eurodrone-program-advances-with-successful-preliminary-design-review**

Airbus Defence and Space, the prime contractor for the Eurodrone program, announced on May 16, 2024, that the Preliminary Design Review (PDR) has been successfully completed. This significant milestone was achieved in collaboration with OCCAR (Organisation for Joint Armament Cooperation) and representatives from the four customer nations: France, Germany, Italy, and Spain. The PDR was attended by the three major sub-contractors, Airbus Defence and Space Spain, Dassault Aviation, and Leonardo. Follow Army Recognition on Google News at this link

Artist rendering of the future design of the Eurodrone. (Picture source Airbus)

The PDR (Preliminary Design Review ) is a crucial step in developing the Eurodrone, demonstrating that the initial design has matured sufficiently to advance to the detailed design phase. This review included various technical assessments and evaluations, such as Wind Tunnel Testing to confirm the aerodynamic configuration and the validation of a fully representative Digital Twin. The PDR ensures that the overall design meets operational capability requirements.

Jean-Brice Dumont, Head of Air Power at Airbus Defense and Space, emphasized the importance of this achievement, stating, "Performing the Preliminary Design Review for the development of Eurodrone represents an important step forward for this key European defense program. It shows a real joint effort and collaborative spirit from all industrial partners and the Customer community to ensure European sovereignty and independence in this critical segment of unmanned long endurance ISTAR capability."

The successful PDR marks the transition of the Eurodrone program into the next phase, aiming for the Critical Design Review (CDR). The CDR will be the final step in closing the architecture and system design, solidifying the blueprint for this advanced unmanned aerial system.

Equipped with cutting-edge technology, the Eurodrone is designed to be a cornerstone of future combat air systems. It will play a vital role in international conflict prevention and crisis management, providing superior operational capabilities in Intelligence, Surveillance, Target Acquisition, and Reconnaissance (ISTAR) missions. The Eurodrone will ensure that the participating nations maintain operational superiority in critical defense segments.

Since its inception, the Eurodrone program has benefitted from both physical and digital design philosophies. It continues to demonstrate the European defense industry's collaborative spirit and technical expertise.

**29 . Date: 28-12-2024Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformExclusive: China Demonstrates WZ-9 Divine Eagle in Flight First Anti-Stealth Drone Detecting Stealth AircraftURL: https://armyrecognition.com/news/aerospace-news/2024/exclusive-china-demonstrates-wz-9-divine-eagle-in-flight-first-anti-stealth-drone-detecting-stealth-aircraft**

According to a video published on December 28, 2024, the WZ-9 "Divine Eagle," China’s large high-altitude long-endurance (HALE) unmanned aerial vehicle (UAV) designed for anti-stealth missions, was recently spotted in flight. This development highlights China’s rapid advancements in drone technology over the past decade, underscoring its growing capabilities in counter-stealth warfare. Developed by the 601 Institute/SAC, the WZ-9 represents a significant step forward in China’s efforts to detect and counteract stealth technologies used by advanced military forces worldwide. Follow Army Recognition on Google News at this link

The WZ-9 Divine Eagle captured in flight showcases its unique twin-fuselage design and advanced radar capabilities, marking a significant leap in China's efforts to counter stealth aircraft on the modern battlefield. (Picture source: China Social Network)

Detecting stealth aircraft has become one of the most critical challenges on the modern battlefield. Stealth technology, employed by advanced aircraft like the F-22 Raptor and B-2 Spirit, is designed to evade traditional radar systems by reducing radar cross-sections and minimizing thermal and acoustic signatures. This capability allows stealth aircraft to penetrate enemy defenses undetected, delivering precision strikes with little warning. For militaries worldwide, countering this advantage is a top priority, as failing to detect stealth assets can result in significant strategic vulnerabilities. However, overcoming stealth technology is immensely difficult due to the sophistication of modern materials, design techniques, and electronic warfare measures, which require innovative radar systems, multistatic detection networks, and advanced data integration to accurately locate and track these elusive targets.

The WZ-9’s innovative design distinguishes it from other UAVs. Its twin-fuselage structure, connected by a small canard wing, ensures both aerodynamic efficiency and structural integrity. The main wing, spanning 35 meters, extends across the rear fuselage, supported by twin large vertical tail fins. A medium-thrust turbofan engine, positioned between the tail fins and above the main wing, powers the drone. Additionally, a prominent SATCOM antenna is embedded within the head bulge on the port side, enhancing its communication capabilities.

What truly sets the WZ-9 apart is its advanced radar system, specifically tailored for detecting stealth aircraft. Two side-looking conformal radar antenna arrays are integrated along the fuselage, working in conjunction with an ultra-wide dual-band electronically scanned radar. This combination enables the detection of stealth targets, such as the F-22 Raptor, F-35 Lightning II, and B-2 Spirit, at extended ranges. While the radar system may have reduced accuracy compared to traditional platforms, multiple WZ-9s flying in formation can act as a multistatic radar network. This formation amplifies detection range and accuracy, allowing the system to triangulate radar reflections from multiple directions.

As an airborne early warning (AEW) platform, the WZ-9 offers a unique capability in modern aerial warfare. Unlike traditional AWACS platforms, the WZ-9 is designed to operate in groups, controlled via secure datalinks by either ground-based stations or airborne AWACS units positioned safely behind the frontlines. This multistatic radar system provides a layered and redundant approach to detecting stealth aircraft, a critical advantage in contested environments.

If successfully deployed, the WZ-9 would become the first airborne anti-stealth radar system globally, giving China a significant edge in counter-stealth operations. The UAV’s ability to extend detection ranges and improve tracking accuracy could reshape the dynamics of air superiority, particularly against stealth-centric opponents like the United States.

The WZ-9 is part of a broader trend in China’s aggressive expansion of UAV development over the past decade. From reconnaissance platforms like the WZ-7 "Soaring Dragon" to loyal wingman concepts like the WZ-10, China has demonstrated a clear commitment to advancing its drone technology. These developments are driven by a combination of indigenous innovation and external collaborations, including rumored Russian assistance in the early stages of the WZ-9 program.

The WZ-9’s journey began with the construction of a technology demonstrator in 2015, followed by initial taxi tests and a maiden flight in October of that year. Subsequent prototypes were transferred to the Guizhou Aircraft Industry Corporation (GAIC) for further testing. Satellite imagery has confirmed steady progress, with additional units manufactured and tested by the People’s Liberation Army Air Force (PLAAF). By late 2023, production units featuring a dark gray PLAAF color scheme were spotted, indicating the WZ-9’s transition toward operational deployment.

Estimated specifications of the WZ-9 highlight its impressive performance: a length of 14 meters, a height of 6 meters, and a wingspan of 35 meters. With an endurance exceeding 20 hours and a ceiling of 18 kilometers, the drone is well-suited for prolonged surveillance and early warning missions over vast areas.

The WZ-9’s operational deployment could signal a paradigm shift in counter-stealth warfare. Its ability to detect, track, and potentially neutralize stealth aircraft threatens to undermine a key advantage held by advanced air forces. For nations reliant on stealth technologies, the WZ-9 represents a significant challenge that demands urgent countermeasures.

The unveiling of the WZ-9 "Divine Eagle" solidifies China’s position as a leading innovator in military UAV technology. As anti-stealth missions become a focal point in modern conflicts, the WZ-9’s capabilities could reshape the global strategic landscape. With its innovative design, advanced radar systems, and emphasis on group operations, the WZ-9 stands as a testament to China’s ambition to challenge traditional military paradigms and establish dominance in the aerial domain.

**30 . Date: 19-12-2024Fixed Wing - ISR / ISTAR - Small - General - PlatformExpansion of Unmanned Aerial Systems in Vietnam with M400-CT2 DroneURL: https://armyrecognition.com/news/aerospace-news/2024/expansion-of-unmanned-aerial-systems-in-vietnam-with-m400-ct2-drone**

Vietnam showcases its unmanned aerial system, the M400-CT2, at the Vietnam Defence Expo 2024 in Hanoi. This system marks a notable development for Vietnam's defense industry, highlighting the country’s ongoing efforts to enhance technological autonomy in the drone sector. Designed to meet the training needs of air defense systems and armed forces, the M400-CT2 is capable of simulating aerial targets, enabling military exercises in conditions close to operational reality.

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The M400-CT2 follows the M-400 UAV, an experimental reconnaissance drone successfully launched in 2005 but now obsolete (Picture source: Army Recognition)

The M400-CT2 features solid technical specifications, including a wingspan of 3.2 meters, a length of 2.8 meters, and a height of 1.1 meters. It can achieve a cruising speed of 200 to 220 km/h and a maximum speed of 260 km/h. With an endurance of 120 minutes and an operational range of 60 kilometers, it is well-suited for complex training scenarios. Its operational ceiling of 3,500 meters, combined with a navigation system based on GNSS and INS, ensures accuracy in all missions. Additionally, its payload capabilities, which include optical systems, thermal imaging, and devices such as infrared flares, provide significant flexibility for diverse applications.

This project aligns with Vietnam's broader strategy to strengthen its capabilities in drone technologies. The M400-CT2 follows the M-400 UAV, an experimental reconnaissance drone successfully launched in 2005 but now obsolete. Compared to its predecessor, the M400-CT2 demonstrates significant technological improvements with applications better tailored to current military requirements. At the same time, Vietnam continues to engage in international collaborations, as evidenced by the development of the HS-6L drone in partnership with Belarus and the acquisition of Israeli drones such as the Orbiter 2 and 3 for reconnaissance missions.

Despite these advancements, the Vietnamese drone sector faces significant challenges. The lack of a clear legal framework regulating their development and use hampers growth, while competition from countries with more advanced technologies limits their international competitiveness. These issues underscore the need for Vietnam to establish clear policies and invest in infrastructure and technological expertise to support its drone industry.

On the global stage, the growing use of unmanned aerial systems in modern conflicts underscores their strategic importance. Countries like Israel, the United States, and China dominate this sector, developing innovative solutions for missions ranging from reconnaissance to precision strikes. In response to these challenges, Vietnam is intensifying its efforts to integrate such technologies into its armed forces, demonstrating its commitment to modernizing military capabilities and addressing emerging security threats. The M400-CT2 exemplifies this approach by combining domestic innovation with the adoption of modern standards, a crucial step toward ensuring the sustainability of its defense capabilities.

**31 . Date: 04-11-2024Armed ISR / ISTAR - HALE - General - First Appearance of Chinese WJ-700 Drone by Algerian Air Force During Military ParadeURL: https://armyrecognition.com/news/aerospace-news/2024/first-appearance-of-chinese-wj-700-drone-by-algerian-air-force-during-military-parade**

On the occasion of the 70th anniversary of the November 1, 1954 insurrection, marking the beginning of Algeria's war for independence, a major military parade was held to honor this historic date. For the first time, this event showcased the WJ-700 Falcon drone, now part of the Algerian Air Force’s arsenal. This High-Altitude Long Endurance (HALE) drone, designed by the Chinese state-owned China Aerospace Science and Industry Corp (CASIC), reflects Algeria's intent to modernize and diversify its military capabilities amid ongoing regional tensions.

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The Chinese WJ-700 Falcon Drone during Algeri'as military parade on November 1, 2024, commemorating the 70th Anniversary of The Liberation Revolution (Picture source: Algerian TV/CASIC)

The WJ-700 Falcon, initially unveiled at the 2018 Airshow China and having completed its first flight in January 2021, is a highly capable drone, engineered for advanced reconnaissance missions and precision strikes over extended ranges. With the ability to operate at high altitudes for prolonged periods, it can engage targets up to 100 kilometers away, providing Algeria with substantial deterrence capabilities. With a maximum takeoff weight of 3,500 kg and a payload capacity exceeding 800 kg, the WJ-700 is equipped to carry heavy armaments, including anti-ship missiles, making it a formidable asset against strategic targets such as radars, warships, and command centers.

This drone, powered by a turbojet engine and reaching speeds near 700 km/h, is optimized for high-intensity operations. Additionally, it is outfitted with electronic countermeasures, enhancing its survivability against adversarial air defense systems. Acquiring these drones is particularly significant as Morocco continues to modernize its own military capabilities, prompting Algeria to maintain a technological edge in the region.

In addition to the WJ-700, Algeria's drone fleet includes Chinese-made CH-4 and CH-3 models, which are well-suited for attack and surveillance missions. Algeria is also set to introduce the Turkish-made Aksungur drone, with six units ordered from Turkish Aerospace Industries (TAI), along with ten Anka-S drones, further expanding its Intelligence, Surveillance, and Reconnaissance (ISR) and strike capabilities. This diversification in Algeria’s drone suppliers reflects a strategic approach to reduce dependency on Russian technology, especially in light of recent challenges faced by the Russian defense industry in meeting international demand.

The official presentation of the WJ-700 during this commemorative parade highlights Algeria’s commitment to updating its military equipment. This show of strength comes amid increased tensions with Morocco, intensified by a recent visit by French President Emmanuel Macron to Rabat. During the visit, President Macron reaffirmed France’s support for Moroccan "sovereignty" over Western Sahara, a stance that prompted strong reactions from Algeria. Through this unveiling of the WJ-700 and its broader military display, Algeria aims to send a clear message to its neighbors and international partners regarding its resolve to strengthen defense capabilities and maintain strategic stability in the region.

Algeria stands apart from its neighbors by sourcing most of its military equipment from Russia and China. Historically, Algeria has maintained close ties with Russia, particularly in military cooperation. This alliance has been reinforced over the decades through significant arms agreements and joint military exercises. Simultaneously, Algeria has cultivated a strategic partnership with China, marked by cooperation agreements across various sectors, including defense. In November 2022, the two countries signed a second Five-Year Strategic Cooperation Plan (2022-2026), highlighting a mutual commitment to strengthening bilateral relations.

**32 . Date: 03-05-2024Armed ISR / ISTAR - MALE - General - First MQ-9A ER Delivered to US Marine by General Atomics.URL: https://armyrecognition.com/news/aerospace-news/2024/first-mq-9a-er-delivered-to-us-marine-by-general-atomics**

On April 30, 2024, General Atomics Aeronautical Systems Inc. (GA-ASI) announced the delivery of the first MQ-9A Extended Range (ER) Unmanned Aircraft System (UAS) to the United States Marine Corps (USMC), further enhancing their ongoing partnership. The MQ-9A ER was delivered to the Marine Unmanned Aerial Vehicle Training Squadron 2 (VMUT-2) at Marine Corps Air Station Cherry Point in North Carolina.

First MQ-9A ER Arrives at Cherry Point for USMC Training (Picture source: US DoD)

The delivery, which took place on March 18, 2024, falls under the Marine Air-Ground Task Force Unmanned Expeditionary (MUX) Program. This program includes an order for eight MQ-9A ER UAS under the ARES indefinite-delivery/indefinite-quantity (ID/IQ) contract signed in May 2022. This advanced UAS aims to enhance the training of Marine Corps aircrews, bolstering their internal operational capabilities.

The MQ-9A ER variant builds on the capabilities of the standard MQ-9A by incorporating features such as wing-borne fuel pods and reinforced landing gear, extending its operational endurance from 27 hours to 34 hours. Capable of reaching altitudes up to 50,000 feet and carrying a payload of 3,850 pounds, including up to 3,000 pounds of external stores, the aircraft supports a variety of mission payloads. These include electro-optical/infrared (EO/IR) sensors, multi-mode radars, electronic support measures (ESM), and laser designators, making them adaptable for a range of military applications from surveillance to targeted strike missions.

Patrick Shortsleeve, Vice President of DoD Strategic Development at GA-ASI, highlighted the significance of this delivery in terms of developing the USMC's organic capabilities and strengthening ties with the Naval Air Systems Command (NAVAIR).

This milestone not only marks significant progress for VMUT-2 in training USMC aircrews but also represents a step forward in the use of advanced technologies to enhance the combat capabilities of the Corps. GA-ASI continues to be a key partner in the development and supply of reliable and proven RPA systems, playing a crucial role in enhancing surveillance and reconnaissance for various military missions.

**33 . Date: 21-08-2024Armed ISR / ISTAR - HALE - Training - First Royal Australian Air Force pilot trained to fly MQ-28A Ghost Bat droneURL: https://armyrecognition.com/news/aerospace-news/2024/first-royal-australian-air-force-pilot-trained-to-fly-mq-28a-ghost-bat-drone**

The Royal Australian Air Force (RAAF) has trained its first pilot to operate the Boeing MQ-28A Ghost Bat Collaborative Combat Aircraft (CCA). Wing Commander Phil Parsons, a senior RAAF officer, became the first non-Boeing pilot to participate in the MQ-28A flight test program. Parsons, who completed his training on June 13, 2024, has been appointed to oversee the launch and recovery of the MQ-28A and monitor the aircraft in flight. Additionally, he will manage the aircraft during takeoff and landing. Parsons previously commanded Task Force Heron, a contingent of the Australian Defence Force. In 2014, Parsons received an award for completing 25,000 flight hours with unmanned aerial vehicles in Afghanistan. Follow Army Recognition on Google News at this link

Official presentation of loyal wingman drone , MQ-28A Ghost Bat (Picture source: Boeing)

The Ghost Bat would be deployed alongside crewed aircraft, such as an E-7A, F-35A, or F/A-18F, with the crew assigning it missions like intelligence, surveillance, and reconnaissance. This integration into the airborne formation of crewed aircraft embodies the loyal wingman concept.

In other words, the "Loyal Wingman" concept refers to an autonomous drone designed to fly alongside piloted aircraft, particularly fighters, to support them during missions. These autonomous drones use artificial intelligence to carry out complex tasks such as reconnaissance, electronic warfare, or even air strikes, all while remaining under the supervision of the main aircraft. Their role is to relieve human pilots of dangerous or repetitive tasks, enhance the combat capabilities of the formation, and potentially serve as shields or decoys to protect manned aircraft. This concept is part of ongoing efforts to integrate advanced autonomous technologies into modern air forces, improving operational efficiency while reducing risks for human pilots.

The Ghost Bat is an unmanned military aerial vehicle equipped with autonomous systems and artificial intelligence. The aircraft is designed to act as a "faithful wingman," assisting military assets and pilots in aerial combat command missions. Developed by Boeing Australia in collaboration with the Royal Australian Air Force (RAAF), the MQ-28 Ghost Bat is a revolutionary autonomous combat drone designed to function as a "loyal wingman" alongside piloted aircraft. Announced in 2019, the Ghost Bat made its first test flight in February 2021, marking a significant milestone in integrating autonomy into modern air forces. With its modular design and advanced artificial intelligence, the MQ-28 can perform various missions, from reconnaissance to electronic warfare, while reducing risks to human pilots. Despite these advancements, the project faced design challenges, particularly in ensuring secure communication between the drone and piloted aircraft, as well as managing autonomy in complex environments.

Currently, the MQ-28 Ghost Bat continues to be manufactured at Boeing's Fishermans Bend facility in Victoria, according to the company's website.

**34 . Date: 28-08-2024Armed ISR / ISTAR - HALE - General - PlatformFocus | Saab reveals sixth-generation manned and unmanned fighter concepts for Swedish Armed ForcesURL: https://armyrecognition.com/news/aerospace-news/2024/focus-saab-reveals-sixth-generation-manned-and-unmanned-fighter-concepts-for-swedish-armed-forces**

On August 24, 2024, in an interview with Dagens Nyheter, Peter Nilsson, Saab’s Head of Advanced Programs, announced that Saab is advancing its development of both manned and unmanned fighter concepts as part of efforts to establish a sixth-generation combat air platform for the Swedish Armed Forces. Nilsson provided details on Saab’s ongoing exploration of future fighter options on behalf of the Swedish government, presenting the company as a candidate for developing Sweden's next combat aircraft. Follow Army Recognition on Google News at this link

Saab is working on both manned and unmanned fighters as part of efforts to establish a sixth-generation combat air platform for the Swedish Armed Forces. (Picture source: Saab)

Nilsson argued that conditions are currently favorable for Saab to build a new combat aircraft for Sweden, citing the availability of a trained workforce, the use of modern digital engineering techniques, and experience gained from recent projects such as the Gripen E fighter, the GlobalEye surveillance aircraft, and the T-7A trainer aircraft. He addressed concerns about the costs associated with developing a new fighter aircraft domestically, suggesting that these concerns may be misplaced. He referenced the development of the JAS 39 Gripen in the 1980s, when similar doubts were raised but ultimately overcome.

Sweden's development of turbojet-powered combat aircraft began with the Saab 21R, a jet adaptation of the earlier piston-engine Saab 21, which first flew in 1947 as Sweden's initial jet aircraft. This was succeeded by the Saab 29 Tunnan in the early 1950s, featuring a swept-wing design and capable of achieving supersonic speed in a shallow dive. The Saab 32 Lansen, which entered service in the mid-1950s, was designed for various roles, including attack, reconnaissance, and maritime patrol.

The Saab 35 Draken, operational from 1960, utilized a double-delta wing design and incorporated canard foreplanes to enhance performance. The Saab 37 Viggen, introduced in the early 1970s, included modern avionics, an afterburning engine, and a thrust-reversing capability, supporting both air defense and ground attack functions. This progression led to the Saab JAS 39 Gripen, which entered service in the 1990s as a multirole fighter with updated avionics, fly-by-wire controls, and a modular structure designed to fulfill various military roles.

The Saab 29 Tunnan was launched in the early 1950s as the first post-WWII Western European fighter to be produced with a swept-wing design. (Picture source: Flickr/Ragnhild & Neil Crawford)

Nilsson suggested that a similar approach to the development of the Gripen could be effective for a new fighter aircraft. This strategy involved collaborating with multiple international partners while maintaining control over the design process within Sweden. He noted that the Gripen E, while primarily developed by Saab, includes a significant proportion of components from foreign suppliers, with Saab integrating these into a single system. This model could potentially be applied to future projects, balancing local oversight with international collaboration.

As part of these efforts, the Swedish Defence Materiel Administration (FMV) signed a contract earlier this year with Saab and GKN Aerospace to further develop future fighter concepts. The contract stipulates that Saab will submit design drawings for a demonstrator, not a fully operational prototype, by the end of 2025. This demonstrator is expected to provide important data for developing a new combat aircraft system. Saab is also conducting research into advanced materials, artificial intelligence, and stealth or low observability technologies, with contributions from the FMV, Swedish Armed Forces, and GKN Aerospace.

This agreement, running from 2024 to 2025 with potential extensions, involves evaluating both existing and new technologies and conducting demonstrations with a range of national and international stakeholders. GKN Aerospace, drawing on its experience with the RM12 and RM16 engines for the JAS 39 Gripen series, has signed a new cooperation agreement with Saab to investigate innovative solutions for future fighter systems. Additionally, GKN Aerospace’s center in Trollhättan, Sweden, has received a €59.5 million investment to expand its additive fabrication technology capabilities, aiming to advance industrialization, reduce environmental impact, and meet future power and propulsion requirements.

Saab is also conducting research into advanced materials, artificial intelligence, and stealth or low observability technologies, with contributions from the FMV, Swedish Armed Forces, and GKN Aerospace. (Picture source: Saab)

These activities reflect ongoing efforts by Saab and GKN Aerospace to address Sweden's defense needs through the exploration of new technologies and strategic partnerships. Saab has called for a decision on the new fighter system to be made before 2030, warning that delays could affect Sweden’s capacity to respond to technological changes and developments in the defense sector. In this context, the Swedish Armed Forces have started the process of identifying a future combat aircraft system to replace the Jas Gripen, which is expected to remain in service until 2050-2060. A decision is anticipated around 2030, with Sweden considering whether to develop its own combat aircraft, collaborate with other nations, or purchase an existing model from a foreign supplier.

The decision on which path to take involves weighing various factors, including national defense needs, employment, and Sweden's position as a technologically advanced nation. Three options are under consideration: developing a new aircraft domestically, partnering with other countries for joint development, or purchasing an existing fighter aircraft. Each of these options comes with different implications. There are differing views among experts on the viability of continuing with a national development approach. Lars Peder Haga, a researcher at the Norwegian Defense Academy, expressed skepticism about Sweden pursuing another independent project, citing the rarity and high costs of developing fighter jets independently. Tomi Lyytinen, a lieutenant colonel and air combat instructor at the Finnish Defense Academy, also believes it would be financially unfeasible for Sweden to independently develop a sixth-generation combat aircraft.

Historical cases illustrate the challenges associated with these concerns. During the 1960s, the development of the Viggen aircraft presented Sweden with considerable financial challenges. More recently, the United Kingdom estimated that developing its next-generation fighter would cost over €14 billion, with additional contributions from partner countries such as Italy and Japan. Although Sweden has been recognized for efficiency in defense projects, the costs of developing a new Swedish fighter aircraft could still be high, according to Anders Foyer, deputy project manager at FOI, the Total Defense Research Institute. Foyer’s team is currently analyzing the total life-cycle cost of the Gripen and comparing it with potential alternatives.

During the 1960s, the development of the Viggen aircraft presented Sweden with considerable financial challenges. (Picture source: Planespotters.net/Daniel Schwinn)

Complicating the decision further, all of Sweden’s NATO neighbors—Finland, Denmark, and Norway—have opted to purchase the American F-35 fighter aircraft, which has involved substantial costs. For instance, Norway’s estimated life-cycle costs for the F-35 were initially set at approximately €28.9 billion, although this figure has been questioned by the Norwegian National Audit Office. A decision to purchase foreign aircraft could have significant implications for Saab, particularly for its aviation division in Linköping, where 6,000 employees work. This potential impact is an important factor, as the decision is influenced not only by military needs but also by broader societal and industrial considerations, as noted by Karl Engelbrektson, a major general and former head of the Swedish Army.

Engelbrektson cautioned that an entirely new Swedish development project could be so costly that it might limit other critical defense investments. He suggested that exploring credible international partnerships might be a more viable path forward, a view supported by Lyytinen, who indicated that Sweden appears to be moving toward some form of international cooperation, potentially within a European or Euro-Japanese framework. At present, two major European fighter programs are underway. Sweden initially participated in preliminary work for the Global Combat Air Programme (GCAP), which involves the United Kingdom, Italy, and Japan. However, Swedish Defense Minister Pål Jonson recently stated that GCAP no longer aligns with Sweden’s timeline or strategic requirements. Another significant program, the Franco-German-Spanish Future Combat Air System (FCAS), has not generated substantial interest from Sweden.

All of Sweden’s NATO neighbors (Finland, Denmark, and Norway) have opted to purchase the American F-35 Lightning II stealth fighter aircraft, which has involved substantial costs. (Picture source: US DoD)

These programs are part of broader initiatives among NATO countries to develop sixth-generation fighter jets with enhanced capabilities, such as stealth technology and drone integration. The GCAP project involves approximately 9,000 personnel, while the FCAS initiative is a collaborative effort between France, Spain, and Germany, with Belgium also potentially participating. Meanwhile, the United States is working on its Next Generation Air Dominance (NGAD) program, although this has faced delays due to cost concerns.

As Sweden evaluates its options, discussions are increasingly focusing on the potential incorporation of autonomous capabilities into future combat aircraft. Concepts under consideration include smaller unmanned vehicles that could assist piloted aircraft or larger, fully unmanned combat systems. These systems would operate within a network of sensors connecting satellites, ships, and other military assets, allowing for rapid information sharing and coordinated responses to threats. While the path Sweden will ultimately choose remains uncertain, Defense Minister Pål Jonson has indicated that international cooperation will be necessary, though the form it will take has yet to be determined.

The Swedish Armed Forces have started the process of identifying a future combat aircraft system to replace the Jas Gripen, which is expected to remain in service until 2050-2060. (Picture source: Airliners.net/Oleg V. Belyakov)

**35 . Date: 31-12-2024Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformFocus: US-based GA-ASI Develops Gambit New Unmanned Aircraft to Support F-35 & Next-Gen Fighter OperationsURL: https://armyrecognition.com/news/aerospace-news/2024/focus-us-based-ga-asi-develops-gambit-new-unmanned-aircraft-to-support-f-35-next-gen-fighter-operations**

The future of air power lies in the seamless integration of manned and unmanned systems, where autonomous unmanned aircraft serve as force multipliers, complementing and augmenting the capabilities of advanced human-crewed fighters. At the forefront of this transformation is General Atomics Aeronautical Systems, Inc. (GA-ASI) with its Gambit advanced unmanned aircraft series, designed to work alongside the most advanced manned aircraft, such as the F-35 Lightning II and the Next-Generation Air Dominance (NGAD) systems. Follow Army Recognition on Google News at this link

American Company GA-ASI develops the Gambit Autonomous unmanned aircraft to enhance F-35 and Next-Gen fighter operations through collaborative missions. (Picture source: GA-ASI)

The central goal of the Gambit family of unmanned aircraft is to pair large numbers of autonomous systems with potent human-piloted fighters, ensuring that future air forces can dominate the battlespace with a combination of magazine depth, sustained situational awareness, and adaptability—all while minimizing risks to human pilots.

In the high-stakes, dynamic environment of modern warfare, a pilot in an advanced fighter like the F-35 is faced with increasingly complex missions that demand more than just raw firepower and agility. These pilots need the ability to operate in a more collaborative, multi-dimensional combat environment—where autonomous unmanned aircraft serve as teammates, carrying out critical tasks that increase the overall operational effectiveness of the air force. Here’s how the Gambit series helps fulfill these roles:

Magazine Depth and Force Augmentation: One of the most challenging aspects of modern air combat is ensuring that a combat force can sustain offensive and defensive operations. The concept of magazine depth refers to the ability to maintain a continuous supply of munitions and operational capability during prolonged engagements. The Gambit platforms play a pivotal role here by providing unmanned magazine depth—aircraft that can carry additional weapons, sensors, and combat payloads without placing a strain on human pilots. These unmanned systems can provide critical support to human-crewed fighters, including arming, resupply, and additional combat options that extend the reach and lethality of the entire air package.

Situational Awareness and Surveillance: The modern battlefield is more congested and contested than ever before. Pilots in F-35s or NGAD systems require constant, real-time intelligence to make critical decisions. The Gambit platforms, particularly models like the Gambit 1, are built for persistent surveillance. By flying in coordinated swarms, these autonomous aircraft can surveil vast stretches of airspace, detect threats, and relay intelligence back to human pilots and other systems in the air and on the ground. The Gambit’s ability to sense, process, and share data autonomously allows human operators to make quicker, more informed decisions while staying one step ahead of adversaries.

GA-ASI’s Gambit Series: Four advanced unmanned aircraft variants—Gambit 1 for surveillance, Gambit 2 for combat, Gambit 3 for training, and Gambit 4 for stealth and endurance—designed to collaborate with F-35 and Next-Gen fighters. (Picture source GA-ASI)

Evasion and Detection Mitigation: One of the most potent advantages of unmanned systems like the Gambit is their ability to evade detection and operate in high-threat environments without risking human lives. Gambit aircraft, such as the Gambit 4, are designed with advanced low-observable technologies, ensuring that they can operate in contested airspaces, gathering critical information or striking high-value targets, while remaining undetected. By flying in close formation with manned aircraft or operating autonomously, these drones can reduce human pilots' exposure to enemy radar or missile systems, essentially acting as decoys or providing countermeasures.

Autonomous Action and Collaboration: The Gambit series is not just about surveillance or force augmentation; these systems can take autonomous action when required. For instance, the Gambit 2 model can engage adversary aircraft in air-to-air combat, acting independently or in concert with other unmanned systems. These aircraft are equipped with AI-driven systems that enable them to make real-time decisions, from evading incoming threats to engaging in offensive actions. When integrated with manned systems, they provide actionable intelligence and can execute predefined combat missions while operating collaboratively and synchronously with human pilots.

This autonomy reduces the cognitive load on human pilots, allowing them to focus on the most critical aspects of the mission while knowing that their unmanned teammates are handling key tasks. Whether it's intercepting enemy aircraft, neutralizing surface-to-air threats, or carrying out intelligence collection, Gambit platforms act as an autonomous extension of the pilot’s capabilities, ready to execute orders or respond to changing combat conditions without direct human input.

Fulfilling the Collaborative Combat Aircraft (CCA) Concept: The Collaborative Combat Aircraft (CCA) concept that GA-ASI and the U.S. Air Force are pushing toward envisions a highly collaborative and scalable force architecture, where human-piloted fighters, such as the F-35 Lightning II, are complemented by large numbers of autonomous unmanned aircraft—like the Gambit series. These unmanned aircraft are designed to work seamlessly with human pilots, forming a collaborative network that dynamically adapts to evolving battlefield conditions. By allowing unmanned aircraft to take on some of the most hazardous and mundane tasks, human pilots are freed up to focus on higher-value operations, knowing their "teammates" are performing complementary functions.

A key advantage of the Gambit series is its cost-effectiveness, allowing the deployment of large numbers of unmanned systems without the prohibitive costs typically associated with fighter jets. This scalability is crucial as future air forces will need to overcome the economic and logistical challenges of maintaining a high number of advanced aircraft, especially given the increasing complexity and expense of cutting-edge fighters like the F-35 and NGAD systems.

The Gambit 4 is a combat reconnaissance variant featuring a tail-less design and swept wings. It is optimized for long-endurance, specialized missions, incorporating low-observable technologies and advanced systems to evade enemy detection. (Picture source GA-ASI)

By leveraging shared components across the different Gambit models, GA-ASI is able to streamline production and reduce costs, making it feasible to field large numbers of autonomous aircraft that can augment the capabilities of human pilots at a fraction of the cost of a manned fighter. This approach also allows air forces to field a diverse mix of capabilities, ranging from ISR platforms to combat drones, all tailored to specific mission sets, and all operating in concert with human crews.

The Gambit family includes a series of variants, each optimized for specific roles in this integrated, collaborative air combat environment. These variants range from Gambit 1, designed primarily for intelligence, surveillance, and reconnaissance (ISR) missions, to Gambit 2, which is configured for combat and offensive actions. The Gambit 3 is a platform primarily aimed at training, simulating both unmanned and manned systems in realistic air combat scenarios. Finally, the Gambit 4 is the most advanced model, integrating cutting-edge stealth and hybrid-electric propulsion for long-endurance missions and specialized low-observable capabilities. Each model in the Gambit series works in harmony with the others, providing a comprehensive, scalable solution for modern air forces.

The Gambit series represents the strategic shift that is already underway in air combat—moving away from the reliance on a few high-end fighters and toward a distributed, collaborative force where both manned and unmanned systems operate in synergy. By pairing human-crewed fighters with autonomous unmanned aircraft, the future air force will achieve new levels of operational flexibility, speed, and effectiveness.

This transformation is essential as potential adversaries, like China and Russia, continue to develop advanced air defense systems and aerial platforms. The Gambit series’ ability to operate autonomously in contested environments, while providing human pilots with the necessary support to achieve air dominance, ensures that the U.S. and its allies can maintain an edge in the rapidly changing landscape of aerial warfare.

The Gambit series is not just about technology—it’s about rethinking air combat in a way that maximizes the combined power of human decision-making and autonomous systems. With its focus on collaboration, cost-effectiveness, and mission adaptability, the Gambit is poised to be a cornerstone of the future air force, where human pilots work alongside large numbers of unmanned systems to maintain supremacy in the skies.

**36 . Date: 02-10-2024Loitering Munition - Mini - General - PlatformFoosung unveils a loitering drone for precision strikes at KADEX 2024URL: https://armyrecognition.com/news/aerospace-news/2024/foosung-unveils-a-loitering-drone-for-precision-strikes-at-kadex-2024**

At the KADEX 2024 exhibition in South Korea, Foosung introduced a new lightweight attack drone, a loitering munition system designed for precision strikes. This drone, compact and canister-shaped, is aimed at reconnaissance missions and rapid strikes on strategic enemy targets, including command systems, communication facilities, and mobile targets. Follow Army Recognition on Google News at this link

Equipped with a 0.5 kg warhead, the loitering drone developed by Foosung is capable of precise strikes while minimizing risks to human operators(Picture source: Army Recognition)

Weighing a total of 5 kg, the drone has a payload capacity of 5.6 kg and operates autonomously for up to 60 minutes. It is designed to operate within a range of 5 km, extendable to 15 km with the FANET system integration. During missions, it cruises at a speed of 90 km/h and can reach a maximum speed of 120 km/h. Its operational altitude ranges from 300 meters to a maximum of 3 km, allowing it to optimize both reconnaissance and strike missions based on the terrain and target conditions.

Equipped with a 0.5 kg warhead, the loitering drone developed by Foosung is capable of precise strikes while minimizing risks to human operators. Designed for autonomous operation post-launch, the system also provides real-time damage assessments after the attack, offering a tactical advantage in modern combat environments.

The rise of drones in modern military forces reflects a global trend towards increased use of unmanned systems. In response to repeated North Korean drone incursions, South Korea has accelerated efforts to develop and deploy unmanned systems. The South Korean government announced plans to double its military drone fleet by 2026, enhancing its capabilities in surveillance, electronic warfare, and psychological operations. In 2024, a dedicated drone command was established to centralize and coordinate operations across the different branches of the South Korean military, marking a significant step in the use of this technology in military contexts.

Foosung, already established in the military technology sector, demonstrates with this drone its ability to meet the growing needs of modern armies for autonomous strike and reconnaissance systems. As global demand for such technology increases, especially in recent conflicts where drones play a crucial role, the proliferation of this system on international markets should be closely monitored. Foosung could further solidify its position among major defense players by offering solutions tailored to the evolving military challenges of the 21st century.

**37 . Date: 24-06-2024ISR / ISTAR - Small - Contract - France Secures DT46 Drones for Artillery Units to Counter Ukraine Conflict ChallengesURL: https://armyrecognition.com/news/aerospace-news/2024/france-secures-dt46-drones-for-artillery-units-to-counter-ukraine-conflict-challenges**

In response to the evolving landscape of modern warfare, highlighted by the extensive use of drones in the Ukraine conflict, France is set to enhance its artillery regiments with the acquisition of the DT46 drone. This move is part of a broader initiative to modernize and increase the operational capabilities of its ground forces. Developed by Delair and showcased at the Eurosatory defense exhibition, the DT46 represents a strategic advancement in military technology, designed to meet the rigorous demands of contemporary combat scenarios. Follow Army Recognition on Google News at this link

Designed for either vertical takeoff and landing or traditional ramp-assisted takeoff due to its two rotative arms, the DT46 offers notable operational flexibility (Picture source: ArmyRecognition)

The use of drones in modern warfare, particularly for artillery units, significantly enhances operational capabilities by providing precise and real-time intelligence that is crucial for effective targeting and decision-making. Drones equipped with advanced sensors can perform detailed reconnaissance over hostile territories without risking human lives, offering artillery units valuable information about enemy positions, movements, and fortifications. This intelligence is critical for adjusting artillery fire to maximize effectiveness and minimize collateral damage.

Furthermore, the integration of drones into artillery operations allows for a faster response to battlefield changes. They can be deployed to adjust firing solutions in real-time, providing a dynamic and flexible approach to artillery warfare. Drones also extend the reach of artillery units, enabling them to engage targets that are beyond the line of sight or at very long distances with higher accuracy.

Additionally, drones contribute to force protection. They can monitor the airspace and provide early warnings of incoming threats, allowing artillery units to reposition or take cover. This not only enhances the survivability of the artillery units but also maintains their operational effectiveness.

In the context of modern network-centric warfare, drones become part of a larger matrix of interconnected assets. They work in conjunction with other surveillance and communication systems to create a comprehensive situational awareness picture, facilitating coordinated attacks and strategic planning across multiple domains.

Overall, the integration of drones into artillery units represents a transformative shift in modern warfare, combining traditional artillery capabilities with cutting-edge technology to enhance strategic operations and tactical flexibility.

With a flight range of 80 to 100 kilometers and an endurance of up to six hours in fixed-wing mode (Picture source: Delair)

The DT46 drone was prominently featured at the Ministry of the Armed Forces' booth at Eurosatory, signaling its forthcoming integration into the French Army's arsenal. After a development period of two years, two complete DT46 systems, which include two vehicles and two ground control stations, were delivered to the Army's Technical Section (STAT) for operational testing. This drone, also designed for international clients, showcases France's commitment to achieving technological sovereignty in defense.

Recently, the tactical evaluation phase for the DT46 has been completed, and further extensive performance tests are scheduled for the fall. These evaluations will primarily assess the drone's resilience under extreme conditions and its maintenance logistics, ensuring it meets the army's rigorous standards.

The DT46 is equipped for various launch methods, including vertical takeoff and landing (VTOL) or traditional ramp-assisted takeoff, thanks to its dual rotative arms, providing exceptional adaptability for field operations. It boasts a carrying capacity of 25 kg in VTOL mode and 20 kg in fixed-wing configuration, with both setups capable of accommodating payloads up to 5 kg. The drone features a wingspan of 4.5 meters and a length of 2 meters, and it can operate in diverse weather conditions, ranging from -15°C to +50°C and in wind speeds up to 35 knots.

With a flight range of 80 to 100 kilometers and an endurance of up to six hours in fixed-wing mode (reduced to about three and a half hours for vertical takeoffs), the DT46 is also fitted with an advanced optronic pod, enhancing its reconnaissance capabilities. This technology has been successfully demonstrated in field operations in Ukraine, proving its effectiveness in real-world scenarios.

Moreover, the DT46 adheres to the STANAG 4609 standard, ensuring it integrates seamlessly with existing military systems like the ATLAS fire control system and the SCORPION combat information system (SICS). The ground control station, named DRAKO, allows for the flexible management of multiple drones and remotely operated munitions, setting the stage for the future integration of new technologies in army operations.

The use and development of drones in the French army mark a critical transition towards increased modernization and enhanced combat capability. These unmanned aerial systems (UAS) have become essential components of military operations, offering surveillance, reconnaissance, and strike capabilities without endangering the lives of pilots. Drones like the DT46, specifically developed to meet the needs of artillery regiments, illustrate France's commitment to integrating advanced technologies.

**38 . Date: 12-12-2024Fixed Wing - Armed ISR / ISTAR - MALE - Contract - French Aarok MALE Drone Secures Its First Contract with Ministry of Armed ForcesURL: https://armyrecognition.com/news/aerospace-news/2024/french-aarok-male-drone-secures-its-first-contract-with-ministry-of-armed-forces**

The Aarok, a French MALE (Medium Altitude Long Endurance) drone developed by Turgis & Gaillard, has reached a critical milestone with the awarding of its first contract by the Ministry of Armed Forces through the Directorate of Aeronautical Maintenance (DMAé). This strategic contract explores the concept of a "certifiable but uncertified" drone, an innovative approach intended to streamline and accelerate drone deployment while maintaining operational safety standards. This initiative represents a significant shift in technological and regulatory innovation for French defense equipment.

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The Aarok is designed to meet modern operational demands with its versatile capabilities (Picture source: Aarok)

As the delivery of the EuroDrone, developed under the lead of Airbus in collaboration with Dassault Aviation and Leonardo, is anticipated by 2030, the Ministry of Armed Forces is examining alternative options. The emergence of the Aarok, unveiled by Turgis & Gaillard, challenges traditional models with its innovative design and competitive costs, offering an alternative to the EuroDrone, which has faced delays and cost concerns. Estimated at nearly €2 billion for six systems, the EuroDrone has also drawn criticism for requiring substantial infrastructure due to its size, with a 26-meter wingspan and a weight exceeding ten tons. In contrast, the Aarok, priced between €5 and €10 million, delivers over 24 hours of endurance and can carry up to 1.5 tons of payload across six hardpoints.

The Aarok is designed to meet modern operational demands with its versatile capabilities. It is equipped with advanced electro-optical sensors, a multi-mode radar, and electromagnetic intelligence (SIGINT) capabilities. The drone is also deployable from tactical transport aircraft and capable of take-off and landing on unprepared runways. Its pragmatic design prioritizes simplicity and robustness, utilizing pre-qualified systems already in service. This approach positions the Aarok as an adaptable asset for diverse operations, including maritime surveillance, airborne communication relays, and strategic strikes, while remaining operational in challenging environments.

The Aarok has garnered significant attention for its potential. In October 2023, General Stéphane Mille, then Chief of Staff of the French Air and Space Force, expressed interest in testing the drone. Since then, the Aarok has advanced with key developments, including a partnership with the Ukrainian manufacturer Antonov to create a lighter, expendable variant. The recent contract with the DMAé underscores a collaborative effort involving the Directorate General of Armament (DGA) to balance operational and regulatory needs with streamlined production.

This trajectory could redefine existing paradigms, with Turgis & Gaillard presenting the Aarok as a transformative solution for future military operations. Supported by the French Armed Forces, this reactive experimentation project paves the way for more agile responses to evolving operational challenges. The Aarok's competitive cost, innovative design, and flexibility position it as a promising alternative in France’s defense strategies.

The French Armed Forces operate a diverse fleet of drones to enhance their operational capabilities. Notable among these is the MQ-9 Reaper, an American-made surveillance and combat drone used for reconnaissance and precision strikes. Additionally, the Army employs nano-drones like the Black Hornet 3, designed for short-range reconnaissance to improve situational awareness. These systems, complemented by ground-based drones and robotics, enable the French military to conduct various surveillance, intelligence, and combat missions with increased effectiveness in modern conflict environments.

**39 . Date: 12-06-2024Loitering Munition - Mini / Small - Pitch - French Made EOS Veloce 330 UAV finally available for Air forceURL: https://armyrecognition.com/news/aerospace-news/2024/french-made-eos-veloce-330-uav-finally-available-for-air-force**

The Veloce 330 is a new-generation kamikaze drone developed by the French company EOS Technologie. Designed within the framework of the LARINAE program, this drone represents a medium-range remotely operated munition capable of neutralizing armored targets within a 50-kilometer radius. Presented in April 2024, a flight demonstration was conducted for the armed services and the Direction générale de l'armement (DGA) on June 11, 2024, in the southwest of France. Follow Army Recognition on Google News at this link

Flying display of EOS Véloce 330 loitering munition on June 11, 2024 (Picture source: Eos Technologies)

The "Veloce 330" is designed with a range of 80 km and an endurance of three hours. The munition utilizes vertical take-off and landing (VTOL) technology and is equipped with a Core Generating Charge to counter active defenses. A GPS-independent and jamming-resistant navigation system, developed by TRAAK, is also integrated.

In addition to its attack capabilities, the "Veloce 330" can perform intelligence missions thanks to an optronic sphere capable of detecting vehicles up to 15 km away during the day and 3 km at night. The munition is designed to ensure that human intervention remains central in the operational decision loop.

Jean-Marc Zuliani, the CEO of EOS Technologie, stated that due to its nature and very low-altitude flight, the Veloce 330 drone is extremely difficult to intercept. He humorously added that if one hears the drone, it is already too late.

EOS Technologies has announced that 10 UAVs are ready and an additional 20 will be ready in the coming weeks. The French army can now place orders to test this platform.

**40 . Date: 22-07-2024Armed ISR / ISTAR - MALE - General - Engine / PowersourceGeneral Atomics tests an MQ-9B SkyGuardian equipped with Canada’s Pratt & Whitney PT6 engineURL: https://armyrecognition.com/news/aerospace-news/2024/general-atomics-tests-an-mq-9b-skyguardian-equipped-with-canadas-pratt-whitney-pt6-engine**

On July 15, 2024, General Atomics Aeronautical Systems (GA-ASI) conducted the first flight of their MQ-9B SkyGuardian Remotely Piloted Aircraft (RPA) equipped with a PT6 E-Series model turboprop engine from Pratt & Whitney Canada. This 44-minute flight was observed by representatives from both GA-ASI and Pratt & Whitney, focusing on the aircraft's handling and acceleration. Follow Army Recognition on Google News at this link

General Atomics Aeronautical Systems (GA-ASI) conducted the first flight of their MQ-9B SkyGuardian Remotely Piloted Aircraft (RPA) equipped with a PT6 E-Series model turboprop engine from Pratt & Whitney Canada, which provides a 33 percent increase in power compared to the current MQ-9B engine. (Picture source: GA-ASI)

GA-ASI President David R. Alexander described this event as a notable milestone for MQ-9B SkyGuardian and SeaGuardian customers, especially for missions requiring additional power. He highlighted the potential advantages for customers opting for the Pratt & Whitney engine, including lower sustainment costs due to the Time Between Overhauls (TBO) and access to over 50 maintenance and overhaul facilities globally.

The MQ-9B SkyGuardian is a remotely piloted aircraft with extended endurance, allowing it to remain airborne for over 40 hours, making it suitable for long-duration intelligence, surveillance, and reconnaissance (ISR) missions. The aircraft can carry multiple payloads, including multi-mode radar, electro-optical/infrared sensors, and signals intelligence systems. These capabilities enable it to perform various missions, such as anti-submarine warfare (ASW), electronic warfare (EW), and environmental monitoring.

Additionally, the MQ-9B features an Automatic Takeoff and Landing Capability (ATLC), which facilitates operations from shorter airfields and increases deployment flexibility. It can carry up to 2,150 kilograms of payload across multiple hardpoints, supporting various weapons and sensors. The aircraft's design includes advanced automation and artificial intelligence, allowing integration with other unmanned and manned platforms in multi-domain operations. These features enable the MQ-9B to operate in high-threat environments and support both military and civilian missions effectively.

The United Kingdom has started receiving deliveries of the MQ-9B, with contracts also in place with Belgium, Canada, Taiwan, and the U.S. Air Force for the Special Operations Command. The Japan Coast Guard is using the MQ-9B for maritime operations, and the Japan Maritime Self-Defense Force has chosen it for its Medium-Altitude, Long-Endurance (MALE) Remotely Piloted Aircraft System Trial Operation Project. The MQ-9B has also participated in various U.S. Navy exercises, including Northern Edge, Integrated Battle Problem, and Group Sail.

The MQ-9B features an Automatic Takeoff and Landing Capability (ATLC), which facilitates operations from shorter airfields and increases deployment flexibility. (Picture source: US DoD)

The first flight of the MQ-9B SkyGuardian with the PT6 E-Series engine marks a significant development in enhancing the capabilities and performance of GA-ASI's RPAs, providing operational advantages such as a 33 percent increase in power compared to the current MQ-9B engine. The PT6 E-Series by Pratt & Whitney Canada, recognized for its reliability, introduces a dual-channel integrated electronic propeller and engine control system, which aims to simplify pilot operations through features like auto start/stop and is expected to improve the performance of future MQ-9B missions.

A notable feature of the PT6 E-Series is its focus on digital intelligence, which supports advanced engine health monitoring and proactive maintenance strategies. This design helps in reducing scheduled maintenance times by up to 40 percent, potentially increasing aircraft availability and operational efficiency. The engine's design is intended to deliver performance with precision and efficiency, aimed at enhancing overall functionality under diverse flight conditions without frequent manual adjustments.

The PT6 E-Series by Pratt & Whitney Canada includes advanced turboprop engines like the PT6E-66XT and PT6E-67XP. The PT6E-66XT model powers Daher’s TBM 960, while the PT6E-67XP is used in the Pilatus PC-12 NGX. Both models offer digital engine health monitoring, aiming to reduce maintenance times and improve operational efficiency through advanced predictive and proactive support capabilities, allowing for consistent performance across various altitudes and temperatures.

The MQ-9B SkyGuardian is a remotely piloted aircraft with extended endurance, allowing it to remain airborne for over 40 hours, making it suitable for long-duration intelligence, surveillance, and reconnaissance (ISR) missions. (Picture source: GA-ASI)

**41 . Date: 01-08-2024Armed ISR / ISTAR - HALE - Contract - SoftwareGeneral Atomics Wins Contract for Red 5 Project to Develop Advanced Air-to-Air Autonomy on MQ-20 AvengerURL: https://armyrecognition.com/news/aerospace-news/2024/general-atomics-wins-contract-for-red-5-project-to-develop-advanced-air-to-air-autonomy-on-mq-20-avenger**

On July 31, 2024, General Atomics Aeronautical Systems, Inc. (GA-ASI) announced it had been awarded a $98 million contract to serve as the Lead Systems Integrator for the Red 5 project, an initiative overseen by the Office of the Under Secretary of Defense (OUSD) and implemented by the Test Resource Management Center (TRMC). This ambitious project aims to prototype advanced autonomous air-to-air capabilities to simulate adversary training profiles, or "red air," to enhance fighter readiness. Follow Army Recognition on Google News at this link

Avenger can operate at speeds up to 400 KTAS, at an altitude of over 50,000 feet, and 20+ hours of endurance (Picture source: General Atomics)

As part of this project, GA-ASI will deploy two of its company-owned MQ-20 Avenger Unmanned Aircraft Systems, along with mission autonomy software. This software will integrate cutting-edge sensors, data links, and other advanced mission systems. The Red 5 project is designed to prototype complete autonomous air-to-air missions, enabling fourth and fifth generation "Blue Force" fighters to train against robust autonomous platforms serving as red air surrogates. The MQ-20 Avenger is an advanced unmanned aerial vehicle (UAV) developed by General Atomics Aeronautical Systems. Production and initial acquisition of the MQ-20 began in the early 2010s, and the platform was quickly put into service. Primarily designed for reconnaissance and precision strike missions, the MQ-20 Avenger features stealth capabilities, including a reduced radar cross-section and internally stored payloads. This UAV is equipped to carry a variety of munitions and sensors, allowing for a wide range of missions such as surveillance, target acquisition, and electronic warfare. The MQ-20 operates at high altitudes and is equipped with advanced avionics and satellite communication systems, making it a versatile and valuable asset for intelligence, surveillance, and reconnaissance (ISR) tasks in contested environments. Jeff Hettick, Vice President of Agile Mission Systems at GA-ASI, highlighted the company's ongoing commitment to investing in and deploying their open architecture autonomy ecosystem integrated with top-tier mission systems. This partnership with TRMC is expected to significantly enhance the success of Blue Force missions in realistic air-to-air training scenarios by creating operationally relevant red air surrogates. The Red 5 project continues GA-ASI's work on unmanned combat air vehicle (UCAV) initiatives, including autonomy and mission system tests on MQ-20 Avengers, as well as the XQ-67A developed by GA-ASI for the Air Force Research Laboratory (AFRL). The project also includes prototype production and flight testing as part of the U.S. Air Force Life Cycle Management Center's Collaborative Combat Aircraft (CCA) program.

**42 . Date: 05-09-2024Loitering Munition - Mini - General - PlatformGIEZ: A Polish Solution for Infantry-Carried Loitering MunitionsURL: https://armyrecognition.com/news/aerospace-news/2024/giez-a-polish-solution-for-infantry-carried-loitering-munitions**

Presented for the first time in 2023, the GIEZ, a new loitering munition system, was showcased at the MSPO 20 exhibition. Developed in cooperation between the Military Institute of Armament Technology (WITU) and MSP Inntech Ltd, this system is designed to meet the armed forces' needs for precision strikes. It consists of several components: a transport tray, which also serves as a drone launcher, an aerial platform equipped with a warhead, a ground control station (C2), and a tracking antenna. Follow Army Recognition on Google News at this link

GIEZ system presented at MSPO 2024 (Picture source: Army Recognition)

The GIEZ drone is a lightweight and maneuverable system. It has a wingspan of 1660 mm and a length of 1075 mm. The system is easy to transport thanks to a compact container (200×200×1350 mm). Its flight mass, including the warhead, is 5.8 kg, while the total mass with the launch tray remains under 12 kg. It is designed for a flight duration of 30 minutes, with an effective range of more than 10 km, limited by the data link. In terms of speed, the aircraft patrols at 80 to 105 km/h and can reach 150 km/h during an attack.

The GIEZ operates at an altitude between 120 and 200 meters during patrol and target search missions and can reach a maximum altitude of 2000 meters above sea level. To reach a target located 10 km away, the drone takes about 8 minutes. Once in the target area, it can patrol for 20 minutes, allowing the operator to precisely choose the ideal moment to strike.

The GIEZ stands out for its ability to carry out precision strikes with a range of specially designed military warheads. The GX-4 warhead family includes several types of charges, offering flexibility depending on the mission:

These warheads, weighing around 1.6 kg, enable the system to provide significant destructive capability while maintaining great lightness and maneuverability

One of the key strengths of the GIEZ system is its ease of use. Designed to be operated by a single soldier, the system requires minimal preparation time before launch. This makes it a major asset for field units that need a rapid and precise response to emerging threats.

**43 . Date: 13-11-2024Armed ISR / ISTAR - MALE - Pitch - Gray Eagle STOL Drone Completes First Successful Flight from South Korean Amphibious Ship ROKS DokdoURL: https://armyrecognition.com/news/aerospace-news/2024/gray-eagle-stol-drone-completes-first-successful-flight-from-south-korean-amphibious-ship-roks-dokdo**

On November 12, 2024, the South Korean Navy reached a significant milestone with the first flight of a Gray Eagle STOL drone from a naval vessel, the ROKS Dokdo, to a land base. This mission, conducted in collaboration with General Atomics Aeronautical Systems, Inc. (GA-ASI) and Hanwha Aerospace, demonstrated the versatility of the Gray Eagle STOL, capable of taking off from an amphibious ship and landing on a land runway. The drone launched from the deck of the amphibious landing ship ROKS Dokdo (LPH-6111), located off Pohang, South Korea, and concluded its mission with a successful landing at Pohang Naval Air Base, validating its operational capabilities in a military context and expanding the strategic options of the South Korean Navy.

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This test was part of a broader experimental process aimed at evaluating future combat systems by integrating new technologies and configurations that align with current operational needs (Picture source: ROK Navy)

The Gray Eagle STOL, known as the "Mojave" in its prototype version, is an advanced tactical drone developed by General Atomics. Originally designed for the U.S. Army as an evolution of the Predator, this drone is powered by a Thielert 165-horsepower heavy-fuel engine compatible with both diesel and jet fuel, supporting battlefield fuel standardization. With an endurance of 25 hours and a maximum altitude of 8,839 meters, the Gray Eagle STOL has extensive autonomy. It can carry a payload of 488 kg, including EO/IR sensors for target designation, SAR radar for moving target detection, and communication relay systems. Equipped to perform a variety of missions, it can carry up to 16 Hellfire missiles and can be fitted with additional armaments, including Stinger air-to-air missiles, small diameter bombs (GBU), and anti-drone systems, enhancing its capability for both strike and close air support (CAS) in littoral and amphibious operations.

This test was part of a broader experimental process aimed at evaluating future combat systems by integrating new technologies and configurations that align with current operational needs. Traditionally, the South Korean Navy has deployed vertical take-off drones; this experiment marked its first use of a fixed-wing drone from a deck-based runway. This approach facilitates the assessment of drone capabilities within maritime environments, emphasizing readiness in critical security situations and advancing the deployment of unmanned aerial power as part of the Navy’s evolving complex marine combat system.

The strategic interest of the South Korean Navy in the Gray Eagle STOL addresses the need to mitigate reduced military personnel while diversifying operational capabilities. According to Admiral Yang Yong-mo, Chief of Naval Operations, this test aimed to validate the effectiveness of embarked combat drones, supporting the transition to integrated manned-unmanned operations. This move aligns with recent conflicts, such as those in Ukraine and the Middle East, where autonomous systems have proven essential in modern combat.

In this inaugural test, the Mojave successfully took off from the Dokdo, executed simulated landing procedures near the vessel, and then landed on a land-based runway, highlighting its adaptability (Picture source: ROK Navy)

Deploying the Gray Eagle STOL from naval vessels presents specific challenges for maritime infrastructure. Although the ROKS Dokdo and its sister ship, the Marado, were initially designed for helicopters, their 199-meter decks can accommodate fixed-wing drone operations with additional modifications. In this inaugural test, the Mojave successfully took off from the Dokdo, executed simulated landing procedures near the vessel, and then landed on a land-based runway, highlighting its adaptability. However, the deck's limited width restricts safe drone landings at sea, suggesting further modifications may be necessary for optimal future missions.

This operation confirmed the short take-off and rapid deployment capabilities of the drone from the Dokdo, which has a 100-meter-long flight deck. The exercise established stable communication between the vessel and Pohang’s Naval Air Command, where the drone ultimately landed. Conducted in collaboration with industry partners, this test also aims to establish a strengthened maritime operational concept, incorporating autonomous systems for complex undersea and aerial missions. The South Korean Navy plans to expand the role of autonomous drones to reinforce its operational capabilities at sea as part of a comprehensive maritime combat system tailored to meet today’s security challenges.

The impact of this technological advancement extends beyond the South Korean Navy. The global rise of drone technology has prompted navies worldwide to reevaluate their vessel designs and operational capabilities. In response, countries such as the United States and the United Kingdom have repurposed existing ships as drone carriers or developed new vessels to support autonomous systems. This trend reflects a shift toward technology-focused naval warfare, where drones enable reconnaissance, anti-submarine, and strike missions in remote areas without dependence on land bases. For South Korea, the Navy intends to further develop maritime drone missions, including surface target detection and undersea threat identification, enhancing defense capabilities to address current geostrategic challenges.

**44 . Date: 04-12-2024Fixed Wing - Loitering Munition - Mini - General - Helsing Launches HX-2 Autonomous Strike Drone with Proven Success in UkraineURL: https://armyrecognition.com/news/aerospace-news/2024/helsing-launches-hx-2-autonomous-strike-drone-with-proven-success-in-ukraine**

On December 2, 2024, European defense AI leader Helsing introduced its latest technological innovation: the HX-2, an autonomous strike drone. Designed to combine mass production, operational autonomy, and resilience in complex electronic warfare environments, the HX-2 has already demonstrated its capabilities during operations in Ukraine.

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The HX-2 from Helsing stands out from its competitors due to its full autonomy, resilience against electronic warfare, and mass production capability at a low cost (Picture source: Helsing)

The HX-2 is an electrically powered, precision-guided munition featuring a cruciform (X-Wing) design that enhances stability, maneuverability, and aerodynamic efficiency during flight. Weighing only 12 kilograms, it is lightweight and portable, yet capable of delivering versatile payloads designed for anti-tank and anti-infrastructure operations. With an operational range of 100 kilometers and a top speed of 220 km/h, it is optimized for long-range, high-speed missions targeting high-value assets in contested environments. Its advanced propulsion system, powered by rechargeable batteries, ensures a low acoustic and thermal signature, enabling stealthy operations against radar and infrared detection. The onboard artificial intelligence integrates multi-spectral sensors for autonomous target acquisition and engagement, supported by inertial measurement units (IMUs) and terrain-matching algorithms to maintain precision in GPS-denied environments.

The modular software architecture allows seamless integration with Helsing’s Altra reconnaissance-strike system, enabling swarm operations coordinated by a single operator. Lightweight composite materials maximize efficiency, making the HX-2 a compact, fast, and versatile asset for modern military operations.

The drone is designed to operate in swarms and can be managed by a single human operator via Helsing's Altra reconnaissance-strike system. This capability significantly reduces personnel requirements while enhancing battlefield efficiency. The HX-2 can reliably target enemy armored units, even in environments with extensive electronic countermeasures, representing a significant step forward in modern military effectors.

One of the HX-2's standout features is its cost efficiency, achieved through scalable production infrastructure established in Europe. With its affordable manufacturing, the HX-2 complements traditional artillery systems, offering enhanced strategic flexibility and deterrence along contested borders.

Niklas Köhler, co-founder of Helsing, emphasized that the HX-2 introduces a new category of military technology by integrating precision, scalability, and autonomy. Gundbert Scherf, Helsing’s other co-founder, noted the critical need for NATO to adopt advanced technologies to secure its eastern flank, highlighting the HX-2’s contribution to addressing these requirements.

The HX-2 from Helsing stands out from its competitors due to its full autonomy, resilience against electronic warfare, and mass production capability at a low cost. Unlike the Russian Lancet drone, which still relies on GPS or other communication systems vulnerable to jamming, the HX-2 operates using advanced artificial intelligence and resilient software. This allows it to perform effectively in highly contested environments such as Ukraine, where adversaries employ sophisticated electronic warfare measures. With a range of 100 km and the ability to operate in swarms under the supervision of a single human operator, it proves to be a modern tactical tool capable of precisely targeting armored units and strategic installations

Now in production, the HX-2 is already deployed in Ukraine, underscoring its relevance to contemporary conflict dynamics (Picture source: Helsing)

Another key advantage of the HX-2 is its significantly lower production cost compared to traditional drones, positioning it as an economically viable alternative to systems like the American Switchblade or the Polish Warmate, which are often constrained by high costs or limited production capacity. Designed to complement rather than replace traditional artillery, the HX-2 offers unique operational flexibility by enabling precise and large-scale strikes at reduced expense. Compared to drones like the Lancet, which have demonstrated effectiveness but suffer from limitations in modularity and mass deployment, the HX-2 delivers an innovative strategic solution tailored to the demands of modern conflicts.

Now in production, the HX-2 is already deployed in Ukraine, underscoring its relevance to contemporary conflict dynamics. Helsing positions itself as a key provider of innovative defense solutions aimed at enhancing the security of democratic nations. Germany has confirmed the shipment of 4,000 HX-2 drones to Ukraine, with the first batch expected in December 2024. This initiative is part of a broader effort by Western countries to supply Ukraine with advanced drones, such as the Turkish Bayraktar TB2 and the American Phoenix Ghost, to bolster its defensive capabilities against Russian aggression. The HX-2 thus complements Ukraine's arsenal by delivering innovative technological solutions tailored to the demands of the current conflict.

By integrating cutting-edge technology, efficient manufacturing, and operational reliability, Helsing’s HX-2 offers armed forces a strategic edge. As electronic warfare reshapes the nature of modern conflicts, the HX-2 provides a robust solution to restore operational capabilities in contested environments.

**45 . Date: 09-09-2024Armed ISR / ISTAR - MALE - Safety - Houthi Rebels Report Shooting Down Second US MQ-9 Reaper Drone Over Marib ProvinceURL: https://armyrecognition.com/news/aerospace-news/2024/houthi-rebels-report-shooting-down-second-us-mq-9-reaper-drone-over-marib-province**

Yemen’s Houthi rebels claimed on September 8, 2024, to have shot down another American-made MQ-9 Reaper drone over Yemeni territory, according to reports from Japan News. If confirmed, this would mark the latest in a series of incidents where the Houthis have targeted these costly U.S. military surveillance aircraft. In response, the Houthis reported that U.S. forces launched airstrikes on Houthi-controlled areas following the downing. Follow Army Recognition on Google News at this link

The Houthis have regularly targeted General Atomics MQ-9 Reaper drones since taking control of Yemen’s capital, Sanaa, in 2014 (Picture source: US DoD)

The U.S. military acknowledged the Houthis' claim but stated that they had received no official reports of an American drone being shot down over Yemen. The Houthis did not provide any visual evidence, such as photos or videos, to support their claim, although such material has sometimes emerged later in propaganda footage. However, the Houthis have regularly targeted General Atomics MQ-9 Reaper drones since taking control of Yemen’s capital, Sanaa, in 2014. These incidents have increased in frequency, particularly after the start of the Israel-Hamas conflict, during which the Houthis have also escalated their attacks on shipping in the Red Sea corridor. Houthi military spokesperson Brigadier General Yahya Saree made the announcement in a pre-recorded video, stating that the drone was brought down over the Marib province, a contested region rich in oil and gas resources, held by allies of a Saudi-led coalition since 2015. Saree did not elaborate on how the drone was shot down, but it is known that the Houthis have used Iranian-supplied surface-to-air missiles, specifically the 358 model, for several years. Iran denies arming the Houthis, despite Tehran-manufactured weapons being found on the battlefield and in intercepted seaborne shipments to Yemen, despite a United Nations arms embargo. Saree framed this incident as part of the Houthis' ongoing "jihadist duties" in support of the Palestinian people and in defense of Yemen. The MQ-9 Reaper, which costs around $30 million per unit, can fly at altitudes up to 50,000 feet (15,240 meters) and stay airborne for up to 24 hours. After the Houthi claim, their satellite news channel, al-Masirah, reported U.S.-led airstrikes near the city of Ibb. Later on Sunday, U.S. Central Command confirmed the destruction of three Houthi drones and two missile systems in Houthi-controlled territory but provided no additional details. The MQ-9 Reaper, produced by General Atomics, entered production in 2001 and was acquired by the U.S. military soon after. It became operational with the U.S. Air Force in 2007 and has since become one of the most widely used unmanned aerial vehicles (UAVs) for intelligence, surveillance, and reconnaissance (ISR) missions, as well as precision strikes. Recent reports indicate that over 300 MQ-9 Reapers are currently in service with various branches of the U.S. military, as well as allied nations, including the UK, France, and Italy.

Houthi military spokesperson did not elaborate on how the drone was shot down, but it is known that the Houthis have used Iranian-supplied surface-to-air missiles, specifically the 358 model, for several years (Picture source: Houthi Army)

The Reaper is renowned for its long endurance and high-altitude capabilities, equipped with advanced sensors and targeting systems. It can carry a range of precision munitions, including Hellfire missiles and laser-guided bombs, making it a versatile platform for both reconnaissance and combat missions. Its advanced targeting technology enables it to conduct precise strikes, making it a crucial asset in modern military operations.

Since January, U.S. forces have intensified airstrikes against Houthi targets, with the rebels having attacked more than 80 merchant vessels using missiles and drones, resulting in casualties and significant damage to ships.

To counter the increasing Houthi threat to U.S. drones like the MQ-9 Reaper, several defensive measures could be considered. One approach is to enhance electronic countermeasures that could neutralize the Houthi surface-to-air missile systems by disrupting their detection and targeting capabilities. Another strategy would involve incorporating active defense systems on the drones themselves, allowing them to detect and counter incoming threats autonomously.

In addition, improving intelligence and surveillance efforts is crucial for anticipating attacks by monitoring Houthi-controlled areas and identifying potential missile launch sites before they become operational threats. Increasing drone autonomy and evasion capabilities through advanced technologies like artificial intelligence could also minimize their vulnerability to enemy defenses, allowing drones to evade missiles more effectively. Finally, the U.S. could intensify preemptive air operations, including targeted strikes to neutralize Houthi missile systems, thereby reducing the risk to drones operating in hostile areas.

**46 . Date: 05-06-2024Cargo - MALE - General - PlatformILA 2024: German army presents use of Grille UAV for sanitary evacuationURL: https://armyrecognition.com/news/aerospace-news/2024/ila-2024-german-army-presents-use-of-grille-uav-for-sanitary-evacuation**

First presented in 2023 during the Bundeswehr Day, the Grille drone developed for the transportation of wounded personnel is now being showcased by the Bundeswehr at the ILA 2024 exhibition. Follow Army Recognition on Google News at this link

Anvilusthe Grille UAV dedicated to Sanitary evacuation from frontline, presented by Bundeswher (Picture source: Army Recognition)

Developed by Avilus, the Grille drone is designed to handle the transportation of wounded individuals and cargo between the front line and rear areas. According to the Bundeswehr, it ensures rapid response in handling the injured, thereby reducing the time for care and consequently the complications related to injuries.

The company states that the system includes a multicopter for transporting the injured (MEDEVAC Grille), a mobile operations center (PECC), a trailer platform for air operations, service, and logistics (TROL), and a digital backbone (MEDC4I). The system is housed in a 20-foot ISO container for transport to the usage site and can be made ready for use by two soldiers in 15 minutes.

The multicopter can carry a payload of 135 kg with a takeoff mass of 695 kg. The fully electric 240 kW engine allows a cruising speed of 86 km/h up to an altitude of 2,100 meters. According to Avilus, the range is 51 km. In addition to a safety system design, a ballistic parachute is one of the safety features.

Avilus highlights the military-medical applications of the system, including tactical evacuation from casualty collection points, transfer missions between medical treatment facilities, medical resupply flights, or certain special operations in high-risk areas. The system is a sign of our times and is an integral part of the RASEVAC doctrine. This doctrine advocates the use of ground and aerial drones in necessary but secondary combat tasks, such as evacuating the wounded and delivering materials.

Bundeswher precise the use of Themis UGV for sanitary evacuation and material delivery on the frontline.

**47 . Date: 05-06-2024Loitering Munition - Tactical - General - PlatformILA 2024 : MBDA unveils RCM² future of loitering munitionURL: https://armyrecognition.com/news/aerospace-news/2024/ila-2024-mbda-unveils-rcm-future-of-loitering-munition**

MBDA is presenting for the first time at ILA 2024 in Berlin, the future RCM² (Remote Carrier Multidomain Multirole Effector) multidomain. RCM² can be used in both kinetic and electromagnetic spectrums. Compared to available systems on the market, RCM² can operate in highly contested or defended operational areas. Follow Army Recognition on Google News at this link

RCM2 loitering munition presented at ILA 2024 (Picture source: Army recognition )

Developed by MBDA in Germany, RCM² is designed for a wide range of applications as well as combat masses. It offers both short and long-range effects. Additionally, RCM² has a loitering capability and can also engage targets in GPS-denied environments.

This aerial vector is a loitering munition, which is GPS-guided, capable of flying in swarms. Interactive guidance and swarm leadership handover can theoretically be performed by any operator integrated into the network. The platform from which RCM² is launched and the domain through which it is directed is flexible and adaptable to operational needs. This approach allows the remote carrier to be used across all branches of the armed forces. In later expansion phases, RCM² will acquire reconnaissance and target data based on sensors and will thus be able to provide real-time situational images.

Powered by a turbojet, RCM² can carry different payload compositions, making it adaptable to all missions. Furthermore, different payloads can be combined in a single mission. There are three payload options: an explosive warhead to create a loitering munition, electronic warfare composed of jammers, and another featuring sensors for intelligence gathering. Weighing about 340kg and with a range of approximately 500km, RCM² is designed to be launched from the Future Combat Air System, a future fighter jet project.

As one of the main partners in the next-generation weapon system of the FCAS program, MBDA is advancing the technological development of RCM² in collaboration with its Spanish partner SATNUS.

**48 . Date: 26-06-2024Armed ISR / ISTAR - MALE - Contract - India Increases Border Security with Home-Made TAPAS BH-201 Drones Amid Tensions with ChinaURL: https://armyrecognition.com/news/aerospace-news/2024/india-increases-border-security-with-home-made-tapas-bh-201-drones-amid-tensions-with-china**

The Indian Air Force and Navy have recently ordered 10 TAPAS-BH-201 (Tactical Airborne Platform for Aerial Surveillance) drones, manufactured by the Defense Research and Development Organization (DRDO). These drones signify India's commitment to the Atmanirbhar Bharat initiative, which aims to promote technological and industrial self-sufficiency. The TAPAS-BH-201 drones are designated for intelligence, surveillance, and reconnaissance (ISR) missions along India's western and northern borders. Follow Army Recognition on Google News at this link

Aeronautical Development Establishment TAPAS BH-201 Drone (Picture source: Wikimedia)

Although the TAPAS-BH-201 drones do not fully meet the joint services' qualitative requirements of a 30,000-foot altitude and 24-hour endurance—achieving only 28,000 feet and 18 hours—the armed forces have opted for these drones. This decision underscores their confidence in DRDO's continuous improvement efforts.

The Tapas drones will play a critical role in ISR missions along the strategically sensitive areas due to ongoing tensions. These regions require constant monitoring, a task well-suited to the high-altitude and long-endurance capabilities of the Tapas drones.

Additionally, the Indian Navy plans to deploy Tapas drones in the strategically important Andaman and Nicobar Islands to enhance maritime surveillance and secure vital sea lanes. The operational capabilities of the Tapas, capable of operating from relatively short runways, make them ideally suited to the geographical constraints of the archipelago.

The incorporation of TAPAS-BH-201 drones is part of a broader initiative to enhance the capabilities of medium-altitude long-endurance (MALE) drones within the Indian armed forces. With the recent induction of Heron Mk2 drones and plans to acquire 91 additional drones, potentially including Heron Mk2 or locally manufactured Drishti 10 Starliner models, India continues to diversify its UAV inventory.

The manufacturing of the Tapas drones will be carried out by a consortium consisting of Bharat Electronics Limited (BEL) and Hindustan Aeronautics Limited (HAL), thereby strengthening India's domestic defense ecosystem. In a recent trial, a Tapas drone was operated by Indian Navy officials over the Arabian Sea after taking off from the Chitradurga airfield in Karnataka, demonstrating the drone's operational flexibility and ease of deployment.

The development of the TAPAS-BH-201 drone, known as Rustom-II prior to 2016, is led by the Aeronautical Development Establishment (ADE) in India. This MALE drone was developed to meet the intelligence, surveillance, and reconnaissance needs of the Indian armed forces. Initially faced with challenges related to weight, imported engines, and payload capacity, the project has seen several prototypes and significant improvements over the years.

The TAPAS-BH-201 features advanced technical capabilities, including an operational altitude of 30,000 feet and 24-hour endurance with EO and SAR payloads. It can carry a variety of payloads up to 350 kg. The drone is equipped with advanced communication systems using both LOS and SATCOM bands, allowing it to maintain links over distances greater than 1,000 kilometers through the GAGAN system. Its surveillance capabilities include sophisticated systems such as synthetic aperture radar, which can operate in strip, spotlight, and GMTI modes, offering considerable flexibility for various mission types.

This investment in Tapas drones by the Indian Air Force and Navy is not just a procurement of defense equipment but also a strategic commitment to national innovation and defense industry, aligned with India's long-term objectives for a robust and self-reliant defense.

The need to enhance Indian aerial drone capabilities stems from ongoing tensions in the strategically critical Ladakh Valley, a region in Indian-administered Kashmir situated in the western Himalayas. This area is crucial not only for its military implications but also for the valuable natural resources it contains.

Historically, tensions in this region date back to poorly defined borders established following the 1962 Sino-Indian War. During this conflict, India and China clashed over several sections of their over 3,000-kilometer-long border, including Aksai Chin—a territory controlled by China but claimed by India. Despite subsequent agreements aimed at demilitarizing the contested areas, these have not always been adhered to, leading to intermittent clashes and diplomatic standoffs.

The need for increased surveillance and operational flexibility became particularly evident following a violent confrontation in 2020 in the Ladakh region, which resulted in casualties on both sides. This incident marked a significant escalation in border confrontations and led to substantial military deployments by both nations. In response, India has focused on enhancing its fleet of aerial drones to improve reconnaissance and operational capabilities, ensuring a sustained and vigilant presence in this contested region. As India and China continue to engage in military and diplomatic negotiations, progress has been slow, and both sides maintain an enhanced military posture in the area.

**49 . Date: 31-08-2024Armed ISR / ISTAR - MALE - Requirement - India to Get 31 MQ-9B High Altitude Long Endurance Combat DronesURL: https://armyrecognition.com/news/aerospace-news/2024/india-to-get-31-mq-9b-high-altitude-long-endurance-combat-drones**

On July 28, 2024, the Defence Acquisition Council (DAC), chaired by Defence Minister Rajnath Singh, reviewed and approved amendments to the contract for 31 MQ-9B High Altitude Long Endurance (HALE) Unmanned Aerial Vehicles (UAVs) from General Atomics of the United States.

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General Atomics MQ-9B High Altitude Long Endurance (HALE) Unmanned Aerial Vehicles (UAVs) (Picture source: US DoD)

On July 28, 2024, the Defence Acquisition Council (DAC), chaired by Defence Minister Rajnath Singh, reviewed and approved amendments to the contract for 31 MQ-9B High Altitude Long Endurance (HALE) Unmanned Aerial Vehicles (UAVs) from General Atomics of the United States, according to defense sources.

"The approved amendments are in line with the Acceptance of Necessity (AoN) that was granted for the MQ-9B deal. They pertain to indigenous content and related aspects," a defense source stated.

Official sources indicated that the United States has completed its part of the process with a letter of offer and acceptance delivered to India in early March. It is now up to India to complete the procedures before the deal can be signed. In the final step, the agreement must be approved by the Cabinet Committee on Security before it can be finalized. With the Quad leaders' summit scheduled to be hosted by India in December, the MQ-9B deal, along with the GE-414 jet engine deal, are expected to be concluded during the visit of the U.S. President to India.

India plans to procure 31 MQ-9B UAVs, including 15 Sea Guardians for the Indian Navy and 16 Sky Guardians – eight for both the Indian Army and Air Force, estimated to cost $3.99 billion. As part of the deal, General Atomics is scheduled to establish a Global Maintenance, Repair, and Overhaul (MRO) facility in India, which would count towards offset obligations.

Indeed, the U.S. State Department approved a potential foreign military sale to India in February 2024, which includes MQ-9B Sky Guardian drones and related equipment for an estimated cost of $3.99 billion. The Defense Security Cooperation Agency has transmitted the required certification to Congress today, informing lawmakers of this planned sale.

India has expressed a desire to acquire thirty-one (31) MQ-9B Sky Guardian drones, along with various complementary equipment, including one hundred sixty-one (161) integrated inertial and satellite navigation systems (EGIs) and thirty-five (35) L3 Rio Grande communication intelligence sensor suites. The transaction also includes the acquisition of one hundred seventy (170) AGM-114R Hellfire missiles, sixteen (16) Hellfire M36E9 training missiles, three hundred ten (310) GBU-39B/B laser-guided small diameter bombs, and eight (8) GBU-39B/B guided test vehicles with live fuzes.

The sale would also include certifiable ground control stations, TPE-331-10-GD engines, Hellfire M299 missile launchers, KIV-77 cryptographic appliques, and other Identification Friend or Foe (IFF) equipment, among various other systems and supports.

The delivery of 31 MQ-9B Sky Guardian drones by the United States to India represents a significant milestone in the strategic and defense relations between the two nations. This acquisition is unsurprising, given the rising regional tensions in South Asia and India's growing need to modernize and expand its surveillance and reconnaissance capabilities.

The MQ-9Bs are capable of flying long hours at high altitudes, allowing for continuous surveillance over vast areas. This capability is crucial for India, which needs to monitor disputed borders with neighbors such as Pakistan and China. Continuous border surveillance will help detect and deter adverse military activities, as well as transnational terrorism.

For reference, General Atomics Aeronautical Systems developed the MQ-9B SkyGuardian to offer a modern and more effective solution than the already well-known MQ-9A Reaper. Technically, this new drone flies longer (+40 hours versus 27 hours for the Reaper) and has a greatly increased payload capacity (2,155 kg external + 363 kg internal versus 1,361 kg external + 386 kg internal for the Reaper).

These drones also facilitate cooperation with other allied forces equipped with similar technologies, thus strengthening multilateral operations for regional security and responding to initiatives like the "Quad," a strategic dialogue that includes Australia, India, Japan, and the United States.

Payload Capabilities: The MQ-9Bs can carry a variety of payloads, including ISR (Intelligence, Surveillance, Reconnaissance) sensors, making them extremely useful for intelligence-gathering missions. They are also equipped to carry munitions, such as Hellfire missiles, providing India with a capability for precise long-range strikes.

With a flight endurance of over 40 hours, the MQ-9Bs can operate over long distances without direct human support. This extended endurance is particularly beneficial for countries like India with large geographical spaces and extensive surveillance responsibilities.

Equipped with AESA (Active Electronically Scanned Array) radars, advanced communication, and encryption systems, these drones offer enhanced compatibility and security, essential for operations in contested environments.

The MQ-9Bs will be particularly useful for monitoring hostile activities along India's contested borders, including troop movements or adversarial military infrastructures in hard-to-access regions. Faced with the persistent threat of terrorism, they will provide a surveillance platform capable of collecting vital intelligence to prevent attacks before they occur.

For example, the use of MQ-9B Sky Guardian drones in the mountainous context of Kashmir offers a solution tailored to the unique challenges presented by its complex topography and access constraints. A major advantage of these drones is their ability to operate at high altitudes. The MQ-9B can fly over mountain peaks without being hindered by rough terrain, significantly facilitating intelligence gathering in high-altitude areas like Kashmir. This feature allows for effective and continuous surveillance, essential for intelligence and security in this strategically sensitive region.

**50 . Date: 01-08-2024Armed ISR / ISTAR - MALE - Contract - Indonesian Military Strengthens Defense with Purchase of Bayraktar TB2 DronesURL: https://armyrecognition.com/news/aerospace-news/2024/indonesian-military-strengthens-defense-with-purchase-of-bayraktar-tb2-drones**

The Indonesian Air Force, under the leadership of Chief of Staff Marshal Mohammad Tonny Harjono, announced the plan to acquire Bayraktar TB2 drones during a meeting at the Halim Perdanakusuma area in East Jakarta on Thursday, August 1, 2024. This decision follows Harjono's recent visit to Baykar Technology in Istanbul, Turkey, where he assessed the suitability and performance of the Bayraktar drones for Indonesian military operations. Follow Army Recognition on Google News at this link

Equipped with a triple redundant avionics system, the Bayraktar TB2 allows fully autonomous taxiing, take-off, landing, and cruising (Picture source: Bayraktar)

The Bayraktar TB2, developed and manufactured by Baykar, is a tactical armed Unmanned Aerial Vehicle (UAV) system featuring an integrated design that includes the UAV platform, ground control station, ground data terminal, remote display terminal, and advanced base modules. This Medium Altitude Long Endurance (MALE) drone is capable of conducting intelligence, surveillance, reconnaissance (ISR), and armed attack missions.

Equipped with a triple redundant avionics system, the Bayraktar TB2 allows fully autonomous taxiing, take-off, landing, and cruising. Since its introduction in 2014, the Bayraktar TB2 has accumulated over 200,000 operational flight hours and is actively used by the Turkish Armed Forces, Gendarmerie, and National Police. Currently, 110 units are in service in Turkey, and the system holds records for endurance (27 hours 3 minutes) and altitude (27,030 feet) in Turkish aviation history.

The Bayraktar TB2 is notable for its operational altitude of 18,000 feet and service ceiling of 27,000 feet, with an endurance of up to 27 hours. It has a communication range of LOS, a maximum speed of 120 knots, and a payload capacity of 150 kg, including EO/IR/LD ISR radars or multi-mode AESA radar and four laser-guided smart munitions for combat.

The drone is equipped with advanced features such as fully automatic flight control, autonomous navigation independent of GPS, and multiple redundancies in sensors and systems. It has been used in combat zones in Syria, Libya, and Karabakh, demonstrating its effectiveness in neutralizing air defense systems, radars, armored vehicles, and other military targets. The Bayraktar TB2 has also been exported to countries such as Ukraine, Qatar, Libya, and Azerbaijan, proving its capabilities in various operational theaters.

Harjono confirmed that the Indonesian Air Force would purchase the Bayraktar type 2 drone, a UAV with MALE capabilities and LOS and BILOS functionalities. According to Harjono, these drones are highly suitable for surveillance and reconnaissance missions, providing a significant advantage to Indonesia's existing air defense systems.

The decision to acquire the Bayraktar drones follows Harjono's visit to Baykar Technology on June 29, 2024. During this visit, he and his delegation explored advanced drone technologies and artificial intelligence applications essential for modern military operations. Baykar Technologies, known for developing cutting-edge UAV systems, presented their drone technology in detail, including a flight demonstration of the Bayraktar Akinci, showcasing various technological simulations.

In addition to assessing the drones' capabilities, Harjono discussed increased cooperation in air defense with General Ziya Cemal Kadolu, Commander of the Turkish Air Force. These discussions aimed to strengthen bilateral military relations between Indonesia and Turkey through joint training exercises, educational exchanges, and sharing knowledge on advanced weapon systems technology.

Although Harjono did not disclose specific details regarding the number of Bayraktar drones to be purchased or their delivery timeline, he expressed confidence that this acquisition would significantly enhance Indonesia's military power in the era of high-tech weaponry. The new drones are expected to complement and improve the performance of the CH-4 and Anka drones already in service with the Indonesian Air Force.

Indonesia needs drones primarily for three reasons. First, for surveillance and reconnaissance: as an archipelago of over 17,000 islands, monitoring its vast borders is complex, and drones can help detect illegal activities such as illegal fishing and drug trafficking. Second, for national security, particularly in the South China Sea, where drones can help address internal and external threats. Finally, the acquisition of drones is part of a defense modernization effort, while also promoting international cooperation, notably through the partnership with Turkey, enabling the transfer of advanced technologies and strengthening bilateral relations.

**51 . Date: 27-05-2024Armed ISR / ISTAR - MALE - General - Irak boosts Air Capabilities with Chinese CH-5 medium-altitude combat droneURL: https://armyrecognition.com/news/aerospace-news/2024/irak-boosts-air-capabilities-with-chinese-ch-5-medium-altitude-combat-drone**

At the end of April 2024, the Iraqi Air Force marked an important development in its air capabilities with the introduction of the Cai Hong-5 drone, a medium-altitude long-endurance combat aircraft manufactured by the Chinese company CASC. This acquisition is the latest in a series of arms purchases that demonstrate an increasing collaboration between Iraq and China in the defense sector. The CH-5 was officially unveiled during a visit by dignitaries, including Iraq's Defense Minister, at an airbase, marking a significant step in the modernization of the Iraqi arsenal.

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Chinese CH-5 medium-altitude combat drone (Picture source: Army Recognition)

The military relationship between China and Iraq strengthened since the fall of Saddam Hussein in 2003, is characterized by significant arms transactions and increased technological cooperation. As Iraq's main arms supplier, China has delivered a variety of military equipment, including armored vehicles such as the Type 59 and Type 85 main battle tanks, WZ-551 troop carriers, artillery systems, and advanced drones like the CH-4 and CH-5. This collaboration also extends to the training of Iraqi troops and technical support for the use and maintenance of these equipments.

This military cooperation is part of a broader strategy where China seeks to extend its influence in the Middle East, a region traditionally dominated by the United States and Europe. The gradual withdrawal of U.S. troops from Iraq has provided China with an opportunity to increase its influence. This is also reflected in the "Belt and Road" initiative, aimed at strengthening economic and strategic ties across Asia, Africa, and Europe. The recent acquisition by Iraq of CH-5 drones underscores increased confidence in Chinese military technology and marks a significant evolution of Iraq's military capability, thus enhancing China's role as a key strategic player in the region.

The CH-5 is considered an important improvement over its predecessors, the CH-3 and CH-4, the latter of which has been in service with the Iraqi Air Force for nearly a decade. This new model stands out for its enhanced capabilities, including a mission endurance of up to 60 hours and the ability to carry various air-to-ground munitions, making it particularly suited for extended surveillance missions and precision strikes.

Although few details have been released about the specifics of the agreement between Iraq and China Aerospace Science and Technology Corporation (CASC), the displayed CH-5 featured six hardpoints for armaments, suggesting a significant payload capacity. These characteristics position the CH-5 as a strategic tool in the fight against terrorism, especially against remnants of the Islamic State which continue to threaten regional security.

This acquisition is part of a broader context of strengthening Iraq's military capabilities, which also includes collaborations with other foreign powers, as evidenced by the presence of Eurofighter Typhoons from the Italian Air Force at the April event. Iraq thus appears determined to diversify its sources of armament and to enhance its air defense capabilities in the face of persistent threats.

The enhancement of Iraq's arsenal with advanced combat drones like the CH-5 also highlights the competitive dynamics between China and the United States in the defense sector, with each country seeking to expand its influence in the region through arms sales and military cooperation. With advanced capabilities and potentially lower costs than Western alternatives, Chinese drones are likely to continue playing a key role in Iraq's defense strategy in the coming years.

Operational since its maiden flight in Gansu province in August 2015, the CH-5 drone, developed by China Aerospace Science and Technology Corporation (CASC), was first publicly displayed at the China International Aviation & Aerospace Exhibition in Zhuhai in 2016. According to available information, the CH-5 falls into the category of medium-altitude long-endurance (MALE) unmanned aerial vehicles (UAVs), with a wingspan of 21 meters and an increased payload capacity of 1,200 kilograms, which is more than that of its predecessors in the Cai Hong family, which had a capacity of 900 kilograms.

This capacity enables this drone, also known as Cai Hong 5 or Rainbow 5, to carry an array of weaponry, including up to 16 air-to-ground munitions such as the Lan Jian 7 (Blue Arrow 7) laser-guided air-to-surface missiles, TG100 laser/INS/GPS-guided bombs, and AR-1/HJ-10 anti-tank guided missiles (ATGMs).

The operational range of the CH-5 extends up to 250 kilometers on a line-of-sight datalink and can be expanded to 2,000 kilometers when utilizing satellite communications, with reports indicating a possible maximum range of 6,500 km. Plans are in place to further increase this range to 10,000 kilometers. Additionally, the maximum flight duration is currently 60 hours, with an objective to increase this to 120 hours, enhancing its capacity for extended missions.

The CH-5 is powered by a 330 horsepower heavy-fuel engine (HFE) which supports up to 60 hours of flight time. This engine provides a loiter speed between 180-220 km/h and a maximum speed exceeding 300 km/h. Alternatively, a 300-horsepower gasoline engine is available, offering up to 39 hours of endurance. The UAV also operates up to a maximum altitude of 30,000 feet (approximately 9,000 meters).

Designed for both domestic and export markets, the CH-5 has garnered international interest due to its relatively lower cost compared to Western drones, with several countries reportedly expressing interest in purchasing it. Furthermore, the UAV is designed for autonomous operations using pre-programmed waypoint navigation and can coordinate with other UAVs in the CH series for joint missions. This feature facilitates easy integration of the CH-5 with existing fleets of the CH-3 and CH-4 drones, utilizing the same control systems and data links, making it a potentially attractive upgrade for existing users of Chinese UAV technology, such as Egypt and Iraq.

This latter capability aligns with China's broader strategic objectives to enhance its indigenous military technologies and expand its influence in the international arms trade. China Aerospace Science and Technology Corporation (CASC) is also pursuing opportunities to export the CH-5 and potentially license its manufacturing technology to other countries, an initiative supported by expressed interest from several nations.

**52 . Date: 23-09-2024Loitering Munition - Small - General - PlatformIran Unveils Shahed-136B Drone and Increases Military Capabilities Amid Regional TensionsURL: https://armyrecognition.com/news/aerospace-news/2024/iran-unveils-shahed-136b-drone-and-increases-military-capabilities-amid-regional-tensions**

Iran recently showcased its latest military advancements during a parade in Tehran on September 21, 2024, commemorating the anniversary of the Iran-Iraq war. Among the innovations presented, the Shahed-136B, an upgraded version of the well-known Shahed-136 kamikaze drone, stood out. This new-generation drone is part of Iran's ongoing efforts to bolster its military capabilities amid growing regional tensions and accusations of providing military aid to Russia, allegations that Tehran continues to deny. Follow Army Recognition on Google News at this link

The Shahed-136B features several significant upgrades, including a larger warhead, an operational range between 2,500 and 4,000 kilometers, a turbojet engine, and improved stealth capabilities. (Picture source: MehrNews)

The Shahed-136B features several significant upgrades, including a larger warhead, an operational range between 2,500 and 4,000 kilometers, a turbojet engine, and improved stealth capabilities. These enhancements aim to increase the drone's lethality and survivability, which are critical factors in modern warfare. Compared to its predecessors, the Shahed-136B adopts a more conventional aircraft design, moving away from the delta-wing configuration, making it more aerodynamic and reducing the visibility of its propeller engines. This technological evolution strengthens Iran’s ability to conduct long-range operations, a key factor in modern conflict scenarios.

Despite these technical advancements, the unveiling comes at a time of heightened diplomatic and military tensions. Western governments have accused Iran of supplying similar drones to Russia for use in the Ukraine conflict. Iran, however, has consistently denied these allegations, insisting that its military advancements are solely for defensive purposes. Nonetheless, the international community, especially the United States and its European allies, continues to closely monitor developments in Iran's military industry.

In addition to the Shahed-136B, Iran introduced the Shahed-238, a jet-powered version of the Shahed-136, and a new ballistic missile named "Jihad," which has a range of approximately 1,000 kilometers. This display of military prowess underscores Iran's ongoing commitment to developing its missile and drone capabilities, aimed at strengthening its strategic position in the region, particularly in light of tensions with Israel and ongoing conflicts in Yemen.

Iranian President Masoud Pezeshkian, present at the parade, used the occasion to reaffirm Iran's military strength, asserting that the country’s deterrent power would prevent any foreign aggression. He also reiterated Tehran's stance against Israel, emphasizing Iran's commitment to defending its sovereignty and that of its regional allies.

The introduction of the Shahed-136B and other military technologies has sparked reactions within the international community. While the enhanced capabilities of these drones raise concerns about their potential impact on regional conflicts, Iran maintains that its technological advancements serve only to protect its national security.

In conclusion, the unveiling of the Shahed-136B marks a significant step in the modernization of Iran’s military arsenal. This display of technological capability is likely to fuel further debates on regional security in the Middle East. While the exact impact of these new weapons on geopolitical dynamics remains to be seen, it is clear that tensions between Iran and its regional adversaries will continue to rise as Tehran bolsters its defense capabilities

**53 . Date: 14-11-2024Research - HALE - General - SoftwareJapan to conduct first artificial intelligence-driven unmanned aircraft flight in 2025URL: https://armyrecognition.com/news/aerospace-news/2024/japan-to-conduct-first-artificial-intelligence-driven-unmanned-aircraft-flight-in-2025**

As reported by Kosuke Takahashi on November 12, 2024, Japan's Defense Equipment Agency confirmed that Mitsubishi Heavy Industries (MHI) will conduct the maiden flight of an artificial intelligence (AI)-equipped unmanned test aircraft in November 2025. This announcement was made during the "2024 Defense Equipment Agency Technology Symposium" held in Tokyo. The AI-integrated aircraft, designated as a "Flying Test Bed" (FTB), is being developed to evaluate new aviation technologies under realistic flight conditions, providing critical data to refine AI implementation for unmanned aerial systems. Follow Army Recognition on Google News at this link

The FTB’s design is highly modular, featuring a shared fuselage and engine with interchangeable wings and tail sections, allowing the aircraft to alternate between combat and reconnaissance configurations. (Picture source: ATLA)

Since fiscal year 2022, Mitsubishi Heavy Industries (MHI) has been engaged in a research and development project under a Defense Equipment Agency contract, focusing on demonstrating AI capabilities through the Flying Test Bed (FTB) platform and its control systems. The FTB’s design is highly modular, featuring a shared fuselage and engine with interchangeable wings and tail sections, allowing the aircraft to alternate between combat and reconnaissance configurations. This flexibility enables the FTB to support multiple mission profiles, facilitating a broad range of operational testing scenarios.

Each FTB variant measures over three meters in length. The combat model has a wingspan slightly exceeding two meters, while the reconnaissance model spans more than three meters. Both versions incorporate electro-optical and infrared (EO/IR) sensors, with the reconnaissance variant additionally outfitted with synthetic aperture radar (SAR) for enhanced reconnaissance capabilities. According to Japan’s Defense Equipment Agency, the FTB project includes experimental flights that will demonstrate AI-directed flight, gathering data on how AI functions in real-world versus simulated environments. This data will allow developers to assess the effects of these conditions on AI performance and establish a standardized framework for flight control signal interfaces. The project also aims to create a database for analyzing performance differences among various AI configurations tested on the same FTB aircraft.

MHI is scheduled to conduct the initial flight in November 2025, with research and prototype phases concluding by March 2026. Following this, the Defense Equipment Agency will perform in-house testing, including flight trials, between fiscal years 2026 and 2027, aiming to refine system performance and validate operational capabilities.

The FTB development aligns with a broader Japan-U.S. research collaboration. In December 2023, Japan's Ministry of Defense (MoD) and the U.S. Air Force (USAF) launched a joint AI initiative to enhance unmanned aerial vehicles (UAVs) that will operate in tandem with Japan's future manned fighter jets. This project, called "Overwhelming Response through Collaborative Autonomy," seeks to enable UAVs to function autonomously alongside manned aircraft, improving coordination and operational adaptability. These UAVs, envisioned as "loyal wingmen," will be integrated with Japan's next-generation fighter fleet to expand mission capabilities.

Japan envisions deploying AI-equipped UAVs in combat support roles to accompany its next-generation fighter jet, a collaborative project with the UK and Italy under the Global Combat Air Programme (GCAP). In October 2024, MHI revealed an early mock-up of an AI-driven combat support drone at the International Aerospace Exhibition. The concept highlights Japan’s commitment to integrating AI into support drones for tactical applications.

Japan’s next-generation fighter, part of GCAP, was showcased in a concept model presented at the Farnborough International Airshow on July 22, 2024. This model, developed jointly by BAE Systems (UK), Leonardo (Italy), and MHI (Japan), features a refined airframe with an enlarged wingspan to enhance aerodynamics. Engineers from each company employed digital tools, including computer modeling and virtual reality, to optimize the aircraft’s design during the concept phase.

This partnership aims to replace the Eurofighter Typhoon and Mitsubishi F-2. GCAP’s development employs approximately 9,000 personnel and includes over 1,000 suppliers from the partner nations. GCAP’s formal development phase is set to begin in 2025, with an initial demonstrator flight anticipated by 2027 and production slated to commence by 2030. The fighter, expected to enter service by 2035, will incorporate advanced weapons systems, an interactive software-driven cockpit, integrated sensors, and next-generation radar.

Under GCAP’s equal partnership structure, each country contributes distinct expertise: BAE Systems oversees airframe development, Rolls-Royce manages the engines, Leonardo UK the electronics, and MBDA UK the weapons. MHI is Japan's lead contractor, with IHI Corporation and Mitsubishi Electric handling engines and electronics. Italy's Leonardo S.p.A. manages its contributions, including work by Avio Aero on engines and MBDA IT on missile systems. Potential GCAP partnerships with Sweden, Saudi Arabia, and Germany remain speculative, with Japan citing concerns about technology security regarding possible collaborations with Saudi Arabia.

**54 . Date: 27-08-2024Armed ISR / ISTAR - MALE - Contract - Kenya Set to Receive Advanced Bayraktar TB2 Combat Drones from TürkiyeURL: https://armyrecognition.com/news/aerospace-news/2024/kenya-set-to-receive-advanced-bayraktar-tb2-combat-drones-from-tuerkiye**

The Kenyan Defense Forces will soon integrate advanced Bayraktar TB2 unmanned aerial vehicles (UAVs) into their arsenal, following an announcement by the Turkish defense manufacturer Baykar on August 23, 2024. Follow Army Recognition on Google News at this link

Turkish Bayraktar TB2 Combat Drone (Picture source: Baykar)

The Bayraktar TB2 is a medium-altitude long-endurance (MALE) unmanned combat aerial vehicle (UCAV) developed by Baykar Technologies. Designed for reconnaissance and combat missions, it can carry payloads up to 150 kilograms, including sensors and laser-guided munitions. With a wingspan of 12 meters and a length of 6.5 meters, it can reach altitudes up to 27,000 feet and has an endurance of up to 27 hours. It is powered by an internal combustion engine with a variable-pitch propeller in a pusher configuration, enabling a cruising speed of 70 knots and a range of 150 kilometers.

On August 23, 2024, Baykar announced via its X account that Kenyan operators had recently completed a specialized training program at Baykar's pilot training center in Keşan, Türkiye. "We congratulate our newly graduated trainees from our friend and brother country, Kenya, who have successfully completed their training on the UCAV #BayraktarTB2," stated Baykar in a festive announcement.

The TB2 has been employed in various conflicts, including in Syria, Libya, and Ukraine, where it has demonstrated capabilities in surveillance and precision strikes. It features a triple-redundant avionics system and can autonomously perform taxiing, takeoff, and landing. The standard payload configuration includes electro-optical and infrared cameras, a laser rangefinder, and a laser designator, supporting both day and night operations. The ground control station, compliant with NATO specifications, facilitates mission planning and real-time command and control. The TB2's performance in Ukraine has piqued the interest of multiple countries, leading to its acquisition by various defense forces.

This acquisition marks a critical step in Kenya's ongoing efforts to modernize its military forces and enhance its defensive posture in a region facing various security challenges. The addition of the Bayraktar TB2 drones is expected to significantly bolster the nation's surveillance and defense capabilities, contributing to both national and regional stability.

The military relations between Kenya and Türkiye have been formalized and strengthened over the years through various initiatives and agreements. In 2023, the two nations signed a "Defense Industry Cooperation Agreement" at the 16th International Defense Industry Fair in Istanbul, highlighting their mutual commitment to collaborate on various aspects of defense and security.

Türkiye has been particularly active in expanding its defense relations with many African countries, including Kenya. The Turkish government has provided military training and sold defense equipment, thereby enhancing its influence on the continent. Türkiye's commitment in Africa is also evident in its involvement in training Somali troops and in its agreements with other African nations to provide security assistance and military training.

Kenya, for its part, has leveraged this relationship to modernize and enhance its military capabilities, as evidenced by the planned acquisition of Baykar's highly sought-after TB2 drones, which have proven effective in various international conflicts.

**55 . Date: 30-05-2024Market - SoftwareLithuanian Firm UDS Secures Funding to Enhance AI-Powered Swarm Drone TechnologiesURL: https://armyrecognition.com/news/aerospace-news/2024/lithuanian-firm-uds-secures-funding-to-enhance-ai-powered-swarm-drone-technologies**

Unmanned Defense Systems (UDS), a Lithuanian company at the forefront of advanced swarm detection technology, has secured €3.2 million in funding to expand its operations and enhance its AI-driven drone systems. Announced on May 24, 2024, this investment will be allocated to expanding the company’s range of UAVs (unmanned aerial vehicles) and integrating these systems with modern battlefield management systems. UDS has developed an array of UAVs including Partisan reconnaissance drones, loitering munitions, and FPV drones, all tested under actual combat conditions. Follow Army Recognition on Google News at this link

Various models of UAV and ammunition loitering are offered by Unmanned Defense Systems (Picture source: Unmanned Defense Systems)

Vytenis Buzas, now the Executive Chairman at UDS, has reiterated the company’s commitment to showcasing Lithuania’s prowess in developing high-tech military UAVs. He highlighted the importance of these technologies in supporting Ukraine amid its ongoing conflict. UDS’s collaboration with Ukrainian forces has enabled swift technological advances thanks to real-time feedback and operational testing in war zones. The additional funding will further UDS’s development of proprietary swarm technologies and enhance the autonomy and coordination among drones, aiming to bolster NATO's military capabilities and ensure they meet the demands of modern warfare. According to Laurynas Kasčiūnas, Lithuania’s Minister of Defense, the rapid advancement in technology necessitates continual updates and integration into national defense strategies.

Giedrimas Jeglinskas, former NATO Assistant General Secretary and former Vice-minister of Defense of the Republic of Lithuania, also an investor, emphasized that UDS's drone solutions reflect the evolving dynamics of warfare and that establishing a common drone doctrine at NATO could significantly benefit technology developers like UDS.

Lithuania has cultivated its own capabilities in drones and loitering munitions. Lithuanian companies have invested heavily in research and development in this sector, producing advanced drones capable of sophisticated reconnaissance, surveillance, and attack operations. These developments underscore Lithuania’s commitment to remaining at the cutting edge of military technology, thereby strengthening its own defense capabilities while contributing to the global defense market.

Lithuania has also played a significant role in supporting Ukraine, particularly with drones and loitering munitions, thus enhancing Ukraine's surveillance and strike capabilities. From the onset of the conflict with Russia, Lithuania has supplied various types of drones, from reconnaissance UAVs to those equipped with offensive capabilities. These systems are crucial for reconnaissance, surveillance, and precision strike missions. Lithuania’s contribution also includes training Ukrainian forces in the effective use of these advanced technologies, facilitating rapid and efficient integration into their military operations.

In addition to reconnaissance drones, Lithuania has provided loitering munitions, autonomous weapon systems capable of loitering and striking predetermined targets. These systems play a crucial role in modern combat strategies, giving Ukraine the ability to carry out precise strikes on strategic targets without direct human risk. Lithuania's technological support to Ukraine not only demonstrates solidarity but also a commitment to defending sovereignty and regional security.

**56 . Date: 15-05-2024Armed ISR / ISTAR - MALE - Contract - Malaysia Acquires Turkish-made Anka-S Drones to Enhance South China Sea SurveillanceURL: https://armyrecognition.com/news/aerospace-news/2024/malaysia-acquires-turkish-made-anka-s-drones-to-enhance-south-china-sea-surveillance**

The Royal Malaysian Air Force (RMAF) is set to enhance its surveillance capabilities in the South China Sea with the acquisition of three Anka-S unmanned aerial vehicles from Turkish Aerospace Industries (TAI). This development was highlighted at the Defence Services Asia 2024 exhibition in Kuala Lumpur, where an RMAF spokesperson provided updates on the progress of the program. Follow Army Recognition on Google News at this link

Turkish Aerospace Industries (TAI) Anka-S Unmanned Aerial Vehicle (Picture source: Army Recognition)

The spokesperson confirmed that the production of the Anka-S UAVs, specifically designed to meet Malaysian needs, has started at the Turkish Aerospace facilities. To ensure the program remains on track, six RMAF personnel have been stationed in Turkey to directly oversee the production and development processes. Indeed, according to the Military Balance 2023, the Malaysian government established an air force squadron in 2021 to operate the new UAVs.

While details on the training of RMAF personnel for the Anka-S were not disclosed, the spokesperson assured that all preparations were progressing according to the pre-established schedule. The focus is on equipping the UAVs with specialized systems tailored to Malaysia's strategic needs, particularly in the area of maritime surveillance.

Additionally, the RMAF spokesperson indicated that although there are no immediate plans to acquire additional Anka-S units beyond the initial three, the Air Force is closely monitoring the progress in the development of TAI's Anka-3, a more advanced unmanned combat air vehicle.

Discussions regarding potential additional acquisitions are still at the preliminary stage of intergovernmental negotiations, according to a representative from Turkish Aerospace. This sentiment was echoed by Turkish Deputy Defense Minister Dr. Celal Sami Tufekci during an interview on the sidelines of the exhibition. Dr. Tufekci confirmed the ongoing installation of mission-specific equipment on the Malaysian Anka-S models and the concurrent training of RMAF personnel.

The TAI Anka is a family of unmanned aerial vehicles developed by Turkish Aerospace Industries primarily for the Turkish Air Force. Named after the Phoenix, a mythological creature known as Zümrüd-ü Anka in Turkish, the Anka was envisioned in the early 2000s for aerial surveillance and reconnaissance missions. It has evolved into a modular platform equipped with synthetic aperture radar, precise weapons, and satellite communication.

The basic version, Anka-A, was classified as a medium-altitude long-endurance UAV for reconnaissance missions. Introduced in 2010, Anka received its first contract from the Turkish Air Force in 2013, which requested further studies in advanced uninterrupted intelligence, reconnaissance, and communication technologies. The aircraft underwent a lengthy development phase to introduce a national mission computer, national flight control system, synthetic aperture radar, indigenous engine, and friend or foe identification system. Anka-B made its first flight in 2014 and completed factory tests in 2015. In 2017, Turkish Aerospace Industries introduced Anka-S, and the aircraft entered service with the Turkish Air Force.

The composite airframe of the Anka-S consists of a monoblock fuselage, detachable wings, V-Tail, retractable landing gear, redundant control surfaces, avionics, payload bays, and service doors. The sandwich skin structure is reinforced by composite or metallic frames, ribs, and supports. Propelled by a pusher-type heavy fuel engine, the aircraft is equipped with fuselage fuel tanks and a fuel system, ice protection system, environmental control system, lighting system, redundant electrical system with battery backup, and harness system.

The composite structure of the Anka-S integrates an indigenously developed fully autonomous flight control computer to provide autonomous waypoint navigation and flight control. The autonomous system also enables the UAV to automatically return to a pre-defined location in the event of a loss of communication with the ground control station.

The Anka-S is equipped with an electro-optic color day camera, electro-optic/forward-looking infrared/laser rangefinder/laser designator and spotter camera, as well as a synthetic aperture radar/ground moving target indicator (SAR/GMTI) and inverse SAR radar, along with satellite communications and electronic intelligence systems.

**57 . Date: 03-07-2024Armed ISR / ISTAR - MALE - General - SurvivabilityMarine Corps Enhances MQ-9 Reaper Drones with Furtive CapabilitiesURL: https://armyrecognition.com/news/aerospace-news/2024/marine-corps-enhances-mq-9-reaper-drones-with-furtive-capabilities**

On July 3, 2024, the United States Marine Corps announced that it is striving to make its MQ-9 Reaper drones harder to detect by equipping them with secret high-tech pods capable of countering enemy sensors, stated General Eric Smith, Commandant of the Marine Corps, at an event at the Brookings Institution. Follow Army Recognition on Google News at this link

General Atomics MQ-9 Reaper Drone (Picture source: General Atomics)

The MQ-9 Reaper, manufactured by General Atomics, is a long-endurance unmanned aerial system used to provide intelligence, surveillance, and reconnaissance (ISR) capabilities. They also serve as secure communication gateways and network bridges for joint forces. These drones will exchange data with various systems, including satellites, other drones, aircraft, ships, expeditionary advanced bases, and ground-based sensors.

“What they bring with them is a sensing and making-sense capability,” Smith said. “Some of the pods that go on our MQ-9s are classified… [so] I’ll be careful here,” he added. “There’s a type of pod that can mimic signals it detects, turn them around and send them back. Thus, it becomes a hole, it becomes a black hole, it becomes mostly undetectable.”

The MQ-9 drones acquired by the Marines are 10.9 meters long with a wingspan of 20.1 meters, can fly for up to 27 hours at an altitude of 50,000 feet, and have an external payload capacity of 3,000 pounds and an internal payload capacity of 850 pounds. They can reach a speed of 240 knots.

As part of the Marine Corps' Multi-Mission Unmanned Expeditionary (MUX MALE) initiative, 20 MQ-9A Block 5 systems, along with ground control stations and Sky Tower communication relay pods, will be deployed. To date, at least 12 drones have been fielded.

While the Reaper has been primarily used as a terrorist hunter-killer by the Air Force and the CIA post-9/11, the Marine Corps intends to use the system mainly for communications and data relay, electronic warfare, and ISR missions in the Indo-Pacific region.

This concept aligns with the Pentagon's Combined Joint All-Domain Command and Control (CJADC2) initiative, which aims to better connect the sensors, platforms, and data streams of the U.S. military and its key allies under a more unified network.

“If you must be out-sticked by the adversary in terms of sensing and striking, then you are of no value. You must be able to sense at range, make sense of what is happening, and share that data ubiquitously across the battlespace with the joint force,” Smith emphasized.

Looking to the future, Smith envisions the Marine Corps using increasingly autonomous drones. “There is nothing ‘unmanned’ about unmanned because those sensors require human oversight for control and maintenance,” he noted. Currently, many drones in the force are also remotely piloted.

The use of artificial intelligence-enabled systems could enhance operations, he suggested, citing the example of the Navy's automated Close-In Weapons System (CIWS), which can defend ships against incoming missiles by firing thousands of rounds per minute without additional human input.

“So, there’s a human in the loop, but the human turns control over to the machine at some point. And I think that is where we need to go. Automation is already here, and machine-to-machine learning is crucial,” Smith stated. “Our MQ-9s are important because they talk to each other, learn, bounce off ground sensors, pick up signals from destroyers and frigates, and ubiquitously pass that data to the ground force and surface force.”

This technological advancement marks a significant step in the evolution of the Marine Corps' military capabilities, enhancing their efficiency and stealth in modern operations.

As a reminder, the MQ-9 Reaper, introduced on May 1, 2007, is a multi-role, remotely piloted aircraft system used by the U.S. Air Force for intelligence, surveillance, reconnaissance (ISR), and precision strike missions. It features sensors including infrared, daylight TV, and laser designators, and can carry up to 1,700 kg of payload, including Hellfire missiles and laser-guided bombs. The Reaper can operate at altitudes up to 50,000 feet and has a range of over 1,900 kilometers. It is remotely controlled and offers a cruise speed of 313 km/h, powered by a Honeywell TPE331-10 turboprop engine generating 900 hp.

**58 . Date: 12-11-2024Armed ISR / ISTAR - MALE - Contract - Morocco Selects Türkiye’s Bayraktar Akinci Drone to Modernize Its FleetURL: https://armyrecognition.com/news/aerospace-news/2024/morocco-selects-tuerkiyes-bayraktar-akinci-drone-to-modernize-its-fleet**

As part of its effort to modernize military capabilities, Morocco is set to integrate Turkish Bayraktar Akinci combat drones into its arsenal in February 2025, as reported by Le Desk on November 11, 2024. Produced by the Turkish company Baykar, these high-tech drones will join the Moroccan fleet, which currently includes 19 Bayraktar TB2 drones acquired in 2021. With this new acquisition, Morocco is making a significant leap forward in technological and operational capacities, strengthening its Royal Moroccan Air Force (FRA) within the Royal Armed Forces (FAR) to respond effectively to regional security challenges.

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The Akinci is outfitted for complex missions, with a range of armament options, including air-to-ground ballistic TRG-230 Kaplan missiles, SOM cruise missiles, and Tolun bombs (Picture source: Bayraktar)

The Akinci distinguishes itself from its predecessor, the TB2, with advanced features and increased payload capacity, allowing it to carry a variety of munitions, including precision-guided missiles. With a wingspan of 20 meters and a maximum payload capacity of 1,500 kg, this drone is equipped with cutting-edge technologies such as an AESA radar and satellite communication systems, providing a flight endurance of 25 hours and a range of up to 7,500 km. These characteristics make it an asset for long-range operations in challenging areas, offering Morocco broad coverage and targeted strike capabilities.

The Akinci is outfitted for complex missions, with a range of armament options, including air-to-ground ballistic TRG-230 Kaplan missiles, SOM cruise missiles, and Tolun bombs. It is also the first drone capable of launching an air-launched cruise missile (ALCM), a technological advance that significantly enhances Morocco’s defense capabilities. Additional available munitions include the laser-guided Cirit missile, the long-range anti-tank missile L-UMTAS, Bozok munitions, and various air-to-air missiles, developed in collaboration with Türkiye’s Scientific and Technological Research Council (Tübitak Sage).

This acquisition reflects Morocco's commitment to maintaining technological superiority in a constantly evolving security landscape. With the Akinci, the FRA can now gather intelligence more effectively and conduct preventive actions against potential threats. However, this military enhancement requires a proactive diplomatic approach, positioning the Akinci as a tool for national protection rather than military escalation to prevent any heightened regional tensions, especially with Algeria.

The Bayraktar Akinci also plays a key role in counterterrorism and addressing asymmetrical threats. Equipped with advanced detection and precision capabilities, this drone enables Morocco to secure sensitive areas, particularly borders, while minimizing risks to personnel. Its ability to conduct reconnaissance and precision strikes enhances the efficiency of FRA interventions, thereby bolstering national security.

By integrating the Akinci into its fleet, Morocco expands its ability to monitor large areas while reducing risks to military personnel. Its versatility and power make it a central element in Morocco’s national defense framework, providing targeted and adaptive responses to potential threats.

In a region where power dynamics are continually shifting, Morocco's acquisition of the Akinci could alter strategic balances in North Africa. As a High-Altitude Long-Endurance (HALE) combat drone, the Akinci significantly extends Morocco's strike range and defensive capabilities, strengthening its position in the region.

**59 . Date: 22-08-2024Armed ISR / ISTAR - HALE - General - PlatformNew Images of Türkiye’s Stealth Drone Anka-IIIURL: https://armyrecognition.com/news/aerospace-news/2024/new-images-of-tuerkiyes-stealth-drone-anka-iii**

Turkish Aerospace Industries (TAI) announced on its X account on August 19, 2024, a major advancement for its stealth drone Anka-III. During a test flight, the drone successfully retracted its landing gear mid-flight, marking a crucial new step in its development. This test, conducted on December 28, 2023, highlights the ongoing evolution of this ambitious project. Follow Army Recognition on Google News at this link

The Anka-III is a Turkish stealth drone. (Picture source: Türk Havacılık Uzay Sanayii)

TAI shared images of the test on its official X account, emphasizing Anka-III's performance during this critical phase. The drone, powered by a turbofan engine and developed using domestic and national resources, successfully retracted its landing gear during flight, a first for this aircraft. This event not only showcases TAI’s capability to innovate in military aviation but also reflects the country’s commitment to strengthening its technological autonomy.

In a statement, TAI said, "Anka-III, which made its inaugural flight on December 28, 2023, has now successfully completed another essential phase by retracting its landing gear mid-flight. This achievement highlights Anka-III’s exceptional performance and brings us closer to pioneering technologies that will strengthen our nation’s defense capabilities. As Anka-III prepares for future missions with its cutting-edge technology and innovative design, it is poised to have a significant impact on Türkiye’s defense industry. Growing stronger each day, Anka-III is counting down the days to ensure the security of our homeland."

Anka-III is equipped with impressive specifications. With a maximum cruise speed of 0.7 Mach, an operational ceiling of 40,000 feet, a payload capacity of 1,200 kg, and an endurance of 10 hours, this drone positions itself as a key player in combat UAVs. Additionally, it shares avionics architecture and a ground control station with its predecessors, the Anka and Anka II, while offering low radar visibility, high transit speed, and substantial payload capacity. Designed for both line-of-sight and beyond-line-of-sight operations via satellite control, Anka-III has a maximum takeoff weight of 6,500 kg, a cruise speed of 250 knots (0.42 Mach) at 30,000 feet, and a maximum speed of 425 knots (0.7 Mach).

This achievement underscores Türkiye’s growing capabilities in combat drones, further enhancing its technological prowess in defense. For several years, Türkiye has made significant investments in developing its defense industry, aiming to reduce its reliance on imports and become a key player on the international stage. The development of drones like Anka-III is a clear example of these efforts. These initiatives are part of a broader strategy to modernize the Turkish armed forces while fostering local innovation. Through close collaboration between the government, industry, and research institutions, Türkiye has managed to create an industrial base capable of producing advanced weapons systems that not only meet national needs but also resonate in international markets.

The success of Anka-III thus symbolizes the dynamism of Türkiye’s defense industry, which continues to grow at a steady pace, both in terms of technical capabilities and international reach. This progress reflects Türkiye’s determination to establish itself as a regional leader and global player in defense technologies, while also strengthening the security of its territory and armed forces.

This test highlights the ongoing evolution of this ambitious project. (Picture source: Türk Havacılık Uzay Sanayii)

**60 . Date: 11-07-2024ISR / ISTAR - MALE - General - PlatformNew Images Unveil Details of US Air Force's Semi-Secret Spy Drone ULTRAURL: https://armyrecognition.com/news/aerospace-news/2024/new-images-unveil-details-of-us-air-forces-semi-secret-spy-drone-ultra**

The U.S. Air Force has unveiled new images shedding light on the development of its semi-secret spy drone, known as the "Unmanned Long-endurance Tactical Reconnaissance Aircraft" (ULTRA). This advanced drone, designed for long-duration missions, is engineered to provide continuous coverage of remote geographic areas. Follow Army Recognition on Google News at this link

The U.S. Air Force has released a video showing a flight test of the Unmanned Long-endurance Tactical Reconnaissance Aircraft ULTRA. (Picture source: U.S. Air Force)

The images were recently released by the U.S. Air Force Research Laboratory (AFRL), the principal scientific research and development center for the Air Force. The ULTRA drone has been developed in collaboration with DZYNE Technologies, a partner known for its innovative contributions to unmanned aerial systems.

The newly released visuals offer a glimpse into the sophisticated design and capabilities of the ULTRA, highlighting its potential to revolutionize reconnaissance missions. Equipped to endure lengthy operations, the drone promises to enhance the Air Force's ability to monitor and gather intelligence from isolated and challenging environments.

The ULTRA drone represents a significant advancement in tactical reconnaissance technology, aligning with the Air Force's ongoing efforts to enhance its surveillance capabilities. This development underscores the strategic importance of integrating cutting-edge technology to maintain a tactical advantage in modern warfare.

The Unmanned Long-endurance Tactical Reconnaissance Aircraft (ULTRA) is a cutting-edge aircraft conceived by the Air Force Research Laboratory (AFRL) Center for Rapid Innovation (CRI) and developed in partnership with DZYNE Technologies Incorporated (DZYNE). ULTRA offers combatant commanders comprehensive global operational access through an affordable, GPS-hardened, ultra-long endurance Intelligence, Surveillance, and Reconnaissance (ISR) platform. With an endurance capability exceeding 80 hours and the capacity to carry over 180 kg (400 pounds) of payload, ULTRA uniquely overcomes the challenges of distance that limit the operational use of current unmanned platforms in extensive ranges, such as those required in the Pacific.

Designed as an ISR "truck," ULTRA is capable of carrying various electro-optical/infrared (EO/IR), radiofrequency (RF), and other low-cost intelligence collection payloads and sensors, providing users with a versatile, mission-ready platform. Its exceptional endurance allows these ISR sensors to deliver continuous coverage of areas of interest with fewer aircraft, making ULTRA a cost-effective solution for extensive area surveillance.

ULTRA achieves its long endurance and cost-efficiency by repurposing a formerly manned commercial sport glider into a militarized unmanned air vehicle. It leverages commercial off-the-shelf (COTS) UAS technology, existing manufacturing and supply channels, and limited custom avionics to keep acquisition and sustainment costs low. The integration of lower-cost EO/IR and RF sensors is facilitated by operating at lower altitudes, which do not require large optics or high-power RF to maintain effectiveness.

The ULTRA system features an operator-friendly command and control interface that supports "Point and Click" operations. Global operations are enabled through satellite-based command and control links, providing operators with a high-rate ISR data feed in real-time.

Further details about the specific capabilities and operational deployment plans of the ULTRA drone remain classified, reflecting its semi-secret status. However, the release of these images marks a pivotal step in showcasing the progress and potential of this innovative reconnaissance aircraft.

**61 . Date: 17-10-2024Armed ISR / ISTAR - Tactical - Contract - Niger Orders Several Drones from Türkiye Amid Tensions in RegionURL: https://armyrecognition.com/news/aerospace-news/2024/niger-orders-several-drones-from-tuerkiye-amid-tensions-in-region**

According to Africa Intelligence, Niger has finalized an agreement worth approximately 80 million euros (about $87.56 million) to acquire five Karayel-SU Turkish unmanned aerial vehicles (UAVs). This purchase underscores Niger’s commitment to modernizing its military and enhancing its defense capabilities in response to rising regional security concerns.

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The Karayel-SU drone, selected by Niger, is a tactical UAV designed for reconnaissance and surveillance missions. (Picture source: Lentatek)

The Karayel-SU drone, selected by Niger, is a tactical UAV designed for reconnaissance and surveillance missions in line with NATO’s stringent STANAG-4671 standard for safe operation within civil airspace. This drone features an advanced triple-redundant avionics system that enhances safety by minimizing the risk of uncontrolled failures, a level of reliability inspired by manned aviation standards.

Built with a composite structure that includes aluminum mesh for lightning protection, the Karayel is equipped with an automatic de-icing system, enabling it to operate effectively in harsh weather conditions. The drone can carry up to 70 kg of primary payload and 120 kg under its wings, supporting various equipment configurations. It offers 20 hours of flight endurance, reaching altitudes up to 22,500 feet.

Operational control can extend up to 200 km via line-of-sight or, for longer distances, by satellite (SATCOM). Its camera system identifies targets, and its laser designators guide precision munitions. Additionally, the Karayel’s automated takeoff, flight, and landing capabilities reduce dependency on manual operation, ensuring greater efficiency during critical flight phases.

The selected drones are reportedly produced by the Turkish defense company Lentatek, renowned for manufacturing versatile military drones capable of performing both reconnaissance missions and combat operations. This acquisition highlights the growing popularity of Turkish drones in Africa, especially the Bayraktar TB2 and other advanced systems from Turkey’s expanding defense sector. Turkish drones have earned a solid reputation in global markets for their operational reliability and versatility, making them a strategic choice for numerous African nations seeking effective, cost-efficient defense solutions compared to other competitors.

This recent procurement is part of Niger’s broader defense acquisition strategy, which has included other Turkish systems over recent years. Niger previously ordered the Bayraktar TB2 unmanned combat aerial vehicle (UCAV) and the Hurkus light attack aircraft, produced by Turkish Aerospace Industries (TAI). In 2022, TAI confirmed an order of two Hurkus aircraft for Niger, with deliveries expected by the end of that year. These ongoing acquisitions demonstrate Niger’s sustained interest in leveraging Turkish defense technology for both surveillance and operational needs.

Turkey’s influence in Africa’s defense sectors has grown substantially, with partnerships multiplying across several countries, including Libya, Somalia, and Nigeria. International relations expert Orhan Karaoglu notes that Turkey’s strategic engagement across the continent not only strengthens its security footprint but also supports counterterrorism efforts in countries such as Niger, Nigeria, and Mauritania. This regional involvement aligns with Turkey’s broader geopolitical objectives, providing its African partners with advanced defense solutions while solidifying Turkey’s role as a key defense exporter to the continent.

Beyond military cooperation, Turkey and Niger are actively expanding their bilateral relations across various sectors, particularly energy and mining. Turkish Energy Minister Alparslan Bayraktar recently highlighted that a Turkish state-owned company has been engaged in gold mining in Niger since 2020 and that plans are in place for increased collaboration in the mining and petroleum sectors.

This latest drone acquisition represents a continuous strengthening of Niger’s defense capabilities and illustrates Turkey’s growing presence in the African defense industry, positioning it as a key player in addressing the continent’s evolving security needs. Turkey has a competitive edge in offering high-quality equipment at a lower cost, attracting countries that seek to bolster their defense without straining their budgets.

**62 . Date: 26-08-2024Loitering Munition - Mini - General - PlatformNorth Korea shows and tests new Russian model based UAVURL: https://armyrecognition.com/news/aerospace-news/2024/north-korea-shows-and-tests-new-russian-model-based-uav**

North Korean leader Kim Jong Un oversaw a demonstration of new explosive drones designed to crash into targets and has pledged to boost the development of such weapons to enhance his military's war readiness, state media reported on Monday, 26 august 2024. Follow Army Recognition on Google News at this link

Test of Lancet based UAV on a South korean K-2 replica, picture is blurred by North Korea press agency (Picture source: YONHAP NEWS / KCNA)

Kim Jong Un flaunted his growing military capabilities amid tensions with Washington and Seoul. North Korean photos from the test show a white drone with X-shaped tails and wings, intended to crash into and destroy a target resembling South Korea's main battle tank, K-2. Most combat drones remain distant from targets and fire missiles.

The test, which occurred on Saturday according to state media, comes as the U.S. and South Korean militaries conduct a large-scale exercise aimed at bolstering their combined defense capabilities against the increasing nuclear threats from North Korea.

The allies stated that the Ulchi Freedom Shield exercises, ongoing until Thursday, aim to strengthen their readiness against North Korean threats and will also reflect lessons learned from recent armed conflicts. The United States and South Korea also began a separate amphibious landing exercise on Monday involving dozens of aircraft and ships from their navies, including American F-35 fighters and the amphibious assault ship USS Boxer. The South Korean military said the Ssangyong exercise, which will continue until September 7, aims to improve combat interoperability.

The North Korean state news agency KCNA reported that Saturday's drone test involved various types of drones designed to fly at different distances to attack enemy targets on land and at sea. The drones followed different routes before precisely hitting the tested targets. Kim stated that global trends in military technologies and modern combat underscore the significance of drones in warfare, and that the North Korean military should be equipped with advanced drones "as soon as possible."

He called for the accelerated development and production of various drones that explode on impact, perform reconnaissance missions, or attack underwater targets, KCNA stated. Lee Chang Hyun, spokesperson for the South Korean Joint Chiefs of Staff Committee, mentioned during a press briefing that the South Korean military was closely examining North Korea's drone capabilities, but did not provide a detailed assessment. He added, without further details, that the South Korean military was equipped with systems to detect and intercept such drones.

Some analysts suggest that the North Korean drones shown in state media photos resemble Russian Zala Lancet-3 drones, and Lee stated that the South was investigating the possibility that Russia had helped North Korea acquire its drone capability. We know that during past exchanges between North Korea and Russia, some drones were offered to North Korea. Additionally, a second blurred image by the Pyongyang regime shows an Iranian Omid drone, highlighting tripartite cooperation, which would explain recent technological advances between Russia, North Korea, and Iran.

North Korea and Russia have closely collaborated in the face of their separate confrontations with the United States, with Kim Jong Un and Russian President Vladimir Putin having held consecutive summits in September last year and in June.

Test of Iranian Omid UAV, picture is blurred by North Korea press agency (Picture source: KCNA)

**63 . Date: 13-09-2024Cargo - MALE - General - PlatformPiasecki Achieves First Flight of Tilt-Duct Aerial Reconfigurable Embedded System Demonstration VehicleURL: https://armyrecognition.com/news/aerospace-news/2024/piasecki-achieves-first-flight-of-tilt-duct-aerial-reconfigurable-embedded-system-demonstration-vehicle**

On September 6, 2024, Piasecki Aircraft Corporation (PiAC) marked a turning point in vertical take-off and landing (VTOL) technology with the successful first flight of its tilt-duct Aerial Reconfigurable Embedded System Demonstration Vehicle (ARES-DV). Conducted in Essington, Pennsylvania, this test represents a major advance for autonomous missions such as casualty evacuation and cargo resupply. Follow Army Recognition on Google News at this link

Piasecki Tilt-Duct Aerial Reconfigurable Embedded System Demonstration Vehicle (Picture source: Piasecki Aircraft Corporation)

The initial flight, performed at Piasecki's West Helipad, tested the ARES-DV's capability to maintain a stable hover, a performance further demonstrated during a second flight with the addition of the U.S. Army's Mobile Multi-Mission Module (M4). This historic moment highlights Piasecki's ongoing innovations in the VTOL sector, supported by a $37 million strategic funding initiative involving the U.S. Air Force and Army.

The ARES vehicle, which can operate unmanned or with a crewed flight module, is notable for its small landing footprint—an essential feature for expeditionary and shipboard operations. Its modular design allows for rapid adaptation to various mission needs, from reconnaissance to logistics, significantly reducing costs and logistical footprint.

John Piasecki, CEO of Piasecki Aircraft, shared his enthusiasm for the project's progress: "After years of research and development, ARES represents a milestone in our long history of innovation. This success paves the way for the next phases, which will see ARES evolve towards fully autonomous flight demonstrations for CASEVAC and logistics missions."

The integration of Honeywell Aerospace's Compact Fly-By-Wire system in the ARES-DV highlights the technology's ability to enhance the safety and performance of smaller aircraft. Dave Shilliday, Vice President at Honeywell, emphasized the productive collaboration with Piasecki, which allowed the advanced technology to be adapted to the compact format of the ARES-DV.

The ARES project, supported by contracts from the U.S. Air Force and Army, continues to benefit from the military's commitment to innovation, underscoring the growing importance of VTOL technology in modern military operations, especially for dispersed combat units and missions requiring high mobility and flexibility.

**64 . Date: 19-07-2024ISR / ISTAR - Tactical - Regulation - Primoco One 150 UAV Nears NATO STANAG Certification for ExportURL: https://armyrecognition.com/news/aerospace-news/2024/primoco-one-150-uav-nears-nato-stanag-certification-for-export**

Czech drone manufacturer, Primoco UAV, has made significant progress towards achieving certification under the internationally applicable NATO STANAG 4703 standard. A series of tests conducted at the Institute of Aeronautical Engineering of the Czech Technical University have been successfully completed, proving the mechanical parameters of the aircraft and the operational safety of its structure. Follow Army Recognition on Google News at this link

Czech Primoco One 150 Unmanned Aerial Vehicle (Picture source: Army Recognition)

This is a world first for an unmanned machine. Until now, only manned aircraft had undergone full-scale testing. "Although the airframe of the One 150M has undergone only a few minor modifications compared to the original design, tests have shown that it achieves even greater durability compared to manned aviation designs," says Ladislav Semetkovský, CEO of Primoco UAV.

Structural tests are one of the most important areas of aircraft type certification, consisting of hundreds of different tests. Equally important was the engine performance testing that the One 150M successfully underwent at the end of last year. "From the very first plans and prototypes, we have approached the development of our own Czech UAVs responsibly, professionally, and with the vision to be among the best. This philosophy is now favorably reflected in the success of our extensive certification tests. With the majority of the certification process completed, we expect to receive our type certificate by the end of 2024," adds Semetkovský.

Certification according to STANAG 4703, once completed, will be evidenced by the issuance of a type certificate. This will allow the aircraft to be exported to any NATO member country without the need to conduct type tests for each market separately. Primoco UAV will thus be the first manufacturer in the world to provide customers in the unmanned segment with the level of certification they are accustomed to when purchasing manned aircraft. This will further strengthen its position among the leading global suppliers of medium-category UAVs with a take-off weight of up to 150 kilograms.

The Primoco One 150, originally designed for surveillance and reconnaissance missions, proved its effectiveness during its first military application flight test in September 2020. Equipped with military communication systems and an electro-optical reconnaissance system, including an L3Harris radio station and ANW2C data links from Persistent Systems, this mid-sized drone is a key asset on the battlefield.

In addition to its military capabilities, the One 150 features a fully composite structure and fixed tricycle-style landing gear. Powered by a four-stroke, four-cylinder, fuel-injected piston engine, it has a maximum takeoff weight of 150 kg and can carry a payload of up to 30 kg. Capable of staying in flight for up to 15 hours, it has an operational range of up to 2,000 km, characteristics that make it ideal for a wide range of operations, both civil and military.

**65 . Date: 15-07-2024ISR / ISTAR - Mini - Contract - Quantum-Systems Secures Contracts with Australia for DEF129-SUAS ProgramURL: https://armyrecognition.com/news/aerospace-news/2024/quantum-systems-secures-contracts-with-australia-for-def129-suas-program**

Quantum-Systems Inc., a renowned provider of electric vertical take-off and landing (eVTOL) aerial intelligence solutions, has secured two major contracts with the Commonwealth of Australia. These contracts, part of the DEF129-SUAS program (formerly known as Land 129 Phase 4B), are valued at AUD 90 million and represent a substantial investment in advanced small uncrewed aerial systems (sUAS). This announcement was made by the company on July 15, 2024. Follow Army Recognition on Google News at this link

Vector eVTOL sUAS to provide Australian Army combat teams with enhanced situational awareness and increased force protection. (Picture source: Quantum-Systems)

The contracts, signed on April 24, 2024, in Brisbane, Queensland, encompass the acquisition of Quantum-Systems' 2-in-1 Vector/Scorpion fixed-wing eVTOL sUAS, along with a comprehensive support package. This support includes training, maintenance, engineering, supply logistics, and other essential services. Delivery of the systems is scheduled to begin in April 2025, with ongoing support services extending through 2031.

The Vector eVTOL sUAS is designed to provide Australian Army combat teams with significantly enhanced situational awareness and increased force protection. Its advanced capabilities include real-time, high-resolution video for surveillance and reconnaissance missions. Notably, the system is portable in a backpack, can be operational within three minutes, and can take off and land in confined spaces without the need for additional equipment. Additionally, it can be configured as the Scorpion multicopter by replacing the wings and tail with a set of arms and rotors, offering versatile deployment options.

Quantum-Systems Australia, based in Redbank, Queensland, will be responsible for executing these contracts within the country, ensuring substantial local involvement. This initiative is aimed at stimulating economic development in Australia, particularly benefiting Indigenous Enterprises, small and medium-sized enterprises (SMEs), and organizations promoting veteran employment. In March 2024, Quantum-Systems Australia inaugurated a 22,755 square-foot manufacturing facility, demonstrating its long-term commitment to the region. This facility is expected to create up to 50 new jobs in engineering, manufacturing, and administration over the next five years, supporting the company's broader business growth strategy in the Asia-Pacific region.

David Sharpin, CEO of Quantum-Systems Inc., expressed his pride in being chosen for this crucial role in enhancing the capabilities of the Australian Army. "We are honored to equip the Army combat teams with our advanced sUAS, providing them with the enhanced situational awareness and increased force protection they need," he said. Sharpin also emphasized the company's ongoing commitment to identifying further opportunities within the Australian industry, reinforcing their dedication to nurturing local talent and strengthening the country's defense capabilities.

Quantum-Systems Inc., headquartered in Moorpark, California, specializes in the development, design, and production of fully autonomous sUAS. The company integrates eVTOL technologies, automatic transitioning, and AI edge computing to deliver sUAS with superior endurance, reliability, and actionable intelligence.

**66 . Date: 18-12-2024Hybrid Rotary / Fixed Wing - Armed ISR / ISTAR - Tactical - General - PlatformRAZOR P100 VTOL Aircraft achieves milestone: Mayman Aerospace completes Flight TestURL: https://armyrecognition.com/news/aerospace-news/2024/razor-p100-vtol-aircraft-achieves-milestone-mayman-aerospace-completes-flight-test**

According to information published by Times Aerospace on December 5, 2024, Mayman Aerospace, a key player under the UAE EDGE Group/SDF, has achieved a milestone with the successful flight testing of the RAZOR P100. Follow Army Recognition on Google News at this link

Mayman Aerospace tests pre-production model of RAZOR P100, a dual-use VTOL platform. (Picture source: Linkedin account of Mayman Aerospace)

The RAZOR P100 is designed to carry a payload of up to 100 pounds over a range of 240 miles, redefining operational possibilities in both military and civilian sectors. With applications ranging from contested cargo delivery and target drone missions to disaster recovery and offshore energy servicing, the aircraft’s versatility underscores its potential to reshape aerospace operations. Its integration of advanced AI ensures precise, autonomous functionality, enabling missions in complex and challenging environments.

Capable of speeds up to Mach 0.75, the RAZOR P100 features a compact frame requiring minimal space for takeoff and landing. Its ability to be launched quickly without specialized equipment or prepared surfaces enhances its adaptability in the field. The modular design simplifies maintenance and maximizes uptime, ensuring operational reliability in diverse scenarios.

Emirati Defense Industry

The United Arab Emirates (UAE) has steadily developed its defense industry to achieve greater self-reliance in military production. A major milestone came in 2019 with the creation of EDGE Group, a state-owned conglomerate formed by merging various defense entities. This consolidation aimed to streamline operations and focus on developing advanced defense technologies.

The UAE's defense sector now spans a broad range of capabilities. In weapon systems, companies like Halcon and Al Tariq produce precision-guided munitions. In unmanned systems, ADASI develops drones tailored to specific operational needs, including medium-range and vertical take-off and landing models. Naval manufacturing is led by the Abu Dhabi Shipbuilding Company, which has contributed to programs like the Baynunah-class corvettes designed for the Gulf's shallow waters.

UAE military doctrine

The UAE has incorporated unmanned aerial vehicles (UAVs) into its military strategy as a key element of its modernization efforts. These systems play a significant role in intelligence, surveillance, reconnaissance (ISR), and precision strike operations. The UAE's approach combines the acquisition of advanced UAV systems from international partners with the development of domestic capabilities.

The country has sourced UAVs from global suppliers, including Chinese-made Wing Loong drones, which have been used for both ISR and combat missions. These drones have been deployed in conflict areas such as Yemen and Libya, where they have supported UAE-backed operations. The addition of Turkish Bayraktar TB2 drones further diversifies the UAE's drone capabilities.

**67 . Date: 17-07-2024Armed ISR / ISTAR - HALE - Requirement - Renewing Air Superiority: US Adopts Collaborative Combat AircraftURL: https://armyrecognition.com/news/aerospace-news/2024/renewing-air-superiority-us-adopts-collaborative-combat-aircraft**

The U.S. Air Force is transforming its strategy to maintain air superiority by incorporating Collaborative Combat Aircraft (CCA), a significant departure from traditional methods of expanding its combat fleet. This strategic shift addresses the increased capabilities of adversaries and logistical constraints on expanding the number of pilots and aircraft in the traditional manner. Follow Army Recognition on Google News at this link

These large, unmanned jet-powered aircraft are designed to operate autonomously under human pilot supervision, working alongside manned fighters to scout, strategize, and absorb risks in combat scenarios (Picture source: GA-ASI)

Traditionally, the U.S. maintained air dominance with superior numbers of advanced jets and highly trained pilots. However, facing enhanced aerial capabilities from current adversaries, the old tactics are no longer feasible due to budget, training time, and aircraft production constraints.

To meet these challenges, the Pentagon is focusing on enhancing each pilot's effectiveness by equipping them with CCAs. These large, unmanned jet-powered aircraft are designed to operate autonomously under human pilot supervision, working alongside manned fighters to scout, strategize, and absorb risks in combat scenarios. This approach allows the U.S. to rapidly increase aircraft numbers without extensive pilot training, reducing the risk to human life and the potential for prisoners of war.

General Atomics Aeronautical Systems, Inc. (GA-ASI), known for its extensive experience in unmanned aviation with models like Predator and Reaper, is leading the development of CCA. GA-ASI's expertise in autonomy and aircraft integration is crucial for the next generation of combat aircraft, where autonomous operations and machine learning are key.

On April 24, 2024, GA-ASI received a contract from the U.S. Air Force Life Cycle Management Center (AFLCMC) to develop production representative flight test articles of the CCA following a successful preliminary design review. This marks the continuation of the CCA program, which aims to create a low-cost, modular unmanned aircraft capable of teaming with manned combat aircraft. The program also includes further autonomy and mission system tests on the MQ-20 Avenger and XQ-67A to enhance operational autonomy for the U.S. Air Force's Autonomous Collaborative Platforms.

The U.S. government must now decide which models to prioritize for rapid development and deployment, ensuring these new platforms remain cost-effective and practical, avoiding overly elaborate specifications that could hinder widespread deployment. The goal is to produce a robust and capable CCA that complements current military capabilities without unnecessary enhancements that could inflate costs and complicate maintenance.

As the project progresses, it will be crucial for the Pentagon and Congress to effectively manage the program's scope and costs to ensure the CCA not only meets current needs but also provides a scalable and adaptable solution to future challenges. This approach will help maintain the U.S. advantage in air combat without reverting to unsustainable past practices.

Air Force Research Laboratory’s XQ-67A Off Board Sensing Station designed and built by General Atomics, took its maiden flight Feb. 28 from Gray Butte Field Airport, Palmdale, California (Picture source: US DoD)

**68 . Date: 29-05-2024ISR / ISTAR - Small - General - PlatformRomania Unveils Prototype Ultra 60 Tactical Drone at BSDA 2024URL: https://armyrecognition.com/news/aerospace-news/2024/romania-unveils-ultra-60-tactical-drone-at-bsda-2024**

At the Black Sea Defense & Aerospace 2024 exhibition, the Romanian Military Technical Academy unveiled the Ultra 60, a class I tactical drone designed to be affordable and effective for military operations. This prototype marks a significant step in the development of cost-effective unmanned aerial systems (UAS) intended for intelligence, surveillance, and reconnaissance (ISR) missions. Follow Army Recognition on Google News at this link

The Ultra 60 drone includes sensors operating in both the visible and infrared spectrum, allowing it to function in various lighting conditions (Picture source: ArmyRecognition)

The Ultra 60 drone has a flight autonomy of 10 hours and an operational range of 100 kilometers. It can fly at altitudes up to 5,000 meters and carry a payload of 25 kilograms. These features make it a versatile asset for extended missions requiring reliable and long-duration surveillance.

Developed with cost efficiency in mind, the Ultra 60 integrates several advanced technologies to enhance its operational effectiveness. The drone includes sensors operating in both the visible and infrared spectrum, allowing it to function in various lighting conditions. Additionally, it is equipped with an optical zoom capable of up to 30x magnification, a SAR sensor, and IFF mode 5, ensuring accurate identification and tracking of targets.

The Ultra 60 also features encrypted communications to protect the integrity of transmitted data, as well as sensors designed to track moving targets and determine target coordinates. This suite of capabilities ensures that the Ultra 60 can effectively gather, process, and exploit critical data from its embedded sensors.

The robust design of the platform includes a tracked terrestrial platform, a hydraulic arm, an electric control panel, and accumulators, enhancing its versatility and operational readiness. The maximum takeoff weight of the Ultra 60 is 80 kilograms, with a wingspan of 4.5 meters, supporting its payload capacity and flight endurance.

The development of combat drones and ISR drones is rapidly expanding worldwide, including in countries like Romania. Technological advancements enable the design of increasingly sophisticated and affordable systems, meeting the growing needs of modern armies for precise surveillance and attack capabilities. The Romanian Military Technical Academy, for example, is working on other prototypes besides the Ultra 60, such as the Ultra-20. These drones play a crucial role in providing real-time information and improving battlefield decision-making, thereby enhancing national defense capabilities while reducing risks for human troops.

These developments are largely driven by their increasing use in recent conflicts, such as those in Ukraine and Azerbaijan. Drones have proven their effectiveness as warfare tools in these regions, enabling precise strikes and continuous surveillance missions, often in hostile and hard-to-reach environments for conventional forces. The use of drones in the Ukrainian conflict, for instance, has highlighted their ability to provide essential strategic support for both offensive and defensive operations. Similarly, the success of Azerbaijani drones in the Nagorno-Karabakh conflict has demonstrated the importance of these systems in modern warfare. Thus, the rise of combat and ISR drones is part of a global trend towards automation and enhanced intelligence capabilities, responding directly to the demands of contemporary theaters of operations.

**69 . Date: 26-09-2024Armed ISR / ISTAR - MALE - General - Royal Netherlands Air Force Conducts First MQ-9 Reaper Drone Flight Over Dutch AirspaceURL: https://armyrecognition.com/news/aerospace-news/2024/royal-netherlands-air-force-conducts-first-mq-9-reaper-drone-flight-over-dutch-airspace**

The Royal Netherlands Air Force (RNLAF) has taken a decisive step in modernizing its military capabilities with the first flight of an MQ-9A Block 5 Reaper over Dutch airspace. This unmanned aerial vehicle (UAV), renowned for its surveillance and reconnaissance capabilities, conducted a training mission over the northern regions of the Netherlands and the adjacent maritime area, marking a historic moment for Dutch defense. Follow Army Recognition on Google News at this link

General Atomics MQ-9A Reaper Drone (Picture source : General Atomics)

The inaugural flight of the MQ-9 Reaper is part of a series of practical exercises aimed at integrating these drones into national and international defense strategies. This training program enables military personnel to familiarize themselves with the coordination of complex operations involving fighter jets, ground troops, and air traffic controllers. This mission, part of the "Weapons Instructor Course," highlights the crucial role of the MQ-9 in supporting ground forces. With its ability to identify targets and provide real-time information, this UAV plays an essential role in modern combat scenarios. The RNLAF relies on these exercises to prepare its forces to respond effectively to future defense missions, both within Dutch territory and internationally, as part of NATO commitments.

Since April 2022, the Netherlands has deployed its MQ-9 Reapers as part of allied defense efforts, notably in Romania. However, the use of these drones in Dutch airspace represents a new phase in the integration of this technology into the national arsenal. Stationed at Leeuwarden Air Base, these aircraft are at the heart of personnel training programs, while also fostering coordination with international partners and national agencies such as air traffic control.

The MQ-9 Reaper plays a key role in the RNLAF's long-term operational objectives. Its main asset lies in its ability to gather real-time intelligence, a crucial component in modern warfare where information superiority often determines the outcome of operations. The current Dutch fleet consists of four MQ-9 Reapers, with more units on order. Although these drones are not yet armed, they already offer critical capabilities for surveillance, target identification, and communication support.

The MQ-9 Reapers, manufactured by General Atomics Aeronautical Systems, are advanced drones designed for long-duration, high-altitude missions. Compared to their predecessors, the MQ-1 Predators, the Reapers feature more powerful engines and the ability to carry a larger payload, enabling them to perform a wider range of missions, including future offensive operations once armed. Currently, the Dutch MQ-9s are equipped with synthetic aperture radar and specialized ground search radar, making them particularly suited for maritime and ground surveillance missions.

The Netherlands plans to arm its fleet of MQ-9 Reapers, which will mark a significant turning point in its military capabilities. The ability to arm these drones will provide the RNLAF with a flexible, remote-controlled platform capable of neutralizing threats from a distance. This capability, combined with their endurance and sophisticated sensors, makes the MQ-9 a central element of Dutch defense strategy.

The integration of the MQ-9 Reapers into Dutch military operations reflects a forward-looking approach to modern warfare. These drones, with their ability to provide real-time intelligence and operate in cooperation with international allies, are poised to play a leading role in the country's defense missions. By 2023, the MQ-9 Reaper fleet is expected to reach full operational capability, marking an important milestone for the RNLAF.

This step not only underscores the technical progress made by the Netherlands but also their commitment to modernizing their armed forces to meet the challenges of modern warfare. By equipping themselves with advanced unmanned systems and strengthening international cooperation, the Netherlands is positioning itself as a key player in defense operations within NATO and beyond.

With this new capability, the RNLAF demonstrates its determination to prepare for future conflicts, where drones, information dominance, and international coordination will play a decisive role. The MQ-9 Reaper thus represents a major advancement in the country's defense strategy, offering promising prospects for the future of national and international security.

**70 . Date: 13-07-2024Armed ISR / ISTAR - HALE - General - Russian new gen neuron style UAV almost ready for conventionnal use in Ukraine representing a real threatURL: https://armyrecognition.com/news/aerospace-news/2024/russian-new-gen-neuron-style-uav-almost-ready-for-conventionnal-use-in-ukraine-representing-a-real-threat**

Do you remember the NEUROn assault drone? Well, the Russians are developing a similar-looking drone called the S-70 Okhotnik, which translates to 'Hunter.' The heavy attack drone Okhotnik is in the stage of preliminary testing, while preparations are underway for the production of an installation batch of drones. This was stated by the Deputy Head of Rostec, Vladimir Artyakov. This drone was officially presented during the Army-2024 exhibition, but it is not yet complete. Follow Army Recognition on Google News at this link

The S-70 Okhotnik-B, also called Hunter-B, is a stealth unmanned combat aerial vehicle made in Russia (Picture source: youtube video capture )

The heavy S-70 Okhotnik drone, developed for the Russian military, is still in the stage of preliminary testing with several flight prototypes involved. There is no information on the duration of this stage. Statements that preparations are underway for the production of a pilot batch at the Novosibirsk factory appeared in late November last year, along with a message about the development of a training program for Okhotnik operators.

The heavy attack drone S-70 Okhotnik was developed by the Sukhoi Design Bureau and first took flight in 2019. According to data from open sources, the drone weighs about 20 tons, has a wingspan of 19 meters, and a maximum declared flight range of 6,000 kilometers. The drone is capable of carrying guided bombs, missiles, and free-fall bombs in its internal compartments and external hardpoints.

Last summer, there were reports that one of the Okhotnik prototypes had been tested in bombing action in Ukraine; the drone conducted a series of attacks against military facilities of the Ukrainian armed forces in the Sumy region of Ukraine.

The S-70 Okhotnik-B, also called Hunter-B, is a stealth unmanned combat aerial vehicle made in Russia (Picture source: topwar.ru )

In 2022, Russia tested the S-70 Okhotnik-B in an air-to-air combat simulation at the Ashuluk training grounds, an exercise aimed at assessing its compatibility with the stealth fighter Su-57 in an unmanned wingman role. This drone belongs to the same category of drones as the Dassault nEUROn and the Boeing Loyal Wingman, which can act as force multipliers by enhancing the capabilities of manned aircraft, particularly 5th generation stealth fighters. These drones can significantly extend the range of sensors and weapons of manned fighters, allowing for greater area coverage and more eliminations per mission.

Russia, which was particularly behind, seems to be catching up despite sanctions and embargoes, thus representing new capabilities. The development of this heavy drone with anti-air capabilities began in 2011, the first images appeared in 2019, and today it is estimated that a massive deployment in the forces could be possible by 2027 in parallel with the SU-57 whose first operational flights are now known. However, the Russian Okhotnik drone faces the same financial challenges that prevent Moscow from mass-adopting its own advanced weapons, such as the T-14 Armata tank and the Su-57 stealth fighter.

A fifth-generation Sukhoi Su-57 jet fighter performs a flight at the MAKS 2019 International Aviation and Space Salon, in the city of Zhukovsky in 2019. (Picture source : Photo: TASS / Sergei Bobylev)

**71 . Date: 25-10-2024Glider - Tactical - Contract - Silent Arrow Wins Contract for US Air Force CLS-300 Cargo Drone TestingURL: https://armyrecognition.com/news/aerospace-news/2024/silent-arrow-wins-contract-for-us-air-force-cls-300-cargo-drone-testing**

The American company Silent Arrow has secured a contract to test its contested logistics system, the CLS-300, an autonomous cargo drone designed for the US Air Force. This $1.2 million contract represents a new phase in the project led in collaboration with AFWERX, the innovation arm of the US Air Force. The CLS-300 project aims to develop a long-range cargo transport platform, specifically adapted for missions in challenging environments.

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Silent Arrow’s partnership with the US Air Force dates back to 2021, when the GD-2000 was first deployed for testing (Picture source: Silent Arrow)

The CLS-300 is notable for its substantial payload capacity of 1,000 pounds (454 kg) and an estimated range between 300 and 500 nautical miles (approximately 556 to 926 km). Based on the commercially successful GD-2000, the world’s first heavy-payload, autonomous cargo glider capable of carrying 1,500 pounds over 35 nautical miles, the CLS-300 system introduces an innovative propulsion and propeller system, extending its range nearly tenfold. Unlike the GD-2000, which operates as a glider, the CLS-300’s powered system enables it to travel farther and to operate from various launch points, including ground surfaces and naval vessels. The drone can be launched from military cargo aircraft like the Lockheed Martin C-130, Boeing C-17, and Airbus A400M, as well as from unimproved terrain, enhancing its adaptability in remote and contested zones.

Silent Arrow’s CLS-300 tests will be conducted under the US Air Force’s Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. These initiatives aim to stimulate technological innovation by facilitating collaboration with medium-sized businesses, and expediting the development of advanced military solutions. The project leverages Silent Arrow’s expertise, which includes over 20 patents, six Fédération Aéronautique Internationale (FAI) world records, and recognition as a finalist for the Robert J. Collier Trophy for its innovations in autonomous cargo delivery.

The GD-2000 is a heavy-lift glider drone designed for resupply and relief missions (Picture source: Silent Arrow)

Silent Arrow’s partnership with the US Air Force dates back to 2021, when the GD-2000 was first deployed for testing. The GD-2000 demonstrated its capabilities in a foreign deployment test in 2022, transporting equipment that exceeded its theoretical maximum payload. Chip Yates, Silent Arrow’s CEO and founder, emphasized the significance of this Phase II contract, noting the company’s plans to commence propulsion tests for the CLS-300 in early 2024, followed by full-scale flight tests in the second half of the year. This accelerated timeline reflects the company's commitment to swiftly delivering this critical capability for both military operations and humanitarian missions in challenging environments.

**72 . Date: 16-07-2024Armed ISR / ISTAR - MALE - Contract - Six MQ-9 Block 5 drones sold to Italy by US in a $738 Million agreementURL: https://armyrecognition.com/news/aerospace-news/2024/six-mq-9-block-5-drones-sold-to-italy-by-us-in-a-738-million-agreement**

On August 15, 2024, the U.S. State Department approved a potential Foreign Military Sale to the Government of Italy. This sale includes six MQ-9 Block 5 unmanned aerial vehicles (UAVs) and a comprehensive package of associated military systems and equipment, with the total estimated cost being $738 million. The Block 5 variant can carry various munitions, such as GBU-38 Joint Direct Attack Munitions (JDAMs) and AGM-114 Hellfire missiles, and can conduct missions lasting over 16 hours. Follow Army Recognition on Google News at this link

The MQ-9 Reaper Block 5 variant took off in Southwest Asia on June 23, 2017, for its first combat flight in support of Operation Inherent Resolve. (Picture source: US DoD)

The transaction primarily involves the delivery of six MQ-9 Block 5 aircraft, the latest version of the MQ-9 Reaper. Developed by General Atomics Aeronautical Systems, the MQ-9 Reaper, which evolved from the MQ-1 Predator, has been in service since 2007. It is designed for long-endurance, high-altitude surveillance, and precision strike missions, and has been used in various military operations, including those in Afghanistan and Iraq, where it has provided intelligence, surveillance, and reconnaissance (ISR) and engaged targets with precision-guided munitions.

The MQ-9 Reaper series includes several variants tailored to meet specific operational needs. The MQ-9A model has been widely deployed, offering both surveillance and strike capabilities. Another variant, the MQ-9B, features extended range (ER) capabilities, such as longer wings, external fuel tanks, and enhanced engines, which improve its endurance and operational range. The platform has also been modified for roles including maritime operations, multi-domain operations, and automated take-off and landing.

The MQ-9 Block 5, which Italy is set to acquire, incorporates several upgrades over previous models. These upgrades include increased electrical power generation, improved communication systems, and enhanced software and hardware capabilities. The Block 5 variant can carry various munitions, such as GBU-38 Joint Direct Attack Munitions (JDAMs) and AGM-114 Hellfire missiles. It has been deployed in combat operations, where it has demonstrated the ability to conduct missions lasting over 16 hours.

The MQ-9 Reaper Block 5 can carry various munitions, such as the AGM-114 Hellfire missile, the GBU-12 Paveway II laser-guided bomb, and the GBU-38 Joint Direct Attack Munition (JDAM). (Picture source: US DoD)

In addition to the aircraft, Italy has requested three Unmanned Aerial System (UAS) MQ-9 Mobile Ground Control Stations (MGCS). These stations are crucial for the operation and control of the MQ-9 aircraft, providing the necessary infrastructure for managing the unmanned systems during missions.

The sale also includes twelve AN/DAS-4 Multi-spectral Target Systems, which provide multi-spectral imaging capabilities for surveillance and targeting. Italy will also receive nine LYNX AN/APY-8 Block 20A Synthetic Aperture Radars, equipped with Maritime Wide Area Surveillance (MWAS) capabilities, enhancing maritime detection and monitoring.

The package includes an Embedded Global Positioning & Inertial Navigation System (EGI) for accurate positioning and orientation during operations. Additionally, various non-Major Defense Equipment (non-MDE) items are part of the transaction, which are essential for the maintenance and operation of the UAS fleet.

These non-MDE items include Reaper/Predator engines, Ruggedized Aircraft Maintenance Test Stations (RAMTS) for testing and maintaining the aircraft, AN/ARC-210 Ultra High Frequency (UHF)/Very High Frequency (VHF) Radios (RT-2036) for communication, and Ground Data Terminals (GDT) for line-of-sight communication.

The MQ-9 Block 5, which Italy is set to acquire, incorporates several upgrades over previous models, including increased electrical power generation, improved communication systems, and enhanced software and hardware capabilities. (Picture source: US DoD)

The sale also encompasses several cryptographic and identification systems, such as the AN/PYQ-10 Simple Key Loaders, KIV-77 Identification Friend or Foe (IFF) Cryptographic Applique, and Transponder IFF AN/APX-119. These systems are used for secure identification and communication. The package also includes the KY100M Narrowband/Wideband terminal communications security (COMSEC) device, which provides security for communications across different bandwidths.

Supporting overall UAS operations, the sale includes the UAS MQ-9 Fixed Ground Control System (FGCS) and Satellite Communications (SATCOM) Earth Terminal Subsystems (SETSS). These systems provide the necessary infrastructure for satellite-based communication and control of the unmanned aircraft. The transaction further includes precision navigation systems, integration and test support equipment, aircraft and engine support equipment, spare parts, consumables, and repair and return support.

The sale includes provisions for major modifications, maintenance, and support services, including facilities and construction support, transportation and airlift services, and both classified and unclassified software support. Italy will also receive classified and unclassified publications, technical documentation, personnel training, and training equipment as part of the deal.

Additionally, the package covers special insurance and warranties, as well as studies and surveys to support the integration and sustainment of the equipment. U.S. Government and contractor engineering, technical, and logistics support services are included to assist Italy in the operation and maintenance of these systems.

**73 . Date: 14-10-2024Partnership - SKYBER Aerospace and Sibia Technologies Partner to Meet Growing UAV Demand in Middle East and AfricaURL: https://armyrecognition.com/news/aerospace-news/2024/skyber-aerospace-and-sibia-technologies-partner-to-meet-growing-uav-demand-in-middle-east-and-africa**

Advanced UAV manufacturer SKYBER Aerospace has announced a strategic partnership with Dubai-based Sibia Technologies to tap into the fast-growing UAV market in the Middle East and Africa (MEA), projected to reach $5.34 billion by 2029. This multi-year agreement covers all facets of the UAV industry, including sales, training, operational support, and technological innovation, and is set to meet the increasing defense and commercial demands in the region.

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In this partnership, SKYBER Aerospace will focus on providing systems and regional-specific innovations, while Sibia Technologies will handle local operations, including after-sales services, operator training, and regulatory compliance, leveraging its established regional presence (Picture source: SKYBER Aerospace)

SKYBER Aerospace, known for its AI-based and advanced technology innovations, will supply high-performance UAV systems tailored to meet MEA’s specific needs, while Sibia Technologies will handle local sales, customer relations, marketing, and regional supply chain logistics.

The partnership features a clear division of roles: SKYBER Aerospace will focus on providing systems and innovating for regional requirements, while Sibia Technologies, leveraging its regional presence, will oversee local operations, after-sales services, operator training, and regulatory compliance. According to Joseph George, co-founder and CEO of SKYBER Aerospace, this collaboration marks a milestone in capturing the growing potential of the UAV market in the Middle East and Africa, where countries such as the UAE, Saudi Arabia, Qatar, and parts of Africa are increasingly investing in modern technologies and border security, supported by rising defense budgets.

Growth forecasts for this market indicate significant opportunities in both government and commercial sectors, with the two companies particularly aiming at large-scale defense contracts and fulfilling commercial needs in oil and gas, construction, and agriculture. Sibia Technologies also plans to leverage its partnerships with leading telecom operators in the region to integrate UAV solutions over public and private 5G networks, facilitating more robust communications for advanced UAV operations.

Nour Al Atassi, CEO of Sibia Technologies, described this alliance as a "symbiotic relationship" where the combined strengths of both companies allow growth in a competitive market. In addition to distributing SKYBER Aerospace’s UAV systems, Sibia will handle post-sales services, including training, support engineering, and regulatory assistance, ensuring regional clients benefit from a service tailored to local requirements.

The agreement also includes localizing SKYBER Aerospace’s UAV platforms to meet regional needs, such as extreme weather conditions like high temperatures and sandstorms, as well as sector-specific requirements in oil exploration, agricultural mapping, and construction. Regional clients will benefit from localized support, including faster response times, readily available spare parts, and training centers that will allow operators to enhance their skills, improving UAV safety and handling. By streamlining local regulatory navigation and permit acquisition, this initiative aims to reduce operational interruptions, making UAV solutions more cost-effective.

The partnership also envisions the introduction of innovative products, such as fully autonomous drones capable of operating without human intervention. These drones will feature AI-powered navigation and decision-making systems, along with high-precision sensors and long-range surveillance capabilities, in response to the region’s security and defense needs. SKYBER Aerospace and Sibia Technologies are also exploring drone swarming technologies, which could enhance surveillance, defense operations, and disaster response, in addition to developing specialized drones for precision agriculture, construction monitoring, and cargo transport.

SKYBER Aerospace remains dedicated to providing end-to-end UAV solutions that integrate advanced technologies, including hybrid drones and AI-powered edge computing chipsets, underscoring its commitment to research and development. Over the next five years, the focus will be on establishing leadership in the MEA market, expanding product portfolios, creating local manufacturing facilities, and diversifying UAV applications to meet various needs.

**74 . Date: 18-07-2024ISR / ISTAR - Mini - General - Engine / PowersourceSkyfront Unveils Perimeter 8+ WC Drone Using Water-Cooled Engine for Extreme Desert OperationsURL: https://armyrecognition.com/news/aerospace-news/2024/skyfront-unveils-perimeter-8-wc-drone-using-water-cooled-engine-for-extreme-desert-operations**

On July 18, 2024, Skyfront, a pioneer in hybrid drone technologies, unveiled the Skyfront Perimeter 8+ WC, an innovative variant of its renowned Perimeter 8+ drone. This new model is specially designed with a water-cooled engine and heat-resistant avionics, enabling reliable operations even in the most extreme desert environments. Follow Army Recognition on Google News at this link

Skyfront Perimeter 8+ WC Drone (Picture source: Skyfront)

Deserts, known for temperatures that can reach up to 50°C (122°F), pose significant challenges for conventional drones. These typically suffer from overheating batteries and air-cooled engines, leading to accelerated degradation and reduced lifespan. The Perimeter 8+ WC addresses these issues with advanced technologies that ensure performance and safety.

This technology was validated at the U.S. Army's White Sands Missile Range in New Mexico. The drone successfully carried heavy loads at high altitudes in broad daylight under temperatures of 45°C (113°F). These tests highlight the drone's capability to operate at 'density altitudes' often unattainable for standard multirotor drones.

Beyond its resilience, the Skyfront Perimeter 8+ WC stands out for its applicability in a variety of critical missions such as detecting land mines and other explosives, inspecting long infrastructures like pipelines and electrical lines, as well as geophysical exploration. This makes it not only a prime tool for defense operations but also for demanding commercial applications.

The Perimeter 8+, already deployed in over 30 countries and known for its exceptional endurance and payload capacity, can now be upgraded to the WC model. "We have seen how the Perimeter 8+ WC has enabled reliable and prolonged operations in the deserts of the Middle East, providing significant peace of mind for drone operators," explained Conrad Wright, CEO of Alchemy Analytics.

Troy Mestler, CEO of Skyfront, expressed his enthusiasm about the impact of this innovation: "Launching the first water-cooled hybrid-electric multirotor drone in the Middle East marks a significant milestone for the industry. The Perimeter 8+ WC is ready to transform operations under the most challenging conditions worldwide."

With this advancement, Skyfront reaffirms its leadership in the field of drone solutions tailored to modern challenges, underscoring its commitment to innovation and reliability in extreme conditions.

As a reminder, the Skyfront Perimeter 8 and Perimeter 8+ drones offer top-tier performance, suitable for a variety of demanding applications. The Perimeter 8+ notably excels in operating with heavier loads and over longer distances than its predecessor.

The Perimeter 8+ can fly for more than 5 hours without a payload, 3 hours with a 5 kg (11 lb) load, 2 hours with 7.5 kg (16.5 lb), and 1 hour with 10 kg (22 lb). Meanwhile, the Perimeter 8 provides 5 hours of flight without a payload, 3 hours with 4 kg (8.8 lb), 2 hours with 5 kg (11 lb), and 1 hour with 7.5 kg (16.5 lb).

The Perimeter 8+ can carry up to 10 kg (22 lb) for one hour, with a total takeoff weight that can exceed 25 kg (55 lb). The Perimeter 8 supports up to 7.5 kg (16.5 lb) for the same duration.

The Perimeter 8+ can reach a maximum range of 216 km (134 miles), while the Perimeter 8 can cover up to 177 km (110 miles). Regarding operating temperatures, the Perimeter 8+ can operate up to 50°C (122°F) with the high-heat upgrade, and 45°C (113°F) without it. The Perimeter 8 is limited to 45°C (113°F).

The maximum density altitude achievable by the Perimeter 8+ is 4000 meters (13,000 feet), compared to 2700 meters (9,000 feet) for the Perimeter 8. The Perimeter 8+ can reach a top speed of 70 km/h (44 mph), with a cruising speed of 35 km/h (22 mph). The Perimeter 8 can go up to 57 km/h (36 mph) with the same cruising speed.

Both models feature configurable radio communication from 433 MHz to 5.8 GHz and support various types of radios with AES128 or AES256 encryption. Their hybrid gasoline-electric propulsion system, combined with electronic fuel injection, ensures an electrical conversion efficiency of over 95%. The flight control firmware is based on Pixhawk/PX4, with multiple flight modes tailored to the specific needs of operations.

**75 . Date: 03-10-2024Solar ISR / ISTAR - HALE - General - PlatformSolar-powered Skydweller drone successfully completes flight tests for US militaryURL: https://armyrecognition.com/news/aerospace-news/2024/solar-powered-skydweller-drone-successfully-completes-flight-tests-for-us-military**

Skydweller Aero, a U.S.-headquartered aerospace company, announced on October 1, 2024, the successful completion of its initial uncrewed autonomous flight test campaign with the Skydweller, a solar-powered, long-endurance unmanned aerial vehicle (UAV). The campaign, conducted from the company's facility at Stennis International Airport in Kiln, Mississippi, included a series of test flights, the two longest lasting 16 hours and 22.5 hours. These tests represent a critical step toward demonstrating the feasibility of sustained, solar-powered, uncrewed flights that could remain airborne for weeks or even months, using only solar energy and batteries. Follow Army Recognition on Google News at this link

Constructed entirely out of carbon fiber, the Skydweller aircraft boasts a wingspan equivalent to a Boeing 747, with the capacity to carry up to 800 pounds (363 kg) of payload (Picture source: Skydweller Aero)

The Skydweller test campaign was initiated under a Joint Concept Technology Demonstration (JCTD) by the Office of the Undersecretary of Defense for Research & Engineering (OUSD R&E) and supported by a Cooperative Research & Development Agreement (CRADA) with the Naval Air Warfare Center Aircraft Division (NAWCAD). The goal is to explore the use of autonomous maritime patrol aircraft, and Skydweller’s solar-powered capabilities were tested as a potential solution. The aircraft is designed to perform extreme long-endurance missions with zero carbon emissions, furthering the development of autonomous aviation.

Constructed entirely out of carbon fiber, the Skydweller aircraft boasts a wingspan equivalent to a Boeing 747, with the capacity to carry up to 800 pounds (363 kg) of payload. Its design enables it to execute a variety of uncrewed missions, including detecting drug smugglers and pirates at sea, providing continuous aerial surveillance over war zones, monitoring naval activity in contested waters, and tracking wildlife migration or poaching in Africa. These missions would otherwise require multiple manned or combustion-powered drone aircraft, but Skydweller's perpetual flight capability allows it to achieve these objectives more efficiently, at a fraction of the operational cost.

The company also emphasized the environmental benefits of the Skydweller, describing it as "green with zero carbon footprint" due to its reliance on solar power. According to Skydweller, each of these aircraft can replace a fleet of traditional drones or manned aircraft, offering cost savings of 10 to 100 times.

Dr. Robert Miller, CEO and co-founder of Skydweller Aero, hailed the campaign as a milestone for autonomous aviation. "This flight test campaign is an important achievement and validates our business vision, marking a new era in autonomous aviation," Miller said. "The data gathered validates our models for multi-day flights, and it’s a testament to our team’s dedication and innovation. We are excited to continue pushing the boundaries of what uncrewed solar-powered aircraft can achieve."

Barry Matsumori, President and Chief Operating Officer of Skydweller Aero, added, "We have accomplished a major milestone toward demonstrating the feasibility of perpetual flight by leveraging global research and development investments in solar energy, battery storage, and ultra-lightweight carbon fiber assemblies. As these subsystems improve, we will continue to leverage them to benefit our customers."

The successful completion of this flight campaign further positions Skydweller Aero as a leader in sustainable aviation, setting the stage for future advancements in autonomous flight technology for both military and commercial applications.

**76 . Date: 03-05-2024Requirement - South Korea Accelerates Military Drone Expansion to Counter North KoreaURL: https://armyrecognition.com/news/aerospace-news/2024/south-korea-accelerates-military-drone-expansion-to-counter-north-korea**

On May 1, 2024, under the leadership of President Yoon Suk Yeol, the South Korean government announced its intention to significantly increase its number of military drones by 2026, as reported by the Korea Herald on May 2, 2024. This initiative aims to strengthen South Korea's military readiness in the face of growing threats from North Korean unmanned aerial vehicles. The announcement was made during a meeting of the Defense Innovation Committee chaired by National Security Advisor Chang Ho-jin.

During the Combined Joint Live-Fire Exercise between South Korea and the United States at the Seungjin Fire Training Field in Pocheon, Gyeonggi Province, just 25 kilometers south of the inter-Korean border on May 25, South Korea's military drones flew in formation (Picture source: South Korean MoD)

During the meeting, it was decided to diversify acquisition methods by accelerating the purchase of locally produced commercial drones and rapidly deploying drones currently in the research and development phase. The goal is to actively integrate them into combat operations. Additionally, an increase in budget allocations was planned to facilitate this rapid acquisition, although specific details about the types of drones or the amounts involved were not disclosed.

This decision follows the establishment, in September, of the Drone Operations Command in Pocheon, a town in Gyeonggi Province near the border with North Korea. This military unit was established in response to a North Korean military provocation in December 2022, during which North Korean drones entered South Korean airspace near Seoul before returning to North Korea.

South Korea has developed several drone models to meet various military needs. Among the most notable is the KUS-FS, a surveillance and reconnaissance drone developed by Korea Aerospace Industries (KAI). Capable of conducting extensive surveillance missions, this drone plays a crucial role in intelligence gathering.

Another important model is the KAI KUS-MA, a smaller drone designed for short-range tactical missions. This drone can be used for surveillance, reconnaissance, and even strike missions, thanks to its ability to carry light payloads.

South Korean drones are primarily used for surveillance and reconnaissance. This includes monitoring border areas, reconnaissance in enemy territory without risking human lives, and assessing damage after conflicts or natural disasters. Moreover, with advancements in technology, drones capable of conducting targeted strikes are also being developed, thereby enhancing the offensive capabilities of the South Korean military.

South Korea has established several international partnerships for the development and production of drones. For example, collaborations with the United States and European countries are in place to share advanced technologies and co-develop new systems. These partnerships not only help improve the quality of the drones produced but also ensure they meet international defense standards.

Additionally, interest in South Korean military drones has grown on the international stage. Countries in Southeast Asia, as well as some of South Korea's traditional allies, have expressed interest in acquiring South Korean drones, attracted by their advanced technology and competitive cost. This growing demand has allowed South Korea to position itself as a significant player in the global military drone market.

The committee, which includes ten members, including Chang, Defense Minister Shin Won-sik, and eight civilians such as former Defense Minister Kim Kwan-jin, also discussed ways to improve combat effectiveness. It was reported that government funding for weapons modernization programs will represent 5% of the total state budget, an increase from the current level of 1%, to enhance the South's defense capabilities.

Since its establishment in May 2023, the Defense Innovation Committee has met four times, with the first three meetings chaired by Yoon. This initiative is part of a series of efforts to strengthen South Korea's defensive posture in the face of regional and global challenges.

**77 . Date: 10-09-2024Armed ISR / ISTAR - Small - General - PlatformSuccessful Maiden Flight of India's FWD 200B Combat Drone Marks a Turning Point for Defense IndustryURL: https://armyrecognition.com/news/aerospace-news/2024/successful-maiden-flight-of-indias-fwd-200b-combat-drone-marks-a-turning-point-for-defense-industry**

On September 3, 2024, Bengaluru-based company Flying Wedge Defence and Aerospace (FWDA) announced the successful maiden flight of the FWD 200B, the first unmanned combat drone fully developed in India. This event marks a significant advancement for the country's defense sector, representing the achievement of a long-standing goal to produce an entirely indigenous combat drone. Follow Army Recognition on Google News at this link

The drone also has an endurance of 7 hours and can cover a distance of 800 km, ensuring extended mission durations without the need for frequent refueling or landing. (Picture source: Flying Wedge Defence)

The FWD 200B is classified as a Medium Altitude, Long Endurance Unmanned Combat Aerial Vehicle (MALE UCAV), capable of reconnaissance and aerial strike missions. It is equipped with optical payloads for surveillance and missile-like weapon systems for airstrikes and bombing, combining precision and effectiveness.

With a wingspan of 5 meters and a length of 3.5 meters, the FWD 200B stands out for its compact design while maintaining a high operational capacity. It has a maximum take-off weight of 102 kg and a payload capacity of 30 kg, allowing it to carry out significant missions. The aircraft operates at a cruise altitude of 12,000 feet and can reach a maximum altitude of 15,000 feet. It flies at a cruise speed of 152 km/h and can reach a maximum speed of 250 km/h. Its minimum runway requirement of only 300 meters makes it particularly suitable for operations from short airstrips.

The drone also has an endurance of 7 hours and can cover a distance of 800 km, ensuring extended mission durations without the need for frequent refueling or landing.

The FWD 200B was successfully tested at a confidential site, and its maiden flight represents a major technological advancement for India. This project, led by FWDA, is the result of sustained efforts to develop an indigenous combat drone, overcoming technical challenges that had previously hindered similar initiatives within the country.

Suhas Tejaskanda, founder and CEO of FWDA, expressed his satisfaction during a press conference, stating: "India, being the world's largest arms importer over the past five years, has often paid significant sums to access military technologies from countries like the United States and Israel. The success of the FWD 200B flight is an accomplishment not only for our company but for the entire nation."

With negotiations for Turkey's Bayraktar drone failing and the U.S. Predator deal being on hold for two years, the development of this indigenous aircraft takes on particular significance.

The aerodynamic design, airframe, propulsion systems, control systems, and electronics of the FWD 200B were all developed locally at FWDA's production facility located in Electronic City, Bengaluru. According to Tejaskanda, this achievement is the result of many years of efforts to overcome obstacles that had previously impeded the development of similar technologies by Indian defense agencies.

**78 . Date: 11-07-2024Requirement - ArmamentSwitzerland Commits to Home-Made Attack and Reconnaissance DronesURL: https://armyrecognition.com/news/aerospace-news/2024/switzerland-commits-to-home-made-attack-and-reconnaissance-drones**

On July 9, 2024, Switzerland officially took steps to enhance its military drone capabilities by establishing a "Drone Task Force" to address the increasing challenges posed by the modern use of drones in armed conflicts. Previously, Switzerland had only ordered six Hermes 900 HFE reconnaissance drones from the Israeli manufacturer Elbit Systems in 2015. Follow Army Recognition on Google News at this link

The ADS 15 Reconnaissance drone at Emmen military airfield (Picture source: VBS-DDPS)

This announcement was made during a roundtable that brought together defense industry representatives and the Federal Department of Defense (DDPS) under the auspices of the Federal Office of Armaments (armasuisse). This meeting concluded with the announcement of the creation of the "Drone Task Force" in June 2024, signaling an awareness and proactive action regarding the vital role of drones in modern warfare. The ambitious project of this new unit is to independently develop small and medium-sized drones for attack and reconnaissance missions, with an emphasis on self-sufficiency in developing these technologies. The first tests of Swiss-made drones are scheduled for 2025.

In March 2024, the Swiss Army had already announced, through its chief, the intention to invest in drones. Nearly 800 million Swiss francs will be invested to test drones. These are not only for surveillance and reconnaissance but also for armed drones.

The Swiss parliamentary context has also reflected a growing concern for adapting to drone technologies. Over the last decade, Parliament has dealt with various aspects of drone usage, from the regulation of civilian drones to debates on military acquisitions. A notable example was the controversial purchase of six surveillance drones from the Israeli company Elbit in 2015 for 300 million francs, a project that encountered multiple delays, pushing the operational deployment of the drones to 2026.

The use of drones, especially economical "microdrones," has been recognized as an increasingly crucial and disruptive component in modern conflicts, as evidenced by the wars in Ukraine, Armenia, Azerbaijan, and other regions. The threat posed by these small but effective devices was highlighted by political figures such as National Councillor Pierre-Alain Fridez, who criticized Switzerland's slow integration of these technologies despite their relatively low cost and proven effectiveness.

Recognizing the urgent need to act in the face of rapidly evolving military technology, the Federal Council accepted the necessity to update with modern armaments, including armed drones and loitering munitions. This decision ultimately led to the formation of the task force, marking a significant step in aligning Switzerland with its international contemporaries in the defense field.

As Switzerland advances with its drone projects, it faces a constant challenge: balancing technological innovation with the imperatives of national security and defense in a complex and rapidly changing geopolitical environment. The recent commitment shows a determination to navigate effectively in this new era of technological warfare, with profound implications for national and international security.

**79 . Date: 27-09-2024ISR / ISTAR - Small - General - PayloadTEKEVER Advances Drone Sonobuoy Launching TechnologyURL: https://armyrecognition.com/news/aerospace-news/2024/tekever-advances-drone-sonobuoy-launching-technology**

During the REPMUS 2024 military exercise, TEKEVER unveiled new drone technologies, marking a major advance in the use of unmanned aerial vehicles (UAVs) for underwater threat detection. For the first time, a TEKEVER drone was used to deploy sonobuoys, offering enhanced capabilities for maritime surveillance and submarine detection. Follow Army Recognition on Google News at this link

During the exercises, TEKEVER's AR3 and AR5 UAVs were deployed for intelligence, surveillance, and reconnaissance missions on land and at sea (Picture source: Tekever)

This technological breakthrough boosts maritime security by enabling underwater threat detection, including submarines, directly from drones. During the exercises, TEKEVER's AR3 and AR5 UAVs were deployed for intelligence, surveillance, and reconnaissance missions on land and at sea. One of the key operations was the successful deployment of sonobuoys by the AR5 drone, allowing for the detection and tracking of underwater threats. This capability provides a strategic tool for end users to manage maritime security challenges in high-risk, unmanned scenarios, reducing human involvement in perilous operations.

The REPMUS exercise also showcased the integration of IMSAR’s Synthetic Aperture Radar (SAR) into the AR5 drone. This advancement, combined with the drone's electro-optical/infrared (EO/IR) cameras and satellite communication (SATCOM) capabilities, reinforces the AR5’s role as a multi-mission platform capable of handling complex military operations in various environments. With real-time data collection, the AR5 proves to be a valuable tool in operations requiring continuous and detailed surveillance. Moreover, the AR5 demonstrated its versatility by performing automatic take-offs and landings on runways as short as 200 meters, illustrating its adaptability to different operational contexts.

TEKEVER also highlighted several other technological advancements at REPMUS. These include the integration of TEKEVER’s geospatial platform, Atlas, with Thales’ Spy-C system, allowing for seamless bidirectional communication and data sharing. This integration facilitates joint operations by ensuring smooth data flow, position updates, and real-time video streaming between platforms. The addition of IMSAR’s radar capabilities has further extended the operational range of the AR5, improving surveillance quality and providing unmatched situational awareness for both land and maritime missions.

TEKEVER’s participation in REPMUS 2024 illustrated the company's ongoing efforts to advance drone technology for military applications. By reducing risks for human operators while delivering cutting-edge intelligence, surveillance, and reconnaissance capabilities, TEKEVER demonstrates a clear focus on optimizing security in critical military operations.

This technological demonstration, which includes drone-based sonobuoy deployment, radar integration, and the AR5’s multi-mission capability, represents a notable advancement in the use of UAVs for complex missions. As technology continues to evolve, these innovations could transform how maritime and military operations are conducted, particularly in high-risk environments where autonomy and the reduction of human risk become strategic priorities.

**80 . Date: 18-10-2024General - PlatformThales Unveils Next-Generation Autonomous Drone Swarms Powered by AIURL: https://armyrecognition.com/news/aerospace-news/2024/thales-unveils-next-generation-autonomous-drone-swarms-powered-by-ai**

On October 16, 2024, Thales conducted flight tests demonstrating the potential of deploying drone swarms with various levels of autonomy. These tests represent a significant step forward in integrating artificial intelligence (AI) into drone warfare, showing how autonomous systems can reduce the cognitive burden on operators while ensuring full control during critical mission phases.

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In 2023, Thales introduced OpenDRobotics, an AI-driven solution integrating robotics technologies across different unmanned air and ground systems to create comprehensive, human-supervised mission systems (Picture source: Thales)

As part of its drone warfare strategy, Thales, in collaboration with multiple partners, focuses on enhancing the coordination and interoperability of drone swarms for diverse mission types. These advancements are tailored to meet the complex demands of modern armed forces. Thales’s AI-based system architecture enables drone swarms to operate under supervised autonomy, adapting to rapidly changing battlefield conditions.

Despite the proven operational value of drones on the battlefield, two major limitations remain: the need for one operator per drone and the requirement for a secure, resilient data link throughout the mission. During the JDEC demonstrations on October 16, 2024, Thales's COHESION demonstrator showcased how AI and intelligent agents could provide an unprecedented level of autonomy in swarm drone deployments, addressing these challenges.

The COHESION system architecture allows operators to adjust the level of drone autonomy according to operational needs. This flexibility is crucial in contested environments, where electronic warfare can disrupt data links reliant on GNSS signals. Thales's system enables drones to operate autonomously without continuous communication with the control station. The drones can perceive and analyze their surroundings, share target information, evaluate enemy actions, and prioritize missions accordingly. Collaborative tactics can be employed to optimize trajectories, increasing resilience and operational effectiveness.

This innovative approach acts as a force multiplier, improving operational efficiency without adding to the operators' cognitive load. Human operators retain control over critical decisions, with AI functioning within a human-supervised framework, ensuring safe and reliable oversight. Thales emphasizes ethical AI, as demonstrated by its TrUE (Transparent, Understandable, and Ethical) AI concept.

Thales has positioned itself as a key integrator in drone warfare, ensuring interoperability between land, air, and naval platforms. The company also plays a central role in a broader ecosystem of French industries and tech companies, working to extend drone capabilities in operational theaters.

In 2023, Thales introduced OpenDRobotics, an AI-driven solution integrating robotics technologies across different unmanned air and ground systems to create comprehensive, human-supervised mission systems. The acquisition of Aeromapper in 2024 added the TOUTATIS loitering munition to Thales’s portfolio. Earlier in the year, the company launched cortAIx, an initiative to accelerate the development of reliable AI for critical systems. CortAIx’s short-term goals include optimizing data analysis and decision-support tools for military operations, considering cybersecurity and operational constraints in hostile environments.

Drone swarms have become essential in modern military strategy, offering significant operational advantages in current conflicts. Their ability to function autonomously and collaboratively allows them to perform complex missions with minimal human intervention, especially in contested environments where traditional drone operations may be hindered by electronic warfare. Drone swarms can carry out reconnaissance, target identification, and offensive strikes, as demonstrated in conflicts such as the Nagorno-Karabakh war and the ongoing war in Ukraine.

The cost-effectiveness of drone swarms, with each unit being relatively inexpensive compared to manned systems, makes them ideal for large-scale military operations and asymmetric warfare. Their ability to overwhelm enemy defenses through sheer numbers and their adaptability to mission requirements proves their relevance in modern combat. However, managing and countering drone swarms, particularly in environments with sophisticated electronic warfare, remains a significant challenge for militaries worldwide, as noted in studies and demonstrations by the U.S. military and other global powers.

**81 . Date: 22-08-2024ISR / ISTAR - Tactical - General - Air Force's New ULTRA Reconnaissance Drone Flies for Three Consecutive DaysURL: https://armyrecognition.com/news/aerospace-news/2024/the-air-forces-new-ultra-reconnaissance-drone-flies-for-three-consecutive-days**

The U.S. Air Force is on the verge of revolutionizing aerial surveillance with the ULTRA (Unmanned Long-endurance Tactical Reconnaissance Aircraft) drone, a innovant aircraft that has demonstrated an unprecedented ability to stay in flight for at least three consecutive days.This achievement, confirmed by recent tests conducted at the Dugway Proving Ground in Utah, represents a significant advancement in unmanned aerial vehicle (UAV) technology. Developed by DZYNE Technologies, the ULTRA, resembling a glider, boasts an impressive wingspan of over 24 meters (80 feet), enabling it to carry substantial payloads of 180 kilograms (400 pounds) over vast distances. Follow Army Recognition on Google News at this link

ULTRA ISR drone during tests (Picture source: USAF)

The Air Force has recognized ULTRA's potential and allocated around $35 million for four of these advanced systems in its fiscal year 2025 budget. This investment underscores the military's confidence in the drone's capabilities to provide critical intelligence, surveillance, and reconnaissance (ISR) data.

The Unmanned Long-Endurance Tactical Reconnaissance Aircraft (ULTRA) is designed by the Air Force Research Laboratory's (AFRL) Center for Rapid Innovation (CRI) and developed in collaboration with DZYNE Technologies Incorporated (DZYNE). ULTRA offers combat commanders complete global operational access in a cost-effective, GPS-hardened, ultra-long-endurance ISR platform. The ULTRA has an endurance capability that exceeds 80 hours while carrying over 400 pounds of payload. The ULTRA system is truly unique in its ability to overcome the tyranny of distance that hampers the operational use of current unmanned platforms at the excessive ranges required in operational areas such as the Pacific.

ULTRA is designed to be an ISR platform capable of carrying a variety of electro-optical/infrared (EO/IR), radiofrequency (RF), and other low-cost intelligence collection payloads and sensors to provide the user with a reconfigurable mission platform. Exceptionally long endurance allows these ISR sensors to provide unblinking coverage of areas of interest with fewer aircraft. Additionally, ULTRA is a cost-effective option when multiple aircraft systems need to be purchased to cover larger areas of interest.

US Air Force crew preps an ULTRA drone for taxi before takeoff, May 7, 2024 ( Picture source : USAF)

The tyranny of distance in relevant operational areas places unique requirements on ISR aircraft to be effective. Furthermore, some areas have limited basing options, requiring manned or unmanned aircraft to travel long distances to reach operational zones, which limits the time spent on-site. ULTRA will enable the USAF not only to economically purchase large quantities of aircraft systems but also to provide an efficient aircraft at these excessive distances.

ULTRA employs a novel approach to achieve long-term endurance and low acquisition cost by repurposing a previously manned commercial sport glider and converting it into a military-grade unmanned aerial vehicle. COTS (Commercial-off-the-shelf) drone technology, existing manufacturing and supply channels, and limited custom avionics are used to ensure that acquisition and maintenance costs remain low. The integration of low-cost EO/IR and RF sensors is made possible by lower operating altitudes, which do not require large optics or high-power RF systems to maintain efficiency.

ULTRA relies on a user-friendly command and control system that allows for point-and-click operations. Global operations are possible through satellite command and control links, which also provide operators with a real-time, high-rate ISR data stream.

The ULTRA drone has already been deployed in operational environments, including the Middle East, where it provides valuable ISR support in regions with limited basing options. Its ability to operate continuously for days allows the U.S. Air Force to maintain persistent surveillance in critical areas without the need for large fleets of drones.

Picture of ULTRA on runway preparing for takeoff. Current upgrades will push the endurance to potentially greater than 80hrs depending on payload. ( Picture Source : AFRL)

**82 . Date: 02-09-2024Armed ISR / ISTAR - HALE - General - ArmamentTürkiye's Anka-3 UCAV performs 1st flight with ammunitionURL: https://armyrecognition.com/news/aerospace-news/2024/tuerkiyes-anka-3-ucav-performs-1st-flight-with-ammunition**

The Anka-3 unmanned combat aerial vehicle (UCAV) from Turkey has completed its first flight with munitions, as announced on Sunday September 01, by its developer, Turkish Aerospace Industries (TAI). Anka-3 is the next step in supersonic development for Turkish industries. Follow Army Recognition on Google News at this link

Alleged view of second prototype of ANKA-3 UAV (Picture source: X)

"ANKA III, the product of our strength and determination on the path to a fully independent Turkey, is generating excitement and pride with the successes it has achieved one after another," the statement added.

In another statement, TAI General Manager Mehmet Demiroğlu expressed his pride in another significant milestone achieved by the country's first stealth unmanned aerial vehicle (UAV) with a flying wing design and deep-strike capability. He declared that the ANKA III has reached a new milestone, regarded as a national pride. The ANKA III, which completed its first flight with munitions, has once again demonstrated the power it will bring to our country in the field of defense.

The Anka-3 is part of Turkey's ambition to develop supersonic strike drones. During a recent online interaction, Temel Kotil, the CEO of Turkish Aerospace Industries (TUSAŞ), stated that the ANKA-3 will be equipped with two engines, enabling it to fly at "supersonic speeds." The engines have been identified as two TEI (TUSAŞ Engine Industries) TF10000 turbofans. "Development work on the TEI-TF10000 is ongoing, and once completed, it is expected to provide a dry thrust of 6,000 pounds and an afterburner (A/B) thrust of 10,000 pounds."

Interestingly, the TF10000, along with the TF6000, is being rapidly developed to serve as a domestic alternative to the General Electric F110 turbofan from the United States, which currently powers the KAAN. Ankara anticipates that the complicated relationship between the United States and Turkey could lead Washington to block the sale of the F110. The TF10000 is an upgraded version of the TF6000, the latter being developed as an auxiliary power unit for the KAAN.

The Turkish Anka-3 drone is one of the most interesting programs in Turkey's prolific and successful aerospace industry. Developed by TAI, the stealth flying wing-type drone has a wingspan of approximately 17.5 meters and a length of about 8 meters, designed to handle different types of missions with a maximum takeoff weight of 6.5 tons and a payload capacity of 750 kg.

The first prototype made its maiden flight on December 28, 2023.

Currently, the ANKA-3 is equipped with a single AI-322 engine, allowing the drone to reach a maximum speed of 450 knots. Its service ceiling is 12,000 meters (39,000 feet), with a maximum ceiling of 40,000 feet (12,000 meters). The future version of the ANKA-3 is likely to be larger and capable of carrying a heavier payload, with a shape that will need to be revised and optimized for supersonic speeds.

Although it features sophisticated capabilities and advanced technology, the primary role of the ANKA-3 is more aligned with traditional UCAV operations rather than acting as a loyal wingman (for the KAAN). It can perform ISR (Intelligence, Surveillance, and Reconnaissance) missions, carry precision-guided munitions, and conduct electronic warfare operations. It will be capable of flying autonomously and executing missions, though likely managed or monitored by ground stations.

**83 . Date: 13-11-2024Armed ISR / ISTAR - MALE - General - ArmamentTurkish Bayraktar Akinci UAV completes first long-range strike test with IHA-230 supersonic missilesURL: https://armyrecognition.com/news/aerospace-news/2024/turkish-bayraktar-akinci-uav-completes-first-long-range-strike-test-with-iha-230-supersonic-missiles**

On November 13, 2024, the Turkish manufacturer Baykar announced the successful test of a new supersonic missile on its Bayraktar Akinci unmanned combat aerial vehicle (UCAV). During the trial, the Akinci UCAV launched two IHA-230 supersonic missiles, accurately striking targets 155 kilometers away. This test highlights the UCAV’s ability to conduct long-range, precision-guided attacks. The IHA-230 missile, designed by Roketsan, is an air-to-surface ballistic missile capable of engaging land and sea-based assets at ranges over 150 kilometers, depending on launch altitude and speed. Follow Army Recognition on Google News at this link

The IHA-230 missile integrates GNSS-supported inertial guidance and a fire-and-forget capability, which enables it to operate autonomously after release. (Picture source: Baykar)

The IHA-230 missile integrates GNSS-supported inertial guidance and a fire-and-forget capability, which enables it to operate autonomously after release. Its operational range, subject to variations based on altitude and speed at the point of release, allows it to hit various target types from a distance, minimizing exposure to adversarial air defense systems. With a 42-kilogram warhead and fragmentation, armor-piercing, and thermobaric warhead options, the missile is designed to engage air defense radars, communication infrastructures, command centers, lightly armored land or sea vehicles, and personnel.

Before launch, the missile conducts in-flight preparations onboard the UCAV and, after being dropped, initiates its solid fuel motor autonomously, achieving supersonic speeds. Its design includes a feature for maintaining stability during flight through rear fins that rotate to counteract rolling, enhancing missile trajectory control. This configuration aligns with stabilization technologies observed in certain air-to-air missiles used by various military forces.

Baykar’s recent test of the IHA-230 builds on previous trials with other Turkish-developed munitions, including the Tolun IIR. Developed by Aselsan, the Tolun IIR is a guided munition equipped with an imaging infrared seeker head, intended to engage targets up to 80 kilometers away. In a recent test, the Bayraktar Akinci launched three Tolun IIR munitions from an altitude of 22,000 feet, hitting an armored personnel carrier at the Konya Firing Test and Evaluation Center. The Tolun incorporates a two-way data link for real-time guidance, which allows operators to maintain oversight of the target until impact. This live image transfer capability can support precision in dynamic situations. The integration of the Tolun with the Akinci UCAV provides a medium-range strike option for varied operational requirements.

The Bayraktar Akinci has also been tested with the IHA-122 missile, developed in collaboration with Roketsan as a supersonic air-launched ballistic missile with TV and laser-guided variants. The IHA-122 is designed to engage both stationary and mobile targets, such as air defense installations, command centers, and communication sites. Initial tests of the IHA-122 have demonstrated its performance in various conditions, with real-time image transmission to the command center, enabling tracking and post-strike assessment of target impact. The guidance options provided by the IHA-122 support its use in tactical scenarios requiring long-range, rapid deployment against defended or high-value assets.

The Bayraktar Akinci UCAV itself, in service with the Turkish Armed Forces since 2021, has a maximum takeoff weight of over 5.5 tons and a payload capacity exceeding 1,350 kilograms, enabling it to carry the IHA-230 and similar munitions. The UCAV is powered by twin turboprop engines, and its design includes advanced electronic warfare capabilities, dual satellite communication, and radar systems. Its integration allows operators to engage in standoff strikes and Suppression/Destruction of Enemy Air Defense (SEAD/DEAD) operations without breaching enemy airspace.

The Akinci has been exported to multiple countries, including Pakistan, which acquired units in 2023. As of recent data, Baykar has conducted further integration tests with domestically produced munitions, such as the Tolun IIR and various guided bombs, and completed numerous flight hours with Akinci variants in domestic and international contexts. Baykar’s export strategy continues to focus on UCAVs like the Akinci, with ongoing agreements in place with over 30 countries, which has positioned Turkey as a notable supplier in the global drone market.

The operational capability of the Akinci UCAV, paired with the IHA-230 missile and other munitions, broadens the Turkish Armed Forces’ aerial capabilities, particularly for precision strikes on strategically significant targets. The IHA-230 has the potential to impact a wide range of mission profiles, providing Turkey and its defense clients with an expanded range of aerial engagement options within high-risk or defended airspaces.

**84 . Date: 23-07-2024Armed ISR / ISTAR - HALE - General - Engine / PowersourceTurkish Bayraktar KIZILELMA PT-3 Unmanned Fighter Jet Successfully Completes Engine Run TestURL: https://armyrecognition.com/news/aerospace-news/2024/turkish-bayraktar-kizilelma-pt-3-unmanned-fighter-jet-successfully-completes-engine-run-test**

According to recent information, the Turkish Bayraktar KIZILELMA Unmanned Fighter Jet Prototype-3 (PT-3) has successfully completed its engine run test, marking a significant milestone in its development. This event was highlighted in a video published on the X Account of Clash Report on July 23, 2024. Follow Army Recognition on Google News at this link

The Bayraktar Kızılelma (English: Red Apple) is a jet-powered unmanned combat aerial vehicle (UCAV) currently under development by the Turkish defense company Baykar. (Picture source: X Account Clash Report)

With consideration of a future where air combat will be dominated by unmanned technology, the "Bayraktar KIZILELMA Fighter UAV," developed entirely in Türkiye, is poised to play an increasingly significant role moving forward. Baykar is leveraging its extensive experience with UAVs and UCAVs to quickly advance the technologies incorporated into the Bayraktar KIZILELMA Fighter UAV system.

The Bayraktar KIZILELMA Fighter UAV is expected to be a formidable force due to its aggressive maneuvering capabilities and stealth features designed to evade radar detection. Additionally, it will be able to take off and land on short-runway aircraft carriers, executing missions with internally carried munitions.

In terms of performance, the Bayraktar KIZILELMA boasts impressive specifications: 5 hours of endurance, 1.5 tons payload capacity, 8.5 tons maximum takeoff weight, a cruising speed of 0.6 Mach and a maximum speed of 0.9 Mach, an operational altitude of 10,700 m (30,000 feet), and a combat radius of 926 km/h (500 nautical miles).

Advanced features include fully autonomous takeoff and landing, low radar cross-section (RCS), high maneuverability, Line of Sight (LOS) and Beyond Line of Sight (BLOS) capabilities, and high situational awareness with an AESA radar.

The KIZILELMA is a state-of-the-art unmanned combat aerial vehicle (UCAV) developed by Baykar Technologies. It features a single-engine, low-observable airframe with advanced stealth capabilities, a cruising speed of Mach 0.6, and a maximum speed close to Mach 0.9. The aircraft is designed to operate at an operational altitude of 35,000 feet with a payload capacity of 1.5 tons and a maximum takeoff weight of 6,000 kilograms.

This UCAV is equipped with various advanced technologies, including satellite control, fully autonomous takeoff and landing, high maneuverability, and an AESA radar for high situational awareness. It also has internal weapons bays, enhancing its stealth features, and is capable of operating from short-runway aircraft carriers like the Turkish Navy's TCG Anadolu.

The KIZILELMA's development began in 2013, with significant progress in recent years. It completed its maiden flight in December 2022, followed by multiple successful flight tests throughout 2023. The aircraft is expected to enter mass production in 2024, with plans to perform flight tests from TCG Anadolu in 2025.

**85 . Date: 06-05-2024Armed ISR / ISTAR - MALE - General - Engine / PowersourceTurkish Bayraktar TB3 Drone Soars to New Heights with Domestically-Produced EngineURL: https://armyrecognition.com/news/aerospace-news/2024/turkish-bayraktar-tb3-drone-soars-to-new-heights-with-domestically-produced-engine**

The Baykar Bayraktar TB3, a Turkish armed unmanned aerial vehicle (UAV) developed by defense company Baykar, has set a new altitude record by reaching 33,000 feet during a high-altitude performance test, reported on May 3, 2024. The test took place at the AKINCI Flight Training and Test Center in Tekirdag's Corlu district. The UAV was powered by the domestically developed PD-170 engine produced by TUSAS Engine Industries Inc. (TEI), marking a significant milestone in the utilization of indigenous engines.

Developed by Baykar indigenously and originally, the Bayraktar TB3 UCAV successfully completed its High-Altitude System Performance Test, breaking the altitude record of 33,000 with its indigenous engine. (Picture source: Baykar)

Since its inaugural flight on October 27, 2023, coinciding with the centennial celebration of the Republic of Türkiye, the Bayraktar TB3 has undergone various performance tests at medium and high altitudes, showcasing its operational capabilities. A notable development occurred on March 26, when the UAV was equipped with the locally developed ASELFLIR-500 system, enhancing its reconnaissance and surveillance capabilities.

The TB3 is designed for medium-altitude long-endurance (MALE) operations and is capable of short-range takeoffs and landings. Notably, it can operate from aircraft carriers like the TCG Anadolu, thanks to its foldable wings—a modification necessitated by Turkey's exclusion from the F-35 procurement program, which led to adjustments in the ship’s specifications to accommodate UAVs such as the Bayraktar TB3.

The development of the TB3 was publicly announced by Selçuk Bayraktar on October 29, 2020, highlighting the integration of a high-performance domestic engine, presumed to be the PD-170 or its derivative. The first computer-generated images of the TB3 on the TCG Anadolu were released on July 21, 2021, displaying its innovative design that facilitates operations alongside the jet-engine equipped Bayraktar Kızılelma.

Key milestones in the development timeline of the TB3 include the unveiling of the first prototype on March 27, 2023, a successful test run on October 13, 2023, and initial take-off and landing tests on October 20, 2023. The UAV's maiden flight occurred on October 27, 2023, and it achieved another significant milestone on November 11, 2023, flying with its landing gear retracted for the first time.

The Bayraktar TB3 has a length of 8.35 meters and a wingspan of 14 meters. It supports a maximum takeoff weight of 1,450 kilograms and a payload capacity of 280 kilograms. Powered by the TEI PD170 engine, it reaches a maximum speed of 160 knots (300 km/h) and a cruise speed of 125 knots (232 km/h). Its operational range extends to 1,000 knots (1,900 km). The TB3 is equipped with six hardpoints for various laser-guided munitions and features advanced avionics, including the expected integration of interchangeable EO/IR/LD imaging and targeting sensor systems or a Multi-Mode AESA Radar.

Baykar has significantly contributed to defense export markets, with exports accounting for 83% of its revenue since 2003. In 2023, Baykar's exports amounted to $1.8 billion, representing over 90% of its income and one-third of the total sector exports, establishing it as the world's largest UAV exporter with contracts across 34 countries.

**86 . Date: 30-10-2024Loitering Munition - MALE - General - PlatformUK Launches Project Brakestop: A Jet-Powered Long-Range Attack Drone Initiative Modeled After Ukraine’s Palianytsia OWE UAVURL: https://armyrecognition.com/news/aerospace-news/2024/uk-launches-project-brakestop-a-jet-powered-long-range-attack-drone-initiative-modeled-after-ukraines-palianytsia-owe-uav**

On September 30, 2024, the United Kingdom’s Ministry of Defence unveiled ambitious plans for the development of a new long-range missile drone strike weapon, named Project Brakestop. This project aims to produce at least 20 units per month, thereby enhancing the UK’s military capabilities in complex tactical environments. Follow Army Recognition on Google News at this link

UK Project Brakestop Modeled After Ukraine’s Palianytsia Jet-Powered Long-Range Attack Drone (Picture source: Ukraine MoD)

According to a Prior Information Notice published on September 25, 2024, the one-way attack system, designated as the One-Way Effector (OWE) Heavy, will be capable of targeting enemy infrastructure from over 500 kilometers away. Designed to operate in GNSS-denied environments and resistant to electromagnetic warfare, the OWE Heavy promises increased precision and robustness against modern threats. With the capacity to carry between 200 and 300 kilograms, comparable to the Mk 82 bomb, this system can reach speeds of approximately 600 km/h and operate over a range of up to 600 kilometers. It is also capable of following a ballistic trajectory or flying in low-level cruise mode while navigating with targeted end-stage guidance, even in GNSS-denied environments.

The concept behind Project Brakestop closely resembles Ukraine’s Palianytsia drone, an improvised wartime cruise missile. The project’s specifications indicate a clear orientation toward combat-driven requirements, necessitating the development of a cruise missile, ballistic missile, or drone capable of striking ground targets with formidable effectiveness. The Ministry of Defence also emphasizes the system’s resilience, which must withstand electronic warfare attacks and spoofing in complex electromagnetic environments, thereby ensuring its effectiveness in modern warfare scenarios where such measures are increasingly prevalent.

Flexibility and adaptability are key elements of this long-range attack drone within Project Brakestop. The ministry underscores the need for the system to be safely launchable from mobile platforms in high-threat zones. “The user requires a long-range (500 km) and cost-effective One Way Effector Heavy, capable of being safely launched from the ground from a mobile platform in a high-threat tactical environment,” the notice specifies. This approach allows for an adaptable response to the changing needs of the modern battlefield by offering the possibility to launch the system via a ballistic trajectory or low-level cruise, using a missile, drone, or another delivery technology.

Project Brakestop is also designed to be scalable in terms of production. The Ministry of Defence has set requirements for manufacturing to meet a minimum of 20 units per month, with the ability to increase this number based on future needs. This strategy focuses on rapid and efficient production, prioritizing operational availability over intricate design details to meet the growing need for swift deployment.

As part of the project’s development, the Ministry of Defence will hold an industry day on October 9, 2024, in London. This event will allow companies in the sector to present their technological solutions for various aspects of the project, such as propulsion systems, navigation, targeting, and launch systems. Project Brakestop follows an ambitious timeline, with a demonstration firing scheduled for the third quarter of 2025 and potential serial production starting in the fourth quarter of the same year. “There is an aggressive timeline with a demonstration firing in Q2 2025 and, subject to contract, potential serial production from Q3 2025, producing a minimum of around 20 platforms per month,” concluded the ministry.

As a reminder on August 24, 2024, Ukrainian forces launched a new hybrid missile-drone named Palianytsia against a Russian military base in Voronezh Oblast. This marked the first confirmed use of this new weapon system, which successfully targeted the base, causing a major fire and multiple secondary explosions. The attack is part of a broader strategy aimed at neutralizing Russian military assets deep within Russian territory, as Ukraine continues to develop indigenous capabilities in response to restrictions on the use of Western-supplied weapons.

The Palianytsia missile-drone, designed to strike Russian military airfields, represents a critical advancement for Ukraine's military efforts. The weapon is intended to neutralize platforms used to launch thousands of missiles and glide bombs at Ukraine since the start of the full-scale war. President Volodymyr Zelensky confirmed the successful deployment of the Palianytsia during his Independence Day speech on August 24, stating, "Today, we witnessed the first successful combat use of our new weapon, the Palianytsia missile-drone. This is a completely new class of weapon—our own Ukrainian innovation."

A video released on August 25 provided an overview of the Palianytsia's development and capabilities. This long-range attack drone, powered by a turbojet engine, is equipped with a JetCat P400-PRO micro-turbojet, weighing 4 kg and generating 43 kg of thrust. Its structure is primarily fiberglass with wooden frames, and it features a large fuel tank to maximize range. The Palianytsia is also armed with a 20 kg blast-fragmentation warhead. The drone has an aerodynamic design similar to traditional cruise missiles, with a central body, forward-positioned wings, and a tail section equipped with four control surfaces.

The drone is designed for easy transport and storage, with detachable wings and tail, allowing for quick access to the engine and reducing space requirements during transport. The Palianytsia can strike long-distance targets, including two dozen Russian military airfields. The weapon was developed in a remarkably short time, just a year and a half. Additionally, the cost of the Palianytsia is reportedly lower than that of similar systems, making it a more sustainable option for Ukraine as the conflict continues.

In conclusion, the United Kingdom’s initiative with Project Brakestop clearly demonstrates the strategic learning derived from the conflict in Ukraine. By observing the effectiveness of systems like the Palianytsia drone, the British were able to identify crucial needs and innovation opportunities within their own defense industry. This experience has not only accelerated the development of advanced technologies capable of addressing modern threats but has also strengthened the collaboration between the Ministry of Defence and the private sector to rapidly adapt military capabilities to the realities of the contemporary battlefield.

**87 . Date: 31-05-2024Cargo - Small - General - UK Supplies Ukraine with Windracers ULTRA Cargo DronesURL: https://armyrecognition.com/news/aerospace-news/2024/uk-supplies-ukraine-with-windracers-ultra-cargo-drones**

On May 29, 2024, via the social media platform X (formerly Twitter), @UkrReview announced that the UK had transferred ULTRA (Uncrewed Low-cost TRAnsport) cargo UAVs to Ukraine as part of the drone coalition. Developed by Windracers, these drones, also referred to as the "Jeep of the Skies," have not had their exact numbers disclosed. This initiative is part of the UK's UAV support program for Ukraine, valued at GBP 325 million (approximately USD 413 million). Follow Army Recognition on Google News at this link

Windracers ULTRA (Uncrewed Low-cost TRAnsport) cargo UAVs (Picture source: Ukraine Social Media)

As reported by Janes, the UK Ministry of Defense procured these ULTRA aircraft to aid the Ukrainian armed forces. The ULTRA, a tactical UAV, is primarily designed for resupply missions. Simon Muderack, CEO of Windracers and Distributed Avionics, revealed that since 2023, the UAV has been employed for intelligence, surveillance, and reconnaissance (ISR) as well as logistical resupply operations for the Armed Forces of Ukraine.

The ULTRA drone is engineered for both efficiency and versatility, with a maximum travel distance of 1,000 kilometers and a payload capacity of up to 100 kilograms. It also has an internal payload volume of 700 liters. Windracers noted the drone's autonomous capabilities, emphasizing its ability to conduct missions at night.

Developers explained that the drone's autopilot and flight control technology, provided by Distributed Avionics, offer connectivity from any location using beyond visual line of sight (BVLOS) capabilities, independent of a single flight computer.

The ULTRA requires only 150 meters for takeoff or landing, suitable for diverse environments due to its design, which is composed of 95% aluminum. This structure not only provides lightness and strength but also enhances its maneuverability and durability. With 24 interchangeable control surfaces, the drone allows for customized aerodynamic adjustments.

Weighing 300 kilograms when empty, with a maximum take-off weight of 450 kilograms, the ULTRA can cruise at speeds up to 135 kilometers per hour. It is capable of automatic landing with a ground roll of less than 150 meters on both wet and dry surfaces. With a nominal endurance of over 12 hours and an electrical power supply of 350 watts, the drone can operate from various surfaces including dirt, grass, tarmac, and ice, showcasing its operational flexibility.

Windracers ULTRA (Uncrewed Low-cost TRAnsport) cargo UAVs (Picture source: Ukraine Social Media)

**88 . Date: 19-09-2024General - USAFE Boosts Arctic Surveillance with MQ-9 Reaper and RQ-4 Global Hawk DronesURL: https://armyrecognition.com/news/aerospace-news/2024/usafe-boosts-arctic-surveillance-with-mq-9-reaper-and-rq-4-global-hawk-drones**

United States Air Forces in Europe (USAFE) is enhancing its surveillance capabilities in the Arctic by increasing the deployment of advanced drones, including the MQ-9 Reaper combat drones and RQ-4 Global Hawk reconnaissance drones. During the Air, Space & Cyber Conference hosted by the Air Force Association on September 18, 2024, General James B. Hecker, commander of USAFE and NATO Allied Air Command, discussed how these technologies enhance the monitoring of Russian activities in the region. Follow Army Recognition on Google News at this link

General Atomics MQ-9 Reaper Combat Drone (Picture source: General Atomics )

The MQ-9 Reaper, known for its ability to carry out medium-altitude surveillance missions for up to 27 hours, is ideally equipped to target high-value objectives in permissive areas. This combat drone plays a crucial role in missions that require immediate precision and responsiveness.

The MQ-9 Reaper is a versatile combat drone designed for surveillance, reconnaissance, and precision strike missions. It is powered by a Honeywell TPE331-10 turboprop engine, allowing it to cruise at a speed of approximately 370 km/h and reach an operational altitude of 15,000 meters. With an endurance of 27 hours, it can cover vast areas without the need for refueling. The Reaper has seven hardpoints, enabling it to carry up to 1,700 kg of payload, including AGM-114 Hellfire missiles, GBU-12 Paveway II laser-guided bombs, and advanced sensors like the Lynx II multi-mode radar. Its sensor suite, which includes electro-optical and infrared cameras, enables precise target identification, providing medium- to long-range precision strike capabilities.

In parallel, the RQ-4 Global Hawk complements the arsenal with its ability to carry out high-altitude reconnaissance missions. Capable of remaining airborne for up to 34 hours depending on the mission payload, the RQ-4 is a key element of long-range surveillance strategy. This reconnaissance drone offers in-depth visibility and can supplement the information gathered by satellites and manned aircraft, which is essential for continuous monitoring of the vast Arctic expanse.

The RQ-4 Global Hawk, with its high-altitude and long-endurance flight capabilities (up to 34 hours), is designed to monitor vast, hard-to-access regions such as the Arctic. By deploying it from the United Kingdom, allied forces can cover the Arctic Circle and its surroundings, detecting naval and aerial movements, notably those of Russia. Thus, the United Kingdom, via NATO, plays a role in the deployment and operation of surveillance systems like the RQ-4 to protect the interests in the Arctic region.

The RQ-4 Global Hawk is a strategic high-altitude reconnaissance drone, specifically designed for long-duration surveillance missions. Powered by a Rolls-Royce AE 3007H turbofan engine, the RQ-4 can reach an operational altitude of 18,000 meters and cruise at a speed of 575 km/h. Its impressive endurance, exceeding 34 hours, allows it to cover thousands of kilometers and conduct extensive reconnaissance missions. The drone is equipped with a suite of sophisticated sensors, including a Synthetic Aperture Radar (SAR), electro-optical/infrared (EO/IR) detection systems, and signal collection sensors. These systems enable it to provide high-resolution radar images and real-time intelligence over vast and challenging areas, such as the Arctic. With a wingspan of 39.9 meters and a payload capacity of approximately 1,360 kg, the RQ-4 Global Hawk is a key asset in strategic aerial surveillance.

The extension of RQ-4 operations to RAF Fairford in the United Kingdom, marking a first for this location, illustrates USAFE’s increased commitment to monitoring the Arctic using advanced technology. These cross-border missions in international and allied airspace strengthen the surveillance and reconnaissance posture in an area where confrontations with Russia are frequent.

These initiatives reflect a significant evolution in Arctic surveillance strategy, highlighting the importance of combining offensive and reconnaissance capabilities to ensure comprehensive and effective coverage in the face of growing geopolitical challenges.

RQ-4 Global Hawk Reconnaissance Drone (Picture source : Northrop Grumman)

**89 . Date: 24-09-2024Target Drone - Tactical - Contract - US Air Force Awards Kratos Major Contract for 60 Unmanned Aerial Target Drone SystemsURL: https://armyrecognition.com/news/aerospace-news/2024/us-air-force-awards-kratos-major-contract-for-60-unmanned-aerial-target-drone-systems**

On September 17, 2024, Kratos Defense & Security Solutions, Inc. announced that it had received a firm fixed-price order of $79,870,161.48 for the supply of 60 BQM-167A Air Force Subscale Aerial Target (AFSAT) aircraft, along with mission kits, flight consumables, and technical data. This order is part of a five-year contract. Follow Army Recognition on Google News at this link

Kratos BQM-167A Unmanned Aerial Target Drone System(Picture source: Kratos)

The enhancements included under the Gas, Aero, Payload, Power (GAPP) program constitute the most significant upgrade to the BQM-167A product line to date. These improvements aim to increase the capabilities of the BQM-167A to better simulate advanced threats and support the USAF's weapon systems verification and training efforts. This contract represents the largest single purchase of BQM-167As by the Air Force Life Cycle Management Center, located at Eglin AFB, Florida. Work related to this contract will be carried out at a Kratos manufacturing facility.

The BQM-167A is a remotely controlled, subscale target drone designed to provide a threat-representative target in the Air-to-Air Weapon System Evaluation Program and other USAF and Department of Defense air-to-air test and evaluation programs. This drone can carry the full range of current Air Force subscale target payloads, including scoring systems, infrared and radar enhancements, electronic attack pods, and a chaff/flare dispenser set.

Designed by Composite Engineering Inc., a subsidiary of Kratos Defense & Security Solutions, the BQM-167A is a subscale target drone that measures 20 feet in length with an 11-foot wingspan. With an empty weight of 690 pounds and a maximum load weight of 2,200 pounds, this drone, constructed from carbon fiber and epoxy-based materials, surpasses earlier models primarily made of aluminum in terms of performance and endurance. Capable of flying at speeds from 230 to 600 knots at sea level and reaching a maximum speed of 0.92 Mach, it can ascend from 50 feet above ground level to 50,000 feet mean sea level. Its maneuver capabilities include up to 9G turns and other aerial acrobatics. Launched from a rail system with rocket-assisted takeoff, the BQM-167A can be recovered by parachute, whether over land or water, and recovered units are repaired and reused. It is equipped to carry a complete range of current Air Force target payloads, including scoring systems, infrared and radar enhancements, electronic attack pods, and a chaff/flare dispenser set, making it highly effective for simulating advanced threats in weapon system evaluations.

The Gas, Aero, Payload, Power (GAPP) program represents a critical technological upgrade initiative for target drones like the BQM-167A. This program significantly enhances aerodynamic performance, payload capacity, energy efficiency, and propulsion systems. Focusing on four main areas—gas for optimized propulsion system management, aero for improved aerodynamic features, payload for increased capacity to carry various types of payloads such as scoring systems, radar, and infrared enhancements, and power for enhanced electrical supply and system endurance—GAPP ensures that target drones can more effectively and realistically simulate advanced aerial threats. These improvements allow the drones to better serve in weapon system testing and evaluation programs, providing a platform that precisely meets the demands of modern combat scenarios.

**90 . Date: 14-05-2024ISR / ISTAR - MALE - General - US Air Force deploys $8 million secret ULTRA unmanned aircraft in United Arab EmiratesURL: https://armyrecognition.com/news/aerospace-news/2024/us-air-force-deploys-8-million-secret-ultra-unmanned-aircraft-in-united-arab-emirates**

On May 7, 2024, the US Air Force deployed an Unmanned Long-endurance Tactical Reconnaissance Aircraft (ULTRA) for an early morning mission at Al Dhafra Air Base, a hub for the 380th Air Expeditionary Wing and previously used for RQ-4 Global Hawk ISR drones, located in the United Arab Emirates. Each ULTRA aircraft is said to cost about $8 million, and the Air Force plans to acquire and operate at least four more by fiscal 2025. Follow Army Recognition on Google News at this link

Each ULTRA aircraft is said to cost about $8 million, and the Air Force plans to acquire and operate at least four more by fiscal 2025. (Picture source: US DoD)

This deployment is part of a $30 million project to demonstrate the capabilities of the ULTRA, highlighting its ability to provide continuous surveillance over extended periods. Developed by the Air Force Research Laboratory (AFRL) Center for Rapid Innovation (CRI) and Dzyne Technologies Incorporated, the ULTRA is an uncrewed aerial system (UAS) designed to deliver extended intelligence, surveillance, and reconnaissance (ISR) capabilities at a lower cost and with a smaller operational footprint compared to other systems in its class.

For the United States, traditional ISR platforms faced limitations in endurance and cost-efficiency, particularly in regions with limited basing options or where long-range operations were required. This need became more pronounced with the strategic pivot to the Asia-Pacific region, where vast distances and a lack of forward bases challenged conventional ISR operations. To address the need for persistent ISR capabilities in remote and hard-to-access areas, the AFRL used the foundations laid by earlier programs like the Long Endurance Aircraft Program (LEAP) to initiate the ULTRA project.

The LEAP program involved the conversion of manned sport gliders into unmanned systems for special operations missions. Insights and technologies from LEAP contributed to the rapid development and deployment of the ULTRA project. Collaboration with Dzyne Technologies Incorporated, a company known for its innovative approaches to aviation and UAS development, was crucial in bringing the ULTRA project from concept to reality in under a year.

Initial flight tests for the ULTRA project began in 2019, with the first operational demonstrations taking place at Wright-Patterson Air Force Base in Ohio. These tests validated the aircraft's capabilities, including a continuous flight demonstration lasting two and a half days. Since then, this drone, built upon a proven avionics system with over 50,000 operational hours, has undergone further refinements and has already been operationally deployed in regions such as the Middle East, where it supports US Central Command (CENTCOM) ISR operations from bases like Al Dhafra Air Base in the UAE.

As with the LEAP program, the ULTRA UAV is based on a repurposed manned commercial sport glider, combining the aerodynamic efficiency of a glider with the advanced capabilities of modern ISR platforms. Derived from the Stemme S12 motor glider and modified with a turbocharger for high-altitude flight, the ULTRA aircraft has a sailplane-like design, characterized by long wings with winglets, a T-tail, and a retractable undercarriage. This configuration contributes to its high aerodynamic efficiency and extended flight endurance. An EO/IR sensor turret is mounted below the fuselage, just ahead of the wing, providing 360-degree surveillance capabilities. Additional sensor packages can be integrated depending on mission requirements.

By exploiting commercial aircraft production lines and utilizing commercial-off-the-shelf (COTS) technology, the ULTRA achieves significantly lower production and maintenance costs. This approach allows the United States to procure and operate multiple units globally, enhancing both ISR coverage and large-scale deployment without incurring prohibitive expenses. The command and control system of the ULTRA, designed to be user-friendly, features "point and click" operations to reduce the training requirements for operators and simplify mission planning and execution. Equipped with satellite-based command and control links, the ULTRA drone can operate globally, providing real-time high-rate ISR data feeds to operators anywhere in the world.

Additionally, the Unmanned Long-endurance Tactical Reconnaissance Aircraft (ULTRA) is capable of flying for over 80 hours continuously, significantly surpassing the endurance of many existing UAS platforms, only surpassed by the Emirati Yabhon United 40 and the British Hybrid Air Vehicles HAV-3. This extended flight time allows for prolonged ISR missions in critical areas without the need for frequent returns to base. The aircraft can carry over 400 pounds of payload, supporting a variety of sensors and surveillance equipment, including electro-optical/infrared (EO/IR) sensors, electronic surveillance systems, and synthetic aperture radar (SAR).

**91 . Date: 22-10-2024ISR / ISTAR - Micro - Contract - US Army awards Teledyne FLIR Defense contract for Black Hornet 4 Nano-UASURL: https://armyrecognition.com/news/aerospace-news/2024/us-army-awards-teledyne-flir-defense-contract-for-black-hornet-4-nano-uas**

On 22 October 2024, Teledyne FLIR Defense, a division of Teledyne Technologies Incorporated, was awarded a contract worth up to $91 million to supply the US Army with its Black Hornet 4 nano-unmanned aerial systems (UAS). This new contract, which spans five years, is part of the Soldier Borne Sensor (SBS) program's Phase II. With $25 million allocated for the initial order, this includes the delivery of the first batch of Black Hornet 4 drones, along with controllers, spare parts, and training for the US Army. Deliveries began in September 2024.

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The drone’s speed has also increased to 36 km/h, making it more adaptable to challenging environments, particularly those with stronger winds (Picture source: Teledyne FLIR Defense)

The Black Hornet 4 system, unveiled a year ago, represents an advancement over its predecessor, the Black Hornet 3, with improvements such as a more advanced thermal sensor, electro-optical (EO) camera, and enhanced navigation systems. It is designed for ease of use, being lightweight and portable, allowing soldiers to quickly deploy the drone for real-time situational awareness. Key improvements in the Black Hornet 4 include increased endurance, allowing the system to operate for 35 minutes, and a higher altitude capability, now reaching up to 20,000 feet. The drone’s speed has also increased to 36 km/h, making it more adaptable to challenging environments, particularly those with stronger winds.

Teledyne FLIR has been supplying nano-UAS systems to the US Army since 2018, when the Black Hornet 3 was first introduced under the SBS program. Over the years, the army has invested more than $215 million in these systems, which are now used for surveillance and reconnaissance operations in over 40 countries. The compact and lightweight Black Hornet allows soldiers to gain crucial information about their surroundings while minimizing risk by keeping them in protected positions.

According to Dr. JihFen Lei, president of Teledyne FLIR Defense, the Black Hornet 4 is considered the most advanced nano-UAS available today, capable of supporting high-risk missions with greater efficiency and reliability. The system has been widely recognized for its ability to enhance battlefield situational awareness, and its continued use by the US Army underscores its importance in modern military operations.

As Teledyne FLIR continues to expand its role in supporting the US Army, the total investment in Black Hornet systems is expected to exceed $250 million by 2030, reflecting the growing demand for these technologies in global military operations.

**92 . Date: 12-09-2024ISR / ISTAR - Small - General - US Army's FTUAS Program Tests Drone System Interoperability with Textron Aerosonde 4.8 HQ and Griffon Aerospace Valiant UAVsURL: https://armyrecognition.com/news/aerospace-news/2024/us-armys-ftuas-program-tests-drone-system-interoperability-with-textron-aerosonde-4-8-hq-and-griffon-aerospace-valiant-uavs**

On September 10, 2024, the U.S. Army achieved two significant milestones in the development of its Future Tactical Unmanned Aircraft System (FTUAS) program, with the completion of the Modular Open Systems Approach (MOSA) compliance evaluations and flight demonstrations of competing prototypes. Follow Army Recognition on Google News at this link

Griffon Aerospace Valiant Drone (Picture source: Griffon Aerospace)

The MOSA compliance evaluations were conducted in May and involved companies Griffon Aerospace in Madison, Alabama, and Textron Systems in Huntsville, Alabama. These evaluations were collaborative and involved replacing the mission computers of the vendor prototypes with a third-party surrogate mission computer using a mix of third-party and vendor software. This hardware and software swap allowed an independent evaluator to measure the openness and modularity of the prototype systems to determine the extent to which they meet MOSA objectives. This MOSA compliance verification demonstrated early implementation and alignment with required MOSA functional boundaries and will serve as a model for future evaluations.

The Modular Open Systems Approach (MOSA) is a key initiative of the U.S. Army to enhance the interoperability and flexibility of its systems, particularly in unmanned aircraft system programs like the FTUAS. This strategic framework allows for seamless integration between various technological components, facilitating cooperation between different equipment and platforms. Thanks to MOSA's modular design, systems can easily integrate new technologies or update specific components, which promotes scalability without necessitating a complete overhaul.

MOSA also helps reduce development costs and time by decreasing dependence on single suppliers and fostering healthy competition among them, which stimulates innovation and cost reduction. Aligning with open industrial standards also leverages technological advances from the civilian sector, thus enhancing the relevance and efficiency of military systems. Additionally, MOSA's modularity simplifies system maintenance, allowing for updates or replacements of individual components, which ensures increased operational availability and extends the equipment's lifespan.

After the MOSA verifications, the FTUAS team conducted flight demonstrations with the prototypes from both suppliers at the Redstone Test Center (RTC), a subordinate command of the U.S. Army Test and Evaluation Command. Griffon Aerospace and Textron Systems performed multiple flights at RTC, demonstrating key system features such as Vertical Takeoff and Landing (VTOL), reduced acoustic signature, On-The-Move (OTM) command and control, rapid deployment, system integration, and flight performance. Each supplier will continue prototype development, incorporate feedback and lessons learned, and deliver production representative prototypes for future government-led testing at RTC, which will ultimately inform the Army's selection for a Tactical Unmanned Aircraft System program.

The FTUAS will provide Brigade Combat Teams (BCT) with an organic capability to conduct reconnaissance and surveillance operations that collect, develop, and report actionable intelligence, allowing the BCT commander to maintain dominance during Multi-Domain Operations.

FTUAS's transformational capabilities include VTOL for runway independence, OTM command and control, and soldier-led, field-level maintenance. The Modular Open Systems Approach of the FTUAS allows the system to keep pace with technology through rapid capability insertions.

The Program Executive Office (PEO) for Aviation at Redstone Arsenal, Alabama, is responsible for modernizing the Army Aviation fleet of manned and unmanned aircraft to maintain the Army's asymmetric advantage over peer adversaries in large-scale combat operations. The Unmanned Aircraft Systems Project Office of PEO Aviation is dedicated to rapidly fielding transformational UAS capabilities at all echelons of Army formations.

Griffon Aerospace Valiant

The Griffon Aerospace Valiant, a Category 3 Vertical Takeoff and Landing (VTOL) platform, represents a significant evolution in tactical unmanned aerial systems (UAS) designed for the U.S. Army's Future Tactical Uncrewed Aircraft System (FTUAS) program. This drone is designed to offer unmatched endurance and payload capacity, meeting the demanding requirements of multi-domain operations and contested logistics scenarios. The Valiant integrates a Modular Open System Approach (MOSA), which enables the integration of interchangeable payloads and facilitates rapid capability insertions, enhancing flexibility and interoperability across various military technologies.

Key features of the Valiant include its capabilities for command and control on the move, which provide robust communication links and operational control even while mobile. This feature is particularly vital for operations in environments where traditional communication infrastructures are compromised or absent. The drone's heavy fuel engine minimizes the logistical footprint, allowing for extended operations without the need for frequent refueling or extensive ground support equipment. These capabilities ensure that the Valiant is not only a platform for today but is also future-proofed against evolving battlefield requirements and technological advancements.

Textron Aerosonde 4.8 HQ

The Aerosonde Mk. 4.8 Hybrid Quad (HQ) is an Unmanned Aircraft System (UAS) developed by Textron Systems, optimized to meet the specific needs of the U.S. Army's Future Vertical Lift program. This drone features Hybrid Quadrotor technology, enabling vertical takeoff and landing (VTOL), making it independent of traditional runways. Designed specifically to operate in challenging environments and austere areas, the Aerosonde HQ offers increased flexibility for military missions, thanks to its capability to be rapidly deployed and operated by just two soldiers, thus facilitating its transport by UH-60 helicopters or tactical vehicles.

The system is characterized by a flight endurance of 14 hours and can reach a ceiling of over 15,000 feet above mean sea level, with a payload capacity of 30 pounds. The use of a heavy fuel engine (JP-8) simplifies logistics on the ground and reduces the need for additional support equipment. The Aerosonde Mk. 4.8 HQ is also designed around a Modular Open System Approach (MOSA), which allows for easy integration of new technologies and innovations, while optimizing costs and avoiding unnecessary expenses. This combination of features makes the Aerosonde HQ a robust and adaptable solution for the reconnaissance and surveillance missions required by modern military operations.

Textron Aerosonde 4.8 HQ Drone (Picture source: Textron)

**93 . Date: 15-05-2024Solar ISR / ISTAR - Small - General - US Army Tests Long-Endurance Spy Drones & Balloons from Philippines to fly over South China SeaURL: https://armyrecognition.com/news/aerospace-news/2024/us-army-tests-long-endurance-drones-and-balloons-in-the-philippines**

During the Balikatan military exercise in the Philippines, the U.S. Army's 1st Multi-Domain Task Force (MDTF) utilized the Kraus Hamdani Aerospace K1000 drone in Basco, as reported by the U.S. Department of Defense on May 6, 2024. This platform was deployed to fly over the South China Sea to gather data for the Extended Range Sensing and Effects Company. Follow Army Recognition on Google News at this link

The K1000 solar-powered drone (Picture source: Kraus Hamdani Aerospace)

The 1st MDTF used the exercise to evaluate its organization and identify the best assets to support joint and coalition forces in scenarios where regional access may be contested. The bilateral exercise with the Philippine armed forces took place from April 11 to May 9.

Stationed in Basco on a volcanic island in the Batanes archipelago north of Luzon, the largest island in the Philippines, the ERSE Company's base was set up in a small air-conditioned tent adjacent to the local commercial airport. Major Seth Holt, the commander of ERSE, stated from his operational center that his goal was to adapt his team to a flexible and easily adjustable multi-domain operational force.

The company includes three platoons specializing in electronic warfare, unmanned aircraft, and high-altitude capabilities like balloons, striving to maintain sensing capabilities from the ground up to about 100,000 feet within the electromagnetic spectrum, a crucial domain for communication management and weapons guidance in modern conflicts.

Troops used the K1000 drone to monitor areas of interest and collect significant data, which was then shared with Philippine forces, enhancing interoperability between the two nations. Although the K1000 is not an official program, it has been used in various trials and can fly for 76 hours on its solar panels, while remaining difficult to detect, often mistaken for a bird by radars.

Kraus Hamdani Aerospace, a California-based company, produces the K1000, a solar-powered vertical takeoff and landing drone designed to operate as a "pseudo-satellite" capable of data exchange across networked platforms. This advanced system, with a range of 1,000 miles and a maximum altitude of 20,000 feet, is equipped with lithium-ion photovoltaic propulsion and a folding propeller. It also features a user-friendly, "gamified" control interface that allows a single operator to manage a swarm of these drones.

In addition to drones, the ERSE Company also experimented with high-altitude balloons, using Urban Sky’s Stratospheric Microballoon, a non-polluting and hard-to-detect system that could potentially carry payloads to extend network capabilities.

The 1st MDTF initiative, established in 2018, is part of a series of multidomain task forces aimed at shaping the Army's Multi-Domain Operations doctrine, formalized in 2022. These forces cover various operational theaters from the Indo-Pacific to Europe, designed to work in concert to optimize sensing and targeting capabilities.

**94 . Date: 11-10-2024Solar ISR / ISTAR - HALE - General - PlatformUS Army Unveils Autonomous Drone Capable of Months-Long Surveillance MissionsURL: https://armyrecognition.com/news/aerospace-news/2024/us-army-unveils-autonomous-drone-capable-of-months-long-surveillance-missions**

The U.S. military has recently marked an advance in aerial surveillance with the unveiling of Horus A on October 1, 2024. This high-altitude, autonomous stratospheric drone, developed by AeroVironment (AV) and inspired by the Sunglider model, is engineered to meet both military and commercial needs. This solar-powered drone introduces a new level of technological innovation within the high-altitude platform station (HAPS) domain for government applications. Its capability for continuous, months-long flights, combined with a substantial payload capacity, makes it a strategic asset for extended surveillance and communication relay missions.

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The Horus A high-altitude drone could be used to drop swarms of drones and munitions (Picture source: AeroVironment)

Horus A stands out with its unparalleled performance in the stratosphere, where it can carry up to 68 kilograms (150 pounds) of equipment and provide 1.5 kW of output power. Enhanced in design, avionics, and autonomous functionality, this drone can accommodate multiple payloads and adapt to varied mission conditions, ensuring operational security through system redundancy. These innovations have earned it a special airworthiness certification from the FAA and approval from the U.S. Army, allowing it to conduct flight tests within national airspace. The October 1 test flight confirmed Horus A’s advanced capabilities, notably its ability to function effectively in adverse weather conditions, collect and transmit real-time data, and demonstrate interoperability with other systems.

Supported by the Office of the Under Secretary of Defense for Research and Engineering and rapid prototyping programs, this test flight enabled the evaluation of high-precision equipment, including a Synthetic Aperture Radar (SAR) and a tactical-grade Mesh network radio. These systems enable Horus A to gather and relay strategic information to ground units, making it indispensable for intelligence, surveillance, and reconnaissance (ISR) missions, as well as for sustained communication operations. Additionally, Horus A integrates a Beyond Line of Sight (BLOS) satellite communication system and a robust avionics suite, positioning it as a critical asset to address key U.S. defense gaps, such as resilient communications, network extension, space domain awareness, and long-endurance intelligence-gathering.

One of Horus A’s most promising applications lies in its potential to coordinate swarms of tactical drones, such as AeroVironment’s Switchblade 600. By guiding smaller armed drones, Horus A could enhance operational flexibility and precision in military missions. AeroVironment’s collaboration with SoftBank aims to further develop these platforms to support 5G connectivity, integrating advancements from the Sunglider platform into both civil and military applications. This partnership also seeks to maximize payload capacity to support continuous communication and surveillance operations, offering a flexible and cost-effective alternative to satellite coverage.

In a global competition for dominance in high-altitude drone technology, Horus A stands out for its resilience in extreme conditions and system redundancy, providing a prolonged surveillance solution in the stratosphere. Other companies, such as Airbus with the Zephyr and BAE Systems with the Phasa-35, have explored similar solutions. However, Horus A appears to have advanced further in terms of flight duration and payload capacity, making it especially suited for extended missions requiring enhanced coverage and operational resilience.

Certain challenges remain for the full deployment of Horus A, including integration into civilian airspace, management of energy autonomy over long periods, defense against cyber threats and jamming, and optimization of payloads to maximize operational efficiency. Nonetheless, Horus A’s strategic potential is evident, as it offers unprecedented surveillance and communication capabilities in critical areas for U.S. defense strategy.

The rapid evolution of stratospheric drone technology suggests further innovation in the coming years. Horus A marks a crucial milestone in this technological race, positioning the United States at the forefront of this essential sector for national security and commercial applications, with unparalleled connectivity and reliability for high-altitude missions.

**95 . Date: 18-05-2024ISR / ISTAR - Small - Contract - US Department of Defense teams up with Spanish Alpha Unmanned Systems for border controlURL: https://armyrecognition.com/news/aerospace-news/2024/us-department-of-defense-teams-up-with-spanish-alpha-unmanned-systems-for-border-control**

On May 16, 2024, the Spanish company Alpha Unmanned Systems announced that, as part of an operational assessment for the U.S. Department of Defense (DoD), they are working with Rapid Expeditionary Concepts (RapidXC) in southern Spain. This collaboration involves testing the integration of an electro-optical sensor into Alpha Unmanned Systems' A900 helicopter UAV for border control and persistent surveillance applications. Follow Army Recognition on Google News at this link

Alpha Unmanned Systems is collaborating with Rapid Expeditionary Concepts to test an electro-optical sensor for the U.S. Department of Defense, focusing on border control and surveillance with their A900 UAV. (Picture source: Alpha Unmanned Systems)

The team from Alpha Unmanned Systems recently traveled to the province of Jaén to participate in these evaluation exercises conducted by Rapid Expeditionary Concepts for the DoD. The tests aimed to validate the integration of various payloads and sensors on both manned and unmanned platforms for land, sea, and air use, with a particular focus on the advanced electro-optical (EO) sensor designed for border control and persistent surveillance operations with UAS.

The A900 helicopter UAV offers several advantages, as it weighs only 25 kilograms and can perform operations of up to four hours with payloads of up to 4 kilograms. Powered by a combustion engine, the A900 can take off and land automatically with high precision on mobile platforms. This makes it suitable for persistent surveillance missions, which utilize the tiling method. The A900 flies at an altitude of 1,000 meters (3,280 feet) and monitors an area of one square kilometer. The UAV's cameras divide this area into nine tiles, capturing new images every five seconds and comparing them with previous images. Any detected changes are identified and classified according to the type of object, recording everything from small UAVs to larger objects. This capability is intended to enhance early threat detection and rapid response in high-risk areas, such as borders.

Eric Freeman, co-founder and executive director of Alpha Unmanned Systems, noted that working with the U.S. DoD on this project leverages the flexibility and efficiency of the Alpha 900 UAV. This collaboration allows the company to provide relevant sensor arrays to meet the changing demands of contemporary conflicts in various areas of operation. He emphasized that border control and persistent surveillance operations with the A900 are designed to improve the capacity for early detection of threats and rapid response to critical situations in areas of strategic interest.

Alpha Unmanned Systems has attracted the attention of various naval forces worldwide, including the Greek Navy, the Indonesian Coast Guard, the U.S. Department of Defense, and the Spanish Ministry of Defense. (Picture source: Alpha Unmanned Systems)

The unmanned aerial systems developed by Alpha Unmanned Systems have been acquired by customers in nine countries and are used on four different continents for diverse purposes, including maritime security, power line inspection, mapping, and precision agriculture. Alpha Unmanned Systems has attracted the attention of various naval forces worldwide, including the Greek Navy, the Indonesian Coast Guard, the U.S. Department of Defense, and the Spanish Ministry of Defense. In Spain, the platforms are also employed by the Military Emergency Unit (UME) and the National Institute of Aerospace Technology (INTA).

As reported by Army Recognition on March 27, 2024, Alpha Unmanned Systems has partnered with Indonesian companies PT. Global Defense and PT. MS.Tech to assemble the A900 UAV in Indonesia. The Indonesian Coast Guard will mainly use this UAV to monitor maritime sectors and identify anomalies within Indonesian territorial waters, as the A900 offers a cost-effective alternative to traditional shipborne helicopters. Designed for operations in challenging maritime conditions, this helicopter UAV can perform automatic landings on moving vessels under sea states 4 or 5 of the Beaufort Scale and handle landings with up to 10º of pitch and roll. The UAV is also equipped with autorotation and flotation devices for emergency situations.

The A900 features protection against electromagnetic interference, an onboard generator supplying up to 150W for payloads, a laser altimeter, and navigation lights. It includes technology for operating in GPS-denied environments, while its control station ensures encrypted communications. The UAV offers autonomous Vertical Take-Off and Landing (VTOL) from moving vessels, more than two and a half hours of autonomous hovering, and is powered by heavy fuel for extended usage. It maintains a minimal logistical footprint and is equipped with four payload bays, each supporting a 4kg capacity. For safety and operational reliability, the A900 includes autorotation, a maximum takeoff weight (MTOW) of less than 25 kg, a cruising speed between 60 and 100 km/h, emergency flotation devices, a Boxer low vibration engine, and redundant systems for critical operations.

These characteristics make the A900 adaptable for a variety of missions, including Intelligence, Surveillance, Reconnaissance (ISR), border control, maritime security, search and rescue operations, infrastructure inspection, communications relays, and forward observation.

**96 . Date: 21-12-2024Fixed Wing - Loitering Munition - Mini - General - PlatformVietnam Introduces Electric-Powered VU-C2 Loitering Munition at Defence Expo 2024URL: https://armyrecognition.com/news/aerospace-news/2024/vietnam-introduces-electric-powered-vu-c2-loitering-munition-at-defence-expo-2024**

At the Vietnam Defence Expo 2024, the Vietnamese Armed Forces have introduced their latest innovation in modern warfare: the Tactical Loitering Munition VU-C2. It is designed to neutralize ground targets such as infantry and light utility vehicles with precision and stealth, showcasing Vietnam’s growing capabilities in advanced military technology.

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The Tactical Loitering Munition VU-C2 at Vietnam Defence Expo 2024. (Picture source: Army Recognition)

The VU-C2 boasts a host of features tailored for battlefield efficiency. Equipped with an electric engine, the loitering munition achieves low visual and acoustic signatures, making it ideal for covert operations. Special forces units can deploy the VU-C2 within minutes, using either a canister or a pneumatic launcher, enabling rapid responses to emerging threats.

With a wingspan of 1.5 meters and a length of 1.1 meters, the VU-C2 is lightweight, with a maximum take-off weight (MTOW) of just 8 kilograms. Despite its compact design, it delivers formidable performance, reaching speeds of up to 120 km/h and operating for up to 40 minutes. The UAV is equipped with an optoelectronic seeker, ensuring pinpoint accuracy in identifying and engaging high-value targets. Its AI-based detection algorithm further enhances its precision.

Loitering munitions, often referred to as "kamikaze drones," are increasingly valuable tools in modern warfare due to their dual-purpose capabilities. They combine real-time surveillance with precision-strike functionality, enabling forces to neutralize critical targets with minimal collateral damage and without risking personnel. Their operational flexibility, affordability, and effectiveness make them particularly attractive for nations seeking to enhance their military capabilities.

For the Vietnamese Army, loitering munitions could play a pivotal role in addressing potential security challenges. They would provide enhanced situational awareness, allowing military planners to monitor adversaries and identify emerging threats. With the ability to loiter over a target area, these drones could conduct thorough reconnaissance before engaging, ensuring precise and timely strikes.

Vietnam's strategic focus on defending its territorial integrity, particularly in contested regions, would benefit from the integration of loitering munitions. These systems can operate effectively in diverse environments, from dense jungles to coastal regions, making them versatile assets for both land and maritime operations.

The use of loitering munitions would also reinforce Vietnam’s asymmetric warfare capabilities, enabling it to counteract more technologically advanced adversaries.

**97 . Date: 06-11-2024Armed ISR / ISTAR - HALE - General - What makes China’s new Tianying stealth UAV a threat in contested airspace?URL: https://armyrecognition.com/news/aerospace-news/2024/what-makes-chinas-new-tianying-stealth-uav-a-threat-in-contested-airspace**

At the 2024 Zhuhai Air Show, China Aerospace Science and Industry Corporation (CASIC) will showcase an updated version of its Tianying stealth UAV, also known as Skyhawk. Designed for reconnaissance and penetration missions in contested environments, the Tianying incorporates stealth technologies to evade detection in high-threat areas. Follow Army Recognition on Google News at this link

Developed by CASIC’s No. 3 Research Institute, the Tianying/Skyhawk stealth UAV was first introduced to the public in 2018 following successful test flights. (Picture source: Weibo)

This UAV, with a maximum takeoff weight of 3,000 kg, is tailored for short-range intelligence gathering and tactical reconnaissance missions in environments requiring low observability. The public display of the Skyhawk suggests it is already in or nearing operational service with the Chinese armed forces, as such showcases often imply deployment readiness.

The Tianying/Skyhawk offers high endurance, capable of up to 14 hours of autonomous flight. Cruising at approximately 600 km/h, it can cover significant distances and sustain long-duration surveillance without operator intervention. These characteristics make this new Chinese stealth UAV adaptable for missions demanding low-profile, persistent target monitoring. Its design emphasizes reliability and safety, enabling it to operate independently in complex situations while maintaining a steady mission presence.

Recent updates to the Tianying’s stealth capabilities and range were highlighted by CCTV, China’s state broadcaster, which aired footage of the UAV in flight with its tricycle landing gear extended. CASIC has not disclosed full details of these improvements, but footage reveals visual modifications, including revised wing aileron surfaces and a new conformal antenna. The upgrades reportedly enhance range and refine stealth characteristics, making the Skyhawk suitable for operations in high-threat environments.

Developed by CASIC’s No. 3 Research Institute, this stealth UAV was first introduced to the public in 2018 following successful test flights. CASIC describes Tianying as capable of strategic and tactical reconnaissance, especially in contested airspace. Its low-observable flying-wing design resembles Lockheed Martin’s RQ-170 Sentinel and Sukhoï's S-70 Okhotnik-B, with a wingspan of approximately 11 meters, suggesting potential carrier operation compatibility. According to CASIC, the UAV can autonomously perform wheeled takeoffs and landings, providing operational flexibility.

The Tianying's low-observable flying-wing design resembles Lockheed Martin’s RQ-170 Sentinel and Sukhoï's S-70 Okhotnik-B, with a wingspan of approximately 11 meters, suggesting potential carrier operation compatibility. (Picture source: Weibo)

Chief designer Ma Hongzhong stated that around 80 percent of the Tianying’s technology represents new advancements, developed through extensive ground testing. CASIC positions the Skyhawk as a high-altitude, stealth-oriented reconnaissance asset for close-in reconnaissance of critical targets in contested areas. CASIC indicates it could operate in coordination with other UAV platforms like the WJ-700, a high-altitude, long-endurance UAV introduced in 2021 and marketed for export.

Reports by Chinese state media underscore the Tianying’s multirole capabilities, which may extend the operational reach of the People’s Liberation Army Air Force (PLAAF). Janes suggests that the Skyhawk could serve as a force multiplier in multi-platform operations, supporting tasks like stealth penetration, precision targeting, and integrated attack operations. Altogether, these attributes position Tianying as a flexible component in intelligence, surveillance, and reconnaissance (ISR) missions, suitable for both tactical and strategic objectives in high-threat environments.

Therefore, China's Tianying (Skyhawk) stealth UAV could be considered as a capable asset in contested airspace due to its stealth-oriented design, increased endurance, and autonomous operational capabilities. Its flying wing configuration and recent upgrades reportedly improve its low-observability and range, supporting extended missions in high-threat environments with reduced detection risk. Additionally, Tianying's ability to perform autonomous takeoffs, flights, and landings without direct operator control provides operational flexibility. Its interoperability with manned aircraft and other UAVs further extends its potential for reconnaissance and surveillance, positioning it as a versatile tool in modern military operations.

**98 . Date: 17-05-2024Armed ISR / ISTAR - MALE - Safety - Yemen's Houthis have now destroyed more than $150 Million of American drones after burning a fifth MQ-9 ReaperURL: https://armyrecognition.com/news/aerospace-news/2024/yemens-houthis-have-now-destroyed-more-than-150-million-of-american-drones-after-burning-a-fifth-mq-9-reaper**

On May 17, 2024, the anti-aircraft missile crew of the Ansar Allah movement, commonly known as the Houthis, successfully shot down a fifth American MQ-9 Reaper UAV in Yemeni airspace. The Houthis have now managed to shoot down another valuable American MQ-9 Reaper drone, bringing the total number of American UAVs downed to six, including five MQ-9 Reapers, for a total value of approximately $153.2 million. Follow Army Recognition on Google News at this link

Following the downing of the 5th MQ-9 Reaper, residents in Wadi Marib burned the wreckage before loyalist army units could arrive (Picture source: Russian social media)

According to available information, this marks the fifth instance where Houthi forces have brought down an American attack and reconnaissance UAV. While American sources claim that the drone fell due to technical problems, there are speculations about the potential use of electronic warfare in this incident, similar to previous occurrences. Some sources suggest that the Iranian Saqr 358 loitering surface-to-air missile may have been used to shoot down this fifth MQ-9 drone.

The Saqr 358 missile, developed by Iran, is a loitering surface-to-air missile that combines features of both a suicide drone and a conventional surface-to-air missile. It is used by groups such as the Houthis, Hezbollah, and Islamic Resistance in Iraq. First revealed in Yemen in 2019, it is designed to operate at altitudes over 10 km with a maximum range of 100 km. The missile includes a solid rocket booster for launch and a turbojet for sustained flight, allowing it to travel at subsonic speeds and loiter to identify and engage targets. It employs an imaging infrared seeker, an inertial navigation system, satellite navigation, and a vertical gyroscope, enabling it to target various aerial threats, including helicopters and drones.

The missile's design features a cylindrical body with three sets of fins for maneuverability and stability and can be launched from simple ground or vehicle-mounted stands. It incorporates commercially available components, such as the Titan AMT gas turbine and Xsense Technologies' inertial sensor module. The launch process involves the missile's booster stage propelling it to sufficient speed, after which the booster detaches, and the gas turbine engine takes over. Infrared sensors and an optical proximity fuse allow the missile to destroy targets with shrapnel even without direct impact.

The Saqr 358 missile, developed by Iran, is a loitering surface-to-air missile that combines features of both a suicide drone and a conventional surface-to-air missile. (US Department of Justice)

Brigadier General Yahya Sari, the official representative of the Yemeni Armed Forces, confirmed that the Houthi air defense forces shot down the MQ-9 Reaper in the northeastern Yemeni province of Marib. This statement could indeed confirm the use of such a surface-to-air missile. According to this statement, the MQ-9 drone was reportedly performing hostile actions in the airspace of Marib province when it was intercepted by a 'locally produced' surface-to-air missile. Following its downing, residents in Wadi Marib burned the wreckage before loyalist army units could arrive. The official statement from Brigadier General Yahya Sari noted that the incident took place with the help of the Supreme Air Defense of Yemen, and scenes of the downing would be published later.

The loss of the MQ-9 Reaper adds to a growing list of American UAVs shot down by Houthi forces. Prior to this event, at least five U.S. drones had been downed by the Houthis. These incidents include an MQ-9 Reaper downed on June 7, 2019, by a surface-to-air missile; another MQ-9 Reaper intercepted on November 1, 2017, in western Yemen; an MQ-9 Reaper reported shot down in August 2023; another MQ-9 Reaper shot down on April 25, 2024, over Saada province; and a ScanEagle drone downed in 2023. The cumulative value of these downed drones, including the latest MQ-9 Reaper, is now approximately $153.2 million. Each MQ-9 Reaper is valued at $30 million, while the ScanEagle drone is worth $3.2 million.

Introduced on May 1, 2007, the MQ-9 Reaper is a multi-role, remotely piloted aircraft system used by the US Air Force for intelligence, surveillance, reconnaissance (ISR), and precision strike missions. It features a suite of sensors, including infrared, daylight TV, and laser designators, and can carry a payload of up to 1,700 kg, including Hellfire missiles and laser-guided bombs. The Reaper can operate at altitudes up to 50,000 feet and has a range of over 1,900 kilometers. It is controlled remotely and offers a cruise speed of 313 km/h, thanks to a Honeywell TPE331-10 turboprop engine generating 900 hp.

Introduced in 2005, the smaller ScanEagle is a long-endurance unmanned aerial vehicle designed by Insitu, a Boeing subsidiary, for Intelligence, Surveillance, and Reconnaissance (ISR) operations. It can fly for over 24 hours at altitudes up to 15,000 feet. The ScanEagle is launched using a catapult and recovered with a SkyHook system, which eliminates the need for runways. It is equipped with electro-optical and infrared cameras to provide real-time video and imagery. Its small size, coupled with a weight of only 18 kg, allows for deployment in remote areas without extensive infrastructure, making it suitable for a variety of missions, including battlefield surveillance or maritime patrol, at a cruise speed of 111 km/h.

Introduced on May 1, 2007, the MQ-9 Reaper is a multi-role, remotely piloted aircraft system used by the US Air Force for intelligence, surveillance, reconnaissance (ISR), and precision strike missions. (US Air Force)

**99 . Date: 03-04-2025M-Rotary - Armed ISR / ISTAR - Mini - General - PlatformAerix Systems Debuts AXS µ1 Drone that Can Engage Targets From Any Angle Without RepositioningURL: https://armyrecognition.com/news/aerospace-news/2025/aerix-systems-debuts-axs-u1-drone-that-can-engage-targets-from-any-angle-without-repositioning**

At the 2025 edition of the SOFINS exhibition dedicated to special forces, Aerix Systems presents a drone system based on omnidirectional propulsion technology, designed to operate in both complex civilian environments and demanding military contexts. This system, named AXS-µ1, builds on technologies developed for the Aerix T-6 platform. It combines high maneuverability with the ability to fly inverted and rotate freely, allowing for stable flight performance even in strong wind conditions.

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Aerix Systems offers an integration-agnostic platform with 32 mechanical attachment points distributed across the drone (Picture source: Army Recognition)

The AXS-µ1 drone reaches a maximum speed of 200 km/h and has a range of up to 20 kilometers. It offers centimetric precision and sub-degree control across all three axes of motion, including full 360° roll, pitch, and yaw. Wind resistance is rated up to 100 km/h. With a compact footprint (40 cm x 40 cm), it carries a maximum payload of 1.5 kg and operates on battery power for up to 15 minutes. Its design allows for agnostic mission integration without prior configuration, enabling it to adapt to various operational needs.

Aerix Systems offers an integration-agnostic platform with 32 mechanical attachment points distributed across the drone. The electronic interfaces support a wide range of standard communication protocols (USB, UART, I2C, SPI, MIPI/CSI, Ethernet), simplifying integration into existing communication architectures. On the software side, the system provides access to navigation, control, and status parameters, along with the ability to integrate artificial intelligence, computer vision, and onboard mission software. It can be piloted autonomously or via FPV mode, with semi-automated assistance and an AI-based obstacle avoidance system. Its plug-and-play configuration is designed to minimize operator training requirements.

Multiple operational profiles are foreseen for this aerial platform, including use as a short-range loitering munition or a micro-cruise missile capable of performing terminal strike strategies on fixed or mobile targets, including vehicles. It may also be employed for defense against missiles and aircraft, in ISTAR missions (intelligence, surveillance, target acquisition, reconnaissance), or as an armed drone. Its application in counter-UAS scenarios is also considered, with the ability to autonomously intercept hostile drones at any vulnerable point. The system also distinguishes itself through its ability to fly close to the ground with low detectability and navigate autonomously in confined environments.

All development and production of the AXS-µ1 drone, including both the airframe and integrated system, is carried out entirely in Bordeaux. This localized control of the industrial value chain provides Aerix Systems with strategic independence in a context marked by international supply constraints and growing demand for technological sovereignty.

Aerix Systems positions itself as a French specialist in omnidirectional propulsion. Although the brochure displays a British flag, the clear identification of France as the technology's country of origin suggests a company operating across both markets. With a high-performance onboard computer dedicated to real-time inference tasks, the AXS-µ1 offers a modular solution deployable in various environments, including land, naval, and aerial operations.

The proliferation of this type of vector, marked by its agility, compact size, and adaptability to diverse roles, reflects the rapid evolution of modern warfare. Lightweight and intelligent autonomous platforms like those developed by Aerix Systems contribute to reshaping engagement models, particularly in special operations and urban areas, where responsiveness and discretion are essential.

**100 . Date: 26-03-2025Fixed Wing - Armed ISR / ISTAR - Tactical - General - PlatformAirbus Defence Launches LOAD a Low-Cost Drone Capable of Autonomously Countering Kamikaze DronesURL: https://armyrecognition.com/news/aerospace-news/2025/airbus-defence-launches-load-a-low-cost-drone-capable-of-autonomously-countering-kamikaze-drones**

At the "Unmanned Systems X" trade show held in Bonn, Germany, on March 25 and 26, Airbus introduced its new unmanned air defense system, LOAD (Low-cost Air Defence). Designed to counter the growing threat of kamikaze drones, this system is based on modified Airbus Do-DT25 drones capable of carrying up to three guided missiles each. These drones are catapult-launched, have an operational range exceeding 100 kilometers, and are supervised from a ground control station. Integrated into a surveillance network using radar data or aerial situational imagery, they can autonomously search for, identify, and neutralize targets once engagement is authorized.

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Based on the proven Do-DT25 platform, it carries up to three guided missiles, making it particularly suited for countering mass drone attacks (Picture source: Airbus)

After completing their mission, LOAD drones return to base and land by parachute, allowing for reuse in future operations. Designed for autonomous swarm operations, each unit coordinates with others via the ground control station to maximize effectiveness. Based on the proven Do-DT25 platform, it carries up to three guided missiles, making it particularly suited for countering mass drone attacks. This approach provides a low-cost air defense solution that effectively complements existing systems such as IRIS-T, Patriot, and Germany’s NNbS.

Beyond its role in countering kamikaze drones, the LOAD system can also be deployed alongside reconnaissance platforms such as the Eurodrone. This capability allows it to operate in areas where ground-based radar coverage is incomplete, providing a flexible and adaptive response to emerging aerial threats. The first flight of the LOAD prototype, initially equipped with two guided missiles, is scheduled before the end of this year, with operational deployment planned for 2027. Designed without U.S. components and free from ITAR regulations, it facilitates exportability to international markets.

This system builds on Airbus’ prior work in unmanned systems, particularly under the Remote Carrier program. Tests conducted with Do-DT25 drones in this context validated their ability to operate within combat networks, be launched from aerial platforms such as the A400M, and coordinate missions with manned aircraft via advanced data links. While Remote Carriers were designed for offensive operations under the Future Combat Air System (FCAS) program, the LOAD system applies these technologies to air defense, enhancing its ability to counter evolving aerial threats.

Drones are becoming an increasingly integral part of European defense strategies, both in reconnaissance and combat roles. As asymmetric threats multiply, the need for adaptable and scalable responses grows. However, Europe faces challenges in developing autonomous and competitive drone solutions, particularly compared to the advancements made by the United States, China, and Israel. Industrial fragmentation and strategic differences among EU member states complicate the harmonization and funding of joint projects. Nonetheless, initiatives such as FCAS and Eurodrone demonstrate a commitment to bridging these gaps and securing strategic autonomy in the drone sector.

In this context, the LOAD system offers a relevant solution. It enhances air defense capabilities while providing a cost-effective and flexible response to the increasing threat of kamikaze drones. By integrating into existing surveillance and defense networks, it improves coordination between manned and unmanned platforms, optimizing military responsiveness and operational coverage. Additionally, its ITAR-free nature strengthens its appeal for European partners, reinforcing the continent’s technological sovereignty in this critical field.

With the development of LOAD, Airbus continues to advance adaptable air defense solutions. Addressing the rise of kamikaze drones and saturation attacks, this system provides armed forces with a strategic tool to bolster their defensive posture in an evolving operational landscape.

**101 . Date: 02-04-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - General - PlatformAirbus Drone Aliaca Adopts Vertical Takeoff to Expand its Tactical Capabilities at SOFINS.URL: https://armyrecognition.com/news/aerospace-news/2025/airbus-drone-aliaca-adopts-vertical-takeoff-to-expand-its-tactical-capabilities-at-sofins**

At the Special Operations Forces Innovation Network Seminar (SOFINS), held in Bordeaux from April 1 to 3, 2025, Survey Copter, a subsidiary of Airbus Defence and Space, presented a new version of its light tactical drone Aliaca, now equipped with vertical takeoff and landing (VTOL) capability. Designed to meet the growing needs of land and naval forces for operational flexibility, this new configuration complements the existing range and builds on the experience acquired through deployments with the French Navy. Several successful demonstration flights were conducted in both land and maritime environments between late 2024 and early 2025. The Aliaca VTOL is now commercially available to institutional and defense customers.

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The Aliaca, developed by Survey Copter, is a light tactical unmanned aerial system intended for both civilian and military applications (Picture source: Army Recognition)

Designed for special operations and missions in environments without infrastructure, this variant combines vertical lift via four rotors with fixed-wing propulsion during flight, providing extended endurance and stable performance. The drone has a maximum takeoff weight of 27 kg, a wingspan of 3.5 meters, and a length of 2.1 meters. This dual-configuration design enables operations without dependence on launch or recovery infrastructure, which is particularly relevant in rapid deployment or constrained scenarios.

The Aliaca, developed by Survey Copter, is a light tactical unmanned aerial system intended for both civilian and military applications. It is capable of operating in restricted environments due to its compact logistical footprint, rapid 15-minute deployment time, and automated net-based recovery system. The drone can be launched from land or vessels with or without helicopter decks. Already certified and operational within the French Navy under the SMDM (Navy Mini UAS Systems) program, Aliaca is available in two main versions: the electrically powered Aliaca Evo, with a 3-hour endurance and 50 km range; and the piston-engine Aliaca ER, offering 6 hours of endurance and an 80 km range.

Adaptable to various mission profiles, Aliaca can be employed for intelligence, surveillance, reconnaissance, and inspection operations across maritime, coastal, and land environments. Its ease of deployment, low acoustic and visual signature, and compatibility with light tactical vehicles such as pick-ups make it suitable for a wide range of operational scenarios. The system meets the requirements of armed forces, internal security agencies, and civilian users involved in territorial surveillance, search and rescue, crisis support, or infrastructure monitoring.

Building on the demonstrated reliability of the fixed-wing Aliaca, particularly within the SMDM program, the VTOL model broadens the scope of operational use. On land, it can support special forces in reconnaissance, tactical observation, or light payload transport missions without requiring dedicated launch or recovery equipment. The drone can be disassembled and packed for transport in light vehicles and is operable day or night, including in degraded conditions.

Two VTOL variants are available depending on mission needs. The electrically powered Aliaca VTOL Evo offers three hours of endurance, a 50 km range, and a 2 kg payload capacity. The Aliaca VTOL ER (Extended Range), featuring a hybrid thermal engine, provides six hours of flight time, an 80 km range, and a payload capacity of 3 kg. These configurations offer operational flexibility suited to diverse environments, including coastal zones, forests, and urban areas.

The VTOL system retains the core technological components of the Aliaca line, including its avionics, control segment, energy kit, flight termination system, and robust data link tested in real-world conditions. It is equipped with the internally developed GX5 gyrostabilized electro-optical/infrared camera, capable of delivering high-performance imagery. For maritime operations, the drone includes an Automatic Identification System (AIS) receiver, enabling detection and identification of vessels at distances of several hundred kilometers and enhancing intelligence and target-tracking capabilities.

The ground control station, common to all Aliaca systems and also developed by Survey Copter, enables full autonomous flight monitoring. It provides real-time reception of imagery and AIS data from onboard sensors, both day and night. Its intuitive interface allows the operator to manage flight operations securely and efficiently.

Certified by France’s defence procurement agency (DGA) and deployed on approximately twenty French Navy vessels since 2022, the VTOL version of Aliaca represents an evolution in the field of light tactical UAS. Its introduction at SOFINS 2025 reflects the objective of Survey Copter and Airbus Defence and Space to offer a compact, modular solution tailored to modern land and maritime operational demands. This new version could also address potential international requirements, particularly among foreign navies and special forces seeking deployable systems with minimal infrastructure dependencies.

**102 . Date: 26-03-2025Fixed Wing - Armed ISR / ISTAR - MALE - Pitch - Analysis | Why the Milkor 380 UAV could change how South America secures its skies and bordersURL: https://armyrecognition.com/news/aerospace-news/2025/analysis-why-the-milkor-380-uav-could-change-how-south-america-secures-its-skies-and-borders**

On March 26, 2025, the South African company Milkor announced that the Milkor 380 unmanned aerial vehicle (UAV) will be featured at LAAD 2025 in Rio de Janeiro, Brazil. This UAV could address several critical operational challenges particularly relevant to South American countries, such as high-altitude surveillance in the Andes, operations over rainforest regions of the Amazon basin, monitoring of international borders such as those between Colombia and Venezuela, and patrols of Pacific and Atlantic maritime zones. Follow Army Recognition on Google News at this link

Considered as one of the top ten medium-altitude long-endurance (MALE) UAVs globally based on its capabilities, the Milkor 380’s endurance and range make it suitable for extended missions across Latin and South America. (Picture source: Milkor)

For instance, with an operational ceiling of up to 23,000 feet and a service ceiling of 30,000 feet, the Milkor 380 is capable of maintaining stable flight in mountainous regions such as the Andes, where thinner atmospheric conditions and complex topography can hinder surveillance by conventional aircraft. In areas where road access is minimal and terrain presents logistical obstacles, the drone’s autonomous flight control system supports consistent aerial monitoring without requiring direct human piloting. Furthermore, its compatibility with Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems allows it to interface with existing national defense frameworks.

In rainforest areas where thick vegetation obstructs ground and aerial visibility, the Milkor 380’s integration of Electro-Optical/Infrared (EO/IR) sensors and Synthetic Aperture Radar (SAR) systems facilitates observation through dense canopy cover. These sensors enable operators to detect heat signatures or structural anomalies in regions affected by unauthorized activities such as logging or smuggling. This capability is intended to provide actionable intelligence to both environmental enforcement agencies and internal security forces operating in difficult-to-reach zones.

Considered as one of the top ten medium-altitude long-endurance (MALE) UAVs globally based on its capabilities, the Milkor 380’s endurance of over 30 hours and its range exceeding 4,000 kilometers make it suitable for extended border patrol missions across remote frontiers, surpassing some of its most renowned counterparts. This endurance allows the drone to monitor key transit points and sparsely populated corridors that are often exploited for smuggling or unregulated crossings. Its ability to carry payloads of up to 220 kilograms, and a total load including fuel of 535 kilograms, allows for the deployment of multiple surveillance systems, communications relays, or other mission-specific equipment simultaneously.

The Milkor 380 has been adapted for civil protection applications. In the event of natural disasters, such as landslides triggered by El Niño-related weather events or wildfires affecting remote rural regions, the drone can be deployed to survey damage zones and provide real-time imaging. This supports local authorities in coordinating emergency response and allocating resources based on verified on-site conditions. Its EO/IR and multispectral sensors can operate during both day and night, contributing to rapid situation assessment, while its dual redundant Line of Sight (LOS) and satellite data links ensure stable communication during such missions, meaning that the drone can safely help rescue workers for longer and more effectively.

In the maritime domain, the AeroForce 380 variant, developed in partnership with German firm Aerodata AG, is optimized for coastal and offshore surveillance. This model integrates Inverse SAR (ISAR), Automatic Identification Systems (AIS), and side-looking airborne radar (SLAR) to detect vessels engaged in unlicensed fishing activity or violating Exclusive Economic Zone (EEZ) boundaries. With endurance of up to 35 hours and a mission range that allows operations up to 2,750 kilometers with an additional 10 hours of on-station time, it can be used for sustained patrols over large maritime areas, supporting both naval and coast guard operations.

In 2024, Milkor expanded its production capacity by opening a 10,000-square-meter facility located near key South African Air Force bases, facilitating flight testing and operator training. (Picture source: Milkor)

Furthermore, the Milkor 380 supports integration with up to three platforms simultaneously through a built-in relay for video, audio, geolocation, and high-speed data transfer, which could enable coordinated operations across different branches of the armed forces. For example, a border patrol aircraft, a navy vessel monitoring coastal areas, and a ground response unit can all receive the same live intelligence from the UAV, reducing the risk of delayed or fragmented information.

The Milkor 380’s airframe includes five hardpoints, with underbelly and wing-mounted payload options. Inner wing hardpoints can support up to 150 kilograms each, while outer hardpoints can carry 80 kilograms each. The underbelly can accommodate sensors, guided munitions, or other systems. A modular nose section supports EO/IR gimbals with diameters up to 500 mm, allowing sensor customization based on mission requirements. The UAV is powered by a globally available turbocharged engine and operates on either 110 LL Avgas or 93 UL Mogas.

Anti-icing features are integrated, further enhancing the Milkor 380's operational reliability in South America's high-altitude regions, where icing conditions can compromise aircraft performance and safety. For instance, the Cuyo region in Argentina experiences icy conditions above 4,000 meters throughout the year. Effective anti-icing systems help prevent ice accumulation on critical components such as wings and control surfaces, which can otherwise lead to increased weight, reduced lift, and potential loss of control. By mitigating these risks, the Milkor 380 ensures consistent performance and safety during missions in such challenging environments

Development of the Milkor 380 began in 2021, followed by taxi testing in early 2023 and its first flight on 19 September 2023. In 2024, Milkor expanded its production capacity by opening a 10,000-square-meter facility in Cape Town, South Africa. This facility consolidates R&D, production, and integration processes and is located near key South African Air Force bases for flight testing and operator training. Annual production capacity is currently eight units, with plans to reach sixteen units by 2026. The system’s avionics, communication modules, control systems, and automation functions are developed in-house by Milkor’s team of 350 employees, of which 80% are engineers.

In addition to system development, Milkor emphasizes its involvement in workforce development and knowledge retention within the South African defense sector. As described by Daniel du Plessis, Milkor’s Head of Business Development in Africa, the company has integrated experienced engineers with recent university graduates to develop and maintain its UAV programs. This approach supports continued innovation and domestic capacity-building. Public-private partnerships (PPPs) are also viewed as a strategy for enhancing local support infrastructure and reducing reliance on foreign service providers. Du Plessis noted that the Milkor 380’s production phase has paved the way for the next project, the Milkor 780—a high-altitude, long-endurance UAV expected to carry 2,700 kilograms with a 30–40 hour flight time, targeted for introduction at AAD 2026.

**103 . Date: 26-03-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformAnduril’s Fury Drone Emerges as a Competitor to Boeing’s Ghost Bat in AustraliaURL: https://armyrecognition.com/news/aerospace-news/2025/andurils-fury-drone-emerges-as-a-competitor-to-boeings-ghost-bat-in-australia**

At the Avalon Air Show 2025, Anduril presented a full-scale model of its Fury drone for the first time internationally, in what appears to be a strategic effort to attract Australia’s interest in its collaborative combat aircraft program. This presentation comes as Australia has already invested significantly in the development and procurement of Boeing’s MQ-28 Ghost Bat, a domestically developed drone designed to operate alongside manned fighter aircraft as a loyal wingman.

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Fury is designed as a reusable system with low maintenance costs, capable of supporting missions ranging from air support to electronic warfare (Picture source: Anduril)

David Goodrich, CEO of Anduril Australia, confirmed the company’s participation in an evaluation process led by the Royal Australian Air Force, with a decision pending from the relevant authorities. He stated that any final decision would require government approval, though no timeline has been provided. Anduril is not limiting its focus to Australia and is also exploring opportunities in the broader Indo-Pacific region. A recent partnership between Anduril, Singapore’s Defence Science and Technology Agency (DSTA), and the Republic of Singapore Air Force suggests that Singapore may also be interested in the autonomous capabilities offered by Fury.

Fury is a Group 5 autonomous combat drone designed for multi-role operations in contested environments. It integrates Lattice software for mission autonomy, allowing it to operate in coordination with both manned and unmanned platforms. Its modular design enables rapid reconfiguration of sensors and payloads, supporting electronic warfare, surveillance, and strike missions. Equipped with a commercial jet engine, it combines fighter-like performance with extended endurance while optimizing operational costs and logistics.

Capable of reaching speeds up to Mach 0.95 and sustaining accelerations of 9G, Fury is designed for high-maneuverability engagements. Its open architecture allows for the integration of third-party sensors and weapons, enhancing adaptability to evolving threats. Developed using rapid prototyping and digital engineering, it is designed for accelerated production, offering a scalable solution for combat drone fleets at a reduced cost.

In a statement highlighting Anduril’s potential local involvement, Goodrich indicated that the company would consider producing Fury in Australia if selected by Canberra, a move that could influence discussions on balancing domestic industry support with foreign technology adoption. This positioning directly challenges the Ghost Bat, for which Australia has allocated 600 million AUD for ten units and an additional 400 million AUD for three upgraded models.

Malcolm Davis, a defense expert at the Australian Strategic Policy Institute (ASPI), suggested that Fury’s introduction in Australia could put significant pressure on Boeing due to cost differences. Fury is largely based on commercial off-the-shelf technology, unlike the Ghost Bat, which has been specifically developed to meet Australian military requirements.

On the international stage, Fury is also competing in the U.S. Air Force’s Collaborative Combat Aircraft (CCA) program, which aims to provide autonomous aircraft capable of supporting next-generation fighter jets. This initiative, seen as a critical response to the numerical advantage of Chinese air forces, includes Fury’s first scheduled flight this year in the United States, where it will compete against a model proposed by General Atomics Aeronautical Systems.

Boeing’s interim head of defense, space, and security, Steve Parker, downplayed the challenge posed by Fury, emphasizing that the Ghost Bat has already completed over 100 test flights and is further along in development. General Atomics has taken a more measured approach, with company spokesperson C. Mark Brinkley stating that their focus is on expanding market opportunities in the Indo-Pacific rather than directly competing with the Ghost Bat. He also highlighted General Atomics’ production capacity, capable of delivering up to 200 aircraft per year without additional industrial expansion—an implicit contrast to Anduril’s relatively limited manufacturing footprint.

Anduril’s interest in Australia aligns with a broader pattern of strategic cooperation between Canberra and Washington. For decades, Australia has sought to align its military capabilities with those of the United States, and autonomous drones could play a key role in this strategy. The U.S. has indicated that future drones from the CCA program may be made available for export through the Foreign Military Sales (FMS) system, potentially facilitating an Australian acquisition of Fury.

Fury is designed as a reusable system with low maintenance costs, capable of supporting missions ranging from air support to electronic warfare. In contrast, the Ghost Bat, first introduced at Avalon in 2023, is primarily focused on surveillance and reconnaissance, with uncertainties regarding the integration of strike capabilities.

Anduril has not confirmed whether local production of Fury in Australia is under serious consideration. The company recently announced the opening of a large manufacturing facility in Ohio, where multiple systems, including Fury, the Roadrunner interceptor drone, and the Barracuda cruise missile family, will be produced. The future of Fury in Australia will largely depend on Canberra’s strategic decisions regarding combat drones and the balance between domestic industrial development and foreign acquisitions.

As competition among manufacturers intensifies, Australia may consider a hybrid approach, continuing its national drone program while evaluating alternatives such as Fury. The drone’s presence at Avalon marks a significant step for Anduril as it seeks to establish itself as a key player in the autonomous combat aircraft market, both in the United States and internationally.

**104 . Date: 13-01-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - General - PlatformBaykar Enhances Drone Technologies with Kalkan VTOL Offering an Operational Range Over 100 kmURL: https://armyrecognition.com/news/aerospace-news/2025/baykar-enhances-drone-technologies-with-kalkan-vtol-offering-an-operational-range-over-100-km**

On January 10, 2025, Turkish company Baykar released a video announcing the successful completion of the 54th test flight of its KALKAN VTOL (Vertical Take-Off and Landing) drone. This milestone marks a step in the development of its long-range communication capabilities, exceeding 100 km. Designed to meet the growing demands of military and civilian operations, its demonstrates notable performance in terms of altitude and flight endurance, reinforcing its position within the unmanned aerial systems (UAS) domain. Baykar, recognized for its expertise in drone manufacturing, continues to advance this technology to address modern operational requirements.

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The Bayraktar KALKAN VTOL, a Mini Tactical UAV-class drone developed by Baykar, is specifically designed for reconnaissance and intelligence missions (Picture source: Baykar)

The primary goal of this specific test was to assess the on-board long-range communication systems. These systems are essential for missions requiring precise coordination and real-time feedback, particularly in environments where natural or artificial obstacles can hinder traditional signal transmission. The results of this flight confirm the current capabilities of the KALKAN VTOL and pave the way for further technological advancements.

The Bayraktar KALKAN VTOL, a Mini Tactical UAV-class drone developed by Baykar, is specifically designed for reconnaissance and intelligence missions. Featuring a semi-autonomous architecture, it is capable of performing autonomous flights, including take-off, landing, and navigation. With a 3 kg payload capacity, the KALKAN is equipped with advanced sensors such as electro-optical and infrared cameras, a laser rangefinder, and a laser designator, enabling effective day and night surveillance. The drone operates at a service altitude of up to 8,000 feet, with a six-hour endurance and a 100-kilometer communication range, while also achieving a maximum ceiling of 14,000 feet.

Its hybrid propulsion system combines four electric motors for vertical take-off with a combustion engine for cruise flight, ensuring optimized energy efficiency. With a 5-meter wingspan and a maximum take-off weight of 75 kg, the KALKAN is designed for versatility and reliability. It features various landing options, including parachute landing, and benefits from redundant systems that enhance operational dependability. These characteristics make it a strategic tool for complex environments.

VTOL drones are characterized by their ability to take off and land vertically, like a helicopter, while maintaining the horizontal flight efficiency of a fixed-wing aircraft. This versatility allows them to operate in confined spaces without requiring a runway while covering wide areas thanks to extended endurance. Their capability to alternate between hovering and rapid movement makes them particularly suitable for missions such as surveillance, mapping, infrastructure inspection, and cargo delivery.

The Bayraktar KALKAN VTOL stands out for its hybrid design and advanced features, placing it in a competitive position within the VTOL drone market. Compared to other VTOL drones, it offers a compelling combination of versatility and efficiency, supported by its hybrid propulsion system that integrates four electric motors for vertical operations and a combustion engine for cruising. This design optimizes its six-hour endurance and 100 km operational range, critical for reconnaissance and intelligence missions in challenging environments.

In comparison to competing models such as those from JOUAV or Wingtra, which also focus on civilian and military applications, the KALKAN adopts a modular approach by incorporating advanced sensors like electro-optical and infrared cameras, a laser rangefinder, and a laser designator. With its 3 kg payload capacity and 14,000-foot service ceiling, it is well-suited for mid-range tactical missions. While competitors like the WingtraOne specialize in mapping capabilities and larger systems like Northrop Grumman’s Firebird address strategic-scale operations, the KALKAN appeals to users seeking a balance between performance, flexibility, and cost efficiency.

Numerous companies have made contributions to VTOL drone technologies. Among them, the French company Innotech-Drone has developed models like the Skycross-2400 and Skycross-3400, designed for topographic and surveillance missions. Additionally, companies such as ASY and JOUAV are recognized for their innovative VTOL drones, which serve diverse sectors including agriculture, public safety, and military operations. These drones are utilized by governmental organizations, private enterprises, and research institutions, reflecting their growing relevance in applications that demand operational flexibility and efficiency.

**105 . Date: 03-02-2025General - Baykar Sets Up Strategic Drone Maintenance Hub in Morocco Expanding African ReachURL: https://armyrecognition.com/news/aerospace-news/2025/baykar-sets-up-strategic-drone-maintenance-hub-in-morocco-expanding-african-reach**

Turkish drone manufacturer Baykar has established a subsidiary in Morocco to set up a maintenance facility for the unmanned aerial vehicles (UAVs) it has sold to Rabat, according to Middle East Eye. The subsidiary, named "Atlas Defence," was officially registered with the Moroccan Trade Registry on December 5, 2024. According to an announcement published in Morocco’s Official Gazette No. 5857 on January 29, 2025, the Rabat-based company has a capital of 2.5 million dirhams ($680,000).

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In April 2021, Morocco ordered 13 Bayraktar TB2 drones for $70 million, receiving the first batch in September along with support infrastructure and a drone operations center (Picture source: Baykar)

This initiative is part of Baykar’s broader strategy to expand its international operations, particularly in the African UAV market. By establishing this facility, the company aims to enhance its support capabilities for regional customers. Additionally, the investment is expected to contribute to Turkish-Moroccan diplomatic and economic relations by creating jobs and supporting the local economy. While military equipment sales generally involve government-to-government agreements, having an industrial presence in a partner country can further strengthen bilateral cooperation.

Morocco has already been a major Baykar client, having procured Bayraktar TB2 drones. In April 2021, the country placed an order for 13 units, valued at approximately $70 million, with the first batch delivered in September of that year. The contract also included four ground stations, a configurable simulation system, a digital tracking infrastructure, and a drone operations center at Moroccan airbases.

Moroccan military personnel underwent training in Turkey to operate these drones, with the first group completing their program in September 2021. Since then, Morocco has shown increased interest in Turkish defense equipment, exploring the possibility of acquiring Bayraktar Akıncı drones, a more advanced platform with a greater payload capacity and enhanced mission capabilities.

Baykar’s establishment in Morocco is part of a broader trend of military cooperation between the two nations. Turkey has emerged as a key player in the armed drone sector, attracting multiple international clients. Morocco, on its side, is seeking to strengthen its defense autonomy and modernize its armed forces. The maintenance facility for Bayraktar TB2 drones, and potentially Akıncı drones in the future, would enable Morocco to optimize its fleet’s operational readiness.

Despite uncertainties regarding the extent of local production, Baykar’s investment aligns with its strategy of expanding into emerging markets. The company has already begun constructing a factory in Ukraine, which is expected to produce up to 120 drones annually, and has also set up an assembly line in Saudi Arabia. While the Moroccan facility is comparatively smaller, it underscores Baykar’s intention to establish a lasting presence in Africa.

As part of its efforts to develop a domestic defense industry, Morocco has also partnered with Israeli firm BlueBird Aero Systems to build a drone factory. However, this project, initiated in April 2024, has faced delays due to ongoing conflicts in Gaza.

The collaboration between Morocco, Turkey, and Israel in defense and technology reflects a broader objective of modernizing Morocco’s armed forces and reducing reliance on foreign suppliers. Although Baykar’s new Moroccan subsidiary is not a full-scale production facility, it represents a step toward strengthening strategic ties between Rabat and Ankara while enhancing Turkey’s industrial presence in Africa.

**106 . Date: 03-03-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PayloadBayraktar Akıncı Integrates Aselsan’s MURAD AESA Radar Expanding Strike and Surveillance CapabilitiesURL: https://armyrecognition.com/news/aerospace-news/2025/bayraktar-akinci-integrates-aselsans-murad-aesa-radar-expanding-strike-and-surveillance-capabilities**

On March 1, 2025, Baykar announced a major development in radar technology with the successful test flight of the Bayraktar Akıncı combat drone equipped with Aselsan’s MURAD Active Electronically Scanned Array (AESA) radar. This milestone enhances the operational capabilities of Turkish drones, improving situational awareness and increasing mission precision. The integration of this radar expands the drone’s potential in surveillance, reconnaissance, and both air-to-air and air-to-ground operations.

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With MURAD, the Akıncı can now detect and engage ground and maritime targets beyond its direct line of sight, expanding its effectiveness in environments where optical sensors face limitations. (Picture source: Baykar)

The test was conducted with the Akıncı-A variant, powered by AI-450T turboprop engines. It followed a previous evaluation phase in which the MURAD radar was tested on an F-16 fighter jet, demonstrating its compatibility with Turkish aerial platforms. Footage from the test highlights real-time radar imaging from the ground control station, showcasing its tracking and imaging capabilities.

Built on Gallium Nitride (GaN) architecture, the MURAD AESA radar introduces advanced detection and targeting capabilities. It operates in both air-to-air and air-to-ground modes, offering significant operational flexibility. Air-to-air functions include mid-course missile guidance, high-aspect target detection, helicopter identification, and weather monitoring. Air-to-ground features comprise synthetic aperture radar (SAR) imaging, ground-moving target indication (GMTI), fixed target tracking, detailed mapping, and range measurement.

The integration of this radar significantly enhances the Bayraktar Akıncı’s operational scope. Previously, combat drones relied primarily on electro-optical and infrared sensors for reconnaissance and targeting, which are limited by weather conditions such as cloud cover, fog, or dust. With MURAD, the Akıncı can now detect and engage ground and maritime targets beyond its direct line of sight, expanding its effectiveness in environments where optical sensors face limitations. Furthermore, the incorporation of air-to-air missiles such as Gökdoğan, Bozdoğan, and Sungur allows it to engage aerial threats at extended ranges, broadening its role in modern combat scenarios.

Aselsan announced the successful test on the X platform, stating that the MURAD 100-A, integrated into the Akıncı, represents a significant advancement for the defense industry. The radar’s capabilities align with those developed by only a limited number of nations. Turkey’s Secretary of Defense Industries, Haluk Görgün, emphasized that drones equipped with this system now have enhanced target acquisition and operational versatility. He acknowledged the collaboration between Baykar and Aselsan, highlighting the technological effort involved in the project.

The MURAD AESA radar was initially developed as part of a modernization initiative for the Turkish Air Force’s F-16 fighter jets. Over five years, this project resulted in a system capable of competing with high-performance alternatives on the market. The radar is set to be integrated into multiple aerial platforms, including the Bayraktar Akıncı, the Hurjet advanced jet trainer, the ANKA-3 stealth combat drone, the Kızılelma unmanned fighter jet, and the KAAN national combat aircraft. This broad application aligns with a strategy to establish an interconnected and autonomous aerial fleet capable of responding to evolving operational requirements.

The MURAD 100-A was developed using national resources and incorporates several advanced features, including wide-band operation, simultaneous air and ground tracking, high-resolution ground imaging, electronic warfare capabilities, and multi-target tracking. These characteristics improve fire control accuracy and situational awareness, while also enhancing resistance to electronic countermeasures.

Following its successful integration with the Bayraktar Akıncı, the MURAD radar will also be deployed on F-16s as part of the ÖZGÜR modernization program, aimed at upgrading the Turkish Air Force’s F-16 Block 30 aircraft. Flight tests for this integration began in 2024, progressing toward certification. In parallel, Aselsan is also developing the FULMAR 500-A, a long-range airborne maritime surveillance radar, which is expected to be operational within three years under an agreement signed with the Defense Industries Secretariat (SSB) at IDEF 2024.

This integration enables the Bayraktar Akıncı to engage targets beyond visual range (BVR), a capability critical for contemporary aerial engagements. The radar enhances its ability to detect and engage enemy aircraft at long distances, reinforcing its role in air superiority missions. Designed for reconnaissance and precision strikes, the drone gains additional versatility, carrying a range of smart munitions and missiles for air-to-ground operations.

The success of this test has broader implications beyond the immediate technical advancements. It represents a key step in Turkey’s goal of developing autonomous defense technologies and reducing reliance on foreign suppliers. The successful integration of AESA radar technology onto a high-performance combat drone places Turkey among a limited group of countries capable of such developments. This progress also strengthens Turkey’s standing in the international market for drones and advanced sensor systems, increasing export potential in a growing sector. Additionally, it may accelerate other modernization initiatives, including the application of this technology to future combat aircraft, further advancing the country’s defense industry.

**107 . Date: 28-02-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - Belgian Air Force Performs Inaugural Flight of Its First MQ-9B SkyGuardian in USURL: https://armyrecognition.com/news/aerospace-news/2025/belgian-air-force-performs-inaugural-flight-of-its-first-mq-9b-skyguardian-in-us**

The Belgian Air Force has reached a major milestone by successfully carrying out the first flight of its very first MQ-9B SkyGuardian, an unmanned aerial system (UAS) manufactured by General Atomics Aeronautical Systems Inc. (GA-ASI). This inaugural flight, which took place on February 20 in California, represents a decisive step forward in modernizing Belgium’s intelligence, surveillance, and reconnaissance (ISR) capabilities.

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The first MQ-9B SkyGuardian is scheduled to be delivered to Belgium this summer. (Picture source: Belgian MoD)

The test carried out successfully, confirms that the aircraft meets the initial requirements of the Belgian Air Force. Belgian operators will be able to begin their training as soon as the program, including all necessary certifications and ground infrastructure, is finalized.

The first MQ-9B SkyGuardian is scheduled to be delivered to Belgium this summer. Configured solely for reconnaissance missions, the aircraft will be equipped with advanced sensors to optimize its ISR performance. Notably, it will feature high-resolution electro-optical and infrared systems, as well as an AN/APY-8 Lynx radar, which will provide Belgium with real-time observation capabilities and a high degree of precision—essential for modern military operations and border security.

This acquisition stems from a contract signed in August 2020 through the U.S. Department of Defense. It covers the delivery of four MQ-9Bs, two ground control stations, spare parts, and the necessary support equipment. The objective is to gradually integrate these drones into Belgian forces to replace the retired IAI RQ-5 Hunter. The MQ-9B’s open architecture and modular design will also facilitate interoperability with future platforms, including the F-35A Lightning II.

Once fully operational, the MQ-9B will offer increased endurance, a broad flight envelope, and state-of-the-art ISR capabilities. As a MALE (Medium Altitude, Long Endurance) drone, it will ensure persistent surveillance over areas of interest and strengthen Belgium’s strategic posture, both for national defense and within NATO missions.

By adopting the MQ-9B, Belgium joins the United Kingdom and Poland among European operators of this GA-ASI drone family. Poland, for its part, ordered three units in December 2024. This convergence of capabilities opens the door to potential collaborations in training, exercises, and multinational operations, a valuable asset in the face of increasingly complex security challenges.

The first MQ-9B SkyGuardian of the Belgian Air Force signals a new era for unmanned aviation in the country. Thanks to its high-tech sensors, long endurance, and network-centric architecture, this aircraft will significantly enhance Belgium’s ISR capabilities in both national and international operations. With delivery imminent, attention now focuses on how quickly the Belgian Air Force can integrate this cutting-edge asset into its force structure and further strengthen its commitments within NATO and regional security efforts.

**108 . Date: 25-03-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - ArmamentBoeing Accelerates MQ-28 Ghost Bat Drone Development Toward Combat Integration with Upcoming Air-to-Air Missile TestURL: https://armyrecognition.com/news/aerospace-news/2025/boeing-accelerates-mq-28-ghost-bat-drone-development-toward-combat-integration-with-upcoming-air-to-air-missile-test**

At the Avalon Air Show in Australia, Boeing announced its intention to conduct an air-to-air missile test from its MQ-28 Ghost Bat combat drone by the end of 2025 or early 2026, as reported by FlightGlobal. This phase represents a significant step in the aircraft's development, which has so far been tested mainly for non-kinetic missions such as electronic warfare and surveillance. Steve Parker, interim president of Boeing Defense, Space & Security, confirmed this objective during a media roundtable, emphasizing the company’s intent to accelerate the MQ-28’s development and expand its operational role.

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MQ-28A Ghost Bat aircraft on a runway (Picture source: Australian DoD)

Boeing has not yet determined whether the test will involve a Block 1 variant or the future Block 2, but the MQ-28 test fleet is expected to expand with the arrival of new models. The integration of an internal weapons bay is among the anticipated developments to enhance offensive capabilities. This first air-to-air missile test will validate the integration of weaponry, which could include the AIM-120 AMRAAM, AIM-9X Sidewinder, or an Australian-developed missile. This development positions the Ghost Bat as a key component in future collaborative air combat concepts, where autonomous drones support crewed aircraft in operational scenarios.

The Boeing MQ-28 is an uncrewed collaborative combat aircraft designed to operate alongside existing air platforms. Equipped with advanced autonomous technologies, it enhances intelligence, surveillance, reconnaissance, and early warning missions while reducing risks to crewed assets. Measuring 11.7 meters in length with a range exceeding 2,000 nautical miles, it provides fighter-like performance at a fraction of the cost, estimated at one-tenth that of a crewed fighter aircraft. Its open-architecture design enables rapid integration of new capabilities and adaptation to mission-specific requirements, increasing operational flexibility for allied forces.

The introduction of the Block 2 variant aims to enhance the MQ-28’s endurance, payload capacity, and interoperability with other aircraft. This development aligns with a broader trend toward collaborative combat aircraft (CCA), as demonstrated by similar programs such as the Kratos XQ-58 Valkyrie, the U.S. Air Force's Skyborg initiative, and BAE Systems' Loyal Wingman project in the United Kingdom. In this context, the MQ-28 presents itself as a potential option for other air forces, particularly in North America.

Since the start of its test program, the MQ-28 has accumulated over 100 flight hours, validating autonomy algorithms and gradually incorporating artificial intelligence capabilities. Boeing has also conducted in-flight adaptation experiments, confirming the aircraft’s ability to adjust its trajectory and operational parameters based on mission needs. Amy List, General Manager of Boeing Defence Australia, stated that interest in the MQ-28 continues to grow both domestically and internationally, supported by demonstrated performance and backing from the Australian government.

While the Ghost Bat is being developed in partnership with the Royal Australian Air Force, its long-term prospects remain uncertain without a sustained production contract. However, Boeing remains optimistic about the program’s potential, citing opportunities in both Australia and the United States. Several MQ-28 units have already been transferred to North America for testing with the U.S. Air Force in St. Louis, Missouri, fueling speculation about possible integration into the USAF’s collaborative combat aircraft initiatives.

This announcement comes amid a broader series of developments for Boeing, which was recently selected by the U.S. Air Force for the Next Generation Air Dominance (NGAD) program, an initiative focused on developing a sixth-generation fighter aircraft. On March 21, 2025, the USAF officially awarded Boeing the contract for the new fighter, designated the F-47. Parker confirmed that flight testing of NGAD prototypes has been ongoing for several years, indicating the project's maturity. The USAF also revealed that two competing NGAD prototypes have been flying secretly for five years, with the other design developed by Lockheed Martin.

The MQ-28 Ghost Bat continues to advance through a series of tests aimed at integrating offensive capabilities, reinforcing its role as a collaborative combat drone. The upcoming air-to-air missile demonstration will be a critical milestone for Boeing in the program’s development and could influence its adoption beyond Australia. As part of a broader shift toward integrating autonomous and crewed aviation, the Ghost Bat could play a central role in the future air combat strategies of allied forces.

**109 . Date: 30-04-2025Fixed Wing - Armed ISR / ISTAR - Tactical - General - PlatformBrazil strengthens strategic autonomy with first fully indigenous jet-powered drone ATD-150URL: https://armyrecognition.com/news/aerospace-news/2025/brazil-strengthens-strategic-autonomy-with-first-fully-indigenous-jet-powered-drone-atd-150**

On March 29, 2025, the Brazilian company Nest Design Aerospace presented the ATD-150, described as the country’s first 100% indigenously designed jet-powered unmanned aircraft. The system has been developed specifically to serve as an aerial target for the Brazilian Armed Forces and is also being considered for export to international users. According to the manufacturer, the ATD-150 is intended to replicate advanced aerial threats in training environments and aims to enhance operational readiness by providing a domestic solution for simulated combat exercises and system testing. Follow Army Recognition on Google News at this link

The ATD-150 integrates a Miss Distance Indicator (MDI) for recording the proximity of intercept attempts, and features passive RF signal augmentation, real-time video transmission capability, and an infrared (IR) signature. (Picture source: Nest Design Aerospace)

According to available information, the ATD-150 has a maximum takeoff weight (MTOW) of up to 150 kilograms and a maximum payload capacity of 15 kilograms. It can operate at altitudes between 10,000 and 15,000 feet, with a service ceiling of 20,000 feet. Under flight conditions of FL150 and ISA+35, it achieves a cruise speed of Mach 0.6. The propulsion system is the TM TJ-200 turbojet engine, developed in Brazil by Turbomachine. The UAV runs on Jet A-1 or aviation kerosene. Nest Design Aerospace states that this configuration enables the ATD-150 to function as a high-speed, jet-powered target suitable for complex and realistic threat simulations during training operations and air defense exercises.

The main mission profile of the ATD-150 includes applications such as air strike training, air-to-air engagement training, air defense system preparation, and cruise missile threat simulation. It is also intended to support intelligence data collection and the evaluation of defense weapon systems. The UAV is equipped with a number of onboard features designed to simulate adversary behaviors and characteristics. These include pre-programmed waypoint navigation, a smoke generator to increase visibility during tracking exercises, and automated evasive maneuver routines. It also integrates a Miss Distance Indicator (MDI) for recording the proximity of intercept attempts, and features passive RF signal augmentation, real-time video transmission capability, and an infrared (IR) signature. Piloting can be conducted manually or through semi-autonomous or fully autonomous control modes, depending on mission requirements.

Nest Design Aerospace characterizes the ATD-150 as a fully Brazilian initiative, conceived, engineered, and assembled within the national defense industrial base. According to the company, the program reflects an effort to establish a national capability in the field of jet-powered aerial target drones, offering a resource for training and system validation that does not rely on foreign platforms. The aircraft is also described as a system supporting multiple configurations and intended to meet the operational needs of armed forces preparing for advanced air threats.

As part of its promotional and industry engagement efforts, Nest Design Aerospace participated in LAAD 2025, a major defense and security exhibition held in Rio de Janeiro. The company reported that its team engaged with suppliers, potential partners, and clients during the event. Nest Design Aerospace noted that the ATD-150 attracted attention at the exhibition, with many participants reportedly already familiar with the platform. According to the company, this exposure helped reinforce its goal of advancing new strategic collaborations and increasing the visibility of its aerial target program within both national and international defense sectors.

Nest Design Aerospace also released material announcing that the ATD-150 is approaching its initial operational phase. According to the company, all development activities, ranging from component integration and functional testing to performance verification, are progressing toward what it describes as a significant milestone in national aviation. Additional video materials were released, highlighting the design and testing phases of the program. The company stated that further updates and detailed views of the UAV are expected in the near future.

Propulsed by the TM TJ-200 turbojet engine, developed in Brazil by Turbomachine, the ATD-150 can achieves a cruise speed of Mach 0.6. (Picture source: Nest Design Aerospace)

Brazil’s earliest documented effort to build a jet-powered UAV was the CBT BQM-1BR, developed in 1983 by Companhia Brasileira de Tratores (CBT) in cooperation with the Department of Aerospace Science and Technology. Intended for military and civilian applications, including reconnaissance, attack, and agricultural tasks, the aircraft featured a turbojet engine (Tietê JT2) mounted in a nacelle on the rear fuselage. It had a length of 3.89 meters, a wingspan of 3.18 meters, and a maximum takeoff weight of just over 90 kilograms. It could reach speeds of up to 560 km/h and a service ceiling of 6,000 meters. Despite an initial plan by the Brazilian Air Force to acquire 20 units, only two were built, and the project was discontinued due to national political and economic conditions. Separately, Brazil’s aerospace research institutions have also worked on jet propulsion systems such as the 14-X scramjet engine, developed by the Institute of Advanced Studies (IEAv) as part of the PropHiper program. First flight-tested in December 2021, the scramjet was integrated into a hypersonic demonstrator vehicle that reached an apogee of 160 kilometers after launch from the Alcântara Space Center. Although designed primarily for space and defense applications, the 14-X illustrates ongoing interest in advanced air-breathing propulsion systems within Brazil.

Several other UAVs have been developed in Brazil, focusing on propeller-driven platforms for tactical, surveillance, and mapping roles. The SantosLab Carcará, first flown in 2009 and currently used by the Brazilian Navy, is a lightweight UAV designed for operation by a single soldier in restricted environments. It offers autonomy between 60 and 95 minutes and includes a payload option for infrared sensors or zoom cameras. The FT Sistemas FT-100 Horus is another small UAV, used by both the Brazilian Army and Navy, with an operational range of up to 15 kilometers and endurance of up to two hours. In 2015, three FT-100s were exported to an undisclosed African military customer, making it the first Brazilian UAV known to have been sold abroad. At the MALE level, the Avionics Services Caçador was developed from the Israeli IAI Heron with technology transfer and partial ownership by IAI Brasil. With a wingspan of 16.6 meters, a takeoff weight of 1,270 kilograms, and endurance of 40 hours, the Caçador features a service ceiling of 9,100 meters and is equipped for multi-role operations.

Privately owned XMobots has also contributed to Brazil’s UAV industry through systems designed primarily for civilian and mapping purposes, based on nationally developed technology. Its first UAV, the Apoena 1000B, conducted aerial monitoring over the Amazon and supported surveying at the Jirau hydroelectric plant from 2010 to 2013. The Apoena series includes UAVs with endurance of up to 8 hours and payload capacities of 10 kilograms. Later developments include the Nauru 500A (flight autonomy of 5.5 hours, payload of 15 kilograms), which in 2013 became the first private UAV in Brazil to receive an Experimental Flight Certificate from ANAC. The Echar 20A, launched the same year, was Brazil’s first UAV with automatic launch and landing. Other systems such as the Avibras Falcão (with a payload of 150 kilograms and over 16 hours of endurance) and the Atobá XR by Stella Tecnologia, which has a cruise speed of 370 km/h and endurance of up to 35 hours, are designed for ISR and strike missions. The Atobá XR, developed from the earlier Atobá reconnaissance drone, integrates AESA radar, EO/IR sensors, SATCOM, and three hardpoints.

The main mission profile of the ATD-150 includes applications such as air strike training, air-to-air engagement training, air defense system preparation, and cruise missile threat simulation. (Picture source: Nest Design Aerospace)

**110 . Date: 23-04-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - PlatformBreaking News: Bayraktar TB3 Drone Confirms Naval Strike Capabilities with Four Successful Autonomous Flights from TCG AnadoluURL: https://armyrecognition.com/news/aerospace-news/2025/breaking-news-bayraktar-tb3-drone-confirms-naval-strike-capabilities-with-four-successful-autonomous-flights-from-tcg-anadolu**

On April 22, 2025, Turkish defense company Baykar reached a new milestone in naval aviation with its armed drone Bayraktar TB3, which carried out four autonomous sorties from the TCG Anadolu, sailing in the Gulf of Saros. These tests were part of the “Fully Autonomous Takeoff and Landing Tests from Short-Runway Vessel” campaign, aimed at validating the TB3's ability to take off and land autonomously from a ship with a short runway.

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All four takeoffs and landings on the same day, including one performed at sunset, were executed with the support of artificial intelligence algorithms developed in-house by Baykar. (Picture source: Baykar)

This Turkish-designed combat drone, the first of its kind to demonstrate such a capability, once again confirmed its operational suitability for sea-based missions, operating without the aid of a landing assistance system. All four takeoffs and landings on the same day, including one performed at sunset, were executed with the support of artificial intelligence algorithms developed in-house by Baykar. These tests reinforce the TB3’s potential as an unmanned naval system capable of operating in constrained and complex maritime environments.

The Bayraktar TB3 has been developed by Baykar specifically for deployment from short-runway aircraft carriers, equipped with foldable wings and an autonomous takeoff and landing system. Its Line-of-Sight (LOS) and Beyond-Line-of-Sight (BLOS) communication capabilities allow for remote operation over very long distances, enabling it to perform intelligence, surveillance, reconnaissance, and strike missions. With a wingspan of 14 meters, a payload capacity of 280 kg, a maximum endurance exceeding 21 hours, and a service ceiling of 25,000 feet, the TB3 is configured for a broad range of modern naval air operations, including those conducted abroad.

Operationally versatile, the TB3 is designed to carry six precision-guided munitions, including laser-guided, INS/GPS-guided, infrared-guided, and air-to-air weapons. It is also compatible with a range of interchangeable ISR payloads, such as EO/IR systems with laser designators, multi-mode AESA radar, ELINT sensors, and sonobuoys. Powered by a 170-horsepower turbodiesel engine, the drone combines endurance, deployment flexibility, and strike capability, supporting naval forces in contested environments.

The TB3 first flew from the TCG Anadolu on November 19, 2024, off the coast of Aksaz, followed by a second round of successful flight tests on November 26 of the same year. To date, the drone has accumulated a total of 1,016 flight hours and 42 minutes. Among the most notable trials was the long-endurance flight conducted on December 20, 2023, during which the TB3 remained airborne for 32 hours and covered a distance of 5,700 kilometers, demonstrating significant endurance capability.

The drone has also participated in live-fire tests. On March 25 and 27, 2025, it deployed the UAV-122 supersonic missile developed by Roketsan to engage naval targets. The March 27 strike was particularly notable for targeting a 6-by-6-meter camouflaged structure at low altitude and beyond line of sight, with laser designation provided in-flight by another Turkish drone, the Bayraktar TB2. This test demonstrated the TB3’s ability to operate within a networked drone ecosystem and execute coordinated strikes.

From a technical standpoint, the TB3 is powered by the PD-170 engine, developed domestically by TEI. This engine enabled the drone to reach an altitude of 36,310 feet during a high-altitude performance test conducted on June 25, 2024, at Baykar’s test center in Keşan, Edirne province. Although this places the TB3 among the highest-performing drones in its class, the national altitude record remains with the Bayraktar AKINCI, which reached 45,118 feet.

The integration of domestically developed sensors has also progressed. On March 26, 2024, the TB3 flew for the first time with the ASELFLIR-500, an electro-optical reconnaissance, surveillance, and targeting system developed by ASELSAN. This system, designed to match or exceed the performance of its global counterparts, enhances the TB3’s ability to conduct ISR operations independently.

The Bayraktar TB3 has been developed by Baykar specifically for deployment from short-runway aircraft carriers, equipped with foldable wings and an autonomous takeoff and landing system (Picture source: Baykar)

Thanks to its foldable wing structure and BLOS communication capabilities, the TB3 is optimized for long-range missions from naval platforms. It is designed to perform reconnaissance, surveillance, targeting, and strike missions against overseas targets, contributing to the expansion of maritime deterrence capabilities.

The integration of a drone such as the Bayraktar TB3 aboard a short-runway vessel like the TCG Anadolu marks a significant shift in Turkish naval doctrine. By providing an uncrewed aerial strike and surveillance capability from the sea, this system enables extended operations without relying on conventional carrier groups or forward land bases. This becomes particularly valuable in restricted or contested areas, where the ability to deploy armed drones from sea platforms can provide immediate tactical advantages while reducing risk to personnel.

Strategically, the TB3 significantly broadens the operational reach of the Turkish Armed Forces. With its endurance, modular payloads, and ability to operate from austere maritime environments, it opens the door to missions such as maritime interdiction, preemptive strike, and persistent ISR in key areas like the Eastern Mediterranean, Aegean Sea, and Black Sea. In combination with other networked UAVs, the TB3 contributes to a distributed and resilient combat architecture, enhancing Türkiye’s ability to counter modern anti-access/area denial (A2/AD) threats and conduct long-range power projection.

Baykar has developed all of its systems using self-funded resources since launching its R&D programs in 2003. In both 2023 and 2024, the company recorded $1.8 billion in export revenue, representing 83% and 90% of its annual turnover, respectively. It ranks among Türkiye’s top ten exporters across all industries.

As a global leader in armed drone systems, Baykar has signed export agreements with 36 countries: 34 for the Bayraktar TB2 and 11 for the Bayraktar AKINCI. The company has been named Türkiye’s top defense and aerospace exporter for multiple years, accounting for one-third of the sector’s exports in 2023 and one-quarter in 2024. With the ongoing success of the TB3 aboard the TCG Anadolu, Baykar continues to position itself as a key player in shipborne unmanned aviation, advancing its strategy of domestic innovation and international expansion.

The Bayraktar TB3 thus emerges as a pivotal system in the evolution of Turkish naval air capabilities. Its recent performances illustrate its technological maturity and potential to equip naval forces with a UCAV system capable of autonomous operations from sea-based platforms. Through successful flight tests, domestically developed propulsion and sensors, and a well-established export presence, the TB3 strengthens Türkiye’s profile in the field of next-generation maritime drones.

**111 . Date: 26-03-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - ArmamentBreaking News: Türkiye's Bayraktar TB3 Makes History with First Sea-Launched drone Strike with IHA-122 Supersonic MissileURL: https://armyrecognition.com/news/aerospace-news/2025/breaking-news-tuerkiyes-bayraktar-tb3-makes-history-with-first-sea-launched-drone-strike-with-iha-122-supersonic-missile**

Turkish defense company Baykar announced on March 25, 2025, the successful live-fire test of the Bayraktar TB3 Unmanned Combat Aerial Vehicle (UCAV) using the IHA-122 supersonic missile developed by Roketsan. This event represents a historic first: a drone launched from a short-runway-capable platform has achieved a precision strike on a distant maritime target in coordination with another airborne UCAV, marking a new era of integrated drone warfare. Follow Army Recognition on Google News at this link

Bayraktar TB3 UCAV in flight carrying the IHA-122 supersonic missile during its historic first sea-launched strike test, March 25, 2025. (Picture source: Baykar)

Taking off from Dalaman in the southwestern province of Muğla, Türkiye, the Bayraktar TB3 UCAV (Unmanned Combat Aerial Vehicle) carried a live IHA-122 supersonic missile and ascended for its test flight over the Mediterranean Sea. In this milestone event, a Bayraktar TB2 UCAV operating in the vicinity performed laser target designation on a floating 6-by-6-metre target located over 50 km away. The TB3, receiving target coordinates in real-time, fired the supersonic missile and achieved a direct hit on the designated target on its very first attempt. This successful strike marks not only the first firing of the IHA-122 from the TB3 but also the first instance of two different UCAV platforms collaborating in a precision kill chain scenario—one designating, the other firing—a capability rarely demonstrated in global drone warfare.

What makes this event particularly unique and strategically significant is the confluence of several next-generation defense technologies. The Bayraktar TB3 is the first carrier-capable unmanned aerial vehicle developed in Turkey, designed with foldable wings to operate from short-runway vessels such as the Turkish Navy’s flagship TCG Anadolu. Its ability to conduct strike missions from such platforms revolutionizes the operational doctrine of the Turkish armed forces by projecting unmanned airpower from sea without the logistical burden of large, fixed-runway airbases. The TB3’s integration with high-precision weaponry, such as the IHA-122, expands the potential for naval-based drone strikes, offering minimal radar cross-section and rapid deployment capabilities.

The Bayraktar TB3 is an advanced medium-altitude, long-endurance (MALE) Unmanned Combat Aerial Vehicle (UCAV) with a wingspan of 14 m and a maximum take-off weight of approximately 1,450 kg. Powered by a single internal combustion engine, it can operate at altitudes exceeding 9,000 m (30,000 feet) and remain airborne for over 24 hours. The airframe has been designed to support both intelligence, surveillance, reconnaissance (ISR), and strike missions, with a payload capacity of 280 kilograms that enables it to carry a broad array of munitions, including precision-guided bombs and smart micro-missiles. Importantly, the TB3 features SATCOM-based beyond-line-of-sight (BLOS) communications, critical for over-the-horizon operations from sea-based platforms.

The IHA-122 missile, meanwhile, is a supersonic air-to-ground munition derived from the TRG-122 artillery rocket system, part of Roketsan’s broader guided rocket artillery family. The missile has a caliber of 122 mm and is propelled by a solid-fuel rocket motor, which enables it to reach supersonic speeds. It is equipped with a laser seeker head for terminal guidance, offering precision strike capabilities against both stationary and moving targets. The IHA-122 has a range exceeding 50 kilometres when launched from UAVs, making it well-suited for deep-strike missions and time-sensitive targets. It was previously test-fired from larger drones such as the Bayraktar Akıncı, but this marks its first operational use on a carrier-capable tactical UCAV.

Adapted specifically for unmanned platforms, the IHA-122 enhances the strategic options available to the Turkish military by offering a low-cost, high-speed strike solution that does not expose manned aircraft. Its successful deployment from the TB3 reinforces Turkey’s ambition to integrate indigenous munitions with locally developed UAVs, creating a fully sovereign aerial combat ecosystem.

The successful coordination between the Bayraktar TB2 and TB3 UCAVs showcases Turkey's growing expertise in network-centric warfare and unmanned system interoperability. Unlike conventional drone strikes that rely on a single UAV for surveillance and engagement, this test illustrates a decentralized operational model where multiple unmanned assets can share tactical roles in real-time. Such capabilities significantly increase survivability, flexibility, and strike efficiency in both conventional and asymmetric combat environments.

Baykar’s ongoing development of the TB3, including continued munitions integration and platform testing, positions the aircraft as a transformative tool for naval and expeditionary operations. This test not only validates the TB3’s strike capabilities but also lays the groundwork for future swarming tactics and fully autonomous strike groups.

Overall, this achievement highlights the remarkable progress of the Turkish defense industry in the field of unmanned systems. Over the past decade, Turkey has rapidly evolved from an importer of drone technology to a global innovator and exporter of combat-proven UCAVs. The integration of advanced munitions, autonomous mission profiles, and carrier-operational flexibility signals a maturing ecosystem that continues to reshape modern warfare, placing Turkey among the world’s leading drone powers.

**112 . Date: 18-03-2025Fixed Wing - Armed ISR / ISTAR - MALE - Contract - Breaking News: Türkiye Supplies Akinci Drones to Somalia Sparking US Concerns Over Military AllianceURL: https://armyrecognition.com/news/aerospace-news/2025/breaking-news-tuerkiye-supplies-akinci-drones-to-somalia-sparking-us-concerns-over-military-alliance**

According to TürkiyeToday, Türkiye is set to deliver a batch of Bayraktar Akinci combat drones to Somalia, as part of a military cooperation initiative aimed at strengthening Somalia’s defense capabilities against al-Shabab. This transfer marks a new phase in the strategic partnership between Ankara and Mogadishu, with Türkiye emerging as a key player in the development of the Somali armed forces. The move aligns with Somalia’s broader efforts to modernize its military and secure its territory amid an escalating insurgency.

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With al-Shabab increasing its attacks on Somali forces and key infrastructure, the government seeks to leverage these drones to enhance its counterterrorism operations (Picture source: Baykar)

The Bayraktar Akinci, developed by Turkish defense company Baykar, is a strategic-class combat drone with greater firepower and versatility compared to the TB-2 model, which has been widely deployed in various conflict zones. It features flight endurance of over 24 hours and an operational range of 6,000 km, reaching an altitude of 30,000 feet. Equipped with a triple-redundant SATCOM BLOS and LOS communication system, it incorporates advanced artificial intelligence for signal processing, sensor fusion, and real-time situational awareness. With an autonomous landing gear system and fully automated flight controls, it offers enhanced maneuverability.

Capable of conducting air-to-ground and air-to-air missions, the Akinci carries a wide range of munitions, including Gökdoğan and Bozdoğan guided missiles, MK-81, MK-82, and MK-83 guided bombs, and SOM-A cruise missiles. It is equipped with a multifunction AESA radar, a collision avoidance radar, and an electronic warfare system, enhancing its operational effectiveness and survivability. Available in multiple configurations (Akinci-A, B, and C), it provides mission flexibility and long-range strike capabilities for complex operations.

With al-Shabab increasing its attacks on Somali forces and key infrastructure, the government seeks to leverage these drones to enhance its counterterrorism operations. Supporting ground forces, the Akinci drones will allow for precision strikes on militant positions and continuous surveillance of hostile movements. This approach is intended to gradually weaken the group’s operational capacity and restore governmental control over contested regions.

Somalia’s interest in Turkish military technology reflects a broader trend across Africa, where several nations are turning to Türkiye-made defense equipment for modernization efforts. The effectiveness of Turkish drones in conflicts such as Libya, Ukraine, and Nagorno-Karabakh has contributed to their growing demand internationally. In Somalia, the deployment of Bayraktar Akinci drones is expected to impact the security landscape, providing advanced aerial capabilities in a challenging operational environment.

This delivery comes amid rising geopolitical tensions, particularly with the United States, which has recently pressured the Somali government regarding its military alliances. Somali President Hassan Sheikh Mohamud dismissed his Defense Minister Abuldkadir Mohamed Nur following lobbying efforts from the U.S. military, according to sources cited by Middle East Eye. Nur, now reassigned as Minister of Ports, played a pivotal role in expanding Somalia’s military, energy, and aerospace cooperation with Türkiye. In February 2024, he facilitated a naval and defense agreement granting Ankara responsibility for securing Somali waters, establishing a naval force, and assisting in energy exploration. This partnership raised concerns in Washington, which prefers stronger ties with the United Arab Emirates in the region.

The recent deployment of Bayraktar Akinci drones to Somalia reportedly played a decisive role in this development, as the U.S. warned of potential security assistance reductions if Nur remained in office. The U.S. embassy in Mogadishu recently issued a security alert about a possible al-Shabab attack on the capital’s airport and other strategic sites, leading to flight cancellations by Qatar Airways and Turkish Airlines. Additionally, Washington scaled back funding for the Danab Special Forces, an elite Somali army unit supported by U.S. Africa Command (AFRICOM), impacting the country’s counterterrorism efforts.

Despite these tensions, a Turkish official downplayed the impact of Nur’s removal on bilateral relations, emphasizing that cooperation is based on institutional agreements rather than individual figures. Türkiye has made significant infrastructure and defense investments in Somalia and remains committed to supporting counterterrorism efforts. According to Tunc Demirtas, a regional expert at SETA, Türkiye’s focus will be on strengthening institutional frameworks to ensure the continuity of strategic agreements.

This geopolitical shift underscores the increasing competition for influence in Africa, where global and regional powers engage in military and economic partnerships. The growing role of combat drones in modern warfare is further highlighted by Türkiye’s involvement in Somalia, illustrating how military technology shapes security dynamics and international relations. As counterinsurgency operations continue, the integration of Akinci drones into Somalia’s defense strategy could significantly impact the conflict while intensifying broader geopolitical rivalries in the region.

**113 . Date: 14-04-2025General - ArmamentChina develops new drone-launched glide bomb similar to Russian UMPK kit with 65 kilometer rangeURL: https://armyrecognition.com/news/aerospace-news/2025/china-develops-new-drone-launched-glide-bomb-similar-to-russian-umpk-kit-with-65-kilometer-range**

As reported by China3army on March 29, 2025, China has developed a new modular glide and correction unit for the HuoShi 1-130 glide bomb. The system was designed by Henan Unmanned Intelligent Equipment Co., Ltd. and is intended for deployment on unmanned aerial vehicles. Depending on the release speed and altitude, the bomb can glide between 6 and 65 kilometers. The HuoShi 1-130 is equipped with an electronic fuse configurable for airburst detonation and features a datalink that allows automatic target coordinate input from small reconnaissance drones operating along the line of contact. The guidance system integrates Beidou satellite navigation with geomagnetic and inertial navigation. Follow Army Recognition on Google News at this link

Such glide bomb kits provide a cost-effective means of enhancing air-to-ground capabilities across multiple platforms, including drones. (Picture source: Telegram/china3army)

This development is comparable to Russia’s UMPK (Universal Gliding and Correction Module), which has been in use since early 2023 to convert Soviet-era unguided bombs into precision-guided munitions. UMPK kits consist of external modular systems with folding wings, tail surfaces, and an onboard guidance system including a Kometa-M satellite antenna, inertial measurement units, and thermal batteries. They are mechanically strapped to bombs at airfields, without requiring structural modification or factory-level retrofit. Guidance is performed through GPS/GLONASS and inertial systems, and the release process includes pre-set coordinates via the aircraft’s SVP-24 bomb trajectory computer. After deployment, the wings unfold, and the guidance module provides mid-course corrections.

UMPK-equipped bombs have been used extensively by Russian forces in Ukraine, including with FAB-250, FAB-500, FAB-1500, and FAB-3000 general-purpose high-explosive bombs. Variants also exist for ODAB-500 and ODAB-1500 thermobaric bombs, RBK-500 cluster bombs, and at least one usage with the three-ton FAB-3000 was officially acknowledged in July 2024. A thermobaric bomb modified with the UMPK kit was shown in Russian Ministry of Defense footage in April 2024, and footage of a FAB-1500M54 bomb equipped with the guidance system was released during a visit by the Russian Minister of Defense to the Tactical Missiles Corporation in January 2024.

In November 2023, Conflict Armament Research analyzed recovered UMPK components and noted the integration of a SMART navigation controller, Kometa satellite navigation unit, dual thermal batteries, wing deployment mechanisms, and servomotors for aerodynamic control. By March 2024, reports from Ukrainian sources noted a case in which a UMPK-equipped FAB-500 bomb detonated approximately five hours after release, potentially indicating use of a delayed fuse or self-destruct mechanism. The glide time from release to impact typically ranges between five and seven minutes. The guidance system is optimized for fixed targets, and the bombs are primarily released from altitudes between 1 and 12 kilometers at speeds of 900 to 950 kilometers per hour. From 10 kilometers altitude, the glide range is approximately 55 kilometers; from 12 kilometers, it increases to about 60 kilometers.

The Russian UMPK is reported to be used in areas 35 to 50 kilometers from the frontline to stay outside most Ukrainian air defense coverage. Ukrainian assessments indicate that Russia releases approximately 3,500 UMPK-equipped bombs per month. The guidance kits are reported to cost approximately 2 million rubles, or around 24,460 USD. The guidance precision is generally within 8 to 15 meters under optimal satellite navigation conditions. The destructive radius can reach up to 140 meters for soft targets. Due to the lack of propulsion systems, these bombs emit no thermal signature and travel at high speeds, reducing the effectiveness of air defense systems such as the Buk-M1.

A new Russian system, the UMPB D-30SN, was identified in March 2024 through wreckage recovered in Ukraine. It integrates a FAB-250 warhead with a jet engine, fuel tank, control surfaces, and guidance systems, allowing for extended range. Russian sources report it can be launched from Su-34 aircraft and from ground-based Tornado-S multiple launch rocket systems. A photo published in May 2024 showed four UMPB bombs being released from a Su-34, with the estimated range reaching up to 90 kilometers. In October 2024, components from a UMPB were discovered in the wreckage of an S-70 UAV shot down by Russian forces, suggesting UAV-based delivery.

In response, Ukraine initiated its own program to develop a UMPK equivalent. Ukrainian Air Force Commander Serhii Golubtsov confirmed development efforts in June 2024. Ukrainian footage released in August showed a Su-24M deploying a guided bomb featuring cruciform control fins and a potential propulsion nozzle. Ukrainian electronic warfare is reported to degrade Russian bomb accuracy, forcing multiple UMPK bombs—up to 8–16 per target—to achieve effective strikes.

China’s earlier developments include the LS series, produced by Luoyang Optoelectro Technology Development Center. The LS-6, revealed in 2006, is a modular kit featuring folding wings, inertial and satellite guidance, and optional laser or scene-matching terminal guidance. Variants exist for 50, 100, 250, and 500 kg warheads, with ranges of up to 65 km for the 500 kg version. The LS-6’s turbojet-assisted variant increases this to 300 km. The LS series is designed to be compatible with a range of aircraft and uses the GJV289A interface, similar to the MIL-STD-1553B.

The United States’ JDAM system, in service since 1999, serves a similar function by converting unguided bombs into precision-guided munitions. JDAM guidance kits consist of GPS-aided inertial navigation, tail control surfaces, and optional terminal seekers. JDAM-ER kits extend the range to over 72 km with folding wings. Ukraine has received JDAM and JDAM-ER kits and has used them operationally from Su-27 and MiG-29 aircraft. Ukrainian forces have reportedly used JDAMs against command posts, including in Tetkino, Russia, and in Bakhmut. All these systems are designed to increase the operational flexibility of existing warhead stockpiles by enabling longer-range, more accurate attacks from beyond the range of most surface-to-air missile systems. Despite limitations—such as dependency on satellite signals and inability to strike moving targets—such glide bomb kits provide a cost-effective means of enhancing air-to-ground capabilities across multiple platforms.

**114 . Date: 17-03-2025Fixed Wing - Cargo - MALE - General - PlatformChina Revolutionizes Autonomous Transport with TP1000 Cargo Drone Featuring a One-Ton PayloadURL: https://armyrecognition.com/news/aerospace-news/2025/china-revolutionizes-autonomous-transport-with-tp1000-cargo-drone-featuring-a-one-ton-payload**

China continues to advance in autonomous aerial transport with the first flight of the TP1000, a cargo drone developed by Yitong UAV System Co., as reported by Global Times on March 16, 2025. The flight test took place on March 15, 2025, at Laixi Dianbu Airport in Qingdao, Shandong Province. Designed for freight transportation, the drone has a payload capacity exceeding one ton, expanding China’s low-altitude logistics capabilities and reinforcing its ambitions in this developing sector.

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The TP1000’s adaptable design allows modifications for maritime surveillance, scientific research, resource monitoring, and infrastructure projects across civilian and defense sectors (Picture source: Yitong UAV System)

The TP1000 is a fixed-wing drone measuring 10.97 meters in length, with a wingspan of 14.93 meters and a total height of 4.19 meters. It can carry a payload of 1,000 kg over a maximum distance of 1,800 kilometers, depending on the load conditions. Its 7 m³ cargo bay accommodates various types of goods, facilitating connections between regional hubs and local airports. Compared to its predecessor, the TP500, the TP1000 offers greater range and payload capacity, meeting the increasing demands of autonomous cargo transport.

One of its key features is its integration into existing transport infrastructures. The rear cargo hold is designed for standard freight pallets, enabling efficient loading and unloading. It also supports precision airdrop capabilities, enhancing its suitability for emergency logistics, humanitarian aid, and cargo delivery in remote areas. The modular design allows it to be equipped with either a piston or turboprop engine, depending on operational requirements and environmental conditions, including high-altitude operations.

Beyond freight transport, the TP1000 can be adapted for various operational roles. According to Jin Ge, General Manager of Yitong UAV System Co., its design allows for modifications to support applications such as maritime surveillance, scientific research, resource monitoring, and regional infrastructure projects. This adaptability enhances its potential across both civilian and defense sectors.

The drone has already attracted commercial interest, with 30 orders placed by companies including ZTO Express and Asian Express Aviation. Its certification process with the Civil Aviation Administration of China (CAAC) is scheduled to begin by late 2025, with approval expected in 2026. Its entry into service is anticipated to contribute to the expansion of autonomous cargo drone operations in China, where the sector is undergoing rapid development to address growing logistics demands.

The TP1000 is part of a broader ecosystem of cargo drones being developed in China, where several models are in competition. Compared to the HH-100, developed by Tengden Industries, which has a 700 kg payload capacity and a 2,000 km range, the TP1000 offers higher cargo capacity but slightly reduced range. However, the HH-100 can operate at altitudes up to 5,000 meters, making it more suitable for mountainous or challenging environments. The CH-YH1000, developed by Aerospace CH UAV Co. Ltd., shares the same 1,000 kg payload capacity as the TP1000 but features a higher operational ceiling of 8,000 meters and an endurance exceeding 10 hours, making it particularly suited for extended missions and difficult environments, including conflict zones and isolated regions.

The expansion of cargo drone capabilities in China aligns with broader strategic and economic objectives. These systems enhance domestic logistics, particularly in remote regions with limited infrastructure. Additionally, China aims to strengthen its position in the global autonomous drone sector by developing models for diverse applications, ranging from commercial freight transport to defense and humanitarian missions. These drones provide an alternative to conventional transport methods, reducing operational costs while improving response capabilities in disaster relief and urgent logistics. By investing heavily in this field, China is not only seeking to enhance its own logistics network but also to position its technologies for international markets looking for efficient and scalable autonomous transport solutions. This approach may enable it to compete with established players in the global cargo drone industry while developing a key sector for the future of aerial transport.

**115 . Date: 03-04-2025Fixed Wing - Loitering Munition - Mini - General - PlatformDelair's OSKAR Loitering Munition Combines Extended Range and Electronic Countermeasure Resistance at SOFINS 2025URL: https://armyrecognition.com/news/aerospace-news/2025/delairs-oskar-loitering-munition-combines-extended-range-and-electronic-countermeasure-resistance-at-sofins-2025**

Presents at the SOFINS 2025 exhibition, the OSKAR loitering munition, developed by Delair and KNDS France, represents a new generation of tactical remotely operated munitions designed to meet the requirements of special forces and forward-deployed units. While not being introduced for the first time, the system now stands out due to its technical maturity and its specific capabilities in terms of endurance, precision, and resilience in contested electromagnetic environments.

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A key strength of the OSKAR lies in its ability to operate effectively in environments subject to heavy electronic jamming or lacking satellite navigation services (Picture source: Army Recognition)

Built on the fixed-wing UX11 drone platform from Delair, the OSKAR system incorporates a 2.3 kg fragmentation warhead with controlled effects developed by KNDS France, the entity formerly known as Nexter Arrowtech. The project originated under the Colibri call for proposals launched in 2022 by France’s Direction Générale de l’Armement (DGA), which aimed to accelerate the fielding of low-cost, lightweight, hand-deployable loitering munitions. Initially planned with a range of approximately 8 km, OSKAR was quickly adapted to achieve an operational range of 25 km, with flight performance optimized for Beyond Visual Line of Sight (BVLOS) missions.

A key strength of the OSKAR lies in its ability to operate effectively in environments subject to heavy electronic jamming or lacking satellite navigation services (GNSS-denied). This capability is particularly relevant to special operations, enabling the drone to carry out accurate strikes even in highly contested electromagnetic conditions. Its rapid deployment, compact design, and minimal logistical footprint make it suitable for infiltration missions, offensive reconnaissance, or targeted neutralization at medium range.

KNDS France has integrated OSKAR into a broader family of remotely operated munitions called MATARIS, named after the Gallic javelin. Now designated MV-25, this model complements a product range that also includes the short-range MT-10 and MX-10 multicopter variants, as well as the future high-speed MV-100. These systems offer land forces a modular set of capabilities, from precision strikes within a 10 km radius to deeper engagements beyond 80 km, depending on the warhead and launch platform configuration.

The DGA has already placed orders for several hundred units across this munitions range, with production involving close cooperation between French SMEs such as Delair, EOS Technologie, and TRAAK. This approach reflects a strategic objective to develop a sovereign technological base in a rapidly evolving sector. Rather than building large inventories, the French Army emphasizes the need for a flexible and continuous production capacity to adjust quickly to changing threats and advances in opposing technologies.

Although primarily intended for French forces, the OSKAR drone has already seen operational deployment in Ukraine, where around one hundred units were delivered in 2024. These shipments, part of a broader order for 2,000 loitering munitions announced by the French Ministry of Armed Forces, allowed the system to be tested under high-intensity combat conditions, particularly in environments with extensive electronic warfare activity. The operational feedback from these deployments has helped validate the system’s performance and guide further development.

Delair and KNDS France are emerging as key contributors in this field of technological rearmament, offering systems that are already operational and scalable. OSKAR’s ease of use, resistance to countermeasures, and precision meet the specific requirements of special forces for discreet and responsive strike capabilities. As remotely operated munitions become a standard element on today’s battlefields, their integration into tactical units and broader military doctrines appears increasingly likely.

**116 . Date: 19-03-2025Acquisition - Destinus integrates Aerialtronics to drive UAV innovation in EuropeURL: https://armyrecognition.com/news/aerospace-news/2025/destinus-integrates-aerialtronics-to-drive-uav-innovation-in-europe**

On March 10, 2025, Destinus, a European company specializing in aerospace and defense technologies, announced the acquisition of key assets, technology, and personnel from Aerialtronics, a Dutch company specializing in multicopter UAV platforms. This strategic acquisition significantly expands Destinus' footprint in the Netherlands and integrates advanced AI-powered drone capabilities into its aerospace portfolio.

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The transaction aligns with the European investment program ReArm Europe, which allocates €800 billion to strengthen the continent's defense capabilities. (Picture source: Destinus)

The transaction aligns with the European investment program ReArm Europe, which allocates €800 billion to strengthening the continent's defense capabilities. As Europe faces growing security challenges, the development of autonomous and AI-powered UAV solutions is a key priority for enhancing surveillance, intelligence-gathering, and operational efficiency across military and civilian applications. By integrating Aerialtronics' UAV solutions with its aerospace expertise, Destinus positions itself at the forefront of dual-use applications in aviation and defense, reinforcing Europe's technological sovereignty in the strategic drone sector.

According to Mikhail Kokorich, CEO of Destinus, this acquisition marks a key development in intelligent drone technologies and will accelerate innovation in surveillance, inspection, and security applications. UAVs have become essential in modern defense and security frameworks, particularly in border monitoring, critical infrastructure protection, and rapid-response operations. As European nations seek to reduce reliance on non-European drone technologies and develop autonomous aerial systems tailored to their specific needs, Destinus' integration of Aerialtronics' expertise represents a significant step toward achieving these objectives.

Aerialtronics has established itself as a key player in UAV solutions, integrating advanced sensors and AI-driven analytics systems. These platforms convert raw IoT data into actionable insights, creating effective synergies between aerial applications and industrial processes. By combining real-time data processing with automated flight capabilities, these UAVs can support complex missions such as autonomous reconnaissance, high-precision environmental monitoring, and urban security patrols. The acquisition includes Aerialtronics' intellectual property portfolio and proprietary technologies, as well as its team of experts, who will now contribute to the development of next-generation drones within Destinus.

This transaction marks Destinus' second strategic acquisition in the Netherlands, reinforcing its commitment to the country as a hub for aerospace technology. The Netherlands has been at the center of Europe's push for innovation in UAV technology, with research initiatives and industrial partnerships focused on AI-driven autonomous flight, high-endurance UAVs, and integration with next-generation communication networks such as 5G and satellite-linked data systems. Destinus is leveraging proximity to key markets and access to Dutch expertise in aeronautics and AI to support long-term growth, ensuring that European UAV solutions can compete with global leaders in the field.

The integration of Aerialtronics’ AI-driven UAV technologies within Destinus' ecosystem will enhance the company’s capabilities in surveillance, inspection, and security solutions for an international client base. As European defense initiatives continue to emphasize drone warfare, unmanned logistics, and battlefield connectivity, Destinus’ advanced UAV platforms will help meet the operational demands of armed forces, border security agencies, and private-sector clients seeking to optimize aerial surveillance.

The acquisition was completed in compliance with Dutch insolvency laws, following Aerialtronics' bankruptcy. Destinus acquired the company’s technological assets and intellectual property while not assuming its previous legal entity, ensuring a smooth transition and operational continuity.

With Aerialtronics’ team now part of Destinus, the company takes a further step in its expansion in the Netherlands and its commitment to technological innovation. The collaboration between the two companies will support the development of autonomous flight systems across different speed spectrums. This strategic integration will accelerate advancements in UAV solutions for defense and security, strengthening Europe’s position in an increasingly competitive global drone market. By fostering an ecosystem of high-performance UAVs tailored to European operational needs, Destinus contributes to the continent’s drive for technological independence and security resilience in the evolving geopolitical landscape.

**117 . Date: 08-01-2025Armed ISR / ISTAR - HALE - Partnership - Development of Combat UAVs in Japan Through Strategic Partnership with BoeingURL: https://armyrecognition.com/news/aerospace-news/2025/development-of-combat-uavs-in-japan-through-strategic-partnership-with-boeing**

Boeing Japan, a subsidiary of the American aerospace multinational Boeing, secured a contract on December 10, 2024, with Japan's Acquisition, Technology & Logistics Agency (ATLA) to conduct research and simulation testing on unmanned aerial vehicles (UAVs) designed to operate alongside manned aircraft. This initiative aligns with Japan's strategy to develop advanced technologies aimed at enhancing its military capabilities in autonomous systems and collaborative combat.

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The XQ-58A Valkyrie is an unmanned combat aerial vehicle designed by Kratos Defense & Security Solutions for the U.S. Air Force's unmanned combat air vehicle program (Picture source: US DoD)

Signed on October 18, 2024, for an amount of 155,177,000 JPY, approximately 1 million USD, this contract represents a significant step in Japan’s efforts to integrate UAVs into its military operations. ATLA explained that Boeing Japan was uniquely positioned to carry out this project due to its exclusive access to the required simulation software, along with the necessary technical resources and expertise.

Japan's interest in combat UAVs is not a recent development. As early as December 2022, the Ministry of Defense (JMOD) announced plans to develop "combat support UAVs" capable of collaborating with manned aircraft. These efforts are also part of the Global Combat Air Programme (GCAP), a joint initiative between Japan, Italy, and the United Kingdom to develop a next-generation fighter aircraft. In December 2023, JMOD also signed an agreement with the U.S. Department of Defense to conduct research on artificial intelligence for UAVs to ensure seamless integration with Japan's future fighter jets.

The concept of collaborative UAVs, often referred to as "loyal wingman" or "collaborative combat aircraft" (CCA), aims to create autonomous drones capable of supporting manned aircraft in a range of missions, including intelligence, surveillance, and reconnaissance (ISR), electronic warfare, and combat operations. One prominent example is Boeing Australia's MQ-28 Ghost Bat, a multi-role UAV developed for the Royal Australian Air Force. Designed as a "force multiplier," the Ghost Bat features advanced artificial intelligence and a modular nose section that can be customized to meet specific operational requirements.

In July 2024, it was announced that Australia’s Ghost Bats would prioritize ISR capabilities over weapon systems, partially due to Boeing's unsuccessful bid for an autonomous combat jet program in the United States. Nevertheless, the Ghost Bat remains a viable candidate for Japan’s combat support UAV program, given its adaptability and role in multi-domain missions.

Japan is also pursuing additional UAV development independently. Mitsubishi Heavy Industries (MHI) is working on two collaborative UAV concepts: one focused on tactical combat and another aimed at supporting manned aircraft operations. Both are being designed to integrate with the GCAP next-generation fighter, underscoring Japan’s commitment to incorporating cutting-edge technologies into its defense systems.

In parallel with Boeing Japan's research, ATLA continues to explore other initiatives to advance autonomous capabilities. This month, the agency issued public bids for the development of stealth UAVs for aerial refueling and unmanned surface vehicles (USVs) designed for explosive handling and mine countermeasures.

The outcomes of Boeing Japan's simulation tests will play a crucial role in shaping ATLA and JMOD’s decisions on selecting UAVs that best align with Japan's defense requirements. These efforts reflect the country’s focus on modernizing its military through international partnerships and autonomous technological advancements.

This contract between Boeing Japan and ATLA highlights a pivotal moment in Japan’s development of autonomous military capabilities. As the country invests in collaborative technologies for its future aircraft, partnerships with nations like the United States emphasize the importance of a strategic approach to addressing evolving defense challenges.

**118 . Date: 19-02-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformDiscover how the Jeniah became UAE's first jet-powered combat droneURL: https://armyrecognition.com/news/aerospace-news/2025/discover-how-the-jeniah-became-uaes-first-jet-powered-combat-drone**

The Emirati Edge Group presented its new Jeniah unmanned combat aerial vehicle (UCAV) at IDEX 2025 as part of the UAE’s focus on taking part in the development of future air combat strategies. Developed by EDGE subsidiary ADASI, the Jeniah is a high-speed, low-observable UCAV designed for multi-domain operations. Its configuration enables deployment in land and maritime missions, incorporating technology suited for various operational requirements. Follow Army Recognition on Google News at this link

The Jeniah is designed for autonomous and semi-autonomous missions, utilizing artificial intelligence for target identification, navigation, and mission execution. (Picture source: Army Recognition)

Edge Group developed the Jeniah over a three-year period, culminating in its first test flight on March 15, 2024, at the X RANGE testing facility in Abu Dhabi. During this flight, the UCAV demonstrated autonomous operational capabilities and achieved a speed of 1,050 km/h. This test marked the first flight of a domestically-produced jet-powered UCAV in the UAE. The Jeniah is powered by an undisclosed jet engine and includes artificial intelligence features, though the specific role of AI in its operations remains unspecified.

The Jeniah is designed for autonomous and semi-autonomous missions, utilizing artificial intelligence for target identification, navigation, and mission execution. The UCAV is optimized for networked warfare, operating independently or in coordination with other unmanned and manned assets. It is equipped for offensive strikes, surveillance, and battlefield support in contested environments, aligning with anti-access and area denial (A2/AD) strategies. It can function solo or in group formations and is capable of operating in high-threat areas with minimal communication requirements, using AI to assist in decision-making and situational awareness.

Edge Group continues to assess the Jeniah’s performances, with additional flight testing and potential applications in international defense markets, as the aircraft is also considered for future manned-unmanned teaming (MUM-T) applications, as air forces explore integrating unmanned platforms alongside fighter jets. However, to date, the Jeniah is not planned for integration into the UAE’s Rafale F4 fleet, but potential adaptations for the Rafale F5 and discussions with European manufacturers indicate possible future collaboration. Dassault Aviation is integrating the nEUROn UCAV into the Rafale F5 program, reflecting an industry-wide move toward increased use of unmanned aerial assets in future combat operations. The UAE Air Force and Air Defense (UAEAF&AD) is evaluating the role of MUM-T in its operational strategy to enhance combat effectiveness and reduce risks to personnel.

The Jeniah has a maximum takeoff weight of over 4,000 kg, a wingspan of 7 meters, and a length of 11 meters. It can carry payloads up to 480 kg, including guided munitions, reconnaissance equipment, and electronic warfare systems. The aircraft has a maximum speed exceeding 1,000 km/h and a cruising speed of Mach 0.7, with an altitude ceiling of 25,000 feet. Its internal weapons bay is designed to reduce its radar signature, enhancing its low-observable characteristics for operations in contested airspace. The Jeniah's ability to operate in high-threat environments allows it to gather intelligence and provide targeting data for broader operational planning.

**119 . Date: 26-03-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - SoftwareExclusive: Russia Ready To Deploy Okhotnik stealth drone with Su-57 fighter jet in new manned-unmanned strike strategyURL: https://armyrecognition.com/news/aerospace-news/2025/exclusive-russia-ready-to-deploy-okhotnik-stealth-drone-with-su-57-fighter-jet-in-new-manned-unmanned-strike-strategy**

Citing recent information from Yuri Koptev, Managing Director of Russian State Defense Company, ROSTEC, the Russian defense aerospace industry continues to make significant strides in developing advanced unmanned aerial capabilities with the S-70 Okhotnik-B, a large strategic stealth drone engineered to operate in direct coordination with the Su-57 fifth-generation fighter jet. This innovative manned-unmanned teaming concept is set to redefine Russia’s aerial warfare doctrine, with a strong emphasis on integrating autonomous systems into traditional combat formations. Follow Army Recognition on Google News at this link

The Russian S-70 Okhotnik stealth drone is positioned alongside the Su-57 fighter jet on the tarmac, highlighting the operational pairing of unmanned and manned platforms as part of Russia’s evolving air combat strategy. (Picture source: Russian TV)

Developed by Sukhoi in partnership with Russian Aircraft Corporation MiG, the S-70 Okhotnik-B — which translates to “Hunter” — embodies a stealthy flying-wing design similar to the American B-2 Spirit. It incorporates advanced composite materials and radar-absorbent coatings to reduce its radar cross-section and enhance survivability in contested environments. The drone is approximately 20 tons in weight and spans nearly 20 meters in wingspan. It is powered by an AL-31F turbofan engine, providing it with subsonic cruising speeds of up to 1,000 km/h and an operational ceiling of around 12,000 meters. With a combat radius of approximately 4,000 km, the Okhotnik can engage in deep-strike missions or long-endurance surveillance without the need for aerial refueling.

One of the defining features of the Okhotnik-B is its ability to carry munitions internally. This internal weapon bay allows it to remain stealthy while being armed with a range of precision-guided bombs and missiles. Its sensor suite includes advanced electro-optical systems, synthetic aperture radar, and signals intelligence capabilities, enabling it to execute reconnaissance, electronic warfare, and precision strike missions. These capabilities make it not only a valuable strike asset but also a critical node in a networked battlespace.

What sets the Okhotnik-B drone apart is its interoperability with the Su-57 multirole stealth fighter. The concept of pairing a manned fighter with multiple unmanned wingmen significantly expands the combat effectiveness of Russia’s air force. The Su-57 can act as a command node, directing the drones to scout ahead, conduct electronic jamming, or engage targets in high-threat areas without endangering the pilot. This pairing allows Russian forces to project power deeper into contested zones while reducing risk to manned assets.

According to reports, a two-seat variant of the Su-57 is being developed specifically to command and control up to four Okhotnik drones simultaneously. This capability enables highly coordinated operations involving swarming tactics, saturation strikes, and real-time intelligence sharing. By using the drones as decoys, jammers, or strike elements, the Su-57 pilot can maintain a safe standoff distance while shaping the battlespace.

The Okhotnik program has already achieved several operational milestones. The first flight took place in August 2019, with a landmark joint flight with the Su-57 occurring shortly thereafter in September 2019. Subsequent testing has included simulated missile engagements and advanced fire-control assessments. However, the program has faced setbacks, including a high-profile incident in October 2024, when a Russian Su-57 reportedly downed its own Okhotnik drone over Ukraine to prevent the sensitive technology from falling into enemy hands. Despite this, Ukrainian forces were said to have recovered parts of the drone, potentially allowing Western analysts to study its systems.

The deployment of unmanned wingmen alongside fighter aircraft is not unique to Russia. Other nations, particularly the United States and China, are also pursuing similar concepts. The U.S. has been developing loyal wingman drones such as the Boeing MQ-28 Ghost Bat (formerly known as the Airpower Teaming System), designed to support F-35 and F-22 fighters. These drones aim to conduct autonomous missions, act as force multipliers, and reduce pilot workload in high-intensity operations. China has also showcased its FH-97A loyal wingman drone at airshows, signaling interest in similar capabilities.

The advantages of such systems are manifold. They enable force multiplication, allow human pilots to stay out of high-risk zones, and offer increased flexibility in mission planning. Drones can be equipped with specialized payloads — such as electronic warfare modules, decoys, or long-range missiles — tailored for specific operational roles. Additionally, the use of AI-assisted control systems promises faster reaction times and reduced decision-making burdens on manned aircraft pilots.

Russia’s S-70 Okhotnik-B represents a significant leap toward integrating unmanned systems into its tactical and strategic air forces. While the program is still undergoing refinement and testing, its eventual integration with the Su-57 points to a future where coordinated manned-unmanned operations become the norm. If successful, the Okhotnik could serve as a model for future UCAV development globally, offering insight into the evolving nature of air power in the 21st century.

**120 . Date: 04-04-2025Fixed Wing - Armed ISR / ISTAR - HALE - Partnership - Exclusive: US and Australia Co-Develop MQ-28A Ghost Bat Unmanned Combat Aircraft for Next-Gen Air WarfareURL: https://armyrecognition.com/news/aerospace-news/2025/exclusive-us-and-australia-co-develop-mq-28a-ghost-bat-unmanned-combat-aircraft-for-next-gen-air-warfare**

The partnership between the United States and Australia in the field of next-generation unmanned aerial systems is reshaping the future of air combat. At the heart of this collaboration lies the MQ-28A Ghost Bat, a stealth-capable, AI-driven (Artificial Intelligence) autonomous drone jointly developed by Boeing Defence Australia and the Australian Department of Defence (DoD), with support from Boeing’s U.S.-based teams. Designed to operate alongside manned fighters as part of a broader force package, the Ghost Bat symbolizes a new model of joint development—where allied nations not only share strategic goals but also co-design and co-produce high-end military capabilities. Follow Army Recognition on Google News at this link

Boeing MQ-28A Ghost Bat in flight during a test mission as part of the joint development program between Boeing Defence Australia and the Australian Department of Defence. The unmanned combat aircraft is designed to operate alongside crewed platforms like the F-35 fighter jet and E-7A Wedgetail airborne early warning and control aircraft. (Picture source: Boeing)

Originally initiated under Australia’s Loyal Wingman program, the MQ-28A has evolved from a national demonstrator into a bi-national combat drone platform with international ambitions. The program integrates industrial, technological, and operational contributions from both countries. Boeing Defence Australia leads local design, manufacturing, and flight testing, while Boeing teams in the United States contribute advanced artificial intelligence, autonomy software, and integration technologies drawn from parallel U.S. Air Force research efforts.

According to Boeing, the MQ-28A flight test programme is expected to conclude by the end of 2025. The final test phase will feature MQ-28 aircraft conducting operationally relevant missions in conjunction with Royal Australian Air Force (RAAF) crewed assets, including the E-7A Wedgetail airborne early warning and control aircraft and the F-35A Joint Strike Fighter. These joint missions are intended to validate the drone’s ability to operate within a real-world battle network, contributing to surveillance, targeting, or strike operations as part of an integrated air combat team.

The Ghost Bat is a modular, long-range unmanned system measuring approximately 11.7 meters in length, with a combat radius exceeding 3,700 kilometers. Its stealth-optimized design, internal payload bay, and open systems architecture allow for rapid mission reconfiguration across intelligence, surveillance, reconnaissance (ISR), electronic warfare, and kinetic operations. Built with manned-unmanned teaming (MUM-T) in mind, the aircraft can function semi-independently or under the command of a pilot in a crewed platform, enhancing survivability and tactical flexibility.

A major boost to the program came with the Australian government’s announcement of an AUD $399 million funding package to advance the development of key Ghost Bat systems. This funding will support further work on sensor and mission payloads, an integrated combat system, and autonomous flight control capabilities. It will also finance the construction of three next-generation Block 2 aircraft, complementing the 10 MQ-28A Block 1 drones already contracted for delivery to the RAAF. This evolution toward Block 2 reflects the program’s transition from technology demonstration to scalable production and operational readiness.

From a broader perspective, the U.S.–Australia collaboration on the Ghost Bat represents a shift in how allied countries approach defense innovation. Rather than duplicating efforts, the two nations are aligning their industrial bases to jointly deliver future-ready combat platforms. Boeing’s integrated teams in Australia and the United States are setting a precedent for co-development cycles that merge rapid prototyping, iterative testing, and doctrinal planning.

The MQ-28A has also attracted attention from the U.S. Department of Defense, which sees the platform as a relevant test case for its own Collaborative Combat Aircraft (CCA) initiative under the Next Generation Air Dominance (NGAD) framework. While the Ghost Bat is tailored to Australian needs, its architecture, teaming interface, and autonomy algorithms offer valuable lessons for U.S. program development. In the long term, this alignment could support interoperability between allied unmanned systems operating in shared theaters, particularly in the Indo-Pacific region.

Strategically, the Ghost Bat programme reinforces Australia’s position as a defense innovation hub and a key contributor to coalition airpower. For the United States, it presents a low-risk, high-impact model for accelerating autonomous combat systems through international cooperation. With flight testing progressing, production ramping up, and operational integration in view, the MQ-28A Ghost Bat is becoming a defining asset in the global shift toward distributed, unmanned air warfare—driven not by one nation alone, but by allied ingenuity.

**121 . Date: 24-01-2025HALE - General - SoftwareExclusive: US Lockheed Martin F-35 Fighter Jet Controls Drone in Flight Using AI TechnologiesURL: https://armyrecognition.com/news/aerospace-news/2025/exclusive-us-lockheed-martin-f-35-fighter-jet-controls-drone-in-flight-using-ai-technologies**

2024 - Lockheed Martin is revolutionizing the future of air combat warfare by pushing the boundaries of how fighter aircraft and autonomous systems operate together in high-stakes, contested environments. On January 22, 2025, the company released a major update detailing its innovations throughout 2024, showcasing its efforts to enable U.S.-made fighter jets, such as the F-35, to control drones. This effort is central to the U.S. Air Force’s ambitious development of the Collaborative Combat Aircraft (CCA) fleet, a key element of the Air Force’s strategy for achieving air dominance in the coming decades. Follow Army Recognition on Google News at this link

Illustration of the F-35 controlling a drone in flight using advanced AI technologies for real-time coordination and mission execution. (Picture source: Lockheed Martin)

The Collaborative Combat Aircraft (CCA) program is a pivotal component of the Air Force’s vision for the future of aerial warfare. These semi-autonomous, unmanned aerial vehicles (UAVs) are designed to act as “loyal wingmen” to crewed fighter jets, offering enhanced capabilities and flexibility in complex combat scenarios. The CCAs can operate independently or in coordinated groups, taking direction from human pilots while also carrying out a range of missions, including air-to-air combat, air-to-ground combat, electronic warfare, and intelligence, surveillance, and reconnaissance (ISR). Equipped with cutting-edge AI, these drones can seamlessly collaborate with piloted aircraft, extending their reach and effectiveness in high-threat environments.

Lockheed Martin’s successful demonstrations throughout 2024 highlight the F-35’s ability to serve as the control hub for these drones, integrating seamlessly with the CCA fleet. As the world’s most advanced stealth fighter, the F-35 has been shown to not only operate as a powerful fighter jet but also to manage a network of autonomous drones, orchestrating their operations in real-time. This integration enables the F-35 to direct the drones to perform specific tasks such as surveillance, threat suppression, and electronic warfare, while the human pilot can focus on higher-level strategic decisions.

The key enabler of this transformative capability is the integration of Artificial Intelligence (AI). Lockheed Martin’s recent tests demonstrated the end-to-end connectivity between the F-35 and the drones, ensuring that both systems can communicate seamlessly. The AI-powered architectures built into both the F-35 and the CCAs allow for real-time decision-making and control, providing the pilot with the ability to direct the drones in-flight, freeing them to focus on higher-priority combat objectives. This AI-driven coordination enhances operational flexibility, allowing for a more dynamic response to rapidly changing battlefield conditions.

These innovations are at the heart of the Air Force’s broader vision to create an interconnected, multi-domain network of systems, where manned and unmanned platforms work in concert to achieve greater mission success. The continued development of AI technologies and drone integration will allow the F-35 to serve as a central node in this evolving network, increasing the number of drones it can control while improving the overall effectiveness of both manned and unmanned systems. Over time, these systems will evolve to become more autonomous, capable of operating together in complex environments with minimal human intervention, ultimately reducing the risks to personnel and increasing mission success rates.

As part of this vision, Lockheed Martin’s work on AI and drone integration ensures that the U.S. Air Force will maintain a technological edge in future combat scenarios. The F-35 will not only continue to serve as a highly capable fighter aircraft but also as a powerful command-and-control platform, managing the growing fleet of Collaborative Combat Aircraft. This shift toward integrated, manned-unmanned operations will increase the flexibility, responsiveness, and survivability of U.S. forces in the face of emerging global threats.

The integration of AI-driven drones with advanced fighter aircraft is poised to reshape the future of air combat. Lockheed Martin’s innovations in piloted-drone teaming, particularly with the F-35, represent a significant leap forward in military aviation. The ability of fighter jets to control and coordinate fleets of autonomous drones will redefine how air superiority is achieved, ensuring that the U.S. remains at the forefront of aerial warfare. By combining the stealth, agility, and firepower of the F-35 with the endurance, adaptability, and cost-effectiveness of autonomous drones, Lockheed Martin is leading the way toward a new era of air dominance, ensuring success on the most complex and high-threat battlefields of tomorrow.

**122 . Date: 26-02-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformFirst South Korean Stealth Drone LOWUS Enhances Survivability of KF-21 FightersURL: https://armyrecognition.com/news/aerospace-news/2025/first-south-korean-stealth-drone-lowus-enhances-survivability-of-kf-21-fighters**

The Agency for Defense Development (ADD) and Korean Air held a rollout ceremony for the prototype of the Low Observable Unmanned Wingman System (LOWUS) at the Korean Air Tech Center in Busan on February 25, 2025. Designed to operate alongside piloted fighter jets in a manned-unmanned teaming system, this stealth drone autonomously carries out reconnaissance, electronic warfare, and strike missions under the supervision of a crewed aircraft.

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The LOWUS Drone features a trapezoidal fuselage, sharply swept wings, a V-tail, and an overhead air intake, resembling the American XQ-58A Valkyrie drone (Picture source: DAPA)

The development of LOWUS is part of a project initiated in 2021 by ADD and Korean Air, with support from the Defense Acquisition Program Administration (DAPA). Its design prioritizes stealth, minimizing radar detection through the use of radar-absorbing materials and an optimized structure to reduce visibility to radar, acoustic, and optical sensors. A first flight is planned by the end of the year, followed by manned-unmanned teaming tests scheduled to continue until 2027, during which a crewed aircraft will take direct control of the drone in flight.

LOWUS was designed from the outset to operate in coordination with crewed fighter jets, particularly the KF-21 Boramae, South Korea’s next-generation combat aircraft currently under development. It features a trapezoidal fuselage, sharply swept wings, a V-tail, and an overhead air intake, resembling the American XQ-58A Valkyrie drone. It also shares some visual similarities with Boeing’s MQ-28 Ghost Bat, developed for the Royal Australian Air Force. However, LOWUS distinguishes itself with an electro-optical sensor mounted under the nose, as well as the planned integration of an active electronically scanned array (AESA) radar and a domestically developed engine.

Manned-unmanned teaming concepts are increasingly being explored by air forces worldwide, and South Korea is working to integrate this capability into its fleet. LOWUS is expected to complement certain limitations of the KF-21, particularly in its initial Block 1 configuration, which is dedicated to air superiority and does not feature an internal weapons bay. The drone could undertake air-to-ground missions, allowing the KF-21 to operate at a safer distance while leveraging its air-to-air missiles and advanced sensors. This operational approach would reduce the electronic signature of the crewed aircraft and enhance its survivability in combat scenarios.

While primarily developed for the KF-21, LOWUS could also be integrated with the FA-50, a light combat aircraft produced by Korea Aerospace Industries (KAI) and already exported to several countries. By providing a stealth drone dedicated to supporting piloted aircraft, South Korea could expand the FA-50’s appeal on the international market and strengthen its position in networked aerial warfare.

This project aligns with South Korea’s broader strategy to advance its aeronautical defense capabilities. In 2021, a similar initiative led by KAI aimed to integrate drones with the country’s military helicopters, including the Surion and the LAH. In 2023, the South Korean military established a dedicated drone operations command to enhance surveillance, strike, and electronic warfare capabilities in response to asymmetric threats.

The development of LOWUS represents a step in the evolution of South Korea’s air combat capabilities. Its integration with the KF-21 could provide a strategic advantage in future conflicts while also serving as an exportable option for countries seeking to modernize their air forces with next-generation manned-unmanned teaming systems. The rapid progress of the project suggests the potential adoption of this technology by other air forces, further establishing South Korea as a key player in the global defense aviation market.

**123 . Date: 22-03-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformFlash News: Second Test Flight of China's Latest J-36 Stealth Fighter Highlights Rapid AdvancementsURL: https://armyrecognition.com/news/aerospace-news/2025/flash-news-second-test-flight-of-chinas-latest-j-36-stealth-fighter-highlights-rapid-advancements**

On March 17, 2025, three additional images of China's J-36 stealth fighter were released during its second flight test, offering a deeper look into the aircraft’s ongoing development. These images, shared by the X account @RupprechtDeino, provide further insights into the aircraft’s design and performance after its first public appearance in December 2024. The J-36, developed by the Chengdu Aircraft Corporation, serves as China’s prototype for a sixth-generation fighter, and while official details remain sparse, this second flight marks a significant milestone in its progress. Follow Army Recognition on Google News at this link

China's J-36 Stealth Fighter in its Second Test Flight: A glimpse of the cutting-edge technology and rapid development driving China’s sixth-generation fighter program. (Picture source: Chinese Social Network)

The J-36’s tailless, diamond-shaped design is central to its stealth capabilities. This configuration reduces the aircraft's radar cross-section, making it harder to detect by enemy radar. This is a key area where the J-36 competes with the latest fighter programs from the U.S., Russia, and European countries, including the U.S. Next-Generation Air Dominance (NGAD) program, Russia's Su-57, and the European FCAS and Tempest programs. The J-36's stealth design, supported by radar-evading materials and an aerodynamic shape, could rival the stealth performance of U.S. fighters like the F-35 and F-22. Unlike Russia’s Su-57, which retains some traditional design elements, the J-36 represents a more modern and radical approach to stealth, which could make it more challenging to detect by advanced radar systems.

The J-36 is also speculated to offer multi-role capabilities, potentially functioning as a “supercruising launching platform” for long-range missiles or as a command hub for coordinating other aircraft. This multi-role flexibility is becoming increasingly important in future conflicts, where air superiority fighters must also be capable of carrying out a range of other operations, including precision strikes and mission coordination. The U.S. NGAD program, which is expected to incorporate similar multi-role capabilities, is also focused on creating a versatile fighter capable of operating in various combat scenarios. However, the J-36’s potential to serve in such diverse roles could give China a strategic advantage in terms of operational flexibility and adaptability across multiple theaters of combat.

One of the standout features of the J-36 could be its supercruise capability — the ability to fly at supersonic speeds without using afterburners. This would allow the aircraft to maintain high speeds over long distances without the fuel penalties typically associated with afterburner use. Both the U.S. F-22 and the upcoming NGAD are expected to feature supercruise capabilities, and Russia’s Su-57 and European fighter programs are working toward fully integrating this feature as well. If the J-36 incorporates supercruise, it could significantly enhance its range and mission endurance, allowing for greater operational flexibility in high-speed intercepts and long-range strikes.

As a sixth-generation fighter, the J-36 is also expected to integrate advanced artificial intelligence (AI) and autonomous systems, potentially offering capabilities far beyond those of current fifth-generation fighters. AI could enhance decision-making, target identification, and mission management, and the J-36 may be able to operate alongside unmanned aircraft in a networked combat system. This would position the J-36 alongside the U.S. NGAD and European Tempest programs, both of which are focused on integrating AI into their next-generation fighters. The ability to incorporate autonomous capabilities could give the J-36 an edge in future combat scenarios where human decision-making is augmented by AI.

Another critical aspect of the J-36 is its advanced avionics and sensor fusion. The aircraft is likely equipped with cutting-edge radar and sensor systems that would allow it to operate effectively in contested airspace. By integrating data from multiple sensors, the J-36 could create a comprehensive picture of the battlefield, enabling it to detect and track adversary aircraft in various conditions. This capability is crucial for future air combat, and China’s development of advanced sensor fusion systems for the J-36 could make it competitive with U.S. and European systems like those in the NGAD and Tempest programs.

While the J-36’s tailless design might initially suggest limitations in terms of maneuverability, the aircraft has already demonstrated impressive agility in recent flight tests. This suggests that the J-36 is optimized for high-performance agility, enabling it to engage in both close-range dogfights and long-range missile engagements. The Su-57, Russia’s advanced fighter, was designed with a focus on agility and aims to outperform its adversaries in close combat. The J-36’s combination of stealth, speed, and maneuverability could make it a versatile competitor in both dogfights and strategic engagements.

In terms of weaponry, the J-36 could be designed to carry and deploy hypersonic missiles, a key area of interest for many nations. Hypersonic weapons are seen as the next frontier in precision strike capabilities, and their integration into the J-36 would give China a significant edge in terms of long-range precision strikes. The U.S. and Russia are also working on hypersonic missiles, but if China can successfully integrate such weapons into the J-36, it could elevate the aircraft's strategic value.

One potential advantage the J-36 may offer over its Western and Russian counterparts is cost and production efficiency. China has a well-established infrastructure for mass-producing advanced military hardware, which could allow the J-36 to be produced in large numbers at a lower cost compared to more expensive Western or Russian aircraft. If China can scale production effectively, the J-36 could be deployed in large fleets, potentially overwhelming more limited-supply and costly fighters from other nations. This could be particularly advantageous in regional conflicts where air superiority is key.

In conclusion, the J-36’s advanced stealth capabilities, potential supercruise, AI integration, and multi-role flexibility make it a formidable competitor to the latest fighter programs from the U.S., Russia, and European countries. Its capabilities in sensor fusion, autonomous operations, and hypersonic missile integration could position it as a game-changer in future air combat scenarios. While the U.S. NGAD, Russia’s Su-57, and European programs like Tempest are also expected to offer similar capabilities, the J-36’s design and advanced technologies position China as a serious contender in the global race for sixth-generation fighter superiority.

It is important to note that much of the J-36’s capabilities remain speculative at this stage, and official details are yet to be fully confirmed. As the aircraft continues to undergo flight tests and development, further information may shed light on its actual performance and how it compares to its Western and Russian counterparts. However, based on the current available data and expert analysis, the J-36 appears to be a highly promising aircraft that could reshape the future of air combat.

**124 . Date: 03-02-2025General - France Turns to Its Automotive Industry for Military Drone ProductionURL: https://armyrecognition.com/news/aerospace-news/2025/france-turns-to-its-automotive-industry-for-military-drone-production**

Amidst the ongoing war in Ukraine and rising tensions in Europe, France is seeking to adapt its defense industry to meet new battlefield requirements. Traditionally characterized by slow production cycles focused on high-performance equipment, the sector now faces the challenge of increasing both speed and volume. To address this, the French Directorate General of Armaments (DGA) is exploring new solutions by turning to the civilian industry, particularly the automotive sector, for the manufacturing of so-called "kamikaze" drones similar to those used in Ukraine, according to a report by L'Opinion on February 2, 2025.

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The Colibri is a loitering munition drone specially adapted for short-range missions (Picture source: Army Recognition)

These long-range remotely operated munitions (MTO), capable of striking targets over 100 kilometers away, could be produced by a yet undisclosed French industrial company. No firm orders have been placed at this stage, but the stated objective is clear: to deliver several thousand of these drones within a few months.

This initiative marks a shift in France’s defense production model, which for decades has prioritized high-tech equipment, designed through lengthy and meticulous processes, rather than rapid large-scale manufacturing. The war in Ukraine has highlighted the limitations of this approach, exposing the difficulties of adapting to the demands of high-intensity conflict. "This was not a criterion for us for decades," acknowledges Emmanuel Chiva, the General Delegate for Armaments, emphasizing the need for a structural change. In response, the DGA is expanding its scope and looking to leverage expertise from other industries such as chemicals, energy, and even the agri-food sector, all accustomed to high-volume production.

This shift is not entirely new. During World War I, Michelin produced aircraft while Renault manufactured tanks. Today, despite a relative state of peace, France faces growing strategic challenges, yet its defense industry still operates under a model favoring technological excellence over production speed and scale. The Rafale fighter jet, submarines, and the nuclear deterrent exemplify this approach, where emphasis has historically been placed on high performance, often at the cost of extended production timelines and significant expenses. However, modern conflicts require greater responsiveness, and this model is struggling to meet those needs.

In June 2022, President Emmanuel Macron called for a transition to a “war economy”, a shift that has yet to be fully realized. Some notable progress has been made. Nexter, for example, has increased its production of 155mm shells sixtyfold since 2022, while Dassault Aviation is gradually reaching a production rate of three Rafale jets per month, compared to just one a decade ago. MBDA, meanwhile, is reducing the production time of the Aster air defense missile from 42 to 18 months by 2026. Despite these improvements, these lead times remain lengthy in the context of high-intensity warfare, where the rapid replenishment of equipment is crucial.

Aware of this challenge, Emmanuel Chiva has suggested new approaches, including the development of \*“low-cost”\* surface-to-air missile designs to accelerate their production. This initiative aims to foster innovation among defense manufacturers and the 4,500 small and medium-sized enterprises (SMEs) that form the backbone of the defense sector. The goal is to move away from a purely stock-based approach, where equipment ordered in batches reaches obsolescence simultaneously, toward a continuous supply system better suited to operational needs.

The integration of the automotive industry into drone production aligns with this broader effort to adapt to evolving strategic conditions. By leveraging the civilian sector’s expertise in rapid and large-scale manufacturing, the DGA aims to meet the growing demand for military equipment. If this initiative is successfully implemented, it could lead to a significant transformation in how France designs and produces its defense systems.

However, this transition toward a more agile and responsive defense industry raises several critical questions: the adaptation of industrial standards, the maintenance of quality requirements, and the state’s ability to swiftly scale up production in a crisis. In an increasingly uncertain geopolitical landscape, the success of this transformation will be a key test of France’s strategic resilience.

**125 . Date: 02-01-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - French Armed Forces Use MQ-9A Reaper Drone for First Time in Operation Chammal in SyriaURL: https://armyrecognition.com/news/aerospace-news/2025/french-armed-forces-use-mq-9a-reaper-drone-for-first-time-in-operation-chammal-in-syria**

On December 29, 2024, the French Armed Forces marked a milestone in their operations against Daesh in Syria by deploying an MQ-9A Reaper drone for the first time as part of Operation Chammal. Operating from the Prince-Hassan airbase in Jordan, the drone conducted targeted strikes in coordination with Rafale fighter jets, destroying two strategic terrorist installations in central Syria. This mission, announced by French Armed Forces Minister Sébastien Lecornu, highlights a notable technological and operational development for France’s presence in the region. Follow Army Recognition on Google News at this link

France has incorporated the MQ-9A Reaper into its military arsenal, initially deploying it for surveillance and reconnaissance missions (Picture source: French MoD)

The MQ-9A Reaper, a Medium Altitude Long Endurance (MALE) drone, represents a first in this operation, initiated in 2014. Designed for both surveillance and precision strike missions, the drone has become an essential tool in modern military engagements. In this particular mission, the Reaper demonstrated its capability to identify and neutralize targets based on accurate intelligence, delivering its payload with precision.

The MQ-9A Reaper is a surveillance and attack drone developed by General Atomics Aeronautical Systems. Powered by a 950-horsepower turboprop engine, it can reach speeds of up to 482 km/h and operate at altitudes of 15,240 meters. With a wingspan of 20 meters, the Reaper has a payload capacity of 1,746 kilograms, enabling it to carry various munitions, including AGM-114 Hellfire missiles and GBU-12 Paveway II laser-guided bombs. It boasts an endurance of over 27 hours, making it highly suitable for prolonged surveillance and support missions.

France has incorporated the MQ-9A Reaper into its military arsenal, initially deploying it for surveillance and reconnaissance missions. The first strike conducted by French-operated Reapers occurred in 2019 in Niger, targeting jihadist groups in Mali. Since then, the drone has played a role in various operations, enhancing France’s intelligence and precision strike capabilities.

This first deployment of the Reaper in Operation Chammal comes amidst Syria’s political transition, following the collapse of Bashar al-Assad’s regime in December 2024. This period of instability has intensified security challenges, underscoring the importance of maintaining pressure on terrorist groups like Daesh. As a key member of the international coalition "Inherent Resolve," France reaffirms its commitment to counterterrorism efforts in the Levant.

Minister Lecornu highlighted this advancement on the platform X, stating, "Our armed forces remain fully committed to the fight against terrorism in the Levant," accompanied by a video of the ongoing operations. This statement underscores the strategic and operational importance of the mission, reflecting France’s sustained engagement in the region.

Since its inception, Operation Chammal has involved approximately 600 French personnel and a range of assets, including Rafale jets, frigates, an AWACS aircraft, and now Reaper drones. This diversified approach demonstrates the adaptability of French forces to evolving threats. The integration of the MQ-9A Reaper marks a step forward in conducting precise and effective operations while minimizing risks to personnel.

This mission, conducted in coordination with international allies, highlights the growing role of drones in modern conflicts. By leveraging advanced technology and military coordination, France underscores its commitment to neutralizing Daesh and contributing to the stability of the region.

**126 . Date: 02-05-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformGeneral Atomics YFQ-42 Combat Drone to Begin Ground Testing to Enhance Range Survivability of US Stealth FightersURL: https://armyrecognition.com/news/aerospace-news/2025/general-atomics-yfq-42-combat-drone-to-begin-ground-testing-to-enhance-range-survivability-of-us-stealth-fighters**

On May 1, 2025, General Atomics Aeronautical Systems, Inc. (GA-ASI) confirmed that the development of its new YFQ-42A combat drone is progressing according to schedule, as part of the U.S. Air Force’s Collaborative Combat Aircraft (CCA) program. Coinciding with the official launch of the ground testing phase by the Department of the Air Force, the company announced that flight tests are expected in the coming months and that a full-scale model of the drone will be publicly exhibited during the Beale Air and Space Expo beginning June 7. This milestone follows the designation of Beale Air Force Base in California as the site for the first operational support unit dedicated to the CCA fleet, marking a key step in the transformation of U.S. airpower.

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Designed for interoperability with F-22 and F-35 fighters, the YFQ-42A features a dorsal air intake, elongated fuselage, V-tails, and internal bays capable of carrying AIM-120 AMRAAM air-to-air missiles (Picture source: GA-ASI)

The YFQ-42A is one of two platforms selected for the CCA program’s first experimentation phase, alongside the YFQ-44A developed by Anduril Industries. Officially designated as a prototype under the “YFQ” nomenclature, the YFQ-42A is derived from the XQ-67A demonstrator created for the Air Force Research Laboratory’s Off-Board Sensing Station program. It is part of General Atomics’ Gambit family of systems, which focuses on software modularity, long-endurance, and integration into collaborative combat architectures. Designed for interoperability with F-22 and F-35 fighters, the YFQ-42A features a dorsal air intake, elongated fuselage, V-tails, and internal bays capable of carrying AIM-120 AMRAAM air-to-air missiles. This configuration is intended to ensure low observability while providing additional payload capacity and onboard mission processing in contested environments.

Current ground tests are evaluating propulsion systems, avionics integration, autonomy modules, and control systems. These assessments are intended to mitigate technical risks ahead of the flight testing phase, scheduled to begin by the end of 2025. The first YFQ-42A unit entered production in 2024, following the successful maiden flight of the XQ-67A on February 28 of the same year. The YFQ-42A effort is part of the broader Next Generation Air Dominance (NGAD) program, which aims to ensure U.S. air superiority in the coming decades.

Operational roles envisioned for the YFQ-42A include direct coordination with crewed aircraft, carrying additional munitions, and supporting intelligence gathering and electronic warfare missions. The drone is currently designed for conventional takeoff and landing, although future variants may adopt air-launch or ground-based deployment methods independent of runways. The platform is also expected to feature a modular autonomy system capable of rapid adaptation to evolving operational theaters, in line with the U.S. Air Force’s Agile Combat Employment (ACE) strategy, which promotes decentralized and flexible force deployment.

The estimated unit cost ranges from $25 to $30 million, significantly lower than current-generation manned fighters, allowing greater operational risk tolerance without considering the drone expendable. The U.S. Air Force anticipates producing up to 1,000 CCA units, with a planning ratio of two drones per crewed fighter, thereby increasing tactical mass while reducing logistical and manpower requirements. The YFQ-42A is initially expected to support air-to-air missions, supplementing the limited internal weapons capacity of stealth fighters. Additional capabilities, including precision strike, electronic warfare, and ISR (intelligence, surveillance, reconnaissance), may be introduced in future iterations.

A full-scale mockup of the YFQ-42A was first unveiled at the Air, Space & Cyber Conference in September 2024. The CCA program’s selection process began in January 2024 with five competing vendors: General Atomics, Anduril, Lockheed Martin, Boeing, and Northrop Grumman. In April 2024, General Atomics and Anduril were selected to proceed with testing under Increment 1, ahead of a final decision scheduled for fiscal year 2026. The U.S. Congress allocated approximately $8.9 billion for the CCA program over the 2025–2029 period, including a $557.1 million transfer from the NGAD manned platform account following a delay in that program’s contract award.

In summary, the YFQ-42A represents a central component of the CCA initiative, aiming to reshape U.S. combat aviation. With its modularity, integration with stealth fighters, and expanded mission potential, this drone developed by General Atomics reflects the U.S. Air Force’s move toward more agile, autonomous, and cost-efficient systems suited for high-intensity operations in the 21st century. Its first public appearance in June 2025 at Beale Air Force Base will mark a significant step toward operational implementation of this new generation of collaborative air capabilities.

**127 . Date: 05-02-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - Germany Explores its UAV Capabilities with First Flight of Heron TP Drone in NetherlandsURL: https://armyrecognition.com/news/aerospace-news/2025/germany-explores-its-uav-capabilities-with-first-flight-of-heron-tp-drone-in-netherlands**

The German Heron TP (GHTP) has conducted its first flight in Dutch airspace after receiving authorization from the Dutch Civil Aviation Authority, as reported by Defence Network. This approval was granted as part of the German Air Force’s operational activities with the system, marking its gradual integration into European missions. The flight took place from Jagel Airport in Germany to the Netherlands, representing a key milestone in the use of Medium Altitude Long Endurance (MALE) drones by the German armed forces.

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With a payload capacity of 2,700 kg, the GHTP can carry a wide range of sensors and military equipment (Picture source: IAI)

The GHTP is an unmanned system designed for surveillance, reconnaissance, and strategic intelligence, based on the Heron TP, developed by Israel Aerospace Industries (IAI). Operated through a partnership between Airbus and IAI, it has an endurance of over 30 hours and can reach an altitude of 45,000 feet, allowing it to operate above commercial air traffic. It meets NATO STANAG 4671 standards, facilitating its integration into multinational operations. The system is equipped with satellite communications (SATCOM) for Beyond Line of Sight (BLOS) control, an automated takeoff and landing system (ATOL), and triple-redundant avionics, ensuring reliability for extended missions.

With a payload capacity of 2,700 kg, the GHTP can carry a wide range of sensors and military equipment. It includes advanced electro-optical and infrared systems, surveillance radars, and electronic warfare technologies (SIGINT and EW). This modular architecture allows for mission adaptability, including aerial surveillance, ground force support, and target designation. Powered by a 1,200-horsepower PT6 turboprop engine, it reaches a maximum speed of 220 KTAS, combining endurance and operational flexibility.

The GHTP originates from the Heron TP, a drone that has been deployed in operations by the Israeli Defense Forces. It represents an evolution of the Heron 1, a system extensively used by Germany for over a decade in Afghanistan and Mali. By selecting the Heron TP, Germany opted for a ready-to-use system aligned with NATO requirements. The GHTP stands out for its reconnaissance and surveillance capabilities while ensuring sovereignty and interoperability within allied forces.

The integration of this drone into the German Air Force is part of a broader strategy to enhance its MALE drone capabilities. At the same time, Germany plays a central role in the Eurodrone project, a joint program with France, Italy, and Spain, aimed at developing a European MALE drone. Initiated in 2016, the project has encountered challenges due to industrial requirements and technical differences among participating countries. Germany, in particular, has emphasized twin-engine propulsion, leading to increased costs and delaying the initial 2025 delivery schedule. These differences illustrate that while European collaborations foster joint technological advancements, they can also slow down operational deployment compared to direct acquisitions from established industrial partners.

The GHTP’s first flight in the Netherlands represents a tangible step for Germany, providing an immediately available system to enhance its strategic autonomy. This integration highlights the growing role of MALE drones in intelligence, surveillance, and reconnaissance missions, while also strengthening European cooperation on military drone operations and airspace regulation.

**128 . Date: 16-02-2025M-Rotary - Armed ISR / ISTAR - Small - General - Greece's new Sarisa II rocket-armed drone confirms combat readiness after three days of live-fire testingURL: https://armyrecognition.com/news/aerospace-news/2025/greeces-new-sarisa-ii-rocket-armed-drone-confirms-combat-readiness-after-three-days-of-live-fire-testing**

The Greek company SAS Technology completed a three-day live-fire testing campaign for its Sarisa II (also known as SRS-2A) unmanned combat aerial vehicle (UCAV) at the Litochoro Firing Range from February 10 to 12, 2025. The tests were part of the certification process for the SRS-2A, confirming its capability to deploy both unguided and laser-guided 70mm (2.75-inch) rockets from Thales Belgium. The trials were conducted under the supervision of the Hellenic Ministry of National Defense, in collaboration with Thales Belgium and Hellenic Defense Systems (HDS), whose technical support contributed to the program. Follow Army Recognition on Google News at this link

The tests, which spread out over three days, were part of the certification process for the SRS-2A, confirming its capability to deploy both unguided and laser-guided 70mm (2.75-inch) rockets from Thales Belgium. (Picture source: SAS)

On February 10, testing focused on the SRS-2A’s ability to launch unguided rockets while maintaining flight stability. The unmanned combat aerial vehicle (UCAV) fired a 70mm unguided rocket (UGR) while hovering, demonstrating control under the effects of rocket jet blast. The rocket followed a predictable trajectory, confirming the functionality of optical sighting methods.

On February 11, the Sarisa II/SRS-2A was tested with the FZ275 laser-guided rocket (LGR) from Thales. The UCAV launched the rocket at a 5×5-meter target with a central 2×2-meter section. The impact was recorded with a deviation of 0.2 meters, confirming a circular error probable (CEP) of less than one meter. Due to range constraints and Weapon Danger Area (WDA) limitations, the test was conducted at 1,700 meters, close to the weapon’s minimum operational range. The FZ275 LGR is designed for engagement distances between 3 and 5 kilometers, with a maximum reach of 7 kilometers. The test conditions required launching the rocket at close range, where it reached supersonic speeds and deployed its guidance fins after 400 meters. The SRS-2A’s autonomous flight control system executed the firing sequence without manual operator input.

On February 12, a live demonstration was held in the presence of military officials and personnel from the Hellenic Army, Navy, Air Force, and Special Forces, as well as international delegations. The SRS-2A launched a laser-guided FZ275 LGR rocket from an altitude of 450 meters above sea level, maintaining stability and achieving a CEP of less than one meter. Additionally, the Hellenic Special Forces' UCAV Empusa EMPX6T performed precision grenade drops using both training and live grenades in sequential and simultaneous release modes. The planned release of the AIHMI loitering munition from the SRS-2A was canceled due to low cloud cover.

The FZ275 LGR, developed by Thales Belgium, is a semi-active laser (SAL) guided rocket designed to bridge the gap between unguided rockets and long-range missiles. It offers targeting precision while reducing collateral damage. The rocket has a range of 1,500 to 7,000 meters, with a CEP of less than one meter at 6 kilometers. It can engage ground vehicles, air defense installations, radar sites, communication infrastructure, aircraft on the ground, small ships and patrol boats, soft bunkers, and snipers. The FZ275 LGR is compatible with standard 2.75-inch rocket launchers and requires minimal integration work. It has various warhead configurations, including a high-explosive variant with a lethal radius of 9 meters and penetration capability against 6mm steel plates.

The FZ275 LGR features semi-active laser guidance technology with Lock-On Before Launch (LOBL) and Lock-On After Launch (LOAL) capabilities. It can receive laser targeting data from sources such as ground-based designators, airborne platforms, and remote operators. The rocket can be fired from any standard FZ rocket launcher, and Thales Belgium has developed smart rocket launchers, including the FZ606 for helicopters and the FZ800 for aircraft, which enable bidirectional communication and in-flight laser code implementation.

**129 . Date: 17-03-2025Fixed Wing - Armed ISR / ISTAR - MALE - Contract - Greece to deploy four new French Patroller long-range surveillance drones in the coming monthsURL: https://armyrecognition.com/news/aerospace-news/2025/greece-to-deploy-four-new-french-patroller-long-range-surveillance-drones-in-the-coming-months**

As reported by OnAlert on March 17, 2025, the Hellenic Armed Forces are set to receive four Patroller drones in the coming months, likely by summer, as part of a program valued at approximately €55 million. These unmanned aerial vehicles (UAVs) will be operated by the Army Aviation and are expected to enhance Greece’s surveillance capabilities over key areas, including the Aegean Sea and Thrace. Follow Army Recognition on Google News at this link

The four Patroller UAVs arriving in Greece will not be armed, but the Army is already considering acquiring additional Patroller units in an armed UCAV configuration. (Picture source: Army Recognition)

Greece has chosen two airfields to host the UAVs: Rhodes, at the military airfield in Maritsa, and Chrysoupoli Airport in Kavala. From these locations, the drones will be able to monitor the Eastern Aegean, including the Kastellorizo complex, the northern Aegean, and Greece’s land border with Türkiye, providing comprehensive coverage of national territorial interests.

Initially, Crete was considered as a base for two of the Patroller UAVs designated for high-priority surveillance missions in the southeastern Aegean. However, the military leadership opted for Rhodes to extend operational coverage further. The Patroller drones, manufactured by Safran Electronics & Defense in France, are designed for surveillance, reconnaissance, intelligence gathering, and target acquisition. They will provide real-time data to operations centers and are capable of detecting and tracking small targets at long distances.

Personnel from the Army Aviation are currently undergoing training in France to operate and maintain the Patroller UAVs. Once delivered, the drones will be immediately operational for surveillance missions. The Patroller has a top speed of 200 km/h and can fly at altitudes up to 16,000 feet. With external fuel tanks, it can remain airborne for up to 15 hours, allowing for extended coverage of vast areas. The drone can carry payloads up to 210 kg, enabling integration with advanced sensors. The fuselage houses intelligence-gathering equipment capable of processing data from land, sea, and air operations.

A notable advantage of the Patroller compared to other UAVs is its low radar signature, which makes it difficult to detect, especially when flying at long distances and low altitudes. The four UAVs arriving in Greece will not be armed, but the military is already considering acquiring additional Patroller units in an armed UCAV configuration. This would enable them to use laser designation for guided munitions, such as rockets and other precision-strike weapons.

The Chrysoupoli base in Kavala has been officially designated as a key operational site for the new UAVs, with infrastructure developments already underway. The Greek Ministry of Defense has awarded a contract worth €226,433.15 to RENEL I.K.E. for the construction of a new readiness facility to accommodate the drones. The contract was awarded with an average discount of 10.95%. At the same time, a separate contract for the construction of a 15-position special vehicle hangar was canceled.

The Patroller drone is currently used by the French Army to provide intelligence, surveillance, reconnaissance, and target acquisition, with additional roles in maritime security and electronic warfare. (Picture source: French MoD)

Greece's acquisition of the Patroller follows a NATO Support and Procurement Agency (NSPA) contract signed in June 2023 between Safran Electronics & Defense and the Greek Army. The agreement aims to modernize the Army's tactical UAV fleet by replacing older Sperwer drones, which Greece has operated since 2002. The Patroller was the first tactical drone to receive NATO STANAG 4671 certification in February 2023, a crucial step for fixed-wing UAVs over 150 kg operating in controlled airspace.

The Patroller is classified as a medium-altitude, long-endurance (MALE) UAV, capable of flying up to 16,000 feet and reaching speeds between 100 and 200 km/h. Designed for intelligence gathering, surveillance, and target acquisition, it can support both external operations and domestic security missions, including maritime patrols. It features advanced sensors, high-resolution radar, and an electro-optical/infrared (EO/IR) payload capable of tracking moving targets. Additionally, it has electronic warfare capabilities, allowing it to conduct signal intelligence and electronic surveillance missions.

Greece is the first confirmed export customer for the Patroller, with deliveries scheduled for late 2024 and 2025. The Greek Army will use the drones primarily for surveillance missions. The first production Patroller was delivered to the French Army in May 2024, with further units expected in the coming months. The French military’s program has faced delays due to technical issues, including a 2019 accident caused by a flight control system malfunction. Despite these challenges, the Patroller is expected to restore and enhance battlefield surveillance capabilities for the French Army.

The Patroller, developed by Safran Electronics & Defense, is based on the Stemme ASP S15 airframe and first flew in 2009. It has an operational range of 150 km and can be equipped with a Safran Euroflir 410 electro-optical sensor. The drone has been used for surveillance missions and is undergoing integration of laser-guided rockets for potential armament, with developments expected by 2026. The first 14 Patrollers acquired by France cost approximately 300 million euros, including 12 years of maintenance. The system is designed to provide intelligence, surveillance, reconnaissance, and target acquisition, with additional roles in maritime security and electronic warfare.

In addition to Greece, Safran has been in discussions with Egypt and Vietnam regarding potential exports of the Patroller UAV. The company has established collaboration agreements for local assembly and training centers in Egypt. Vietnam has also explored acquiring the system as part of its efforts to enhance its intelligence and surveillance capabilities. The Patroller is a key component of Safran's unmanned aerial vehicle portfolio, integrating advanced optronics, radar, and electronic warfare capabilities for modern battlefield operations.

**130 . Date: 14-01-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformIndia's HAL CATS Unmanned Combat Aircraft Hits Key Milestone with Successful Engine Ground RunURL: https://armyrecognition.com/news/aerospace-news/2025/indias-hal-cats-unmanned-combat-aircraft-hits-key-milestone-with-successful-engine-ground-run**

On January 13, 2025, information released on the X account of LiveFist confirmed that Hindustan Aeronautics Limited (HAL) has successfully completed the engine ground run of a full-scale demonstrator of its CATS Warrior loyal wingman. This crucial milestone advances the ambitious Combat Air Teaming System (CATS) project, signaling that India’s first autonomous loyal wingman UCAV is on track for its maiden flight later in 2025. The announcement underscores the rapid progress HAL has made in developing a cutting-edge, AI-powered aerial system designed to augment the Indian Air Force’s (IAF) combat capabilities. Follow Army Recognition on Google News at this link

HAL CATS Unmanned Combat Aircraft: India’s cutting-edge autonomous loyal wingman system reaches a key milestone with its successful engine ground run, marking significant progress in enhancing the Indian Air Force's capabilities. (Picture source: FX Livefist)

The CATS (Combat Air Teaming System) Warrior is part of a broader, strategic effort by HAL and India's defense sector to enhance unmanned aerial vehicle (UAV) technologies. The project focuses on integrating these systems with manned aircraft to improve overall combat effectiveness. By leveraging the strengths of autonomous UAVs, the CATS program represents a critical leap forward in India’s quest to develop indigenous, high-tech solutions for modern warfare, particularly in contested environments where the survivability of manned aircraft is at risk.

Designed as a loyal wingman for fighter jets like the LCA Tejas and the upcoming Advanced Medium Combat Aircraft (AMCA), the CATS Warrior is an autonomous unmanned combat aerial vehicle (UCAV) that can operate alongside manned aircraft. This design philosophy not only enhances the combat versatility of the IAF but also minimizes risks to pilots, especially in high-risk missions such as surveillance, reconnaissance, and airstrikes. Inspired by similar international systems like Boeing’s MQ-28 Ghost Bat, the CATS Warrior is engineered to autonomously execute high-stakes missions or, if necessary, be controlled remotely by human pilots. This flexibility provides a force multiplier effect, extending the operational reach of the IAF while reducing the human risk factor.

The CATS Warrior is equipped with impressive technological features, making it a formidable asset for modern warfare. Powered by two HAL PTAE-7 turbofan engines, the Warrior can reach speeds of up to 790 km/h and has a combat range exceeding 800 km. With a maximum takeoff weight of around 2,100 kg, it offers significant payload capacity, enabling it to carry a variety of munitions and sensors. Among these are advanced air-to-air missiles, loitering munitions, and the Smart Anti-Airfield Weapon (SAAW), developed by India’s Defense Research and Development Organization (DRDO). Additionally, the Warrior boasts state-of-the-art avionics, including an AESA radar and electro-optical/infrared sensors, which allow it to perform complex surveillance and target acquisition tasks. An advanced AI-based software system enhances its operational autonomy, reducing the need for human intervention during mission execution and allowing it to make decisions on route planning, threat detection, and combat strategies.

The strategic importance of the CATS Warrior for India’s defense ecosystem cannot be overstated. It is a key part of the country’s broader defense modernization strategy, which emphasizes self-reliance in technology and indigenization. The Warrior’s potential as a force multiplier is immense: by seamlessly integrating with manned fighter jets, it not only enhances mission flexibility and reduces operational costs but also strengthens India’s strategic depth. The Warrior is designed to perform a wide range of roles, including intelligence, surveillance, and reconnaissance (ISR), electronic warfare (EW), and even direct combat missions when armed with air-to-air or air-to-ground weapons. This versatility makes the CATS Warrior a critical asset in addressing the emerging challenges of modern aerial combat.

India’s growing focus on unmanned systems, especially UCAVs, comes at a pivotal time. With global security dynamics rapidly evolving, including the lessons drawn from the Ukraine conflict, the need for advanced unmanned platforms has never been more pressing. Unlike slower, propeller-driven UAVs, jet-powered UCAVs like the CATS Warrior are designed to evade detection and counter sophisticated threats, offering a decisive edge in contested airspaces. These capabilities are essential as India seeks to maintain air superiority in increasingly complex and high-threat environments.

Looking ahead, the CATS Warrior is expected to play a transformative role in India’s defense strategy, particularly as the IAF continues to modernize its fleet and enhance its regional posture. HAL's success with the CATS Warrior lays the groundwork for future UCAV developments, potentially expanding to larger platforms designed for strategic strike roles. The project also aligns with India's broader vision of reducing dependence on foreign technologies, ensuring that the nation’s defense sector remains globally competitive. By combining cutting-edge autonomous technology with the operational requirements of the IAF, the CATS Warrior is poised to become a cornerstone of India's future air defense framework, fundamentally reshaping the way India approaches modern warfare.

**131 . Date: 07-03-2025Partnership - Italy’s Leonardo and Türkiye’s Baykar join forces to supply drones for European armiesURL: https://armyrecognition.com/news/aerospace-news/2025/italys-leonardo-and-tuerkiyes-baykar-join-forces-to-supply-armed-drones-for-european-forces**

On March 6, 2025, the Turkish company Baykar and Italian firm Leonardo signed a Memorandum of Understanding (MoU) in Rome to establish a Joint Venture for the development of unmanned aerial systems (UAS). The agreement integrates Baykar’s experience in unmanned platforms with Leonardo’s expertise in mission systems, payloads, and certification. The new entity, headquartered in Italy, will work towards expanding the presence of unmanned systems in European and global defense markets. Follow Army Recognition on Google News at this link

The Joint Venture aims to address this demand by combining both companies’ expertise in UAVs, electronic systems, payloads, C4I (Command, Control, Communications, Computers, and Intelligence), artificial intelligence, and integrated mission systems. (Picture source: Italian MoD)

Leonardo projects that the European market for unmanned fighters, armed surveillance drones, and deep-strike drones will reach approximately $100 billion over the next decade. The Joint Venture aims to address this demand by combining both companies’ expertise in UAVs, electronic systems, payloads, C4I (Command, Control, Communications, Computers, and Intelligence), artificial intelligence, and integrated mission systems. The partnership also seeks to ensure interoperability within multi-domain operational environments.

Roberto Cingolani, CEO and General Manager of Leonardo, stated that the agreement creates a new entity focused on unmanned technologies, which are expected to play an increasing role in defense. He noted that technological cooperation is necessary to address challenges such as artificial intelligence, sixth-generation fighters, cybersecurity, and space. Selçuk Bayraktar, Chairman and CTO of Baykar, described the collaboration as an expansion of Baykar’s technological capabilities, with Leonardo contributing expertise in C4I systems and artificial intelligence. He added that the partnership will focus on AI-driven unmanned aerial systems.

The Leonardo facilities involved in the Joint Venture’s activities include Ronchi dei Legionari in Friuli, a center specializing in unmanned technologies; Torino for production; Roma Tiburtina for integrated multi-domain technology development; and Nerviano for space-related joint solutions. The Joint Venture’s first focus will be adapting Baykar’s high-altitude, heavy-lift Akinci drone to European standards and operational requirements, with additional plans to explore other UAV platforms such as the Bayraktar TB2, TB3, and the Kizilelma unmanned fighter jet. The partnership will also include work on mini smart cruise missiles and loitering munitions.

Leonardo and Baykar’s partnership aligns with broader European defense initiatives, where unmanned technologies are increasingly prioritized. While the Eurodrone Medium-Altitude Long-Endurance (MALE) program is being developed by European aerospace firms, Leonardo and Baykar representatives have clarified that their Joint Venture will operate in separate market segments and will not compete directly with Eurodrone.

In December 2024, Baykar acquired Italian aircraft manufacturer Piaggio Aerospace, potentially expanding its industrial capabilities in Europe. The acquisition could also serve as a production base for future UAV manufacturing. Additionally, Baykar is investing $300 million to develop indigenous jet engines to reduce reliance on external suppliers. The company has also announced plans to build a UAV production facility in Ukraine, expected to be operational by August 2025.

Reports indicate that the Italian Army is considering acquiring 1,300 drones, potentially through a Baykar-Leonardo collaboration involving Piaggio Aerospace. While no official confirmation has been made, the potential deal aligns with Italy’s broader efforts to enhance its unmanned capabilities amid increasing demand for UAVs in Europe. This aligns with previous statements suggesting that each major unit of the Italian Army could receive 100 drones, further reinforcing speculation about the scale of the potential acquisition.

This partnership is expected to contribute to defense cooperation between Türkiye and Italy, with applications beyond unmanned systems. Both companies view the Joint Venture as an opportunity to strengthen Europe’s UAV industry while ensuring compatibility with NATO and European defense strategies. Further details on product integration and operational deployment are anticipated within 18 months.

Baykar’s collaboration with Leonardo also aligns with the company’s efforts to expand its presence in the European defense market. The company has exported UAVs to 36 countries, including NATO members such as Poland. In addition to UAV development, the partnership is expected to explore synergies in the space sector, leveraging both firms’ existing capabilities.

Baykar's CEO Haluk Bayraktar has emphasized that the partnership supports broader trends in autonomous warfare, with unmanned combat aircraft expected to take on roles traditionally performed by manned fighters. He stated that Baykar is focused on autonomous, air-to-air combat-capable drones and anticipates a shift in aerial warfare over the next several decades. The Kizilelma unmanned fighter jet, which conducted its first flight in 2022, is expected to be a key component of future collaborations with Leonardo.

The agreement comes at a time when Europe is reassessing its defense industry priorities. The UK, Italy, and Japan recently announced a Joint Venture under the Global Combat Air Programme (GCAP) to develop a next-generation stealth fighter. While Leonardo’s collaboration with Baykar is not directly related to GCAP, both companies have stated that future UAV developments could be compatible with GCAP’s requirements.

Leonardo has been positioning itself as a key European player in unmanned systems, and its partnership with Baykar reflects a broader effort to enhance Europe’s defense capabilities. As European nations increase defense spending, the Joint Venture is expected to provide advanced unmanned solutions suited to regional operational needs.

As Baykar and Leonardo move forward, industry analysts anticipate that the first product, a version of the Akinci UAV integrated with Leonardo’s mission systems, will be operational within 18 months. The collaboration is also expected to facilitate the integration of advanced AI technologies into unmanned platforms, reinforcing Europe’s focus on autonomous warfare. The establishment of production and research facilities in Italy further indicates the long-term strategic significance of the Joint Venture within the European defense sector.

**132 . Date: 14-01-2025Loitering Munition - Requirement - Japan Plans to Acquire Kamikaze Drones to Strengthen Its Position in East China SeaURL: https://armyrecognition.com/news/aerospace-news/2025/japan-plans-to-acquire-kamikaze-drones-to-strengthen-its-position-in-east-china-sea**

The Japanese military is preparing to integrate kamikaze drones into its arsenal for the first time, signaling a significant evolution in its military strategy. The Ministry of Defense announced that approximately 310 small attack drones will be introduced during the 2026 fiscal year. According to the Japanese newspaper The Sankei Shimbun on January 12, 2025, operational tests are underway with models manufactured in Israel, Australia, and Spain, with a competitive bidding process set to determine the final selection.

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Kamikaze drones could strengthen the defense of the vulnerable Nansei Islands between Kyushu and Taiwan (Picture source: Arquimea)

These kamikaze-type drones, equipped with explosives, are designed to destroy specific targets such as armored vehicles and small vessels. This strategic move aligns with the evolution of modern conflicts, where drones have played a central role, as evidenced by recent warfare in Ukraine. Their autonomous and destructive capabilities provide high operational efficiency at a relatively low cost, a crucial advantage in asymmetric or prolonged conflicts.

Japan faces an increasingly tense regional environment and aims to bolster its defensive posture in response to potential threats from neighboring countries. China has intensified military activities in the region, particularly around contested areas in the East China Sea, while North Korea continues to advance its ballistic missile and nuclear programs. In this context, kamikaze drones could play a pivotal role in reinforcing the defense of the Nansei Islands, a strategically important archipelago extending between Kyushu and Taiwan, which remains particularly vulnerable to incursions.

Integrating these drones into the infantry units of the Ground Self-Defense Forces (GSDF) will not only modernize Japan’s operational capabilities but also reduce reliance on combat and reconnaissance helicopters. These traditional assets, which are costly and require extensive maintenance, will be gradually replaced by drones, offering a more flexible and practical solution for current needs.

The Japanese government has allocated 3.2 billion yen in the 2025 fiscal budget to fund this acquisition. This initiative aligns with the objectives outlined in three key security documents adopted in December 2022, which emphasize the development of defense capabilities relying on unmanned systems. The Ministry of Defense plans to invest approximately 1 trillion yen over five years, starting in 2023, to expedite the deployment of drones and other advanced technologies.

These unmanned systems also address Japan’s demographic challenges. Declining birth rates and early retirements within the Self-Defense Forces have reduced available personnel. By automating dangerous missions, drones minimize risks to human lives and help mitigate workforce shortages.

Kamikaze drones also present economic advantages. Their acquisition costs are lower than traditional weaponry, and their deployment does not require extensive operator training. This pragmatic approach optimizes military expenditures while enhancing operational effectiveness.

The modernization effort extends beyond the GSDF. The Maritime and Air Self-Defense Forces are also advancing their respective drone programs. These include advanced reconnaissance drones, larger offensive drones transportable by vehicles, and logistics drones capable of operating in isolated or contested areas. These systems diversify Japan’s military capabilities, enabling quicker and more effective responses to emerging threats.

Japan’s acquisition of kamikaze drones carries significant geopolitical weight. By modernizing its military capabilities, Tokyo sends a clear message to both regional partners and rivals: it is committed to defending its interests and taking a more proactive role in maintaining security in the Asia-Pacific region. This approach aims to deter potential aggression while supporting allies, particularly the United States, in ensuring regional stability.

However, this decision may also be perceived as a military buildup, potentially drawing criticism from neighboring countries, particularly China. Such perceptions could lead to increased regional tensions and further accelerate military development programs among Japan’s neighbors, contributing to an arms race in the region.

The introduction of kamikaze drones into Japan’s arsenal marks a significant step in the transformation of the Self-Defense Forces. These unmanned systems, both efficient and cost-effective, provide Japan with tools to address contemporary security challenges while optimizing its human and material resources.

This initiative reflects a comprehensive strategy to modernize military capabilities while adapting to demographic and budgetary constraints. As regional tensions continue to escalate, these drones offer Japan a means to strengthen its defense and contribute actively to the security of the Asia-Pacific. How this move will impact the balance of power in the region and provoke responses from other nations remains to be seen.

**133 . Date: 22-04-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformKratos Equips its Stealth Drone XQ-58 with Landing Gear to Enhance Deployment Flexibility and ReusabilityURL: https://armyrecognition.com/news/aerospace-news/2025/kratos-equips-its-stealth-drone-xq-58-with-landing-gear-to-enhance-deployment-flexibility-and-reusability**

On April 15, 2025, Kratos officially unveiled via its X (formerly Twitter) account a rendering of a new version of its XQ-58A Valkyrie stealth drone equipped with a retractable tricycle landing gear. This announcement marks a significant development in the Valkyrie program, which had so far prioritized operations fully independent of runways for both launch and recovery. The presentation of this conventional configuration reflects a clear intent by Kratos to broaden the operational options of the system for the U.S. armed forces, particularly within the scope of future phases of the U.S. Air Force’s Collaborative Combat Aircraft (CCA) program, and potentially the U.S. Navy.

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The Valkyrie may therefore appeal not only to the U.S. Air Force, but also to the U.S. Marine Corps, which continues development of its MUX-TacAir program aimed at supporting the F-35B in strike and intelligence roles. (Picture source: Kratos)

Originally designed to be launched using disposable boosters mounted on ground ramps and recovered by parachute, the XQ-58A was notable for its ability to operate without relying on airfield infrastructure, a key advantage in high-intensity conflicts or expeditionary deployments. Kratos had previously proposed a containerized launch system concept and, in 2024, introduced a trolley-based launch platform allowing operations from conventional runways. The model revealed in April 2025 constitutes the third launch-and-recovery method developed by the company, this time following a CTOL/HTOL (Conventional/Horizontal Take-Off and Landing) configuration.

The released visual shows a tricycle landing gear system, featuring a nose wheel and two main wheels, with integrated protective doors in the fuselage. The nose gear appears to retract forward behind two trapezoidal hatches, while the main gear legs fold laterally into bays beneath the fuselage. Aside from this new equipment, the airframe remains consistent with the original design. Kratos has not yet disclosed any technical specifications distinguishing this version from previous ones, such as maximum takeoff weight, speed, or range.

The integration of landing gear addresses a growing operational need for flexibility. When asked about the modification, Kratos told that converting runway-independent drones to CTOL/HTOL configurations was “technically” feasible, but the broader goal was to offer multiple Valkyrie variants to support a wider range of mission scenarios. According to Steve Fendley, President of Kratos’ Unmanned Systems Division, the addition of landing gear allows conventional take-off and landing while reducing internal payload volume, though without impacting external hardpoints.

This technical development also reflects a shift in industrial positioning. Although Kratos was not selected for the first increment of the CCA program—awarded to General Atomics with the YFQ-42A and Anduril with the YFQ-44A—the company remains engaged with upcoming increments, which are expected to introduce more stringent requirements and potentially reopen competition. The release of this rendering thus occurs in a strategic context in which Kratos seeks to reinforce its relevance in the collaborative combat drone segment. The Valkyrie may therefore appeal not only to the U.S. Air Force, but also to the U.S. Marine Corps, which continues development of its MUX-TacAir program aimed at supporting the F-35B in strike and intelligence roles.

Kratos has also confirmed that it is working on a version tailored to the Marines’ specific requirements, designated MQ-58B, which would include electronic warfare capabilities intended to suppress enemy air defenses. This version would enhance interoperability with short take-off and vertical landing (STOVL) F-35B aircraft, aligning with multi-domain naval air operations. The drone is already used in experimental contexts by the U.S. Air Force and Marine Corps as part of research, development, and concept validation efforts.

From a tactical standpoint, the introduction of landing gear brings operational advantages. Unlike previous configurations, the CTOL/HTOL model does not require rocket boosters for launch or parachutes for recovery, simplifying pre-flight procedures and enabling faster mission turnaround. Kratos had previously indicated that the trolley-based launch system increased fuel and payload capacity by several dozen percent, enhancing both endurance and range.

This new variant may also draw the interest of the U.S. Navy. Although the Navy is still defining the parameters of its own CCA requirements, it has shown interest in Boeing Australia’s MQ-28 Ghost Bat, developed with the Royal Australian Air Force, which could also be adapted into a carrier-capable variant with an arrestor hook. In 2021, the Navy had already requested concepts for operating XQ-58 drones from mobile maritime bases such as Expeditionary Sea Base ships, including potential variants with landing gear.

Kratos is also considering international markets for the Valkyrie, leveraging its experience with aerial target drones already delivered to foreign customers for training, testing, and technology development. The CTOL/HTOL configuration could open up further export opportunities, particularly among armed forces seeking a modular, semi-expendable, and lower-cost alternative to strategic drones.

the official unveiling of the XQ-58A equipped with landing gear reflects Kratos’ intent to align with the evolving requirements of collaborative air combat. This new variant expands the Valkyrie’s operational roles by combining runway-based deployment, reusability, and compatibility with U.S. force employment doctrines. Its adaptable architecture may enhance the system’s competitiveness in future CCA program phases and appeal to partner nations modernizing their combat drone fleets.

**134 . Date: 25-04-2025Requirement - NATO Moves Forward with Deployment of Drone Wall on Eastern Flank to Counter RussiaURL: https://armyrecognition.com/news/aerospace-news/2025/nato-moves-forward-with-deployment-of-drone-wall-on-eastern-flank-to-counter-russia**

In an article published on April 23, 2025, Newsweek reported on the progress of a large-scale defense initiative taking shape along NATO’s eastern border. Called the “Drone Wall,” this project envisions a continuous network of surveillance drones and counter-drone systems stretching from Norway to Poland—nearly 3,000 kilometers across the Alliance’s eastern flank. In response to Russia’s military aggression in Ukraine and the growing threat of hybrid warfare in the region, this initiative stands as one of the most ambitious and expensive security projects ever considered in Europe.

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The Drone Wall is designed as a fully operational system, structured in layers that include AI-powered reconnaissance drones, ground-based sensors, mobile counter-drone platforms, and satellite surveillance (Picture source: Editing Army Recognition Group)

Led by Germany and supported by six NATO member states—Estonia, Latvia, Lithuania, Finland, Poland, and Norway—the Drone Wall goes beyond a symbolic gesture. It is designed as a fully operational system, structured in layers that include AI-powered reconnaissance drones, ground-based sensors, mobile counter-drone platforms, and satellite surveillance. Its objective is to detect and neutralize threats in real time, whether drone incursions, GPS jamming, or clandestine cross-border activities, while providing NATO forces with timely and accurate intelligence across its most vulnerable areas.

According to Martin Karkour, Chief Sales Officer at Quantum Systems—one of the main German companies involved—“This is not a symbolic wall. This is a real one.” He added that the technology is already available and that the project now depends on political coordination at the EU or NATO level to move forward. Quantum Systems currently manufactures several hundred drones per month, including the Vector and Trinity Pro models, both optimized for long-duration surveillance missions in complex environments.

Germany’s new chancellor, Friedrich Merz, has made defense a national priority, lifting restrictions on military spending and offering strong support to domestic defense firms. This strategic shift reflects a broader trend across Europe, as countries seek to strengthen their strategic autonomy amid growing uncertainty over U.S. security commitments, particularly following the return of Donald Trump to the White House and his continued pressure on NATO members to increase their defense budgets.

The Baltic states, situated on the front line with Russia, are playing a key role in the early phases of the project. In Estonia, the initiative is coordinated through the Estonian Defence Industry Cluster, which brings together several local defense technology firms. Among them, DefSecIntel Solutions has developed the Erishield system—a multi-layered solution that integrates AI, advanced sensors, and mobile counter-drone units to detect and neutralize hostile UAVs. Estonia has allocated €12 million over three years to support the project. Other companies such as Rantelon, Marduk Technologies, and Hevi Optronics are also contributing, aiming to provide full situational awareness along NATO’s eastern border, including the detection of smuggling attempts and hostile aerial surveillance or sabotage operations.

Lithuanian Minister of the Interior Agnė Bilotaitė described the Drone Wall as a “new form of border defense,” stating that it will help protect against provocations by unfriendly countries. Finland and Norway are also engaged, particularly on the northern segments of the frontier, where harsh weather conditions require highly resilient technological solutions.

Work has already started in Poland under the Shield-East program, which includes the construction of 700 kilometers of fortified surveillance infrastructure. This section is among the first concrete steps of the broader project, pending further political decisions at the NATO level to expand and harmonize the overall system.

Often referred to as the “world’s most expensive technological wall,” the project is seen as a major response to the evolving nature of military threats, where drones, electronic interference, and hybrid operations increasingly shape the security landscape. For those leading the Drone Wall initiative, the goal is not only to reinforce NATO’s defensive posture but also to showcase Europe’s capacity to develop and deploy integrated, sovereign technological solutions.

The Drone Wall represents far more than a reaction to the war in Ukraine. It reflects a profound strategic shift in European defense doctrines, combining technological innovation, multinational coordination, and a renewed emphasis on strategic autonomy in the face of an adversary that continues to exploit the gray zones of modern conflict. Complementing this aerial and digital approach, more traditional fortification measures are also being implemented: the Baltic states have announced the construction of over 1,000 concrete bunkers, along with trenches, anti-tank barriers, minefields, and ammunition depots along their borders with Russia and Belarus. Known as the Baltic Defense Line, this initiative aims to reinforce the technological dimension of the Drone Wall with a robust ground-based defensive layer. Together, these systems could reshape the long-term security architecture of NATO’s eastern frontier.

**135 . Date: 07-01-2025H-Rotary - Armed ISR / ISTAR - Tactical - General - PlatformProteus: Leonardo's Revolutionary Uncrewed Rotorcraft for Maritime MissionsURL: https://armyrecognition.com/news/aerospace-news/2025/proteus-leonardos-revolutionary-uncrewed-rotorcraft-for-maritime-missions**

According to a PR published by Leonardo on January 7, 2025, the company has revealed the design of its groundbreaking Proteus Uncrewed Rotorcraft Technology Demonstrator, developed in partnership with the Royal Navy and the UK Ministry of Defence’s Defence Equipment and Support (DE&S) Future Capability Innovation (FCI) team. Follow Army Recognition on Google News at this link

Artist rendering of the Proteus Uncrewed Rotorcraft. (Picture source: Leonardo)

Its modular payload bay is a central feature, allowing for mission-specific configurations. This flexibility enables operators to trade fuel capacity for additional mission payloads, broadening its scope across roles such as anti-submarine warfare and maritime reconnaissance. By offering an aircraft type capable of multiple missions, Proteus reduces the logistical burden and costs associated with maintaining diverse fleets.

Leonardo has integrated advanced digital tools to streamline Proteus’s development. A digital twin—an exact virtual replica of the rotorcraft—facilitates synthetic testing, enabling the rapid iteration of designs and systems without requiring live prototypes. Coupled with the use of Artificial Intelligence (AI) and Machine Learning (ML) algorithms, this approach accelerates the refinement of autonomous flight control laws and mission capabilities, while significantly cutting development costs.

The design leverages advanced composite materials, with over 40 components manufactured using these techniques. Incorporating additive manufacturing, such as 3D printing, and low-temperature cure composites has reduced production complexity.

Technical comparison with Peregrine RWUAS

The Leonardo Proteus and Peregrine Rotary Wing Uncrewed Aircraft Systems (RWUAS) represent two distinct approaches to advancing the Royal Navy’s aerial capabilities.

The Peregrine, based on the Schiebel S-100 Camcopter platform, provides a more compact and agile solution. Designed for immediate operational use, it integrates advanced sensors such as the Thales I-Master radar, which offers high-resolution synthetic aperture radar (SAR) imagery and maritime moving target indication (MMTI) capabilities.

Peregrine operates alongside crewed helicopters like the Wildcat, delivering complementary reconnaissance and surveillance functions. Its smaller size and agility make it ideal for tactical operations, with capabilities such as real-time data integration into a ship’s combat management system.

Proteus benefits from digital development tools, including a digital twin that accelerates system refinement through synthetic testing, while Peregrine relies on proven technology adapted for maritime use.

**136 . Date: 27-03-2025Fixed Wing - Armed ISR / ISTAR - MALE - Requirement - Qatar Receives US Approval to Acquire Eight MQ-9B Drones to Enhance Surveillance CapabilitiesURL: https://armyrecognition.com/news/aerospace-news/2025/qatar-receives-us-approval-to-acquire-eight-mq-9b-drones-to-enhance-surveillance-capabilities**

On March 26, 2025, the U.S. Department of State officially approved a potential Foreign Military Sale to the Government of Qatar for the acquisition of MQ-9B drones and associated equipment, with an estimated value of $1.96 billion. The notification was submitted to Congress the same day by the Defense Security Cooperation Agency (DSCA), in accordance with regulatory procedures governing such strategic transactions between the United States and its international partners.

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The MQ-9B SkyGuardian is a next-generation drone developed for long-endurance ISR (Intelligence, Surveillance, Reconnaissance) operations, with a flight autonomy exceeding 40 hours, including in adverse weather conditions. (Picture source: US DoD)

According to the information released, Qatar has requested the purchase of eight MQ-9B Remotely Piloted Aircraft (RPA), capable of conducting intelligence, surveillance, target acquisition, and precision strike missions. The order includes a significant quantity of armaments and onboard sensors: two hundred KMU-572 tail kits for JDAM-guided bombs (GBU-38 or laser-guided GBU-54), three hundred BLU-111 500-lb general-purpose bombs, one hundred MXU-650 airfoil groups for the Paveway II GBU-12, and one hundred MAU-169 computer control groups for the same munition. For navigation and positioning, the order includes twenty-eight EGI security devices with integrated GPS and M-Code modules, along with twelve devices featuring SAASM technology.

The MQ-9B SkyGuardian is a next-generation drone developed for long-endurance ISR (Intelligence, Surveillance, Reconnaissance) operations, with a flight autonomy exceeding 40 hours, including in adverse weather conditions. Operated via satellite, it is capable of beyond-line-of-sight missions and compliant with NATO STANAG 4671 and international civil airspace regulations. With a wingspan of 24 meters, the SkyGuardian is equipped with the Lynx multi-mode radar, a high-performance electro-optical/infrared (EO/IR) sensor, automatic takeoff and landing capabilities, and a certifiable detect-and-avoid system. Its open architecture design allows the integration of various payloads, including sensors, electronic warfare systems, and weapons.

The MQ-9B can be configured for multiple mission types, including maritime surveillance (via the SeaGuardian kit), anti-surface warfare, anti-submarine warfare, long-range strategic ISR, early warning, and humanitarian operations. It features nine hardpoints (eight under the wings and one centerline) supporting an external payload capacity of up to 2,155 kg, enabling integration of AGM-114 Hellfire missiles, JDAMs, Paveway II bombs, and customized national systems. Its interoperability and multi-domain capabilities make it a modular and adaptable platform for complex operational environments.

As part of the package, Qatar will receive ten Lynx AN/APY-8 Synthetic Aperture Radars, ten L3 Rio Grande communications intelligence (COMINT) suites, one hundred ten AGM-114R2 Hellfire II missiles, and eight M36E9 inert Hellfire training missiles. Additional non-Major Defense Equipment (MDE) items include Honeywell TPE-331 turboprop engines, certifiable ground control stations, FMU-139D/B fuzing systems, DSU-38 laser sensors for GBU-54 bombs, KY-100M crypto terminals, AN/PYQ-10 key loaders, KIV-77 Mode 5 IFF cryptographic modules, IPS-250X cybersecurity devices, and CCM-700A COMSEC chips.

The sale also includes a broad array of communication and targeting systems: AN/DPX-7 IFF transponders, Link-16 KOR-24A tactical terminals, SAGE and AE-4500 electronic surveillance systems, Compact Multi-band Data Link (CMDL), ROVER 6Si-compatible video systems, CMBRE Plus Block II test equipment, MAGNA-I anti-jam GPS antennas, EO/IR Multi-Spectrum Targeting Systems, AESA SeaSpray 7500 maritime radars, Due Regard Radar (DRR), AIS transponders, Rohde & Schwarz VHF/UHF radios, SATCOM ground stations with encrypted USG modems, Ku-Band GA-ASI GATES transportable earth stations, DSU-33D/B bomb components, and M299 Longbow Hellfire launchers.

Additional support includes weapons loading equipment, spare and repair parts, maintenance accessories, repair and return services, weapons integration, test and support equipment, technical documentation, personnel training, logistics and engineering support from the U.S. government and contractors, as well as studies and other program support services.

This proposed sale is aligned with U.S. foreign policy objectives aimed at enhancing the security of a partner deemed stable and strategically relevant in the Middle East. It is intended to improve Qatar’s ability to address present and future threats, particularly through the acquisition of intelligence, surveillance, and strike capabilities across both land and maritime domains. The State Department noted that this acquisition would not affect the regional military balance and that the Qatari Armed Forces would be capable of integrating these systems into their operational structure.

The principal contractors involved are General Atomics Aeronautical Systems (Poway, CA), Lockheed Martin (Bethesda, MD), RTX Corporation (Waltham, MA), L3Harris (Melbourne, FL), Boeing (Arlington, VA), and Leonardo SpA (Rome, Italy). No offset agreements have been announced at this stage. Any such arrangements would be subject to direct negotiations between Qatar and the companies involved.

The implementation of this sale does not require additional deployment of U.S. government or contractor personnel to Qatar. No negative impact on U.S. defense readiness is anticipated.

It is noted that the $1.96 billion estimate represents the maximum potential value based on initial requirements. The final cost may be lower depending on final contract terms, budget availability, and negotiated agreements.

The U.S. State Department’s approval marks a major procurement effort by Qatar, focused on acquiring MQ-9B drones and a full suite of armaments, sensors, and support systems. The transaction reflects a broader strategy to strengthen operational capabilities in a region characterized by ongoing security challenges and is part of the longstanding strategic partnership between Doha and Washington.

**137 . Date: 26-03-2025Fixed Wing - Loitering Munition - Mini - General - Raytheon conducts first helicopter launch of new Coyote LE SR unmanned aerial systemURL: https://armyrecognition.com/news/aerospace-news/2025/raytheon-conducts-first-helicopter-launch-of-new-coyote-le-sr-unmanned-aerial-system**

On March 26, 2025, Raytheon, part of RTX Corporation, conducted the first recorded launch of the Coyote LE SR unmanned aerial system (UAS) from a helicopter. The test occurred at Nine Mile Training Center and forms part of a broader effort to expand the operational use cases of the Coyote unmanned aerial system (UAS) family. The new variant, designated Coyote LE SR, is part of a category referred to as “launched effects,” which describes small uncrewed aircraft deployable from air, ground, or maritime platforms. Follow Army Recognition on Google News at this link

The Coyote LE SR is designed to perform a range of missions, including reconnaissance, surveillance, and target acquisition (RSTA); electronic warfare; precision strike; and tactical communications. (Picture source: Raytheon)

The Coyote LE SR is designed to perform a range of missions, including reconnaissance, surveillance, and target acquisition (RSTA); electronic warfare; precision strike; and tactical communications. It introduces collaborative autonomy functionality, enabling the system to interact with nearby sensors and platforms in real-time, adapt to evolving battlefield conditions, and autonomously modify mission tactics based on situational inputs. This helicopter-based test marks the first demonstration of this variant from a rotary-wing platform, following earlier demonstrations from other launch platforms. Further testing is scheduled to continue throughout 2025.

This development follows Raytheon’s participation in the U.S. Army’s Experimental Demonstration Gateway Event (EDGE) in October 2024, where both Raytheon and Collins Aerospace, also under RTX, presented autonomy systems designed for launched effects. At that event, Collins demonstrated its RapidEdge mission system enabling multi-UAV coordination, while Raytheon applied autonomy technologies developed under the U.S. Department of Defense’s Collaborative Operations in Denied Environment (CODE) program. These demonstrations validated interoperability through open system architectures and mesh networks and were conducted under the sponsorship of the U.S. Army Futures Command’s Future Vertical Lift Cross Functional Team.

The Coyote LE SR builds on previous Coyote variants that have been used extensively in counter-unmanned aircraft systems (C-UAS) roles. Earlier Coyote variants, such as Block 1B and Block 2, were used to intercept drones using kinetic means, including proximity warheads and direct collisions. The Block 2 variant introduced a jet engine, enabling speeds of up to 595 kilometers per hour, and included improvements for rapid target engagement. A later version, the Block 2+, was displayed at the 2024 World Defense Show in Saudi Arabia and included enhancements such as a thrust jet engine, data link, MP-7U guidance unit, and adaptive autopilot. This version is capable of intercepting Group 1 to Group 3 UAS threats at distances exceeding 10 kilometers and can engage both single drones and drone swarms with reduced engagement timelines.

Coyote systems are typically integrated with Raytheon’s Ku-band Radio Frequency Sensor (KuRFS), which provides detection and tracking of low, slow, small UAS threats. KuRFS can detect Class I UAS threats at distances up to 16 kilometers and track objects as small as 9 mm. Together with the Coyote interceptor, this forms the basis of the U.S. Army’s Low, slow, small, unmanned aircraft Integrated Defeat System (LIDS). LIDS configurations are available in both fixed-site (FS-LIDS) and mobile (M-LIDS) formats. The FS-LIDS includes palletized Coyote launchers and sensor arrays, while M-LIDS platforms are mounted on M-ATVs and incorporate electro-optical sensors, KuRFS radar, and two-round Coyote launchers.

Earlier Coyote variants, such as Block 1B and Block 2, were used to intercept drones using kinetic means, including proximity warheads and direct collisions. (Picture source: Army Recognition)

The Coyote system originated with Advanced Ceramic Research in Arizona and underwent multiple ownership changes before being acquired by Raytheon in 2015. It was first developed for intelligence, surveillance, and reconnaissance roles and has since evolved into a multi-role UAS with kinetic and non-kinetic capabilities. Non-kinetic versions are designed for electronic warfare or directed energy missions and can be recovered and reused. The Block 3 variant, under contract with the U.S. Navy since February 2021, is equipped with a non-kinetic payload and can be launched from unmanned surface or underwater vehicles.

The U.S. Army has procured Coyote systems through multiple contracts. In January 2024, RTX received a $75 million contract to produce 600 Coyote 2C interceptors. In April 2024, a separate $237 million contract was awarded to provide KuRFS and Coyote systems for use in U.S. Central Command operations. In September 2024, the Department of Defense announced a $197 million cost-plus-fixed-fee contract to Raytheon for additional Coyote systems, with work scheduled through September 30, 2027. The U.S. Army’s fiscal year 2025 budget request includes $116.3 million for Coyote interceptor procurement.

Looking ahead, the Army plans to acquire a minimum of 6,000 Coyote Block 2 kinetic interceptors and 700 non-kinetic Block 3 interceptors from 2025 to 2029, along with 252 fixed-site launcher systems, 25 mobile launchers, 118 fixed-site KuRFS units, and 33 mobile KuRFS units. The system is integrated into a broader Army effort to develop maneuver short-range air defense (M-SHORAD) capabilities and counter-drone “system of systems” approaches. Operational deployment of the Coyote platform has included hurricane data collection for NOAA and counter-UAS missions for the U.S. military. In 2022, the U.S. approved the sale of 10 FS-LIDS systems, including 200 Coyote Block 2s, to Qatar in a $1 billion agreement. In December 2023, the Army confirmed plans to acquire 6,700 Coyote interceptors through 2029, indicating sustained demand for the system.

**138 . Date: 13-01-2025Fixed Wing - Cargo - MALE - General - PlatformRussian troops test new transport drone named after Donald TrumpURL: https://armyrecognition.com/news/aerospace-news/2025/russian-troops-test-new-transport-drone-named-after-donald-trump**

As reported by Russian Weapons on January 9, 2025, the Russian military-industrial complex has developed a tactical transport unmanned aerial vehicle (UAV) called the TraMP, an acronym for "transport aviation multipurpose platform." Informally referred to as Trump by the Russians, the UAV has entered the ground testing phase, with its first flight scheduled for April 2025. The UAV is intended to support logistical operations and other tasks in various operational environments. Follow Army Recognition on Google News at this link

Current testing of the Trump UAV focuses on its control systems and mechanisms, with engineers conducting a series of ground runs without takeoff to confirm calculated parameters. (Picture source: Telegram/Russian Weapons)

The Trump UAV is capable of transporting up to 250 kilograms of cargo over distances exceeding 600 kilometers. Current testing focuses on its control systems and mechanisms, with engineers conducting a series of ground runs without takeoff to confirm calculated parameters. The UAV features a cargo compartment with a capacity of 2,650 liters, allowing it to deliver large payloads, including parachute-dropped cargo. The compartment’s downward-opening flaps also enable the suspension of a shock payload.

Key design aspects of the Trump UAV include a modular structure allowing field replacement of components such as the wing, engine, and chassis. The reinforced chassis with large-diameter tires is designed for takeoff and landing on short and poorly prepared airstrips. Additional features include a built-in cargo and aircraft rescue system, aimed at improving operational flexibility.

The UAV has a cruising speed of 195 kilometers per hour and a ceiling altitude of 3,000 meters. It is designed to serve multiple roles, including logistics support in hard-to-reach areas, acting as a communications repeater, and carrying small-sized FPV drones. According to military expert Yevgeny Damantsev, the vehicle is undergoing rigorous testing to ensure functionality and reliability.

Unmanned aerial vehicles (UAVs) with capacities comparable to the Russian TraMP/Trump drone, capable of carrying up to 250 kilograms over 600 kilometers, are being developed globally. For instance, the U.S. Army and Marine Corps are working on the Joint Tactical Autonomous Aerial Resupply System (JTAARS), targeting cargo capacities between 136 and 636 kilograms. Similarly, Airbus has tested a sub-scale demonstrator for a multi-mission UAV designed for cargo transport and other functions.

In the conflict in Ukraine, the Trump UAV could serve Russian forces by improving logistics capabilities, particularly in areas with limited infrastructure or difficult access. Its ability to deliver supplies and equipment efficiently, including precision parachute drops, may address challenges in resupply missions and support operational flexibility. The name "Trump" for the UAV appears to reference Donald Trump, the future U.S. president. The specific rationale behind this naming has not been explicitly detailed, but it may relate to his perceived positions on Russia. During his earlier presidency, U.S.-Russia relations faced significant challenges, and Russian officials have expressed measured expectations regarding his possible future policies.

With a maximum speed of 195 km/h, the Trump UAV is designed to serve multiple roles, including logistics support in hard-to-reach areas, acting as a communications repeater, and carrying small-sized FPV drones. (Picture source: Telegram/Russian Weapons)

**139 . Date: 23-04-2025General - DatalinkRussia Trials Satellite Link to Extend Operational Reach of Long-Range DronesURL: https://armyrecognition.com/news/aerospace-news/2025/russia-trials-satellite-link-to-extend-operational-reach-of-long-range-drones**

On April 23, 2025, Russian news agency TASS reported that the design bureau Intelligent Devices (Intelp) has launched testing of the first national real-time satellite communication system developed for tactical long-endurance unmanned aerial vehicles (UAVs). This system is intended to provide Russian UAVs with increased operational autonomy, enabling them to operate beyond the limits of line-of-sight communication or ground-based relays, and thereby significantly expand their range. The initiative is part of a broader strategy to enhance national capabilities in a field that has become crucial for modern conflicts and operations in remote regions such as the Arctic or maritime zones.

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The system operates mainly in the Ku band, integrating a compact 35 cm parabolic antenna with tracking and control modules into a single unit under 8 kg, enabling stable satellite communication for UAVs in motion. (Picture source: Vitaly V. Kuzmin)

Specializing in communication technologies, Intelp has developed a solution compatible with compact and mobile subscriber stations, equipped with a reduced-aperture antenna. According to the bureau’s General Director, Alexander Kondrashina, the system complies with regulatory emission standards while optimizing frequency usage through code compression techniques. He also noted that technology ensures stable connectivity at the edge of coverage zones of geostationary satellites, as well as with future high-elliptical orbit constellations, making it suitable for reliable communications even at high latitudes. This makes it particularly relevant for deployment along the Northern Sea Route and in maritime areas such as the Russian Far East, the Baltic Sea, the Black Sea, and the Caspian Sea.

Unmanned aviation expert Denis Fedutinov highlighted the significance of this technological development, explaining that satellite communication integration enables UAVs to operate far beyond the range of conventional radio links. He emphasized that the system’s compact size and weight allow for its integration not only on large drones but also on tactical platforms such as the Orion (Inokhodets), Sirius (Inokhodets-RU), Helios-RLD, and future models under development as part of the Altius program. This capability marks a first for the Russian UAV industry.

Technically, the system primarily operates in the Ku frequency band, with a version for the C band also planned. The equipment combines a 35 cm diameter parabolic antenna with a feedhorn, a transceiver, control and positioning modules, and an intelligent tracking system into a single integrated unit. This allows a UAV to maintain communication with geostationary satellites while in motion. The antenna can rotate at up to 200 degrees per second, maintaining a stable connection even on high-speed UAVs or small marine vessels. The total weight of the subscriber station is under 8 kg.

Intelp also stated that the system allows for rapid reconfiguration of communication channel parameters at the software level. With a built-in router, proprietary IP architecture, and a mechanism for optimizing data structure and transmission volume, the system can be easily integrated into any existing data network infrastructure. This adaptability aligns with growing demands for modularity in modern command and control systems.

Compared to conventional systems, this solution offers stable satellite coverage beyond line of sight, including in Arctic regions, due to its compatibility with high-elliptical orbits. Internationally, the United States has maintained leadership in this area for decades, equipping UAVs like the MQ-9 Reaper and RQ-4 Global Hawk with SATCOM links through WGS (Wideband Global SATCOM) satellites. Israel has implemented similar capabilities on its Heron TP drones, while Turkey has equipped its Bayraktar Akinci and Anka UAVs with Ku-band satellite links. China, though less transparent about technical details, has incorporated SATCOM into MALE-class drones such as the CH-5 and is developing its own low-Earth orbit constellations. The United Kingdom is also integrating satellite communication capabilities into its MQ-9B-based Protector RG Mk1.

In response to these global advancements, Russia aims to bridge its gap in satellite communications for UAVs by making such capabilities available to lighter and more versatile platforms. This announcement comes as President Vladimir Putin, during a meeting on UAV development in January, ordered additional funding for accelerating the deployment of low-Earth orbit satellite constellations.

The start of testing for this first satellite communication system for tactical long-endurance UAVs represents a significant step in modernizing Russia’s drone capabilities. Its compact design, software flexibility, and ability to operate in underserved areas position it as a potentially transformative tool in Russia’s UAV operations. It also reflects a broader international trend toward increasingly autonomous drone systems capable of conducting complex missions without reliance on terrestrial infrastructure.

**140 . Date: 15-01-2025Fixed Wing - Armed ISR / ISTAR - HALE - Partnership - Saab Joins Boeing's Australian MQ-28 Ghost Bat Team to Enhance Communication with TactiCall SystemURL: https://armyrecognition.com/news/aerospace-news/2025/saab-joins-boeings-australian-mq-28-ghost-bat-team-to-enhance-communication-with-tacticall-system**

On January 13, 2025, Boeing officially announced the integration of Saab into the Ghost Bat industrial team, an unmanned aerial system (UAS) under development. Saab, through its Australian subsidiary, will provide strategic equipment, including the TactiCall communication solution and avionics components produced by the company’s Swedish operations. This partnership highlights international collaboration and underscores Australia's aim to strengthen its technological capabilities in the defense sector.

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The MQ-28 Ghost Bat is a multirole combat drone developed by Boeing Australia for the RAAF (Picture source: Saab)

The TactiCall system, developed by Saab, consolidates various communication technologies into a secure and user-friendly interface, enabling monitoring and sharing of information across multiple classification levels. This solution will be complemented by avionics equipment such as electromechanical actuators and controllers for the primary flight control system, produced in Sweden. According to Andy Keough, Managing Director of Saab Australia, the Ghost Bat represents an opportunity to showcase effective collaboration between global organizations, local industries, and the Australian armed forces.

The MQ-28 Ghost Bat, developed by Boeing Australia in partnership with the Royal Australian Air Force (RAAF), is the first military aircraft fully designed and built in Australia in over 50 years. Since its maiden flight in 2021, the program has achieved key milestones, including an initial order of ten Block 1 units by the RAAF, followed by the acquisition of three upgraded Block 2 models in February 2024. The Ghost Bat has also garnered international interest, notably from the U.S. Navy, which has dispatched a team to Australia to train and test the system.

The MQ-28 Ghost Bat is a multirole combat drone developed by Boeing Australia for the RAAF. Designed as a "loyal wingman," it operates alongside piloted aircraft such as the F-35A, F/A-18F, and E-7A for reconnaissance, surveillance, and combat missions. It also features advanced artificial intelligence for autonomous operations. Its modular design allows for quick swapping of payloads in its nose to suit various operational requirements, including electronic warfare or offensive support. With a range exceeding 3,700 kilometers and subsonic flight speeds, the Ghost Bat demonstrates maneuverability comparable to that of fighter jets.

Since its inception in 2017, the MQ-28 program has advanced rapidly, achieving significant milestones. Recent flight tests have demonstrated the drone's ability to perform complex mission scenarios, sharing real-time information among multiple aircraft. This capability illustrates substantial progress in integrating autonomous systems into modern operations.

Saab's integration into the Ghost Bat program marks a strategic and technological development. The inclusion of its TactiCall system enhances the drone’s communication capabilities, ensuring efficient management of critical information and improved coordination with manned aircraft. Additionally, the avionics components supplied by Saab provide the reliability and precision necessary for complex autonomous missions. This partnership positions the MQ-28 as a key component in modern defense forces while expanding Australia’s international defense industry prospects.

**141 . Date: 27-03-2025General - SoftwareSimulated Trials Mark Initial Step Toward Drone-Helicopter Interoperability for French ArmyURL: https://armyrecognition.com/news/aerospace-news/2025/simulated-trials-mark-initial-step-toward-drone-helicopter-interoperability-for-french-army**

In February 2025, the French Directorate General of Armaments (DGA), through its Flight Test division, conducted a simulation-based experimental campaign aimed at exploring the potential for cooperation between military helicopters and drones. As modern conflicts increasingly demand synergy between manned platforms and unmanned systems, this effort forms part of a broader capacity transformation for the French Armed Forces. The goal is to determine how these aerial vectors can interact effectively, share tactical information, and divide tasks to expand the range of possible missions and enhance the conduct of joint or combined operations.

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The primary focus of these trials was to evaluate how drone autonomy could be balanced with human control and to what extent crew cognitive load remained manageable despite increasingly complex interactions (Picture source: DGA)

The simulation campaign took place within the DGA Flight Test facilities and mobilized both technical and operational expertise from multiple military entities. Participants included DGA test pilots, members of the French Army’s Airmobile Group (GAMSTAT), and operational personnel from the 3rd Combat Helicopter Regiment (3e RHC) and the 4th Special Forces Helicopter Regiment (4e RHFS). The chosen scenario simulated an offensive reconnaissance mission involving a helicopter supported by two drones, in a virtual environment designed to replicate real operational conditions. The mission was broken down into several elementary phases, each of which was repeated multiple times with varying levels of interoperability between the helicopter crew and the unmanned systems, as well as differing crew configurations—either two or three operators.

The primary focus of these trials was to evaluate how drone autonomy could be balanced with human control and to what extent crew cognitive load remained manageable despite increasingly complex interactions. To assess this, both subjective and physiological data were collected during each phase to evaluate the participants' mental workload and operational performance. These measures helped identify the most suitable configurations for distributing responsibilities between human operators and autonomous systems.

The technical system supporting the experiment was based on interconnected simulators of the NH90—a transport helicopter widely used by the French Army—and various types of simulated drones. Within less than three months, DGA Flight Test engineers developed and implemented a distributed simulation architecture capable of replicating complex tactical data exchanges. Simulated information included imagery from optronic sensors, lines of sight, as well as navigation and payload control commands. Additionally, a touch-based interface was developed to facilitate drone piloting and supervision from the helicopter. This interface, deployable either on the cockpit dashboard or on a tablet, enables map interaction, real-time display of drone data, and control over flight paths and sensor payloads.

This initial experimental campaign represents a foundational step in the broader project to mature drone-helicopter cooperation technologies, a priority area for both the DGA and the French Defence Innovation Agency (AID). Insights from this first phase, focused primarily on the Army’s needs, will later inform adaptations of the simulation tools for use cases relevant to the French Navy and the Air and Space Force. In the long term, the next stages of the programme are expected to incorporate technological components developed by industry, with the aim of enhancing functional realism, increasing system autonomy, and refining operational scenarios. These developments will pave the way for real flight tests augmented by simulation elements—a hybrid approach designed to assess advanced configurations before they enter operational service.

In summary, this simulation campaign conducted by DGA Flight Test underscores the importance of distributed simulation in evaluating future interoperable capabilities between manned and unmanned platforms. It also highlights the ability of the French military to rapidly structure complex trials around key technological challenges. This work anticipates future developments in collaborative combat, where helicopters will no longer operate in isolation but as part of a network of sensors and autonomous effectors capable of coordinated action in an increasingly digitized battlespace.

**142 . Date: 21-03-2025Partnership - SoftwareSouth Korea's KAI partners with Shield AI to speed up AI development for future air combat platformsURL: https://armyrecognition.com/news/aerospace-news/2025/south-koreas-kai-partners-with-shield-ai-to-speed-up-ai-development-for-future-air-combat-platforms**

On March 20, 2025, Korea Aerospace Industries (KAI), South Korea’s sole aircraft system integrator, announced a partnership with Shield AI, a U.S.-based developer of artificial intelligence and autonomous systems for defense applications, to support the integration of AI pilot technology into KAI’s manned-unmanned teaming capabilities. The agreement includes the use of Shield AI’s Hivemind Enterprise (HME), a modular and scalable AI-powered autonomy software suite developed for integration into unmanned aerial systems and drones. The contract was signed by KAI, Shield AI, and Quantum Aero, Shield AI’s exclusive supplier in South Korea. Follow Army Recognition on Google News at this link

Shield AI's Hivemind Edge is deployed onboard unmanned systems to execute autonomy functions such as perception, action, and cognition in environments with limited or no access to GPS or communications. (Picture source: KAI)

Shield AI’s Hivemind Enterprise will be used by KAI to support the development of its proprietary AI pilot, referred to as “K-AILOT,” which will be integrated into a scaled version of KAI’s multipurpose unmanned aerial platform (AAP). According to Shield AI’s Chief Technology Officer, Nathan Michael, the suite is intended to reduce the complexity and cost typically associated with autonomy development by offering software tools and architecture that enable developers to accelerate the creation of AI pilot systems. Developed to deploy autonomous behaviors at scale, the software suite is designed to help establish, evaluate, and verify autonomous flight capabilities, including basic navigation, obstacle avoidance, and target recognition. Hivemind Enterprise, developed by Shield AI for organizations and developers involved in building and deploying intelligent unmanned systems, has previously been applied to platforms such as the F-16 (X-62 VISTA), GA-ASI MQ-20 Avenger, Kratos MQM-178 Firejet, V-BATs, and quadcopters, with a focus on enabling autonomous operations in GPS- and communications-denied environments.

Hivemind Enterprise is structured around three primary components: Hivemind Edge, Hivemind Design, and Hivemind Commander. Hivemind Edge is deployed onboard unmanned systems to execute autonomy functions such as perception, action, and cognition in environments with limited or no access to GPS or communications. It is based on an open and modular architecture and is designed to be compatible with multiple platforms. Hivemind Design provides tools for developers to design, configure, analyze, and test AI capabilities using local and cloud computing environments. Hivemind Commander supports human interaction with autonomous systems by offering interfaces for mission planning, real-time command and control, operator training, and simulation-based testing. The system includes a modular catalog of mission behaviors, an integrated autonomy factory for developing and refining autonomous functions, a production-grade middleware layer for system integration, and a high-fidelity simulation environment that supports testing, validation, visualization, and replay of both synthetic and real-world missions.

The agreement follows Shield AI’s earlier integration of Hivemind on the V-BAT vertical takeoff and landing (VTOL) aircraft in a simulation setting under a U.S. Air Force STRATFI (Strategic Funding Increase) contract with AFWERX. That project demonstrated the software’s ability to execute a wide range of mission types with autonomous coordination, such as air defense breach, Scud missile hunting, zone reconnaissance, and operations in communications-contested environments. In one simulation, a team of three V-BATs monitored a 10 × 10 km region with designated areas of interest under conditions simulating the presence of friendly or hostile forces.

As part of the partnership, KAI engineers will visit Shield AI’s headquarters in San Diego in April 2025 to receive training and coordinate the application of Hivemind Enterprise in ongoing test programs, as the simulation environment used for development and testing is proprietary to the U.S. company. The software will be used to verify KAI's internally developed AI pilot systems and shorten development timelines through simulation and prototype testing. KAI aims to complete the integration of K-AILOT into the operational multipurpose unmanned aerial platform (AAP), which is currently scheduled for rollout later in the year. Shield AI’s exclusive technology partner in South Korea, Quantum Aero, will assist with the integration process and facilitate cooperation among domestic aerospace stakeholders.

Shield AI’s Hivemind Enterprise will be used by KAI to support the development of its proprietary AI pilot, referred to as “K-AILOT,” which will be integrated into a scaled version of KAI’s multipurpose unmanned aerial platform named AAP. (Picture source: Army Recognition)

KAI began research into AI-based flight control technologies in the second half of 2023 and, in February 2024, announced an investment of KRW 102.5 billion (approximately USD 69.7 million) into technologies including AI, big data, autonomy, and unmanned systems. To support these efforts, KAI has formed strategic partnerships through equity investments in domestic AI firms such as Konan Technology (big data), PUNZIN (decision AI), and GenGenAI (synthetic data for defense applications). The objective is to strengthen national capabilities in autonomous flight and to build a domestic ecosystem supporting the integration of AI into aerospace systems.

Korea Aerospace Industries (KAI) was established in October 1999 through the consolidation of the aerospace divisions of Daewoo Heavy Industries, Hyundai Space and Aircraft, and Samsung Aerospace. This integration, initiated by the South Korean government during the post-Asian financial crisis restructuring period, aimed to create a unified national aircraft system integrator. Headquartered in Sacheon, South Gyeongsang Province, KAI has played a central role in South Korea’s aerospace development, including fixed- and rotary-wing aircraft, UAVs, satellites, and launch vehicles. Its major clients include the South Korean military branches and international companies such as Airbus, Boeing, and Embraer.

KAI’s current projects include the KT-1 Woongbi trainer, T-50 Golden Eagle supersonic jet, KUH-1 Surion helicopter, KF-21 Boramae multirole fighter, and a family of UAVs such as the RQ-101 Songgolmae and the in-development AAP (Autonomous Aerial Platform). The company is also involved in co-development, licensed production, and upgrade programs for platforms such as the KF-16, P-3CK, and Boeing 737 AEW&C. KAI also participates in space programs including the Korean Space Launch Vehicle-II and a range of electro-optical and radar imaging satellites. Additionally, the company is advancing manned-unmanned teaming concepts and conducting R&D into AI-based piloting technologies and unmanned combat aerial vehicles (UCAVs). KAI has invested in domestic AI firms and technologies to enhance its capabilities in autonomy, big data, and synthetic training environments.

Founded in 2015, Shield AI is a U.S. defense technology firm that develops artificial intelligence software and autonomous systems for military use. The company was established by Brandon Tseng, a former U.S. Navy SEAL, along with Ryan Tseng and Andrew Reiter, with the goal of improving operational safety and effectiveness through autonomous capabilities. Its first product, the Nova quadcopter, was deployed by the U.S. military for indoor reconnaissance missions. The company’s technologies are used by U.S. defense entities including the Air Force, Navy, Marine Corps, and Special Operations Command, as well as by international customers such as Romania. Shield AI maintains offices in the U.S., Ukraine, the UAE, and Australia, and opened an office in Kyiv in January 2025 to support Ukraine’s operations involving MQ-35A V-BAT drones.

**143 . Date: 15-04-2025Hybrid Rotary / Fixed Wing - Loitering Munition - Mini - General - PlatformStark Virtus German VTOL Kamikaze Drone Shaped by Battlefield Experience in UkraineURL: https://armyrecognition.com/news/aerospace-news/2025/stark-virtus-german-vtol-kamikaze-drone-shaped-by-battlefield-experience-in-ukraine**

On April 14, 2025, the German company Stark, which specializes in next-generation defense technologies, officially revealed the specifications of its new autonomous loitering munition, the Virtus drone. Designated OWE-V for One Way Effector – Vertical Take-Off, the system directly responds to operational requirements identified on today’s battlefields, particularly those emerging from the ongoing war in Ukraine since Russia’s invasion in 2022.

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The Virtus drone features a VTOL (vertical take-off and landing) configuration, enabling its deployment in restricted or degraded environments without the need for dedicated infrastructure (Picture source: Stark)

Developed using feedback from the Ukrainian Armed Forces, Virtus is intended to provide Western militaries with an autonomous, responsive, and resilient strike capability. This announcement comes as Stark, already selected to deliver the first kamikaze drones to the German Bundeswehr, positions itself as a key player in the growing European market for intelligent loitering munitions. With operational presence in Berlin, Munich, and Kyiv, the company specifically targets NATO forces and strategic partners, foremost among them Ukraine.

The Virtus drone features a VTOL (vertical take-off and landing) configuration, enabling its deployment in restricted or degraded environments without the need for dedicated infrastructure. Its embedded algorithms for autonomous navigation and target recognition allow it to operate independently of constant operator communication, making it especially suited for contested or GPS-denied areas. Capable of autonomously locating, identifying, and engaging targets within a 100-kilometer radius, Virtus represents a notable shift toward autonomous lethal systems in modern military operations.

Equipped with a quiet electric propulsion system, the drone cruises at 120 km/h and can reach speeds of up to 250 km/h during terminal dive. It can remain airborne for up to 60 minutes and carry a modular payload of up to 5 kg, enabling it to be configured for various mission types, including anti-personnel, anti-armor, or electronic warfare roles. This flexibility makes Virtus suitable for deep strike missions, targeting enemy equipment or command infrastructure. Deployment time is minimal—just five minutes from storage to launch—allowing for rapid tactical response.

In addition to its strike capability, Virtus incorporates a Return-and-Land function, enabling the drone to autonomously return and land if no target is identified or engagement is deemed unfeasible. This feature significantly increases the system’s operational sustainability by allowing for reuse. The drone is managed via Minerva, Stark’s proprietary command-and-control software, which enables a single operator to coordinate and deploy multiple drones simultaneously. This distributed control approach facilitates swarm deployments, enabling coordinated missions such as saturation strikes or distributed reconnaissance.

The Virtus program relies entirely on European components, and Stark claims its production facilities are fully automated and designed for high-volume manufacturing. This industrial setup aligns with broader objectives for European strategic autonomy and meets NATO procurement standards for secure supply chains. While the company has not officially confirmed deployment of Virtus in Ukraine, its operational presence in Kyiv, along with the system’s intended use and capabilities, strongly suggests real-world testing or early fielding in the ongoing conflict with Russia.

With Virtus, Stark seeks to compete directly with other European loitering munition developers, notably Helsing, whose HX-2 drone is already in use by Ukrainian forces. The HX-2 also features autonomous strike capabilities, resistance to electronic countermeasures, electric propulsion, and a control interface based on Helsing’s proprietary Altra software. The competition between Stark and Helsing illustrates the growing strategic importance of intelligent drone systems, where autonomy, modularity, and swarm operation are defining performance criteria.

Virtus reflects a doctrinal evolution toward the integration of artificial intelligence into autonomous lethal systems. Its ability to operate without continuous oversight, navigate independently, and adapt to operational conditions in real time represents a shift aligned with the demands of modern electronic warfare and information-dense environments. More than a loitering munition, Virtus represents a platform designed for contemporary hybrid warfare and high-intensity conflict scenarios.

Stark Defense, led by former German Army helicopter pilot Florian Seibel, exemplifies a new generation of European defense companies focused on artificial intelligence, automation, and software-centric architectures to transform operational capabilities. Its systems are built to function in heavily contested electromagnetic environments, with GPS-independent navigation, automated target identification, and distributed operational frameworks that do not depend on centralized command. From the design phase, Stark has aimed to meet the new requirements of future warfare.

The company is one of two selected suppliers—alongside Helsing—chosen by the German Ministry of Defense to equip the Bundeswehr under the €100 billion rearmament plan announced by Chancellor Olaf Scholz following the outbreak of the war in Ukraine. This decision reflects a political commitment to support domestic innovation, reinforce Germany’s defense industrial base, and accelerate the digital transition of the armed forces. Previously limited to unarmed ISR drones, the Bundeswehr is taking a significant doctrinal and technological step forward by integrating autonomous strike capabilities through systems like Virtus.

**144 . Date: 08-01-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - Contract - Strategic Leap: Japan Acquires V-BAT UAVs for Naval SurveillanceURL: https://armyrecognition.com/news/aerospace-news/2025/strategic-leap-japan-acquires-v-bat-uavs-for-naval-surveillance**

According to information published by ShieldAI on January 7, 2025, Japan is set to acquire advanced V-BAT unmanned aerial vehicles (UAVs) from U.S. defense company Shield AI. An allocation of 4 billion yen (approximately $25 million) has been designated for this procurement. The V-BAT, renowned for its compact vertical take-off and landing (VTOL) system, is suited for deployment aboard smaller naval vessels, offering operational flexibility and endurance for monitoring expansive maritime territories. Follow Army Recognition on Google News at this link

Japan acquires V-BAT UAVs to elevate maritime patrols with VTOL technology and extended operational endurance. (Picture source: ShieldAI)

The V-BAT UAV is renowned for its vertical take-off and landing (VTOL) capabilities, requiring minimal space for deployment—specifically, a 12-foot square area (about 3.7 meters). This feature makes it particularly suitable for operations on naval vessels with limited deck space. Once airborne, the V-BAT transitions to horizontal flight, utilizing its wings for lift, and can sustain operations for up to 10 hours. This endurance is crucial for extended surveillance missions over Japan's vast maritime territories.

In the context of a potential conflict with China, the V-BAT UAV could play a pivotal role in bolstering Japan’s maritime security and operational readiness, especially in contested areas such as the East China Sea. These waters, including the Senkaku Islands (claimed by both Japan and China), are a hotspot for geopolitical tensions. A conflict scenario would demand rapid, precise, and sustained intelligence-gathering and situational awareness, areas where the V-BAT excels.

China’s naval strategy emphasizes anti-access/area-denial (A2/AD) capabilities, bolstered by advanced missile systems, large surface fleets, submarines, and maritime militias. To counter this, the JMSDF must rely on persistent ISR and agile platforms like the V-BAT UAV to maintain awareness and provide actionable intelligence. The V-BAT’s ability to operate from smaller patrol ships, frigates, and remote bases gives Japan a distinct advantage in deploying assets near contested areas without escalating tensions.

During a conflict, the V-BAT’s long-endurance surveillance can be used to monitor and track Chinese naval activities, such as movements of destroyers, submarines, and amphibious assault ships. This real-time intelligence is crucial for countering aggressive maneuvers or amphibious landings. Its ability to relay this data to JMSDF command and allied forces ensures a coordinated and informed response, which is critical in managing the fast-paced dynamics of naval engagements.

In anti-submarine warfare, the V-BAT can assist in detecting Chinese submarines operating near Japanese waters. The East China Sea is a known transit area for Chinese submarines heading into the Pacific, and the V-BAT, equipped with synthetic aperture radar or magnetic anomaly detectors, could provide an additional layer of defense by identifying submarine locations and relaying their movements to JMSDF assets.

The UAV’s stealthy design and low radar signature make it ideal for covert ISR missions in sensitive zones. For instance, it could be deployed to shadow Chinese vessels or maritime militia ships operating near the Senkaku Islands, documenting activities for strategic decision-making.

In scenarios where China employs swarming tactics using smaller vessels or drones, the V-BAT can provide overwatch for JMSDF vessels, identifying threats early and coordinating countermeasures. Its modular payloads can also be adapted for electronic warfare, such as jamming Chinese communications or gathering electronic intelligence to disrupt their operational cohesion.

**145 . Date: 24-04-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - Requirement - Taiwanese Navy Eyes US JUMP 20 Vertical Takeoff Drone to Reinforce Coastal DefenseURL: https://armyrecognition.com/news/aerospace-news/2025/taiwanese-navy-eyes-us-jump-20-vertical-takeoff-drone-to-reinforce-coastal-defense**

As military pressure from China continues to heighten tensions in the East China Sea, Taiwan’s armed forces are intensifying efforts to enhance their surveillance capabilities, early warning systems, and operational resilience. In this context, the Republic of China Navy has expressed growing interest in acquiring the JUMP 20, a fixed-wing vertical takeoff and landing (VTOL) drone developed by the US company AeroVironment, as reported by Liberty Times. The system has been in service with Taiwan’s Coast Guard Administration since 2022 and reflects the increasing importance of tactical drones in Taiwan’s maritime defense architecture. Taiwan remains the only country aside from the United States and Ukraine to operate this model, highlighting its proactive approach to integrating advanced ISR (intelligence, surveillance, reconnaissance) technologies amid rising hybrid threats.

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Technically, the JUMP 20 offers more than 13 hours of autonomous flight and an operational range of up to 185 kilometers, providing significant strategic depth for reconnaissance and maritime surveillance missions (Picture source: Aeroenvironment)

According to a report published on Thursday, April 24, by the Liberty Times, the Navy is seeking a more advanced version than the one currently operated by the Coast Guard. This upgraded version is expected to better meet the operational and environmental requirements of naval deployments. A key feature of the JUMP 20 is its ability to operate without the need for an airstrip, as it can take off and land vertically from ships or unprepared land sites. This characteristic makes it particularly suited for deployment from surface vessels such as frigates and coastal patrol ships.

Technically, the JUMP 20 offers more than 13 hours of autonomous flight and an operational range of up to 185 kilometers, providing significant strategic depth for reconnaissance and maritime surveillance missions. It can carry a payload of up to 13.6 kilograms, accommodating a wide range of electro-optical, infrared, and multi-mission sensors. Powered by a 190cc EFI engine running on MOGAS fuel, the drone is designed for extended endurance and simplified maintenance. The system can be made operational in under 60 minutes, without the need for launch or recovery equipment, offering rapid tactical deployment.

Its modular architecture supports the integration of advanced payloads such as the ARCAM 45D camera or long-range EO/MWIR systems, combined with onboard image processing, stabilization, and tracking technologies. This open and interoperable design allows for mission-specific configurations, including the detection of mobile targets, identification of maritime activity, or coastal mapping. While the drone is not armed in its standard configuration, its multi-function bay can accommodate specialized payloads such as light electronic warfare modules or communications relays, depending on mission requirements.

The Navy’s interest in enhanced drone systems aligns with a broader modernization strategy driven by the Ministry of National Defense, which has prioritized unmanned aerial systems in response to the growing military capabilities of the People’s Republic of China. ISR platforms like the JUMP 20 serve dual purposes: improving the operational resilience of Taiwan’s forces and ensuring continuous situational awareness across both littoral and broader maritime zones around the island.

In the event of a Chinese invasion, the JUMP 20 could serve a crucial role in Taiwan’s surveillance and early warning framework. Its ability to maintain discreet, persistent aerial monitoring over sensitive areas, combined with its range, would make it a valuable tool for detecting movements of warships, landing craft, or coastal missile systems. It could also help identify troop concentrations or amphibious preparations in advance, providing real-time intelligence to surface units and command centers. Its capability to operate from austere environments or mobile platforms offers a clear advantage in asymmetric conflict scenarios, especially if airfields were compromised during the early stages of a confrontation.

More broadly, the JUMP 20 could contribute meaningfully to Taiwan’s layered defense strategy. By maintaining surveillance over maritime and aerial corridors, supporting the targeting of precision strikes, and delivering resilient ISR coverage across multiple theaters, the system would serve as a force multiplier. Its ability to adapt sensor configurations to different threat types—including coastal radars, electronic warfare systems, anti-air defenses, or vessel movements—makes it a versatile and hard-to-detect platform. The integration of such capabilities would increase the responsiveness and survivability of Taiwanese forces while improving their capacity to monitor, anticipate, and respond to external threats in an increasingly sensor-driven and technologically advanced operational environment.

**146 . Date: 09-01-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformTürkiye's KIZILELMA UCAV with Supersonic Speed and 1.5-Ton Payload Enters Serial ProductionURL: https://armyrecognition.com/news/aerospace-news/2025/tuerkiyes-kizilelma-ucav-with-supersonic-speed-and-1-5-ton-payload-enters-serial-production**

Turkey's KIZILELMA Unmanned Combat Aerial Vehicle (UCAV) has officially entered serial production, marking a significant milestone for the country's defense technology sector. As reported on the X account of the Turkish Century on January 8, 2024, this announcement reflects Turkey's growing prowess in developing advanced unmanned aerial systems (UAS), which are set to redefine modern military operations. The KIZILELMA, developed by Baykar Makina, is designed to perform a variety of combat roles, offering a new level of versatility and power for armed forces worldwide. Its introduction will enhance Turkey's defense capabilities and strengthen military cooperation with several countries. Follow Army Recognition on Google News at this link

Turkey's KIZILELMA UCAV: A next-generation unmanned combat aerial vehicle designed for precision strikes, with supersonic speed, 1.5-ton payload capacity, and advanced autonomous flight capabilities. (Picture source Ugur Ozkan via X)

The KIZILELMA UCAV is not just another unmanned aerial system—its advanced features place it in a league of its own. While many drones are primarily used for reconnaissance or surveillance, the KIZILELMA is equipped to carry out sophisticated combat missions, such as precision strikes and long-range operations. This makes it a potential game-changer in the landscape of modern warfare, with particular relevance to nations seeking to boost their air power while minimizing the risks associated with piloted missions. It is designed to operate effectively in complex and contested environments, enabling operators to carry out missions with high efficiency and low risk to personnel.

A key element of the KIZILELMA's design is its flight performance. The UCAV is capable of carrying a payload of up to 1.5 tons (1,500 kg), which can include various types of precision-guided munitions and air-to-ground bombs. This payload capacity is impressive, making the KIZILELMA suitable for a broad range of operations, from tactical strikes to strategic missions requiring heavy ordnance. Its maximum take-off weight is 8.5 tons (8,500 kg), further emphasizing its robust design, which allows it to carry heavy weapons while maintaining superior performance in the air.

The KIZILELMA’s aerodynamics and speed are another area where it excels. The UCAV has a maximum speed of 0.9 Mach, or approximately 1,100 km/h, enabling it to reach targets quickly and evade enemy defenses with agility. In addition to this impressive top speed, it also boasts a cruise speed of 0.6 Mach, or around 740 km/h, allowing for efficient long-range operations. This balance between speed and endurance is critical for ensuring that the KIZILELMA can perform both high-speed strike missions and extended surveillance or reconnaissance flights.

The KIZILELMA’s combat radius is 500 nautical miles (approximately 926 kilometers), which gives it a substantial reach for engaging targets deep within enemy territory. This range is particularly valuable for strategic operations where the target is located far from friendly air bases or ground forces. With a combat endurance of over 4 hours, the UCAV can remain in operation for extended periods, further extending its operational effectiveness during prolonged missions.

Another remarkable feature of the KIZILELMA is its operational altitude. With the ability to reach altitudes of up to 25,000 feet (approximately 7,620 meters), it can operate in airspace that is typically dominated by manned fighter jets. This high altitude capability provides the KIZILELMA with an advantageous position for both surveillance and strike operations, making it a formidable asset in controlling air superiority.

The KIZILELMA is equipped with cutting-edge autonomous flight capabilities, allowing it to operate without the need for direct human intervention in hostile environments. Its ability to perform automated takeoff, flight, and landing adds to its versatility and reduces the risk to personnel. Furthermore, its advanced sensors, including electro-optical/infrared cameras and radar systems, enable it to perform precise targeting, surveillance, and reconnaissance missions, even in adverse weather conditions.

The introduction of the KIZILELMA UCAV is significant not only for its technological innovations but also for the geopolitical implications it carries. As Turkey seeks to deepen its defense ties with countries in the Middle East, Africa, and Central Asia, the KIZILELMA provides a powerful tool for enhancing military capabilities across the region. The UCAV is expected to play a pivotal role in deterrence and defense strategies, especially in areas facing security challenges from extremist groups or foreign interventions.

The KIZILELMA is part of a broader trend in modern warfare, where unmanned systems are taking on increasingly prominent roles. As traditional fighter jets become more expensive to operate and maintain, drones like the KIZILELMA offer an attractive alternative for nations seeking to modernize their military fleets without the prohibitive costs of manned aircraft. Furthermore, the use of UCAVs reduces the risk to human lives, especially in high-risk operations, while maintaining a high level of combat effectiveness.

With its impressive specifications, such as its 1.5-ton payload, 8.5-ton maximum take-off weight, 0.9 Mach maximum speed, and 500 nautical mile (926 km) combat radius, the KIZILELMA is poised to become a game-changer for countries seeking to modernize their air forces. Its advanced autonomous flight capabilities, combined with a substantial 4+ hour endurance and operational altitude of 25,000 feet (7,620 meters), make it an incredibly versatile and lethal weapon system. As Turkey’s defense exports continue to grow, the KIZILELMA is likely to play a central role in reshaping the defense capabilities of the Ummah and beyond, enhancing regional security and solidifying Turkey’s position as a key player in the global defense market.

**147 . Date: 09-04-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - ArmamentTürkiye Validates OKU Concept as ANKA III UCAV Successfully Launches Super Şimşek Drone Mid-FlightURL: https://armyrecognition.com/news/aerospace-news/2025/tuerkiye-validates-oku-concept-as-anka-iii-ucav-successfully-launches-super-simsek-drone-mid-flight**

On April 8, 2025, Turkish Aerospace Industries (TUSAŞ) achieved a new milestone in the development of its autonomous air combat ecosystem by successfully launching the high-speed Super Şimşek drone mid-flight from its stealth UCAV ANKA III. Conducted at an altitude of 10,130 feet and a true airspeed of 150 knots, the test marks a significant step forward in Türkiye’s Otonom Kol Uçucusu (OKU – Autonomous Wingman) program, a strategic initiative aimed at integrating unmanned platforms with manned aircraft within a networked warfare environment.

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The OKU program is Türkiye’s national response to the globally emerging Loyal Wingman concept, which involves deploying semi-autonomous drones in support of piloted combat aircraft during high-risk missions (Picture source: TUSAS )

Unveiled in 2023 and having completed its maiden flight in December of the same year, the ANKA III represents the most recent evolution of TUSAŞ’s unmanned systems, building upon experience from the ANKA and AKSUNGUR programs. Featuring a tailless flying wing design intended to reduce radar cross-section and enhance aerodynamic efficiency, the ANKA III is powered by a turbofan engine, allowing it to reach speeds of Mach 0.7 and altitudes up to 40,000 feet. It offers an endurance of 10 hours and can carry up to 1,200 kg of payload in internal bays, supporting missions ranging from strategic reconnaissance to precision strikes in contested airspace.

This latest test adds a new capability to ANKA III by confirming its ability to deploy unmanned airborne systems such as Super Şimşek. As a result, the platform extends its role beyond that of a conventional strike drone, evolving into a force multiplier capable of managing layered aerial operations. Super Şimşek, developed by TUSAŞ as a more advanced version of the Şimşek target drone, is a high-speed UAV designed for multi-role functions, including kinetic attacks, electronic warfare, reconnaissance, and decoy missions. With a range of up to 700 kilometers and a top speed near Mach 0.9, it supports various payloads including IR/RF signature enhancers, explosive warheads, jamming systems, electro-optical sensors, and radar interrogation receivers. It can also be equipped with RF/laser seekers for air-to-surface roles or IIR seekers for air-to-air engagements.

The OKU program is Türkiye’s national response to the globally emerging Loyal Wingman concept, which involves deploying semi-autonomous drones in support of piloted combat aircraft during high-risk missions. Designed to work alongside platforms such as Hürjet and KAAN, as well as unmanned systems like ANKA III and Super Şimşek, the program aims to enable collaborative formations, decentralized mission execution, and enhanced survivability in complex air operations. The concept also envisions real-time data fusion, unified mission planning, and seamless communication among assets, reducing pilot workload while improving operational coordination.

From a technological standpoint, the success of this test highlights the increasing capability of Türkiye’s unmanned systems. It follows a separate milestone in March 2025, when ANKA III successfully fired ASELSAN’s LGK-82 guided bomb, confirming its compatibility with domestically developed munitions such as the TEBER-82 guidance kit and the TOLUN bomb. For that test, the prototype was temporarily fitted with the ASELFLIR-500 electro-optical/infrared system, pending integration of the TOYGUN-100 EOTS and a variant of the MURAD AESA radar.

The deployment of Super Şimşek from ANKA III demonstrates more than mechanical or software integration—it confirms the operational viability of the OKU concept. ANKA III now functions not only as a stealth-capable precision strike platform but also as a launch platform for unmanned aerial assets, a capability that offers significant advantages in dynamic operational scenarios.

From an industrial perspective, this test reflects Türkiye’s broader effort to achieve strategic autonomy in defense technologies. On social media, the President of the Defence Industry Agency, Haluk Görgün, described the achievement as evidence of the engineering standard reached in high-speed, high-altitude unmanned systems. TUSAŞ General Manager Mehmet Demiroğlu noted that this step illustrates the country’s technical direction and long-term commitment to developing its aerospace sector.

Strategically, the test signifies progress in adopting new air combat doctrines based on autonomy and human-machine teaming. Türkiye has become one of the few countries demonstrating this type of capability using domestically produced systems. As air warfare becomes increasingly saturated and contested, the ANKA III–Super Şimşek combination demonstrates an approach centered on networked, adaptive aerial systems.

The mid-air launch of Super Şimşek from ANKA III represents a significant advancement in Türkiye’s autonomous combat drone capabilities. It confirms the integration of stealth, AI, modular payloads, and tactical coordination into a single operational concept. As development continues, the OKU program is set to redefine not only the use of drones but also future approaches to aerial combat, reinforcing Turkish Aerospace Industries' role in the global defense landscape.

**148 . Date: 13-01-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - ArmamentTurkish Air Force's Anka-3 stealth drone completes first internal munition test to expand strike capabilitiesURL: https://armyrecognition.com/news/aerospace-news/2025/turkish-air-forces-anka-3-stealth-drone-completes-first-internal-munition-test-to-expand-strike-capabilities**

On January 13, 2025, Turkish Aerospace Industries (TAI) reported that the Anka-3 unmanned combat aerial vehicle (UCAV) successfully conducted its first internal payload munition release. The test involved deploying Aselsan’s domestically-produced Tolun guided munition at an altitude of 20,000 feet and a speed of 180 knots. This marked a significant technical demonstration of the platform’s internal weapons bay functionality and operational capability. Follow Army Recognition on Google News at this link

Powered by a single AI-322 engine, the Turkish Anka-3 stealth drone, which carries up to 1,200 kilograms of munitions, can reach a maximum speed of 450 knots and operate at altitudes up to 40,000 feet. (Picture source: TAI)

The Anka-3, developed under TAI’s Project MIUS (Combat Unmanned Aircraft System), is a stealth UCAV designed for multi-role missions, including reconnaissance, surveillance, and precision strikes. It features a flying-wing design aimed at reducing its radar cross-section, making it suitable for operations in contested airspaces. Powered by a single AI-322 engine, the drone can reach a maximum speed of 450 knots and operate at altitudes up to 40,000 feet. It has a maximum takeoff weight of 6.5 tons and can carry up to 1,200 kilograms of munitions, such as SOM-J cruise missiles, small-diameter bombs, and Tolun guided bombs.

The Tolun munition, designed and manufactured by Aselsan, uses GPS/INS guidance for precision targeting with a circular error probability of less than 10 meters. It can penetrate one meter of reinforced concrete when released from 30 nautical miles away. With folded wings for extended range, the munition can reach distances of up to 55 nautical miles at higher altitudes. Tolun has been tested under electronic warfare conditions, maintaining precision under GNSS jamming. During prior tests, it demonstrated the capability to engage multiple targets simultaneously, including a test with four munitions hitting separate targets when deployed from an F-16. Variants such as the Tolun-IIR add imaging infrared guidance, enabling engagement of moving targets and man-in-the-loop control.

The Anka-3 program has reached several milestones. It made its maiden flight on December 28, 2023, and completed its first live-fire test on September 20, 2024. In this test, conducted with Aselsan and Roketsan, the drone struck its target using an AF500 electro-optic camera and Teber-82 guidance kit. On October 30, 2024, the Anka-3 became the first UCAV to be controlled by another aircraft, demonstrating interoperability for potential “loyal wingman” missions with manned platforms like the KAAN fighter jet.

The Turkish Anka-3, a stealth UCAV designed for multi-role missions, including reconnaissance, surveillance, and precision strikes, features a flying-wing design aimed at reducing its radar cross-section, making it suitable for operations in contested airspaces. (Picture source: TAI)

Future upgrades to the Anka-3 include plans to equip it with twin TEI TF10000 turbofan engines. These engines, under development as domestic alternatives to the General Electric F110, are expected to provide supersonic capability, supporting operations alongside supersonic manned fighters. Current testing has focused on optimizing the platform’s stealth design, payload integration, and operational range.

The Anka-3 complements other Turkish platforms, including Baykar’s Akıncı and Kızılelma UCAVs. Akıncı, in particular, has integrated various munitions, including Tolun and Tolun-IIR, for precision strike capabilities. Aselsan’s development of these munitions supports Türkiye’s strategy of advancing indigenous defense capabilities while reducing dependence on foreign suppliers. Azerbaijan, for example, has ordered Tolun bombs for use with its Akıncı UCAVs, with deliveries scheduled for 2025.

Aselsan’s Tolun has been exported previously, including a 2023 order worth $36 million for an undisclosed customer. During tests, Tolun demonstrated a range of up to 100 kilometers when released from high altitudes. This munition family has drawn comparisons to the U.S. GBU-39, which has faced challenges in GPS-jammed environments, whereas Tolun has maintained its targeting precision under similar conditions.

The Turkish Air Force is expected to receive its first operational Anka-3 in early 2025. The UCAV is currently undergoing prototype testing, with two prototypes built to date. Production is expected to continue, with multiple units planned for delivery by 2028. This program is part of Türkiye’s broader efforts to expand its fleet of unmanned systems and strengthen its position in the global drone market. Türkiye's unmanned aerial systems, including Anka-3 and its munitions, have attracted interest from international customers, further demonstrating their utility in modern combat scenarios.

In summary, the Anka-3 represents a step forward in Türkiye's development of stealth UCAVs. Its capabilities, such as internal payload deployment, multi-role functionality, and potential for future upgrades, align with the country’s focus on expanding its indigenous defense industry. Ongoing developments and integrations are expected to enhance operational flexibility while contributing to Türkiye's efforts to strengthen its domestic defense production capabilities.

The Tolun munition, designed and manufactured by Aselsan, uses GPS/INS guidance for precision targeting with a circular error probability of less than 10 meters, and can penetrate one meter of reinforced concrete. (Picture source: Army Recognition)

**149 . Date: 28-03-2025Fixed Wing - Loitering Munition - Mini - Pitch - US Army Commits to Launched Effects to Shape Future of Tactical Autonomous DronesURL: https://armyrecognition.com/news/aerospace-news/2025/us-army-commits-to-launched-effects-to-shape-future-of-tactical-autonomous-drones**

On March 27, 2025, the US Army announced the selection of three companies to participate in a key demonstration of the Launched Effects – Short Range (LE-SR) system, marking a significant step in the development of this emerging capability. Through this initiative, the US Army aims to refine the operational use of a new category of autonomous or semi-autonomous systems capable of delivering effects at a distance via lightweight, agile, and rapidly deployable aerial platforms. This decision reflects the growing integration of disruptive technologies into combat doctrines, in response to the increasing complexity of contemporary operational environments.

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The three companies selected for this demonstration are Raytheon, with its Coyote Block 3 system, Anduril Industries with the multi-mission version of the Altius 600, and AEVEX Aerospace with its Atlas Group II drone (Picture source: Raytheon, Anduril, AEVEX)

The Launched Effects concept encompasses a new generation of autonomous aerial systems designed to deliver lethal or non-lethal effects, ranging from precision strikes to electronic warfare. Designed to operate individually or in swarms, these systems are modular, interoperable, and capable of being launched from a variety of platforms to provide rapid, targeted tactical effects.

The three companies selected for this demonstration are Raytheon, with its Coyote Block 3 system, Anduril Industries with the multi-mission version of the Altius 600, and AEVEX Aerospace with its Atlas Group II drone. Their participation falls within the framework of an event called the "Special User Demonstration" (SUD), intended to test the systems' performance under near-operational conditions. Units from field artillery, infantry, and aviation will be involved to evaluate the tactical effectiveness of these loitering munitions by experimenting with employment concepts, firing procedures, and combined-arms coordination.

Brigadier General David Phillips, Program Executive Officer for Aviation, emphasized that the demonstration will expose these industrial solutions to real operational requirements by placing them directly in the hands of end-users. The goal is to assess actual system performance at an early stage while identifying areas for technical or doctrinal refinement. Soldier feedback is expected to play a central role in shaping future capabilities.

The Launched Effects concept relies on a modular architecture composed of an aerial vehicle, a lethal or non-lethal payload, a mission system, and supporting equipment. These systems can be deployed individually or in coordinated groups, either autonomously or semi-autonomously, to deliver targeted effects against identified threats. The short-range variant (LE-SR) is designed as a lightweight, flexible, and responsive solution capable of operating effectively in contested and mobile tactical environments.

Brigadier General Cain Baker, Director of the Future Vertical Lift Cross Functional Team, stated that the insights gained from this demonstration will help refine technical specifications and guide the evolution of operational concepts in support of the Army’s modernization strategy. The approach reflects a shift toward user-driven innovation, with end-users involved from the earliest stages of capability development.

Alongside this demonstration, the Army plans to launch a separate effort this year to prototype the integration of existing industry solutions, including aerial platforms, sensors, and payloads. Conducted in coordination with the Aviation and Missile Technology Consortium, the initiative has already attracted interest from twelve vendors. This effort is part of a broader transformation strategy aimed at enhancing the operational flexibility of ground forces in response to evolving threats and emerging technologies.

Among the three systems being evaluated, Raytheon’s Coyote Block 3 is an evolution of its original expendable loitering munition. This variant integrates a non-kinetic effect primarily intended to counter drone swarms, thereby minimizing collateral damage. During a test conducted with the US Army, the Coyote Block 3 successfully engaged and neutralized ten drones of varying size, maneuverability, and range. It demonstrated air-to-air engagement capabilities, mission survivability, post-mission recovery, and reusability in the theater. Its compatibility with KuRFS radar and the Block 2 launch system reflects a mature level of interoperability. Its main advantage lies in its non-lethal counter-drone role in densely populated or constrained environments. However, its range and payload capacity are more limited compared to multi-role systems designed for extended engagements or complex strike missions.

The Altius 600M, developed by Area-I/Anduril, represents a new class of multi-mission loitering munitions, emphasizing modularity, advanced autonomy, and cross-domain launch flexibility. With a maximum range of 400 km, endurance exceeding four hours, and a payload capacity of up to 3 kg, the system is designed to support a broad array of mission profiles, including ISR sensors, RF decoys, communication relays, or kinetic warheads. It can be launched from land, sea, or air platforms, at both high and low altitudes. One of its key features is autonomous collaborative operation, allowing multiple units to share data, identify threats, and execute coordinated engagements. Delivered to Ukraine in 2023 as part of a military aid package, the Altius 600M has demonstrated operational maturity. A single operator can manage up to a dozen drones, reducing workload and improving overall mission efficiency. However, its high level of technical complexity requires advanced software infrastructure, dedicated training, and a robust support system, which may influence its scalability in the short term.

The Atlas, developed by AEVEX Aerospace, is a Group II loitering munition designed to optimize the payload-to-weight ratio. With a total weight of 9.5 kg and a payload capacity of 3.6 kg, it offers a range of over 120 km and an endurance between one and two hours. The system supports both fragmentation and penetrator warheads as well as ISR modules. It features autonomous visual navigation capable of operating without GPS, enhanced by mesh radio connectivity and alternate positioning systems, making it resilient in GPS-denied environments. Its open architecture enables integration with third-party sensors and software. With over 5,000 units delivered, Atlas has demonstrated high production maturity and a proven capacity for rapid deployment. While its endurance is lower than that of the Altius, its reliability, simplicity of use, and adaptability to high-intensity operations make it a suitable solution for immediate battlefield needs.

The comparative analysis of these three systems highlights distinct advantages aligned with specific operational priorities. Coyote Block 3 provides a non-lethal, reusable option for countering drone swarms, particularly useful in sensitive environments. Altius 600M offers the most advanced technological configuration for multi-effect missions, suited for distributed and autonomous operations. Atlas, by contrast, delivers a balanced combination of modularity, availability, and ease of deployment, with strong performance in degraded environments.

Ultimately, given the US Army’s long-term objectives, the Altius 600M appears to be the most promising option for future integration into joint forces, particularly for reconnaissance and long-range strike missions. However, given the current demand for rapid capability expansion and immediate field readiness, Atlas from AEVEX provides a pragmatic and deployable solution, aligned with today’s operational realities.

**150 . Date: 23-01-2025Fixed Wing - Armed ISR / ISTAR - HALE - Contract - US Marines Focus on MQ-58 Valkyrie Drones by Kratos to Strengthen Aerial DominanceURL: https://armyrecognition.com/news/aerospace-news/2025/us-marines-focus-on-mq-58-valkyrie-drones-by-kratos-to-strengthen-aerial-dominance**

On January 21, 2025, Kratos Defense & Security Solutions, Inc., a technology company specializing in defense, national security, and global markets, announced a $34,856,449 cost-plus-fixed-fee contract modification granted by the United States Marine Corps. This contract extension is intended to integrate mission systems and subsystems as part of the development of the Marine Air-Ground Task Force Unmanned Aerial System Expeditionary (MUX) tactical drone program.

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Equipped with an internal payload bay, the Valkyrie can carry a range of mission equipment, including lethal weapons, electronic warfare systems, and even secondary drones, as demonstrated in previous tests (Picture source: US DoD)

Since 2022, Kratos and its industrial partner, Northrop Grumman, have been collaborating with the Marine Corps to define operational requirements for the MQ-58 Valkyrie variant. This partnership has led to the demonstration of advanced collaborative combat capabilities under the Penetrating Affordable Autonomous Collaborative Killer Portfolio (PAACK-P) program, which is transitioning into the MUX TACAIR project in 2025. The contract modification includes non-recurring engineering and material acquisition for incremental development efforts, as well as additional flight tests to enhance the Valkyrie system’s capabilities.

The MQ-58 Valkyrie, developed by Kratos Defense & Security Solutions, represents a significant development in autonomous tactical drone technology. Designed as a stealthy, cost-efficient, and versatile platform, it operates alongside manned aircraft such as the F-35 to enhance their effectiveness in complex and contested environments. Initially launched as the XQ-58A, the Valkyrie is capable of various missions, including suppressing enemy air defenses (SEAD), intelligence gathering, and conducting electronic and lethal strikes. Its runway-independent design, employing rocket-assisted takeoff and parachute recovery, makes it particularly suitable for expeditionary operations in austere environments. Powered by a turbofan engine, the drone achieves high subsonic speeds over long distances.

Equipped with an internal payload bay, the Valkyrie can carry a range of mission equipment, including lethal weapons, electronic warfare systems, and even secondary drones, as demonstrated in previous tests. It also supports external configurations with wing-mounted hardpoints. Its stealth features and advanced communication capabilities, including the Multi-Function Data-Link (MADL), make it a strategic asset for coordinating operations with other platforms. This drone is central to programs such as MUX and PAACK-P, aimed at equipping the Marine Corps and the US Air Force with modern and cost-effective autonomous systems capable of addressing future conflict challenges.

The contract-related work will be carried out in Sacramento, California; Oklahoma City, Oklahoma; China Lake, California; and Patuxent River, Maryland.

Colonel Derek Brannon, director of the HQ USMC Cunningham Group, emphasized the importance of these developments, noting that the Marine Corps is a leader in advancing collaborative combat aircraft. He stated that the goal is to operationalize a tactical platform that meets modern strategic requirements while remaining cost-effective. These systems, equipped with advanced and high-performance payloads, will provide essential capabilities to address current and future operational needs.

Steve Fendley, president of Kratos’ Unmanned Systems Division, highlighted that this program demonstrates how the development and evaluation of unmanned systems can be achieved at significantly lower costs and faster timelines compared to manned military aircraft. He also pointed out that unmanned systems can be quickly integrated with existing manned platforms, reducing risks, enhancing efficiency, and extending the lifecycle of current systems before next-generation aircraft are available or funded.

The XQ-58A Valkyrie, designed by Kratos, is a high-performance tactical drone capable of operating without a runway and undertaking long-distance flights at high subsonic speeds. Combining cost-efficiency, operational flexibility, and a versatile payload capacity, the Valkyrie stands out as an adaptable system for a wide range of missions, including lethal payload deployments, at a cost-effective rate for US Department of Defense clients.

Kratos Defense & Security Solutions, Inc. specializes in developing technologies and products for defense, national security, and commercial applications. The company focuses on internal research and development to deliver reliable, proven approaches that reduce costs and risks while accelerating the deployment of high-performance solutions. Positioned as an innovative disruptor in the industry, Kratos develops products optimized for high-volume production and cost-efficiency.

This latest announcement underscores Kratos’ commitment to developing powered drone systems, hypersonic technologies, space systems, C5ISR solutions, and immersive virtual and augmented reality training for military applications.

With this contract, Kratos solidifies its role as a key player in the development of unmanned aerial systems, enabling the Marine Corps to maintain a strategic advantage in collaborative aerial combat.

**151 . Date: 13-02-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - Contract - AeroVironment’s JUMP 20 Chosen by Denmark to Strengthen Tactical UAS Capabilities of its Armed ForcesURL: https://armyrecognition.com/news/army-news/2025/aerovironments-jump-20-chosen-by-denmark-to-strengthen-tactical-uas-capabilities-of-its-armed-forces**

AeroVironment (AV), a leader in advanced autonomous systems, has secured a major contract from the Danish Defence Acquisition and Logistics Organisation (DALO) to provide the JUMP 20 unmanned aerial system (UAS) to the Danish Armed Forces. With a value of up to $181 million, this contract spans 10 years and positions the JUMP 20 as a central element in Denmark’s future tactical UAS capabilities. The new system will significantly enhance the Danish Army’s intelligence, surveillance, and reconnaissance (ISR) operations in diverse and demanding operational environments.

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The JUMP 20 is a vertical takeoff and landing (VTOL) system that combines the flexibility of a rotary-wing platform with the endurance and range of a fixed-wing aircraft. (Picture source: AeroVirnment)

The JUMP 20 is a vertical takeoff and landing (VTOL) system that combines the flexibility of a rotary-wing platform with the endurance and range of a fixed-wing aircraft. Capable of operating without a runway, the system provides over 13 hours of flight and an operational range of 185 kilometers (115 miles). Its ability to take off and land autonomously, without personnel intervention, makes it an ideal solution for mobile operations. This unique capability will be particularly valuable in the rugged and often remote terrains of Scandinavia.

Shane Hastings, Vice President of AeroVironment and General Manager of Medium UAS, emphasized the system’s relevance in demanding operational conditions: "The JUMP 20 sets the standard for simplicity, modularity, and durability—key attributes for reliable performance in the challenging terrain of Scandinavia. With a combat-proven history and more than 300,000 operational flight hours, the JUMP 20 is a world-class UAS that will provide the Danish Armed Forces with multi-mission capabilities essential for conducting effective operations in complex environments."

One of the key strengths of the JUMP 20 is its adaptability to evolving operational concepts (CONOPS) and mission requirements. Its 30-pound modular payload capacity allows it to integrate a wide range of sensors and technologies, ensuring that the system can meet the growing and changing needs of modern warfare. As part of the contract, the JUMP 20 will also be able to accommodate future hardware and software updates, ensuring that the system remains at the forefront of technological advancements.

AeroVironment also highlighted its ongoing commitment to innovation and its strong relationship with the Danish Ministry of Defence. "This significant win reinforces confidence in the JUMP 20 system and underscores AeroVironment’s commitment to delivering unmatched capabilities, reliability, and innovation to our customers. We have a long-standing relationship with the Danish Ministry of Defence, and we are excited to further strengthen this collaboration by working with the Danish Armed Forces to enhance their UAS capabilities for many years to come."

The JUMP 20 contract strengthens AeroVironment’s position as a global leader in unmanned aerial systems, solidifying its reputation as a provider of cutting-edge autonomous solutions. As the UAS landscape continues to evolve, the JUMP 20 is poised to become a key player in future Danish Armed Forces operations, providing them with an advanced platform for ISR missions, battlefield awareness, and a wide range of other applications.

AeroVironment is a global provider of multi-domain intelligent robotic systems. Specializing in unmanned aerial and ground systems, sensors, analytics software, and connectivity, AeroVironment delivers actionable intelligence to support informed decision-making. Headquartered in Arlington, Virginia, the company deploys its solutions globally across defense, government, and commercial sectors. For more information, visit www.avinc.com.

Certain statements contained in this article may constitute "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995. These statements are based on current expectations, forecasts, and assumptions involving risks and uncertainties, including economic, competitive, governmental, and technological factors that could cause actual results to differ materially from those expressed or implied. Factors that could lead to significant differences from forward-looking statements include, but are not limited to, the company’s ability to execute on existing contracts, secure additional contracts, changes in the regulatory environment, and economic conditions. For a detailed list of risks and uncertainties, please refer to the company’s filings with the Securities and Exchange Commission.

**152 . Date: 18-04-2025Fixed Wing - ISR / ISTAR - Mini - General - Breaking News: Germany to Boost Ukraine’s Recon Power with Delivery of 316 Vector and 30 RQ-35 Heidrun DronesURL: https://armyrecognition.com/news/army-news/2025/breaking-news-germany-to-boost-ukraines-recon-power-with-delivery-of-316-vector-and-30-rq-35-heidrun-drones**

On April 17, 2025, the German Ministry of Defense officially announced the delivery of an additional batch of unmanned aerial vehicles (UAVs) to Ukraine, including 316 Vector reconnaissance drones and 30 more RQ-35 Heidrun drones. This substantial support package highlights the continued importance of drone technology in Ukraine's defense strategy as it counters ongoing Russian military aggression. The new drones are expected to significantly enhance Ukraine’s intelligence, surveillance, and reconnaissance (ISR) capabilities on the front lines. Follow Army Recognition on Google News at this link

The German-made Vector reconnaissance drone, developed by Quantum Systems, features vertical takeoff and landing capabilities, a 120-minute flight endurance, and a 30-kilometer operational range. Designed for high-resolution surveillance, the Vector plays a key role in enhancing Ukraine’s battlefield reconnaissance and situational awareness. (Picture source: Quantum Systems)

The Vector drone, developed by German manufacturer Quantum Systems, is an electric vertical takeoff and landing (eVTOL) UAV capable of hybrid operations in both military and civilian sectors. Initially conceived in 2018, the Vector was designed for use by military forces, border guards, police units, and emergency services. It features a fixed-wing design with a 2.8-meter wingspan and a 1.63-meter length, offering a high degree of stability and endurance in flight. It can remain airborne for up to 120 minutes and transmit live video and sensor data over a 30-kilometer range, matching the effective radius of many artillery systems.

The Vector was first delivered to Ukraine in early 2022, just months after Russia’s full-scale invasion began. Recognizing the critical need for real-time intelligence and reliable situational awareness on the battlefield, Ukrainian forces quickly integrated the drone into frontline operations. The Vector’s ability to operate quietly, with high-resolution electro-optical sensors and encrypted communications, made it an ideal tool for artillery spotting, target acquisition, and surveillance of enemy positions. As a dual-use drone, it also facilitated coordination between military and civil defense units operating under combat conditions.

The RQ-35 Heidrun, produced by Danish company Sky-Watch, complements the Vector by offering tactical low-altitude surveillance capabilities. It is a compact, fixed-wing mini-UAV that can be launched by hand, eliminating the need for cumbersome ground support equipment. The Heidrun is designed to operate in contested electronic environments, with built-in resistance to GPS jamming and electronic warfare (EW). It is capable of delivering high-resolution day and night video feeds, with some variants offering an extended range of up to 45 kilometers. Ukrainian forces have relied on the Heidrun since 2022 for frontline reconnaissance and intelligence gathering, particularly in environments where larger drones may be vulnerable to detection and attack.

Since the beginning of the war, drones have evolved into one of Ukraine’s most vital military tools. In the early stages of the conflict, Ukraine utilized commercial drones such as the DJI Mavic series and Bayraktar TB2s to gather intelligence and conduct strikes. As the conflict progressed, Ukraine rapidly expanded its drone fleet to include tactical UAVs, FPV drones equipped with explosive payloads, and long-range systems capable of deep strikes into Russian-held territory. These unmanned systems have transformed the battlefield by enabling real-time targeting, reconnaissance, and rapid response to changing combat conditions.

Ukraine’s creative use of drones has not only improved operational efficiency but also influenced modern military doctrines globally. Drones like the Vector and Heidrun allow for greater precision in artillery targeting, reducing the risk of collateral damage while maximizing combat effectiveness. Their portability, stealth, and ease of deployment make them indispensable assets in both urban and rural combat zones.

Germany’s continued support with advanced UAV systems such as the Vector and RQ-35 Heidrun reflects a broader recognition among NATO allies of Ukraine’s need for persistent aerial surveillance and tactical flexibility. These drones play a critical role in maintaining battlefield situational awareness and countering Russia’s numerical and technological superiority. Furthermore, the lessons learned from Ukraine’s innovative drone operations are now influencing defense planning and procurement strategies across Europe and NATO.

The delivery of 316 Vector drones and 30 RQ-35 Heidruns represents not only a logistical upgrade for Ukraine but a reaffirmation of how drone warfare has reshaped the dynamics of the conflict. With their proven effectiveness and adaptability, these UAVs will continue to play a decisive role in Ukraine’s defense and the evolution of modern military operations.

**153 . Date: 28-01-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - PlatformBreaking News: Iran Declares Shahed-149 Gaza Drone Copy of US MQ-9 Reaper Operational After Successful Strike TestsURL: https://armyrecognition.com/news/army-news/2025/breaking-news-iran-declares-shahed-149-gaza-drone-copy-of-us-mq9-reaper-operational-after-successful-strike-tests**

According to a video published by Iran's National TV on January 26, 2025, Iran has officially operationalized its Shahed-149 "Gaza" unmanned combat aerial vehicle (UCAV), a high-altitude, long-endurance drone capable of striking targets up to 4,000 kilometers away. The announcement follows the successful deployment of the drone during the "Great Prophet 2025" military exercise, where it engaged multiple mock targets with high precision. Images circulated online show the Shahed-149 equipped with eight Sadid-345 guided glide bombs, underscoring its formidable strike capabilities. Follow Army Recognition on Google News at this link

The Iranian Shahed-149 "Gaza" unmanned combat aerial vehicle (UCAV) is seen in flight, armed with eight Sadid-345 precision-guided glide bombs. (Picture source: X account OSINTWarfare)

The Iranian-made Shahed-149 MALE (Medium-Altitude Long-Endurance) aerial drone was first introduced in 2021 and subsequently delivered to the Islamic Revolutionary Guard Corps (IRGC) Aerospace Force in 2022. With a wingspan of 21 meters, it can carry a payload of 500 kg, consisting of various munitions, including precision-guided bombs and surveillance equipment. The drone operates with a cruising speed of 215 km/h, a flight endurance of 25 hours, and can reach altitudes of 10,668 m (35,000 feet), making it suitable for long-range reconnaissance and strike missions.

Designed for intelligence, surveillance, target acquisition, and reconnaissance (ISTAR) missions, the Shahed-149 features advanced avionics, including electro-optical/infrared (EO/IR) sensors, synthetic aperture radar (SAR), and satellite communication (SATCOM), allowing for beyond-line-of-sight (BLOS) operations and real-time targeting. The integration of these technologies positions the Shahed-149 as a critical asset for Iran's military, enhancing its ability to conduct long-endurance missions over hostile or contested environments.

The Shahed-149 is armed with Sadid-345 precision-guided glide bombs, which are lightweight and designed for precision strikes against both stationary and moving targets. The Sadid-345 weighs approximately 34 kilograms, is 1.63 meters in length, and features four fixed fins for stability along with four deflectable tail fins for guidance. It is equipped with electro-optical and GPS-assisted navigation, ensuring an accuracy of 2.5 to 5 meters circular error probable (CEP). The bomb has an estimated range of 6 kilometers, providing stand-off strike capabilities and reducing the drone's exposure to enemy air defenses.

The warhead of the Sadid-345 contains a composition of H6 explosives designed for anti-armor and anti-personnel effects. Upon detonation, it creates a lethal radius of about 30 meters, making it effective for precision strikes with minimal collateral damage.

The operationalization of the Shahed-149 significantly enhances Iran's drone warfare capabilities, providing the military with a powerful tool for regional power projection. With a reported range of up to 4,000 kilometers, the drone can potentially target strategic assets across the Middle East, including military bases, infrastructure, and high-value adversarial assets. Military analysts suggest that the Shahed-149 could play a pivotal role in Iran’s asymmetric warfare strategy, offering a cost-effective solution for persistent surveillance and precision strikes. The drone's deployment is also likely to impact regional security dynamics, with countries such as Israel, Saudi Arabia, and the United States closely monitoring its operations.

Iran’s drone program has been heavily influenced by foreign designs, with the Shahed-149 drawing clear parallels to the American MQ-9 Reaper and the Chinese CH-4 Rainbow. The airframe, propulsion system, and payload capabilities of the Shahed-149 suggest an attempt to replicate the MQ-9’s multi-role functionality, combining reconnaissance and strike capabilities with extended operational endurance. Similarly, Iran's previous drone models, such as the Shahed-129, have shown similarities to the Chinese CH-4 UAV, further emphasizing Iran’s strategy of adapting and enhancing existing technologies. Despite lacking the advanced materials and avionics of their American and Chinese counterparts, Iranian drones have demonstrated effectiveness in regional conflicts, offering a low-cost alternative for extended reconnaissance and offensive operations.

The successful operational deployment of the Iranian-made Shahed-149 "Gaza" during the "Great Prophet 2025" military exercise underscores Iran’s growing self-reliance in military drone technology. With its enhanced endurance, precision strike capabilities, and long operational range, the Shahed-149 is set to play a critical role in Iran’s defense strategy. As tensions in the Middle East persist, the Shahed-149’s presence in the IRGC's arsenal could serve as a force multiplier, further complicating regional security dynamics.

**154 . Date: 17-02-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - General - PlatformChina's new EV390 vertical takeoff drone to strengthen its surveillance and mapping capabilitiesURL: https://armyrecognition.com/news/army-news/2025/chinas-new-ev390-vertical-takeoff-drone-to-strengthen-its-surveillance-and-mapping-capabilities**

At IDEX 2025, Shenzhen-based Chinese company V-UAV introduced the EV390, also known as the Flashman EV390, a fully electric vertical takeoff and landing (VTOL) unmanned aerial vehicle (UAV) designed for long-endurance missions. The UAV features a modular structure, enabling disassembly into six parts for storage in two flight cases. The fuselage case measures 158x66x76 cm, while the tail components are stored in a separate 96x55x65 cm case. The aircraft is built using carbon fiber and glass fiber, with a wingspan of 3,914 mm, a length of 1,899 mm, and a height of 750 mm. Follow Army Recognition on Google News at this link

The Chinese EV390 drone features automated functions such as program control, 3D coordinate autonomous flight, target tracking, emergency return, and fixed-point circling. (Picture source: Army Recognition)

The UAV operates on four 6S 30,000mAh lithium-ion batteries, delivering a maximum flight time of 3.5 hours without a payload. When carrying its full payload of 10 kg, flight endurance is reduced to approximately 1.5 hours. The battery system supports up to 600 recharge cycles and is recharged using the UP600+ charger, which has two 600W channels for simultaneous charging of two batteries in under an hour. The UAV has a maximum takeoff weight (MTOW) of 35 kg, a top speed of 37 m/s (130 km/h), and a cruising speed of 23 m/s (83 km/h). It climbs at 4 m/s, descends at 5 m/s, and operates up to an altitude of 4,500 meters AMSL. It is capable of operating in wind speeds of up to 12 m/s.

Designed for rapid deployment, the EV390 can be assembled in under two minutes using quick connectors. It operates with the VTX30 ground control station, which provides long-range data and video transmission. The UAV uses an open-source autopilot system and supports multiple flight controllers, including the V-UAV V7 Pro, CUAV V7+, and Cube Orange+. It has automated functions such as program control, 3D coordinate autonomous flight, target tracking, emergency return, and fixed-point circling. It can also incorporate a "Follow-me" function, which enables autonomous tracking and mission planning with a high-precision GPS module.

The EV390's payload bay accommodates various mission requirements. It supports a maximum payload of 10 kg and is compatible with multiple sensor options. These include A30TR-50 or U30TIRM-HD cameras for border patrol and inspection, A0305 3D oblique cameras or GS-100C LiDAR sensors for mapping and surveys, and a drop box system for search and rescue or package delivery. The UAV is rated with an IP54 protection grade and operates in temperatures ranging from -20°C to 60°C. It has an operational range of up to 150 km. The system is delivered with two flight cases for transport.

Fully electric VTOL (eVTOL) drones use electric propulsion, minimizing moving parts and lowering maintenance needs compared to internal combustion-powered aircraft. Their vertical takeoff and landing capability allows operation in confined areas without the need for runways. Electric motors produce less noise than conventional engines, making them suitable for operations in populated or noise-sensitive areas. The use of electric power eliminates direct carbon emissions during flight. Some eVTOL designs use distributed propulsion with multiple smaller propellers, providing redundancy in case of motor failure.

China's eVTOL drone sector is driven by policies promoting the "low-altitude economy," covering aerial logistics, urban air mobility, and emergency response below 1,000 meters. Government initiatives have relaxed airspace regulations and provided financial incentives to encourage manufacturers to develop and test new eVTOL models. By 2030, up to 100,000 eVTOLs could be deployed for air taxis, cargo transport, and personal mobility. Chinese manufacturers gain from lower labor costs and a regulatory framework enabling faster development and production than in many other countries. Cost advantages and flexible payment terms make Chinese drones an option for countries with budget constraints. Investments in battery technology, electric propulsion, and artificial intelligence contribute to the expansion of this sector. Moreover, China's integration of civilian and military manufacturing facilitates the development of new unmanned aerial vehicles for different applications.

**155 . Date: 17-04-2025Training - Denmark May Become First European Nation to Train Troops in Ukraine on Combat Drone WarfareURL: https://armyrecognition.com/news/army-news/2025/denmark-may-become-first-european-nation-to-train-troops-in-ukraine-on-combat-drone-warfare**

Denmark could become the first European nation to send troops to Ukraine to train its own military personnel in the use of combat drones on the battlefield. This initiative, reported on April 16, 2025, by Danish public broadcaster TV2, has sparked mixed reactions internationally and within Danish military institutions. According to statements by Major General Peter Boysen, Chief of Staff of the Danish Armed Forces, the objective would be to send unarmed troops to Ukraine for short training sessions focused primarily on observing and learning the drone warfare tactics employed by Ukrainian forces.

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Since the beginning of Russia’s full-scale invasion in February 2022, Denmark has been one of the most committed European supporters of Ukraine, with military and humanitarian aid representing 2.3% of its gross domestic product, according to data from the Kiel Institute. (Picture source: Danish MoD )

Boysen stressed that these teams, drawn from various Danish regiments, would not participate in combat operations but rather witness firsthand “the level of experience and competence of the Ukrainians” in the use of drones on the battlefield. He indicated that the sessions, planned for this summer, would be held at training centers located in western Ukraine, likely near Lviv, and would last from one to two weeks. These sessions would be conducted far from active combat zones, and Boysen emphasized the relative safety of the locations, citing the availability of early warning systems and adequate shelters in case of Russian missile attacks.

The announcement quickly drew a negative response from Russia. The Russian Embassy in Denmark stated that the initiative runs counter to ongoing efforts toward a political and diplomatic resolution of the conflict in Ukraine. It also warned of risks to the safety of Danish soldiers, claiming they could be considered “legitimate targets” by Russian forces. In this tense context, the presence of foreign troops in Ukraine, even in a strictly observational or training capacity, is viewed by Moscow as a provocation.

The Danish Ministry of Defence, however, sought to temper the reports circulated by the media. In an official statement issued on April 16, Defence Command Denmark clarified that there are currently “no plans or decisions to deploy Danish soldiers for short-term courses or training in Ukraine.” According to this clarification, Boysen’s remarks were part of broader reflections on potential ways to enhance the Danish military’s operational experience-gathering program. This program, already underway for several months, involves sending Danish personnel, mainly at command level, into Ukraine to observe battlefield realities and draw lessons from them.

Defence Command confirmed that two high-level visits took place in February, during which Ukrainian counterparts proposed the idea of Danish soldiers participating in training sessions in Ukraine. They also offered to send Ukrainian specialists to Denmark. However, as Boysen reiterated, “no decision has been made” regarding the participation of Danish soldiers in such training. At this stage, it remains only option being considered as part of Denmark’s efforts to benefit from Ukraine’s experience in drone warfare.

Since the beginning of Russia’s full-scale invasion in February 2022, Denmark has been one of the most committed European supporters of Ukraine, with military and humanitarian aid representing 2.3% of its gross domestic product, according to data from the Kiel Institute. This involvement includes arms deliveries, consistent political support, and knowledge exchange. Denmark’s growing interest in Ukrainian drone tactics reflects the rapid evolution of modern warfare, with drones now accounting for more than 70% of the losses suffered by Ukrainian forces due to Russian attacks, according to Boysen.

This desire to closely observe Ukrainian methods fits into a broader trend: since the outset of the large-scale conflict, many Western countries, including Denmark, have sought to extract practical lessons from Ukraine’s battlefield experience. The country has become a real-world laboratory for contemporary warfare, where the widespread use of drones, electronic warfare, multi-layered air defense systems, real-time intelligence integration, and logistical adaptation in contested environments offer a rare window into the future of armed conflict. European armed forces are particularly interested in Ukraine’s ability to combine fast execution, low-cost innovations, and operational resilience in high-intensity war zones.

In this context, directly observing Ukrainian tactics helps inform doctrinal reflection and modernization efforts across multiple branches of the armed forces, well beyond the domain of drones. Several countries are also assessing implications for troop training, individual equipment, low-altitude air defense, and hybrid threat response. The growing interest in Ukraine’s combat lessons reflects a collective effort to adapt national capabilities to an evolving operational environment where technological superiority alone no longer guarantees battlefield dominance.

**156 . Date: 05-03-2025Fixed Wing - Armed ISR / ISTAR - HALE - Contract - Exclusive: Morocco Enhances Military Capabilities with Chinese TB-001 Aerial Drone AcquisitionURL: https://armyrecognition.com/news/army-news/2025/exclusive-morocco-enhances-military-capabilities-with-chinese-tb-001-aerial-drone-acquisition**

According to recent information released on the @mog\_china China news X account, Morocco has acquired the Chinese-made TB-001 reconnaissance and attack drone, also known as the "Twin-Tailed Scorpion." This advanced unmanned aerial vehicle (UAV) is set to enhance Morocco’s air capabilities, particularly in the context of border surveillance and precision strikes, while contributing to the country’s ongoing military modernization efforts. The TB-001 acquisition is a strategic move to bolster Morocco's defense posture, especially as it faces regional security challenges. Follow Army Recognition on Google News at this link

The TB-001, also known as the "Twin-Tailed Scorpion," is a versatile Chinese reconnaissance and attack drone with a maximum range of 6,000 km and an endurance of up to 35 hours. Designed for both surveillance and precision strike missions, it features a dual-engine, twin-tail configuration, capable of carrying up to 1,200 kg of munitions. (Picture source: Wikimedia)

The TB-001, manufactured by Sichuan Tengden Sci-Tech Innovation Co., Ltd., is a highly versatile UAV (Unmanned Aerial Vehicle) with a dual-engine, twin-tail design. It boasts an impressive operational range of up to 6,000 kilometers and can remain airborne for up to 35 hours, providing Morocco with enhanced surveillance and attack capabilities over vast distances. With a wingspan of 20 m and a maximum take-off weight of 2,800 kg, the TB-001 can carry up to 1,200 kg of munitions, making it a formidable asset for both reconnaissance and combat operations. This drone operates at an altitude of up to 8,000 meters, making it highly effective in high-altitude reconnaissance and precision strike missions. Its ability to carry light missiles expands Morocco’s strike capabilities, particularly in its ongoing efforts to secure its borders and maintain territorial integrity in the Sahara region.

The acquisition of the TB-001 reflects Morocco’s growing defense cooperation with China. This deal is part of Morocco's broader military transformation, aimed at diversifying its defense partnerships and reducing reliance on traditional Western suppliers. The Moroccan Royal Armed Forces (FAR) have previously procured various Chinese defense systems, including the Wing Loong II UAVs, Sky Dragon 50 air defense systems, AR2 multiple rocket launchers, and HJ-9A anti-tank systems. These acquisitions demonstrate Morocco's strategic pivot towards China for advanced military technology, further solidifying the relationship between the two nations.

This growing defense collaboration is also supported by China’s role as a key supplier of high-tech military equipment to Morocco, alongside Turkey, which has also been a significant contributor with the supply of drones like the Bayraktar TB2. Such acquisitions underscore Morocco's commitment to enhancing its defense capabilities amidst rising regional tensions.

Morocco’s military modernization program includes a broad spectrum of Chinese military equipment, further highlighting the deepening relationship between the two nations. In addition to the TB-001 drone, some of the key Chinese systems that Morocco has integrated into its armed forces include the Wing Loong II UAVs, Sky Dragon 50 air defense systems, AR2 multiple rocket launchers, and HJ-9A anti-tank missiles. These systems form a key part of Morocco’s diversified defense strategy, offering both advanced technology and operational flexibility. By integrating these systems, Morocco is not only modernizing its military but also ensuring that it has the capability to respond to a variety of security challenges across its borders and within its territorial waters.

The Wing Loong II UAVs, like the TB-001, are another cornerstone of Morocco's unmanned aerial capabilities. These drones are capable of conducting both reconnaissance and strike missions and have been used for surveillance over Morocco's southern border, particularly in areas where regional separatist groups remain active. The Sky Dragon 50 air defense systems are designed to intercept and destroy incoming aerial threats, including aircraft and missiles, thus enhancing Morocco’s ability to defend against aerial attacks. These systems play a crucial role in Morocco’s air defense infrastructure, particularly in light of growing regional security concerns. Meanwhile, the AR2 multiple rocket launchers strengthen Morocco’s artillery capabilities, enabling the country to provide more precise and effective long-range fire support during conflicts or border skirmishes. Additionally, the HJ-9A anti-tank missile system offers Morocco a robust countermeasure against armored threats, allowing the country to neutralize enemy tanks and fortifications.

The acquisition of the TB-001 drone aligns with Morocco’s broader strategy to strengthen its military position, particularly along its southern borders. Morocco has faced ongoing security challenges in the Sahara, where it confronts separatist groups such as the Polisario Front, and has been actively bolstering its defense infrastructure to secure the region. The TB-001, with its reconnaissance and strike capabilities, is expected to enhance Morocco’s ability to monitor large border areas and carry out precision strikes when necessary. This deal also has broader geopolitical implications. The increasing presence of advanced Chinese military technology in North Africa is seen as part of a shift in the region’s defense dynamics. As Morocco strengthens its military autonomy, it is likely to continue expanding its defense ties with China and other non-Western powers, further diversifying its sources of military hardware.

In recent years, Morocco has made significant investments in modernizing its armed forces. This includes acquiring advanced air defense systems, fighter jets like the F-16, and an array of UAVs. The TB-001 acquisition is a key component of this strategy, positioning Morocco as one of the more advanced military powers in the region. Furthermore, the country is also exploring the potential purchase of advanced fighter aircraft, including the L-15 Falcon from China, to enhance its aerial capabilities. Morocco’s ongoing military modernization has drawn attention from neighboring countries and international observers, particularly with regard to the security of the Mediterranean and the Western Sahara region. The expanding capabilities of the FAR could prompt other nations to reconsider their defense strategies in light of Morocco’s growing military influence.

The acquisition of the TB-001 drone is a major milestone in Morocco's military modernization, marking a deepening defense partnership with China. The advanced UAV will significantly enhance Morocco’s ability to secure its borders, conduct precision strikes, and monitor vast areas of its territory. Additionally, the broader range of Chinese military equipment, from drones to advanced missile systems, contributes to Morocco's evolving defense capabilities, making it one of the most advanced military forces in the North African region.

As Morocco continues to diversify its defense procurements, the country's evolving defense relationships with China and other global powers are expected to reshape the security landscape of North Africa in the years to come.

**157 . Date: 22-01-2025M-Rotary - ISR / ISTAR - Mini - General - PlatformExclusive: US Army 101st Airborne Division Develops 3D-Printed Small Drones for Air Assault OperationsURL: https://armyrecognition.com/news/army-news/2025/exclusive-us-army-101st-airborne-division-develops-3d-printed-small-drones-for-air-assault-operations**

On January 21, 2025, the U.S. Army announced a significant milestone in its ongoing technological transformation, with the 101st Airborne Division (Air Assault) launching the production of small-unmanned aircraft systems (sUAS) using 3D printing. This innovative effort, driven by the EagleWerx Applied Tactical Innovation Center at Fort Campbell, aims to revolutionize drone manufacturing and is set to play a pivotal role in the Division's upcoming major training exercise, Operation Lethal Eagle. Follow Army Recognition on Google News at this link

The small-unmanned aircraft system, 3D printed by the 101st Airborne Division (Air Assault), completes its inaugural flight on October 10, 2024, at Fort Campbell, Ky. This drone is scheduled for testing during Operation Lethal Eagle in the spring of 2025. (Picture source: U.S. Army)

The U.S. Army 101st Airborne Division is forging a new path in drone development, focusing on creating small UAS (Unmanned Aerial System) that are more versatile, durable, and cost-effective than previously fielded systems. The 3D printed drones are expected to provide tactical advantages, addressing the unique needs of air assault operations, and offer valuable lessons for future Army modernization efforts.

As the U.S. Army accelerates its transformation into a more agile, tech-driven force, the 101st Airborne Division is at the forefront of experimenting with and deploying advanced technologies. The Division's efforts to 3D-print sUAS at EagleWerx represent a paradigm shift in how drones are produced and integrated into military operations.

“This is bigger than simply printing parts. We are reshaping the sUAS enterprise at the tactical level,” said Col. (Promotable) Travis McIntosh, Deputy Commanding Officer for Support of the 101st ABN Division. “This initiative will affect how we do small UAS in the division, from airworthiness to parts ordering, to fielding and training.”

The emphasis on 3D printing goes beyond just prototyping. It introduces a new approach to drone development and logistics, particularly in terms of reducing time and costs for manufacturing and deploying sUAS. The Division’s decision to make use of advanced manufacturing capabilities at EagleWerx is a direct response to feedback from soldiers who requested drones that are not only more efficient but also easily replaceable.

The U.S. Army 101st's decision to develop these 3D-printed sUAS was made in collaboration with the 5th Special Forces Group (Airborne), which has been integral in pushing the requirements for these systems. Soldiers from both units requested drones that would be more versatile, durable, and, importantly, expendable—capabilities that existing systems often lacked. The new drones will be tested during Operation Lethal Eagle, where the Division will field 100 custom-made sUAS units.

"We are able to print these systems at a fraction of the cost of traditional models, without sacrificing operational functionality," said Capt. Andrew Blomquist, the 2nd Mobile Brigade Combat Team’s innovation officer. He emphasized the excitement within the Division to see these new, 3D-printed drones put to the test in the hands of soldiers during the exercise.

Operation Lethal Eagle is a 21-day training exercise designed to push the limits of the Division's capabilities, particularly in large-scale, long-range air assault (L2A2) operations. The event aims to prototype and test emerging Army technologies, enhance the lethality of soldiers, and build proficiency in complex, multi-domain operations. During the exercise, soldiers will conduct a range of missions that integrate these new sUAS into tactical operations. This will provide invaluable data for refining drone usage and manufacturing at the tactical level. The training is expected to showcase the practical benefits of 3D-printed drones, such as their ease of replacement in the field and lower costs for procurement, maintenance, and training.

The 3D manufacturing initiative is a reflection of the Army's broader strategy to modernize and improve its technological edge. As Col. McIntosh notes, the effort is part of an ongoing transformation that will make the Division’s drone systems more adaptable to ever-evolving mission requirements, from surveillance to electronic warfare.

While the U.S. Army 101st Airborne Division’s 3D-printed drones will first be tested during Operation Lethal Eagle, they are expected to be a permanent fixture within the Division’s technological arsenal. The success of the program could serve as a blueprint for other units in the U.S. Army, offering a new model for rapid, cost-effective drone manufacturing that can be easily scaled across other operational theaters.

As U.S. soldiers continue to experiment with and refine these new systems, the 101st’s venture into 3D printing is setting the stage for broader innovations in military drone development, offering a glimpse into the future of Army warfare—one where agility, speed, and innovation take center stage.

**158 . Date: 12-01-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - Pitch - PlatformExclusive: US Shield AI V-BAT VTOL Aerial Drone Demonstrates Resilience Against Electronic Warfare in UkraineURL: https://armyrecognition.com/news/army-news/2025/exclusive-us-shield-ai-v-bat-vtol-aerial-drone-demonstrates-resilience-against-electronic-warfare-in-ukraine**

At the close of December 2024, U.S.-based defense technology firm Shield AI made a groundbreaking announcement that could redefine the future of military drones. The company revealed that its V-BAT Vertical Take-Off and Landing (VTOL) aerial drone had successfully completed a long-endurance, long-duration intelligence, surveillance, and reconnaissance (ISR) and targeting mission in Ukraine—under extremely challenging conditions. Notably, the mission was carried out while GPS and communications signals were jammed, highlighting the drone’s advanced autonomous capabilities and its ability to operate effectively despite modern electronic warfare (EW) challenges. Follow Army Recognition on Google News at this link

Ukrainian Soldiers Showcase US Shield AI V-BAT VTOL aerial Drone. (Picture source Shield AI)

The significance of Shield AI's achievement cannot be overstated. In an era where electronic warfare and signal jamming are increasingly being used to disrupt military operations, the ability of the V-BAT to maintain operational integrity without GPS or communication support is a monumental leap forward. The ability to carry out ISR missions and target acquisition without reliance on traditional navigation and communications systems demonstrates the future of warfare, where autonomy and resilience are paramount.

In the context of the Ukraine conflict, this demonstration of drone resilience against EW is particularly crucial. The ongoing war between Ukraine and Russia has seen the widespread use of advanced drones by both sides, with drones playing a central role in intelligence gathering, surveillance, and targeting. Russia, in particular, has invested heavily in electronic warfare (EW) systems to jam communications and disrupt GPS signals, posing a significant challenge to Ukrainian forces. Shield AI’s V-BAT has proven itself as a potential game-changer in this domain, offering Ukrainian forces a tactical advantage by maintaining functionality even in a high-intensity EW environment.

The V-BAT is a remarkable example of the next generation of drone technology, designed with a hybrid propulsion system that combines the best of both fixed-wing and rotary-wing technologies. This allows the drone to perform vertical takeoffs and landings (VTOL) like a helicopter, while also achieving long-range, high-speed flight similar to traditional airplanes. This unique combination of capabilities gives the V-BAT a versatility that sets it apart from other drones, making it suitable for a wide range of missions, from ISR to precision strikes, without the need for traditional runways or landing zones. Its compact size and ability to carry payloads such as high-definition cameras, radar systems, and precision targeting equipment further enhance its mission flexibility.

In contrast to traditional drones, which often struggle with endurance or the need for vast operational spaces, the V-BAT excels in long-endurance, long-duration flights. While most VTOL drones are limited by their battery life and operational time, the V-BAT can remain airborne for up to 12 hours, providing extended operational coverage without frequent recharging or refueling. Its hybrid propulsion system makes this extended endurance possible, which allows it to transition from vertical takeoff to efficient fixed-wing flight once airborne, significantly increasing its range and mission duration. This feature is especially important in contested environments like Ukraine, where long-range, persistent surveillance is essential for real-time intelligence gathering and operational planning.

Another key differentiator of the V-BAT is its resilience to electronic warfare (EW). In modern conflicts, electronic warfare has become an increasingly vital tool for adversaries, with systems designed to disrupt communications, degrade GPS signals, and jam drones. Russia has employed sophisticated EW tactics in the ongoing war, seeking to neutralize Ukrainian drone capabilities. The V-BAT, however, is engineered to operate autonomously in GPS-denied environments and continue its mission even in the face of signal jamming or spoofing. This capability is crucial for Ukrainian forces, as it allows them to maintain persistent ISR operations without being vulnerable to EW threats. The V-BAT’s ability to function effectively in such conditions enhances its survivability and ensures that it remains an indispensable asset in any modern conflict.

In the broader context of the war in Ukraine, where drones have already proven to be pivotal in intelligence, surveillance, and targeted strikes, the V-BAT's unique attributes offer Ukrainian forces a significant edge. Drones have been instrumental for Ukraine in neutralizing Russian supply lines, destroying military hardware, and pinpointing targets for artillery strikes. However, the challenge of EW remains a persistent threat. The V-BAT’s demonstrated ability to maintain functionality despite GPS and communications disruption could allow Ukrainian forces to operate with greater freedom and efficacy in these contested environments.

As electronic warfare becomes an increasingly central aspect of modern military strategy, the importance of drones like the V-BAT cannot be underestimated. These drones provide tactical intelligence, precision targeting, and the autonomy to operate independently without reliance on vulnerable communication and navigation systems. In a conflict like the one in Ukraine, where technological supremacy can often determine the course of a battle, having autonomous systems that can endure in electronic warfare environments represents a significant advantage.

The successful mission of the V-BAT drone in Ukraine is more than just a technical achievement—it signals a shift toward a more autonomous, resilient, and adaptable battlefield. As militaries around the world continue to face new and evolving threats, drones like the V-BAT are poised to become the backbone of modern warfare, reshaping how intelligence is gathered, how targets are identified, and how strikes are executed. With its combination of endurance, versatility, and resistance to electronic disruptions, the V-BAT offers a glimpse into the future of drone warfare, where the ability to operate in complex and contested environments could prove decisive in future conflicts.

Shield AI’s V-BAT drone has demonstrated that resilience, autonomy, and endurance are the critical traits of the next generation of military drones. As the war in Ukraine has shown, drones are now at the forefront of modern warfare, and the V-BAT’s unique capabilities provide Ukrainian forces with a powerful tool for countering Russian electronic warfare and maintaining operational superiority. In the evolving landscape of global defense technology, the V-BAT sets a new standard for what is possible in unmanned aerial systems, marking a pivotal moment in integrating drones into modern military strategy.

**159 . Date: 30-01-2025M-Rotary - Armed ISR / ISTAR - Small - General - ArmamentFinnish Company Insta Unveils Steel Eagle Drone for Ukraine with Fragmenting Balls ChargeURL: https://armyrecognition.com/news/army-news/2025/finnish-company-insta-unveils-steel-eagle-drone-for-ukraine-with-fragmenting-balls-charge**

On January 29, 2025, the Finnish defense technology company Insta Group Oy made a significant announcement regarding the development of a new, more advanced version of its drone-based strike system, the Insta Steel Eagle™ ER (Extended Range). This updated version combines a sophisticated drone platform with a patented explosive charge, designed to enhance the precision and effectiveness of strike capabilities in modern warfare. Follow Army Recognition on Google News at this link

The Insta Steel Eagle™ ER drone, equipped with a precision explosive charge containing fragmentation balls, delivers a wide-area effect strike from above, offering enhanced strike capabilities for Ukraine’s defense operations. (Picture source: Insta)

According to information published by a Ukrainian defense website, this new system was developed in close collaboration with Ukrainian specialists, specifically to address the urgent needs of the Ukrainian Armed Forces amid their ongoing conflict with Russia. The Steel Eagle™ ER will provide Ukraine with a valuable new tool for precision strikes against high-value targets, improving the effectiveness of their defense operations in the face of Russian invasion. The Steel Eagle™ ER builds upon Insta’s earlier Steel Eagle system, incorporating a number of enhancements to make it more capable, reliable, and adaptable to the current demands of warfare. The updated system boasts a longer operational range, higher payload capacity, and more refined performance, making it an essential asset for precision-strike operations on the battlefield. Insta’s Vice President of Sales and Customers in Defence, Tuure Lehtoranta, explained that the system was designed with modern electronic warfare requirements in mind, ensuring it can withstand jamming and interference tactics employed by adversaries.

At its core, the Insta Steel Eagle™ ER combines a drone’s aerial mobility with a powerful explosive charge that can be dropped over a designated target and detonated with devastating effect. The charge, which weighs around 3.6 kilograms, contains over 3,000 high-velocity fragments made of steel or tungsten, capable of delivering lethal damage over a target area of approximately 2,000 square meters. The ability to adjust the charge’s detonation radius depending on the drone’s altitude allows for precise targeting, ensuring the strike is both effective and controlled.

This innovative system is particularly valuable in the context of the ongoing war between Ukraine and Russia. Drones have become an indispensable tool for both offensive and defensive operations due to their versatility, precision, and the ability to operate in contested or dangerous environments. As a result, the Ukrainian Armed Forces have increasingly relied on unmanned aerial systems (UAS) for a variety of tasks, including reconnaissance, surveillance, and strikes on enemy positions. The Steel Eagle™ ER adds another layer of capability, specifically in terms of precision strike from the air, which is essential in the current conflict.

The use of drones has revolutionized the battlefield, particularly in asymmetric conflicts like the ongoing war in Ukraine. For the Ukrainian military, drones are crucial for carrying out targeted strikes against Russian supply lines, command posts, and other strategic assets. Their ability to deliver strikes with minimal risk to personnel is invaluable in reducing casualties and preserving the integrity of Ukraine's military forces. Moreover, drones offer significant advantages in terms of intelligence-gathering and battlefield awareness. The ability to conduct real-time surveillance and gather critical data has allowed Ukraine to better understand the movements and intentions of Russian forces.

In this context, the Steel Eagle™ ER addresses a specific need within the Ukrainian military’s evolving strategy. The drone’s enhanced range and payload capacity make it a valuable addition to Ukraine's growing arsenal of precision-strike capabilities. As Russian forces have increasingly deployed anti-aircraft systems and sophisticated electronic warfare techniques, the Steel Eagle™ ER's resilience to interference ensures it remains operational in contested environments. The drone’s advanced design also reflects the growing demand for more effective and reliable UAS systems that can support a wide range of combat operations, from surgical strikes to area denial.

As the war between Russia and Ukraine has escalated, the need for advanced drone technologies has become even more pressing. The Ukrainian military faces an adversary with a significantly larger arsenal of weaponry, and thus, asymmetric warfare tactics have played a critical role in countering Russian superiority. Drones, both for reconnaissance and offensive strikes, have proven to be indispensable in this context.

In addition to tactical strikes, drones enable Ukraine to gather intelligence and carry out surveillance over key enemy positions. This is particularly important in countering Russian artillery, tank formations, and air defense systems, which can be targeted more effectively with real-time intelligence provided by drones. The Steel Eagle™ ER offers not just a precision strike capability but also the ability to strike from a distance, making it harder for Russian forces to retaliate or counter the attack.

Furthermore, the ability to deliver explosive charges that can cover a large area (approximately 2,000 m²) with a high number of lethal fragments gives Ukraine an edge in degrading Russian equipment and fortifications, which are often heavily armored. The Steel Eagle™ ER provides a versatile solution that can be used in a wide range of tactical situations, from hitting high-value targets to softening up enemy lines before a larger offensive.

While the Insta Steel Eagle™ ER has been developed with the Ukrainian conflict in mind, the broader implications of this technology extend far beyond. Insta’s decision to develop the drone system with Ukrainian specialists highlights the importance of international cooperation in addressing the evolving challenges of modern warfare. The Ukrainian military has shown exceptional resilience and adaptability throughout the war, and the introduction of this new, more capable drone solution is a testament to the growing influence of defense innovation in the context of geopolitical conflict.

Moreover, Insta’s plans to seek international marketing licenses for the Steel Eagle™ ER indicate that this technology will likely find a place in other NATO countries and European markets in the near future. The growing demand for drone-based systems in defense and security applications globally ensures that such technologies will play an increasingly important role in future military strategies.

As the war against Russia continues to reshape global security dynamics, the Steel Eagle™ ER represents just one of many innovations that are defining the future of warfare. With its enhanced performance, longer range, and adaptability to electronic warfare conditions, the Steel Eagle™ ER provides a glimpse into the future of precision strike capabilities in a rapidly evolving battlefield. For Ukraine, it marks another step toward achieving military parity with a larger adversary, leveraging technology to level the playing field.

**160 . Date: 08-03-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformFlash News: Turkish Bayraktar KIZILELMA Jet-Powered Unmanned Combat Aircraft Completes Aerodynamics Flight TestURL: https://armyrecognition.com/news/army-news/2025/flash-news-turkish-bayraktar-kizilelma-jet-powered-unmanned-combat-aircraft-completes-aerodynamics-flight-test**

According to information released by the Turkish company Baykar, the Turkish-made Bayraktar KIZILELMA, a carrier-capable, jet-powered unmanned combat aerial vehicle (UCAV), currently in development by Baykar, successfully completed the Aerodynamics System Identification Test (ASIT) on March 6, 2025. This test, which took place at the AKINCI Flight Training and Test Center in Çorlu, Tekirdağ, was a significant milestone in the development of the advanced unmanned aerial vehicle. Follow Army Recognition on Google News at this link

Bayraktar KIZILELMA, Turkey’s first indigenous unmanned fighter jet developed by Baykar, successfully completed the Aerodynamics System Identification Test as part of its scheduled testing phase. (Picture source: Baykar)

According to information released by the Turkish company Baykar, the Turkish-made Bayraktar KIZILELMA, a carrier-capable, jet-powered unmanned combat aerial vehicle (UCAV), currently in development by Baykar, successfully completed the Aerodynamics System Identification Test (ASIT) on March 6, 2025. This test, which took place at the AKINCI Flight Training and Test Center in Çorlu, Tekirdağ, was a significant milestone in the development of the advanced unmanned aerial vehicle.

During the flight, the aircraft's production prototype, PT3 (tail number TC-OZB3), carried out a series of sophisticated aerodynamics tests aimed at measuring its stability, handling, and performance at different speeds and altitudes. The successful completion of this test provided valuable data that will allow Baykar’s engineers to fine-tune the aircraft’s design and systems for more demanding operational missions.

The Aerodynamics System Identification Test is a crucial phase in the development of aircraft, particularly for unmanned aerial vehicles (UAVs) and UCAVs. It involves collecting detailed information on the aircraft's aerodynamic behavior by measuring its response to various flight conditions. These tests are essential for understanding the vehicle’s stability and control characteristics, and they play a vital role in optimizing its performance, especially for high-speed and high-stress missions. The data obtained during the ASIT will be instrumental in refining the KIZILELMA's aerodynamics and ensuring that it meets the operational requirements for modern air combat.

The Bayraktar KIZILELMA project, launched by Baykar in 2021, is an ambitious initiative aimed at producing a highly capable, carrier-capable UCAV. Unlike traditional UAVs, the KIZILELMA is designed to be a highly maneuverable, stealthy, and powerful jet-powered drone that can operate from aircraft carriers and naval platforms. This cutting-edge UAV is expected to play a key role in both air and naval operations, offering Turkey a new level of versatility and combat capability. The development process of the KIZILELMA has progressed rapidly, and in less than a year after its roll-off the production line on November 14, 2022, the aircraft made its maiden flight on December 14, 2022. The swift progress in the aircraft’s development is a testament to Baykar's engineering excellence and efficiency, especially considering the complexity of such a sophisticated aircraft.

Since its maiden flight, Baykar has introduced several upgrades and improvements to the KIZILELMA. The production prototype, PT3, which successfully conducted the recent aerodynamics test, now features a more powerful engine equipped with an afterburner. This enhanced engine enables the KIZILELMA to approach the speed of sound, making it one of the fastest UAVs of its kind. In addition to its upgraded engine, the aircraft has undergone structural improvements that make it lighter and more durable, while its avionics architecture has been refined to enhance control and operational flexibility. The KIZILELMA is also equipped with an Active Electronically Scanned Array (AESA) radar, providing high situational awareness and real-time target tracking, which is essential for complex combat scenarios.

Bayraktar KIZILELMA is Türkiye’s first indigenous, carrier-capable, jet-powered unmanned combat aerial vehicle (UCAV), developed by Baykar for advanced air combat and strike missions. (Picture source: Baykar)

The Bayraktar KIZILELMA is powered by a turbojet engine, which enables it to achieve high speeds and approach the speed of sound. Its engine is further enhanced with an afterburner, providing additional thrust for high-speed performance, and enabling rapid acceleration and improved maneuverability at higher altitudes. The aircraft’s jet propulsion system allows it to achieve a much higher level of speed and agility than traditional UAVs, making it highly effective for air-to-air combat, fast strike missions, and rapid response operations.

Designed with carrier-capability in mind, the KIZILELMA features a compact and robust airframe that enables it to operate from aircraft carriers and smaller naval platforms. This feature is a significant advantage for Turkey’s naval forces, as it allows the UCAV to launch and recover from limited space, making it an excellent addition to naval strike groups and enhancing the flexibility of Turkey's maritime operations. Its ability to operate from various platforms ensures that it can be deployed in a wide array of operational scenarios, ranging from strike missions to intelligence gathering.

In terms of avionics, the KIZILELMA is equipped with cutting-edge technology, including an Active Electronically Scanned Array (AESA) radar, which provides high-resolution surveillance, tracking, and targeting capabilities. This advanced radar system allows the UCAV to conduct precision strikes on both stationary and moving targets, while also supporting complex air-to-ground and air-to-air missions. The AESA radar’s capabilities extend to jamming and electronic warfare, providing KIZILELMA with the necessary tools to operate effectively in contested environments, where traditional aircraft would face significant challenges.

Stealth is another key feature of the Bayraktar KIZILELMA, which has been designed with low observability in mind. By incorporating stealth technologies, such as a reduced radar cross-section (RCS) and optimized airframe geometry, the KIZILELMA is able to avoid detection by enemy radar systems. This makes it an ideal platform for high-risk reconnaissance and strike missions in hostile airspaces, where maintaining the element of surprise is essential for mission success.

The KIZILELMA also boasts impressive payload capacity, capable of carrying a wide variety of weapons and mission-specific equipment. It can be equipped with precision-guided munitions (PGMs), air-to-ground missiles, and other payloads tailored to its mission requirements. This flexibility in payload options allows the KIZILELMA to perform a diverse set of roles, ranging from precision strikes on enemy installations and infrastructure to conducting intelligence, surveillance, and reconnaissance (ISR) operations. The aircraft’s large internal weapons bay helps maintain its stealth profile while carrying out such missions.

Designed for autonomous operations, the Bayraktar KIZILELMA is capable of flying and executing its missions with minimal human intervention. Equipped with advanced flight control systems, it can conduct autonomous surveillance, targeting, and strike missions, with the ability to adjust its flight path, engage targets, and return to base without the need for direct pilot input. This capability is particularly beneficial for reducing human risks in combat zones and enabling the aircraft to operate in complex, high-threat environments.

One of the most historic moments for the KIZILELMA came in May 2023, during the TEKNOFEST aerospace and technology festival. The KIZILELMA participated in a series of groundbreaking flights, including formation maneuvers with the Bayraktar AKINCI UCAV. Most notably, it flew in a fleet formation with the Turkish Air Force's SOLOTURK F-16 demonstration team and the Turkish Stars, an aerobatic team flying F-5 aircraft, over Istanbul. These formation flights marked a significant achievement in aviation history, showcasing the KIZILELMA's advanced capabilities and solidifying its place as a pioneer in unmanned combat aircraft development. The flight concepts demonstrated during this event are expected to influence the future of air combat, as the KIZILELMA and other advanced drones play an increasingly important role in modern military strategies.

As the Bayraktar KIZILELMA moves closer to full operational deployment, it promises to be a game-changer for Turkey’s military capabilities. With its advanced features, including high-speed performance, carrier compatibility, and cutting-edge radar and avionics, the KIZILELMA is positioned to tackle a wide range of complex and high-stakes missions. Its role in future air combat, particularly in reducing human casualties while maintaining air superiority, is expected to revolutionize warfare strategies worldwide. The successful completion of the Aerodynamics System Identification Test marks just one of many steps on the road to full operational readiness for the KIZILELMA, signaling that Turkey is on the cutting edge of next-generation unmanned aerial combat technology.

**161 . Date: 14-02-2025Fixed Wing - Armed ISR / ISTAR - MALE - Pitch - French Army Shows Growing Interest in Locally Produced MALE Drone AarokURL: https://armyrecognition.com/news/army-news/2025/french-army-shows-growing-interest-in-locally-produced-male-drone-aarok**

The French Army is closely following the development of the Aarok MALE drone, designed by Turgis & Gaillard, a project that attracted attention when it was unveiled at the 2023 edition of the Paris Air and Space Show at Le Bourget. Initially, this drone piqued the interest of the French Air and Space Force, particularly General Stéphane Mille, then Chief of Staff of the French Air Force, who expressed curiosity about its ability to transition from the design phase to the first flight tests. He even mentioned being willing to fund the trials if the resources were available.

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Since its unveiling, the Aarok has been the subject of a memorandum of understanding with the Ukrainian manufacturer Antonov, aimed at developing a lighter and more "consumable" version of the drone. (Picture source: Aarok)

Defense Minister Sébastien Lecornu also highlighted the "very interesting" nature of the project. He mentioned the possibility of including the Aarok in the 2024-2030 military programming, specifying that the work done with Turgis & Gaillard was of good quality and conducted in collaboration with the ministry's services. The Military Programming Law (LPM), which provides 5 billion euros for drone research, allowed Lecornu to indicate that this budget would enable the exploration of various concepts, including that of the Aarok drone.

Since its unveiling, the Aarok has been the subject of a memorandum of understanding with the Ukrainian manufacturer Antonov, aimed at developing a lighter and more "consumable" version of the drone. It has also begun ground tests and was selected by the Directorate of Aeronautical Maintenance (DMAé) to test the concept of a "certifiable but non-certified" drone, which aims to reduce the normative requirements for the certification of an aircraft.

While the MALE drone segment primarily falls under the French Air and Space Force's responsibility, the French Army has not hidden its interest in this system, especially due to its features suited for surveillance and intervention missions. General Bruno Baratz, head of the Future Combat Command (CCF) of the French Army, expressed interest in the Aarok following a visit to Turgis & Gaillard’s facilities. According to him, the Aarok could provide a "simple, rugged, and affordable" means of surveillance and intervention, particularly suitable for the Army’s needs. Additionally, its "decidedly multi-domain" design makes it a potential asset for land forces.

General Baratz added that the French Army would closely monitor the development of this project, emphasizing the importance of a close collaboration between industry and the military, and highlighting the strength of the French defense industry in this field.

The Aarok, which weighs 5.5 tons, is designed to have an endurance of over 24 hours, thanks to a 1,200-horsepower turboprop engine. It is equipped with a large optronic sensor, an electromagnetic payload, and a multimode radar. The drone can carry up to 1.5 tons of munitions and can be deployed on rough terrain, a feature of particular interest to the French Army. Additionally, its cost is estimated between 5 and 10 million euros, and it is designed without any American-origin components, making it "ITAR Free" (free from U.S. International Traffic in Arms Regulations constraints).

The possibility of the French Army purchasing the Aarok remains open. During debates on the 2025 finance bill, Minister Lecornu mentioned the possibility of using budget savings related to delays in the European MALE drone project, Eurodrone, to finance the acquisition of drones that could accelerate the "droneification" of the French military. Therefore, although the acquisition of the Aarok drone has not yet been confirmed, it is not excluded that the French Army may consider acquiring it in the near future.

**162 . Date: 17-02-2025M-Rotary - ISR / ISTAR - Mini - General - PlatformFrom Ukraine’s Frontlines to IDEX 2025: Karakurt-R a Micro-Drone for Stealth Recon OperationsURL: https://armyrecognition.com/news/army-news/2025/from-ukraines-frontlines-to-idex-2025-karakurt-r-a-micro-drone-for-stealth-recon-operations**

Russian Compagny Kalashnikov presents its Karakurt-R reconnaissance micro-drone for the first time on the international stage at IDEX 2025, held in Abu Dhabi from February 17 to 21. Developed to provide armed forces with a rapid and discreet surveillance capability, this vertical take-off and landing (VTOL) drone has already been deployed in Ukraine, where its performance was assessed under real combat conditions. Feedback from its operational use has led to modifications and enhancements to better meet the requirements of military units in the field.

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Karakurt-R's small size and rapid deployment capabilities have proven valuable for reconnaissance teams operating in contested areas (Picture source: Army Recognition)

The Karakurt-R is designed as a personal reconnaissance tool that can be easily deployed. Compact and lightweight, it weighs 300 grams, making it convenient for soldiers to carry. Its tube-launch system allows for immediate deployment without the need for additional infrastructure or complex equipment. Once airborne, it reaches a maximum speed of 25 km/h and has a flight endurance of 20 minutes, making it suitable for short surveillance missions that require high responsiveness. It operates at an altitude of up to 150 meters and has a range of 2,000 meters.

One of the Karakurt-R's key features is its optical system, which enables reconnaissance missions both during the day and at night. The system includes two drones equipped with daytime video cameras and two fitted with sensors for night operations, ensuring continuous surveillance regardless of lighting conditions. These drones are stored in transport and launch modules, facilitating their deployment. A remote control terminal allows operators to receive real-time imagery and manage drone operations.

Designed for maneuverability in confined environments, the Karakurt-R can operate in urban areas or tight spaces where larger aerial vehicles are less effective. Its lightweight design and agility make it particularly useful for infantry units operating on the front lines. In Ukraine, it has been used to gather precise intelligence on enemy positions, helping to adjust operations accordingly. In the event of signal loss, the drone is programmed to return to its launch point, ensuring the security of collected data.

The conflict in Ukraine has demonstrated the role of the Karakurt-R in modern military operations. Its small size and rapid deployment capabilities have proven valuable for reconnaissance teams operating in contested areas. The use of small UAVs in warfare has highlighted their ability to provide real-time intelligence, track adversary movements, correct artillery fire, and enhance battlefield coordination. The Karakurt-R, with its tube-launch system and low detection profile, provides an additional operational advantage by delivering reconnaissance data without exposing soldiers to direct threats. Its deployment has also highlighted the need for improved endurance and resistance to electronic countermeasures, areas that Kalashnikov is actively addressing.

The introduction of the Karakurt-R at IDEX 2025 marks a significant step for Kalashnikov as it expands its presence in the military drone sector. The increasing reliance on UAVs in contemporary conflicts is driving defense manufacturers to develop systems that are more efficient and tailored to military needs. With this reconnaissance micro-drone, Kalashnikov aims to strengthen its position in the international market while showcasing a system already tested in active conflict. IDEX provides an opportunity for the company to attract potential buyers and demonstrate the capabilities of its unmanned aerial systems.

**163 . Date: 20-02-2025Fixed Wing - Armed ISR / ISTAR - MALE - Pitch - General Atomics Pursues Major MQ-9B SeaGuardian Drone Sale to Saudi ArabiaURL: https://armyrecognition.com/news/army-news/2025/general-atomics-pursues-major-mq-9b-seaguardian-drone-sale-to-saudi-arabia**

During the IDEX defense exhibition in Abu Dhabi, General Atomics announced ongoing discussions with Saudi Arabia regarding the potential sale of a number of MQ-9B SeaGuardian drones. While negotiations remain in the early stages, the company has emphasized Saudi Arabia’s strong interest in these remotely piloted aircraft.

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Saudi Arabia has historically sourced drones from non-Western suppliers, primarily China and Turkey (Picture source: US DoD)

According to Dave Alexander, president of General Atomics Aeronautical Systems, the Kingdom has substantial requirements for the MQ-9B, and if finalized, the deal could create thousands of jobs in the United States. However, specific details, including the number of drones and the overall scope of the agreement, have not been disclosed. The proposal reportedly includes a large fleet and involves local industrial participation in Saudi Arabia, though the exact nature of this involvement remains unspecified.

Saudi Arabia has historically sourced drones from non-Western suppliers, primarily China and Turkey. In 2014, the Kingdom acquired CH-4 drones from China, followed by additional orders for Wing Loong II systems. More recently, in 2023, Saudi Arabia signed a defense agreement with Turkish manufacturer Baykar for Akinci combat drones, a deal described by Baykar’s CEO, Haluk Bayraktar, as the largest defense contract between the two nations.

The interest in diversifying drone suppliers reflects broader concerns in the Gulf region regarding delays and restrictions imposed by U.S. export controls on military equipment. In 2021, Qatar faced prolonged delays in its request to purchase MQ-9B drones, with no clear explanations from Washington, leading to frustration among Qatari officials. Such challenges have prompted several regional states to explore alternative suppliers to meet their defense needs.

Alexander expressed confidence that U.S. export policy could shift under a potential new Trump administration, facilitating defense agreements with Gulf allies and reducing conditions that have previously complicated procurement processes. He also expects the stalled sale of MQ-9B SeaGuardian drones to the United Arab Emirates to be reconsidered under Trump. That deal, initially approved by the U.S. in 2020, was later suspended due to concerns over the UAE’s use of Chinese technology.

General Atomics has clarified that its offer to Saudi Arabia is separate from any potential fighter jet deals with Lockheed Martin. The company aims to expand its presence in the Gulf region in 2025, considering it a pivotal year for finalizing ongoing negotiations.

U.S.-Saudi relations have fluctuated in recent years, particularly during the Biden administration, which raised concerns over human rights issues in the Kingdom. In contrast, Trump has previously maintained closer ties with Crown Prince Mohammed bin Salman, a factor that could influence future defense agreements. If completed, the MQ-9B deal would mark a strategic shift in Saudi Arabia’s drone procurement approach while strengthening General Atomics’ position in a competitive regional market.

**164 . Date: 15-01-2025H-Rotary - ISR / ISTAR - Micro - Contract - German Army Enhances Close-Range Reconnaissance Capabilities with Black Hornet NanodronesURL: https://armyrecognition.com/news/army-news/2025/german-army-enhances-close-range-reconnaissance-capabilities-with-black-hornet-nanodrones**

On January 13, 2025, the Bundeswehr announced the acquisition of Black Hornet 3 and Black Hornet 4 nanodrones, developed by Teledyne FLIR. These unmanned aerial systems (UAS), known for their compact size and stealth, are designed to improve optical reconnaissance capabilities in close-range tactical environments. The contract, finalized on December 30, 2024, with ELP GmbH, the distributor for Teledyne FLIR, reflects an effort to modernize the reconnaissance tools of the German Army. While specific details such as the number of units or contract volume remain undisclosed, it is confirmed that the drones will primarily equip special forces while addressing capability gaps within the army’s land and naval units.

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A German soldier monitors the images from the Black Hornet on a small screen (Picture source: Bundeswehr)

The Black Hornet 3 and 4 are characterized by their lightweight and discreet operation. The Black Hornet 3, weighing 33 grams and measuring 169 mm in length, features advanced optical sensors capable of capturing color and thermal imagery with video resolution up to 640 x 480 pixels. Its ability to operate without GNSS allows it to perform effectively in areas where GPS signals are unavailable, such as indoor spaces or obstructed environments. With a flight time of 25 minutes and a maximum speed of 21.6 km/h, it is particularly suited for short-duration missions in complex scenarios. Its advanced safety features, such as automatic return in case of signal loss, ensure reliability during operations.

The Black Hornet 4, a significant technological upgrade, weighs 70 grams with a length of 255 mm. It incorporates a 12-megapixel day camera with excellent low-light performance and a high-definition thermal sensor offering 650 x 512-pixel resolution. With an endurance of over 30 minutes and a top speed of 36 km/h, this model meets a broader range of operational requirements. It is equipped with obstacle detection systems, enabling efficient use in confined or obstructed environments, such as urban areas or damaged buildings. Additionally, its compatibility with GNSS-free navigation systems and its advanced Qualcomm-QRB5165 processor enhance its autonomy and data collection efficiency.

Both drones, already field-tested in various operational contexts worldwide, are supplied as part of a complete system, including two drones, a remote controller, and a portable monitor for real-time data analysis. Their rapid deployment capability—less than 20 seconds for the Black Hornet 4—ensures quick responsiveness in the field. Their low acoustic signatures, with sound emissions below 30 decibels for the Black Hornet 3 and 20 decibels for the Black Hornet 4, make them highly effective in missions requiring stealth.

For the Bundeswehr, integrating these drones provides a significant strategic advantage. Their ability to deliver immediate situational awareness enables soldiers to detect and identify threats without compromising their position, enhancing operational security. The drones' operational flexibility and resilience in challenging environmental conditions make them indispensable tools for advancing the army’s reconnaissance capabilities. These acquisitions align with the evolving requirements of modern conflicts, emphasizing rapid intelligence gathering and minimizing risks to personnel.

By investing in cutting-edge nanotechnologies, the Bundeswehr positions itself to meet the demands of contemporary battlefields, where agility, stealth, and efficient intelligence collection are crucial for operational success.

**165 . Date: 26-02-2025H-Rotary - ISR / ISTAR - Micro - Contract - Germany Signs Deal for Black Hornet 4 Nano-Drones to Enhance Reconnaissance CapabilitiesURL: https://armyrecognition.com/news/army-news/2025/germany-signs-deal-for-black-hornet-4-nano-drones-to-enhance-reconnaissance-capabilities**

Teledyne FLIR Defense, a leader in advanced defense technologies, has secured a $15 million contract with Germany’s Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw) for the supply of Black Hornet 4 (BH4) nano-drones. This deal marks a step in enhancing Germany’s reconnaissance and situational awareness capabilities, particularly for its small, mobile military units.

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The contract involves the delivery of Black Hornet 4 systems, as well as associated parts and training. (Picture source: Teledyne)

The contract, which is set to be fulfilled within a two-year timeframe, involves the delivery of Black Hornet 4 systems, as well as associated parts and training. Teledyne FLIR Defense is partnering with European Logistic Partners (ELP) GmbH, based in Wuppertal, Germany, for local support and execution of the contract, ensuring efficient and timely delivery of the systems to the Bundeswehr.

The Black Hornet 4 system is renowned for its exceptional capabilities in providing covert, real-time intelligence for ground forces. Weighing only 70 grams, the BH4 UAV is incredibly lightweight, making it an ideal tool for small units operating in challenging environments. Despite its small size, the BH4 is equipped with a 12-megapixel daytime camera and a high-resolution thermal sensor, allowing operators to maintain situational awareness even in low-light or inclement conditions.

Designed to offer exceptional range and endurance, the BH4 can fly for more than 30 minutes and cover distances of up to 2 kilometers, even in adverse weather conditions such as rain and 25-knot winds. The UAV is also equipped with advanced obstacle avoidance capabilities, enhancing its ability to navigate through complex environments without risk to the system or its operators.

The Black Hornet 4 has proven to be a valuable asset for military forces worldwide, including the Ukrainian military, where it is currently being used to support operations against Russian forces. With more than 33,000 Black Hornet UAVs delivered to 45 countries, Teledyne FLIR has established itself as a trusted provider of cutting-edge reconnaissance technologies, empowering military units with the tools needed to make critical decisions on the battlefield.

The new contract with Germany further underscores the growing demand for micro-unmanned aerial systems (UAS) in modern warfare. As military forces increasingly prioritize the need for precise intelligence and enhanced operational capabilities, the Black Hornet 4 is expected to play a pivotal role in supporting Germany’s defense strategy, particularly in scenarios requiring stealth and high mobility.

As the Bundeswehr looks to modernize its tactical operations, the integration of these advanced UAV systems will provide enhanced situational awareness, allowing for more effective decision-making in dynamic combat environments. With the inclusion of Black Hornet 4 drones in its arsenal, Germany is poised to strengthen its military capabilities and further enhance the effectiveness of its small, agile fighting units.

Teledyne FLIR Defense’s success in securing this contract reflects the growing trend of military forces adopting advanced UAV technologies for their reconnaissance needs. As conflicts around the world continue to evolve, systems like the Black Hornet 4 will play an increasingly important role in shaping the future of military operations, providing soldiers with the tools necessary to navigate complex battlefields and maintain a tactical advantage.

**166 . Date: 10-04-2025General - Iran accelerates deployment of autonomous drone base network to strengthen border securityURL: https://armyrecognition.com/news/army-news/2025/iran-accelerates-deployment-of-autonomous-drone-base-network-to-strengthen-border-security**

On April 9, 2025, during the 20th National Conference of Iranian Army Ground Force Commanders (Artesh), Brigadier General Kioumars Heydari presented Iran’s new strategic direction in the field of defense technology. Held at the Ground Forces headquarters in Tehran, the conference provided the backdrop for announcing an extensive plan to expand and modernize Iran’s national network of drone bases. These facilities, expected to play a central role in territorial defense, are designed to enhance Iran’s capacity to respond to cross-border threats and safeguard the integrity of its frontiers.

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At the core of this strategy, Iran has developed a comprehensive array of military drones, now a key element of its asymmetric defense posture. (Picture source: Mehr Agency )

In his address, General Heydari emphasized that drones have become one of the most decisive tools in future conflicts, asserting their essential place in Iran’s military doctrine. He highlighted the advances made in the domestic production of unmanned aerial systems, now fully integrated into the country’s armed forces under the Ministry of Defense. According to him, the Iranian Army Ground Forces have developed and fielded a wide range of drones and micro-aircraft, which have become crucial assets for surveillance, reconnaissance, and precision strike operations.

At the core of this strategy, Iran has developed a comprehensive array of military drones, now a key element of its asymmetric defense posture. Among the most prominent platforms are the Mohajer-6 and Ababil-3, mainly used for armed reconnaissance and extended surveillance missions. Equipped with AI-assisted navigation systems, these drones offer significant flight endurance and real-time data collection capabilities. The Mohajer-6 can carry precision-guided munitions, making it a valuable tactical asset for border control and support to units deployed in remote areas.

In parallel, Iran has developed long-range offensive drones with enhanced capabilities. The Shahed-136, widely noted for its use in Ukraine by Russian forces, belongs to a class of loitering munitions designed for saturation strikes at long distances. Other systems, such as the Arash-2, Gaza, Ababil-5, and Karrar, fulfill a range of roles from intelligence gathering to precision strikes and swarm operations. The Gaza and Ababil-5 are notable for their long-range surveillance and strike abilities, while the Karrar can be fitted with air-to-surface or air-to-air missiles, enhancing its operational versatility. Despite international sanctions, these platforms reflect Iran’s indigenous production capabilities and its stated intent to become a significant drone power.

General Heydari noted that several drone bases have already been constructed or upgraded across the country, with a particular focus on strategically sensitive border regions. These facilities are equipped with advanced technologies designed to support drones capable of identifying and neutralizing threats to national sovereignty. This effort is part of the Eastern Border Blockade Project, a priority initiative aimed at securing Iran’s eastern frontier with Pakistan and Afghanistan. So far, 70 kilometers of this smart surveillance system have been completed. The setup combines sensors, surveillance drones, and automated response units. The general described the program as a “demonstration of Iran’s military engineering,” integrating advanced technologies, rapid response capabilities, and a long-term security framework. Ten specialized brigades are currently engaged to accelerate the implementation of this security infrastructure.

Amid growing regional tensions and increasing pressure from the United States and Israel, Iran is leveraging this technological momentum to strengthen its defense posture. The drone program, based on years of domestic research and development, aims to improve real-time intelligence gathering, increase strike accuracy, and fully integrate drone platforms into network-centric operations. Systems such as the Mohajer-6 and Ababil-3 have become central to ground operations, alongside more advanced models like the Arash-2, Gaza, Shahed-136, Ababil-5, and Karrar, which are also attracting attention from international partners.

General Heydari also underlined the growing role of the Army in drone production, in close coordination with the Ministry of Defense. This collaboration allows for rapid adaptation of existing platforms to meet evolving operational requirements on the ground. For many analysts, this development highlights the Iranian military’s capacity for resilience in a challenging security environment. Ryan Bohl, a senior analyst at the RANE network, noted that these capabilities enable Iran to expand its influence in neighboring areas without relying exclusively on the Islamic Revolutionary Guard Corps. He sees the growing network of drone bases as a fast, flexible, and cost-effective way to build conventional deterrence, even though these systems remain technically outmatched by Western arsenals.

The new drone bases are expected to be distributed across Iran’s western, eastern, and southern borders, each region offering distinct strategic value. In the west, the bases could facilitate rapid access to Iraq and potentially Israel; in the south, they would enhance Iran’s presence in the Persian Gulf and the Strait of Hormuz; and in the east, they would support monitoring of cross-border movements with Pakistan and Afghanistan, particularly in anti-smuggling and border control efforts. This military expansion is unfolding amid ongoing diplomatic negotiations in Oman between Iran and the United States over Tehran’s nuclear program. In this context, the growth of drone capabilities functions both as a demonstration of technological sovereignty and as a strategic tool to widen Iran’s regional maneuvering space.

General Heydari’s announcement on the expansion of Iran’s drone base network signals the country’s broader ambition to establish itself as a regional power with autonomous capabilities in surveillance, strike operations, and deterrence. This project is intended not only to reinforce border security but also to strengthen Iran’s strategic posture in an increasingly competitive geopolitical and technological landscape. Through this deployment, Iran aims to secure a prominent role in the domain of unmanned systems while adapting its military doctrine to the evolving nature of contemporary warfare.

**167 . Date: 28-01-2025General - ArmamentIran Demonstrates AI-Powered Missiles Launched from Drones in Persian Gulf Show of ForceURL: https://armyrecognition.com/news/army-news/2025/iran-demonstrates-ai-powered-missiles-launched-from-drones-in-persian-gulf-show-of-force**

On January 26, 2025, Iran showcased its advanced military capabilities during the "Prophet Muhammad" naval exercise organized by the Islamic Revolutionary Guard Corps (IRGC). This event featured the deployment of cutting-edge combat drones, including the Mohajer-6 and Ababil-5, equipped with Qaem and Almas missiles enhanced by artificial intelligence. These precision-guided systems successfully destroyed simulated targets, delivering a clear strategic message to both regional and international audiences.

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The Qaem and Almas missiles exemplify the diversification of Iran’s precision-strike capabilities (Picture source: Mehr News)

The exercise took place in the central and northern sectors of the Persian Gulf, spanning three key maritime regions. It included various operations such as ballistic missile launches, naval cruise missile strikes, amphibious maneuvers by IRGC commandos, and air defense simulations. A significant milestone was the use of the Novab air defense missile, launched for the first time from the domestically built Shahid Soleimani vessel. This ship represents Iran's efforts to modernize its naval fleet and achieve greater military self-sufficiency.

The Mohajer-6 drone, operational since 2018, is an ISTAR platform (intelligence, surveillance, target acquisition, and reconnaissance) with a 10-meter wingspan, a 12-hour flight endurance, a maximum speed of 200 km/h, and a service ceiling of 5,500 meters. Capable of carrying payloads up to 100 kilograms, it can deploy Qaem or Almas missiles, making it a versatile battlefield asset. Built with composite materials, it is equipped with advanced navigation systems, electro-optical imaging, and a laser rangefinder, enabling it to perform diverse missions, including electronic warfare.

The Ababil-5, introduced in 2022, is the most advanced model of the Ababil series. Powered by a Rotax-914 engine, it boasts a range of 480 kilometers and an operational ceiling of 5,500 meters. It can carry up to four Almas anti-tank missiles, with an effective range of 8 kilometers, or six Qaem precision-guided bombs, each weighing 2.4 kilograms with a range of 6 kilometers. Designed for reconnaissance and strike missions, it reflects significant advancements in Iran’s multirole drone technology.

The Qaem and Almas missiles exemplify the diversification of Iran’s precision-strike capabilities. The Qaem, available in air-to-ground and surface-to-air configurations, uses laser or infrared guidance for precision targeting against low-altitude drones, helicopters, or ground objectives. The Almas missile is designed for top-attack trajectories, penetrating light armored vehicles. With ranges of up to 10 kilometers depending on the variant, these systems are adaptable to drones, ground vehicles, and portable platforms, expanding their tactical applications. Their deployment by allied groups in the region, such as Hezbollah, further underscores their strategic significance.

During the exercise, IRGC naval forces also showcased a wide array of surface-to-surface and surface-to-sea missiles. Notable among them was an upgraded version of the Qadr missile, engineered to counter electronic warfare systems. These advancements align with Iran’s strategic focus on defending its territorial waters and countering potential foreign aggression.

A further highlight was the debut of Navvab air defense missiles, integrated into the Shahid Soleimani vessel’s defense systems. This innovation was complemented by coordinated ballistic and cruise missile launches, demonstrating the operational synergy across IRGC units.

Rear Admiral Alireza Tangsiri, commander of the IRGC Navy, emphasized the role of Iranian engineers in developing these advanced systems. He noted that integrating artificial intelligence into the Qaem and Almas missiles has significantly enhanced their precision and effectiveness, strengthening the operational capabilities of the Mohajer-6 and Ababil-5 drones. These technological advancements underline Iran's commitment to maintaining a competitive edge in a complex geopolitical environment.

IRGC Commander Major General Hossein Salami highlighted the primary objective of the exercise as enhancing the operational readiness of naval forces while sending a message of stability to neighboring countries. Despite regional tensions, Iran asserts its capability to address potential threats while advocating for peace in the Persian Gulf.

In summary, the "Prophet Muhammad" exercise demonstrated Iran’s growing military and technological capabilities. The successful deployment of Mohajer-6 and Ababil-5 drones, equipped with AI-enhanced Qaem and Almas missiles, illustrates significant progress in integrating advanced weapons systems into operational scenarios. This display underscores Iran’s strategic objectives and its determination to safeguard national interests amid regional uncertainties.

**168 . Date: 05-03-2025Fixed Wing - Armed ISR / ISTAR - HALE - General - PlatformIran Strengthens Navy with JAS 313 Stealth Drone for Reconnaissance and Bombing MissionsURL: https://armyrecognition.com/news/army-news/2025/iran-strengthens-navy-with-jas-313-stealth-drone-for-reconnaissance-and-bombing-missions**

On March 3, 2025, Iran introduced a new jet-powered stealth drone, the JAS 313, capable of conducting reconnaissance and bombing missions, as reported by the Tasnim News Agency. Resembling a scaled-down conventional fighter aircraft, the drone was presented by Rear Admiral Alireza Tangsiri, commander of the naval branch of the Islamic Revolutionary Guard Corps (IRGC), during a ceremony aboard the Shahid Bagheri, an Iranian Navy drone carrier.

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The JAS 313 drone is equipped with a jet engine, enabling it to achieve high speeds and conduct precision strikes. (Picture source: Tasnim News Agency)

According to Iranian officials, the JAS 313 is specifically designed for takeoff from such platforms and is currently undergoing flight testing before becoming fully operational. Tangsiri emphasized that the drone’s high speed allows it to execute missions efficiently, confirming that it will soon be deployed within the IRGC Navy.

Footage released by Iranian media displayed the aircraft, whose compact size contrasts with the large flight deck of the drone carrier. The drone is equipped with a jet engine, enabling it to achieve high speeds and conduct precision strikes. The IRGC considers it a significant addition to its aerial capabilities, complementing its existing fleet of unmanned aerial vehicles.

The JAS 313 underwent its first test flight on February 6 aboard the Martyr Baqeri, a drone carrier that joined the IRGC Navy fleet last month. This warship was designed as a mobile maritime platform for deploying drones and helicopters across various operational areas. Iranian authorities have stated that the vessel is equipped with two models of the pilotless version of the Qaher (Conqueror) stealth fighter jet, an aircraft originally unveiled in 2013 and described as being capable of taking off and landing on short runways.

The two JAS 313 versions that launched from the Martyr Baqeri on February 6 differ in size. The larger model features a jet engine that enables high-speed operations. According to Rear Admiral Tangsiri, the JAS 313 has a flight endurance of one hour and is designed for both reconnaissance and bombing missions within the IRGC Navy.

However, some Iranian social media users mocked the drone’s small size, with one commenting that a more effective model could be found on an online shopping platform. Despite such remarks, Iranian officials continue advancing drone development, considering it a key component of national defense strategy.

The unveiling of the JAS 313 comes amid heightened tensions between Iran and Western nations, particularly due to U.S. sanctions imposed on entities based in Hong Kong and mainland China. These entities are accused of supplying critical components for Iran’s drone program. U.S. Treasury Secretary Scott Bessent stated that Iran consistently seeks new ways to acquire Western technology for its UAV programs, relying on front companies and third-party suppliers.

Iran has significantly expanded its drone capabilities in recent years. In January, the Iranian military received 1,000 new UAVs, further enhancing its operational capacity. Iranian drones have been used in conflicts across the Middle East, including in Syria and Yemen, where they have been linked to several attacks. Additionally, Russia has made extensive use of Iranian-made Shahed drones to strike Ukrainian infrastructure, often integrating them with missile strikes.

Iran’s role in supplying drones to Moscow has been highlighted by multiple incidents. Last month, a Russian-launched drone struck the protective shell of the Chernobyl nuclear power plant in Ukraine. Ukrainian media published images of the drone’s engine, which appeared like that of a Shahed model.

Amid ongoing regional tensions, Iran continues to expand its drone arsenal in anticipation of potential confrontations with Israel and the United States. Since the implementation of Washington’s "maximum pressure" campaign under Donald Trump’s administration, Tehran has intensified efforts to strengthen its defense industry, seeing drones as a strategic tool to project power and enhance military capabilities.

**169 . Date: 23-04-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - Contract - Italy Modernizes Its Military Intelligence Capabilities with Acquisition of U.S. AeroVironment JUMP 20 VTOL DronesURL: https://armyrecognition.com/news/army-news/2025/italy-modernizes-its-military-intelligence-capabilities-with-u-s-aerovironment-jump-20-vtol-drones**

Italy has taken a major step in modernizing its Intelligence, Surveillance, and Reconnaissance (ISR) capabilities with the procurement of cutting-edge uncrewed aerial systems from U.S.-based AeroVironment (AV). On April 21, 2025, the Italian Ministry of Defence (MOD) officially announced the award of a $46.6 million contract to AeroVironment for the delivery of its JUMP® 20 vertical takeoff and landing (VTOL) medium uncrewed aircraft system (MUAS). This five-year contract encompasses the supply of air vehicles, engineering services, initial sustainment, and on-site technical support, ensuring rapid deployment and operational readiness from the outset. Follow Army Recognition on Google News at this link

The U.S. AeroVironment JUMP 20 VTOL drone, selected by the Italian Ministry of Defence, offers advanced intelligence, surveillance, and reconnaissance capabilities with vertical takeoff and landing efficiency. (Picture source: U.S. DoD)

The U.S. AeroVironment JUMP 20 is a sophisticated VTOL-capable, fixed-wing MUAS designed specifically for expeditionary operations. It offers a payload capacity of 30 pounds, an impressive endurance exceeding 13 hours, and a maximum operational range of 185 km (115 miles). One of the platform’s most strategic features is its autonomous launch and recovery capability, which eliminates the need for ground personnel during takeoff and landing. This functionality greatly enhances its suitability for dynamic, on-the-move military operations where logistical footprints must remain minimal.

With a Modular Open Systems Approach (MOSA), the JUMP 20 supports seamless integration of new systems, rapid upgrades, and broad mission adaptability. This makes it particularly attractive to modern military forces seeking scalable ISR (Intelligence, Surveillance, and Reconnaissance) solutions capable of evolving alongside changing tactical demands. The system’s ability to accommodate multi-payload configurations further enhances its operational flexibility across a wide range of mission profiles.

This acquisition marks a strategic milestone for the Italian Armed Forces, as it replaces their aging fleet of Shadow UAS with a more advanced and adaptable solution. The selection of JUMP 20 followed a rigorous and highly competitive procurement process in which the platform demonstrated its ability to meet or exceed the MOD’s stringent technical and operational requirements. Its selection underscores Italy’s commitment to adopting forward-looking technologies that enhance situational awareness, mission efficiency, and force protection.

Shane Hastings, Vice President and General Manager of Medium UAS at AeroVironment, commented on the agreement, stating: “We are honored to strengthen our partnership with the Italian Ministry of Defence through the delivery of the JUMP 20, a system that enhances their operational capabilities. This contract builds on our history of supporting NATO allies with world-class uncrewed systems, reflecting our unwavering commitment to innovation and mission success.”

The partnership reinforces AeroVironment’s growing role as a trusted supplier of advanced uncrewed systems to NATO member states. As Italy integrates the JUMP 20 into its military architecture, it joins a cadre of forward-thinking defense forces prioritizing autonomous, modular, and mission-flexible UAS solutions. The acquisition of the JUMP 20 not only advances Italy’s ISR capability but also exemplifies the broader trend of investing in intelligent autonomous systems that redefine the future of modern warfare.

**170 . Date: 22-01-2025Fixed Wing - Loitering Munition - Mini - General - PlatformKalashnikov and Russia to Soon Present New KUB-2-E Loitering MunitionURL: https://armyrecognition.com/news/army-news/2025/kalashnikov-and-russia-to-soon-present-new-kub-2-e-loitering-munition**

At the upcoming IDEX 2025 defense exhibition, scheduled from February 17 to 21 in Abu Dhabi, the Kalashnikov Group will unveil its latest innovation in loitering munition technology, the KUB-2-E, a joint development by the Kalashnikov Group and the Izhevsk Unmanned Systems Research and Production Association (NPO "IzBS"). As always, Army Recognition will be on-site to cover the event, and more details will be available in the coming weeks.

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The small-class KUB-2-E system is designed to target enemy infantry, including individual soldiers, as well as unarmored military vehicles. (Picture source: Kalashnikov)

This new generation of small and medium-sized loitering munitions is designed to enhance modern military capabilities, marking a significant milestone in Russian unmanned defense technology.

The emergence of drones in the conflict in Ukraine has marked a major turning point in the conduct of modern military operations. From the outset of the Russian invasion in 2022, Ukraine quickly integrated reconnaissance and attack drones, such as the Turkish Bayraktar TB2, to carry out precision strikes against strategic Russian targets, including bridges, armored vehicles, and command facilities. The use of drones, including loitering munition systems, has helped overcome certain limitations related to manpower shortages or equipment while providing greater flexibility to conduct asymmetric attacks. On the other hand, Russia has also intensified the use of drones, particularly for kamikaze strikes or intelligence-gathering missions. These technologies have changed the nature of combat by making operations more fluid and responsive, but they have also redefined warfare strategies, where speed, precision, and the ability to strike from a distance have become key elements.

The small-class KUB-2-E system is designed to target enemy infantry, including individual soldiers, as well as unarmored military vehicles. It is therefore ideal for precise strikes against lighter, more vulnerable targets on the battlefield. Meanwhile, the medium-class KUB-2-E broadens the scope by allowing strikes against a wider range of targets, such as enemy personnel, launch positions for unmanned aerial systems, helicopter landing zones, and both unarmored and lightly armored military vehicles.

Both versions of the KUB-2-E loitering munitions are equipped with advanced electro-optical systems, allowing operators to guide the munitions with precision toward their targets, even if those targets change positions during the operation. Weighing over 10 kg, these munitions can operate in various challenging conditions, such as day and night operations, complex weather scenarios, smoke, and dust. They can also operate in wind speeds of up to 15 m/s and in temperature ranges from -40°C to +50°C. Moreover, these systems resist passive and active jamming tactics that may occur in a battlefield environment.

Developed as an initiative by the Kalashnikov Group, the KUB-2-E complexes offer significant advancements in loitering munition technology, providing armed forces with the ability to conduct more flexible and effective strikes under diverse battlefield conditions.

With IDEX 2025 fast approaching, the presentation of the KUB-2-E system at the event will highlight the growing importance of loitering munitions in modern warfare and their potential to redefine the dynamics of combat engagements.

**171 . Date: 25-01-2025Glider - Cargo - N/A - General - PlatformLanding Zones Canada Unveils World's First Balloon-Launched Eagle Advanced Payload Delivery SystemURL: https://armyrecognition.com/news/army-news/2025/landing-zones-canada-unveils-worlds-first-balloon-launched-eagle-advanced-payload-delivery-system**

On January 24, 2025, Landing Zones Canada Inc. successfully completed the rigorous development and flight testing of its groundbreaking Eagle Advanced Payload Delivery System (APDS), a cutting-edge military drone designed to revolutionize long-range stealth operations. The innovative system promises to redefine the capabilities of modern aerospace technology by integrating advanced performance features with stealth characteristics and versatility that military forces around the globe will find invaluable. Follow Army Recognition on Google News at this link

Side profile of the Eagle RPAS Advanced Payload Delivery System, the world's first advanced, stealthy, high-altitude military glider delivery system launched by balloon (Picture Source : CNW Group/Landing Zones Canada Inc.)

The Eagle is heralded as the world’s first high-altitude balloon-launched APDS, a game-changing system that offers unparalleled flexibility, exceptional range, and stealth. Designed for a wide range of mission profiles, the Eagle is not merely a drone, but a multi-faceted platform capable of executing both strategic and tactical military operations with unmatched precision and resilience.

One of the Eagle’s most striking features is its ability to operate at stratospheric altitudes, making it ideal for missions requiring high endurance and long-range reach. The system can deliver payloads hundreds of miles downrange, providing commanders with a potent tool for strategic effects that can span tactical and operational needs. Its design emphasizes speed, allowing for rapid deployment and delivery in various conflict zones.

Extensive flight testing has validated the Eagle’s world-class capabilities under some of the harshest and most austere conditions imaginable. These tests have confirmed its robustness and adaptability, ensuring the system can perform in the most challenging environmental and operational scenarios.

The Eagle offers significant flexibility in both operational control and mission execution. It is capable of operating in fully autonomous mode or with a man-in-the-loop configuration, allowing it to meet the demands of any operation, from strategic high-level intelligence gathering to tactical support missions. This adaptability is further enhanced by its variable wing profile, which enables seamless transitions from supersonic speeds to low loitering speeds, optimizing efficiency and ensuring performance across different mission parameters.

Designed with stealth in mind, the Eagle integrates advanced materials and design features that minimize its radar signature, ensuring it remains undetected by adversary air defenses. The emphasis on low observability significantly increases its survivability in hostile airspace, making it an indispensable asset for operations in contested environments.

A major advantage of the Eagle is its ability to carry a wide variety of payloads, including intelligence-gathering equipment, surveillance gear, or precision-guided munitions. This capability enhances its role in military operations, providing commanders with a versatile tool that can be quickly adapted to suit changing mission needs.

“Eagle sets a new benchmark for military drone technology,” said Spence Fraser, founder and CEO of Landing Zones Canada Inc. “Its ability to seamlessly transition between supersonic and loitering speeds, combined with its low observability and versatility, positions it as a game-changer for military operations worldwide. Whether conducting strategic surveillance or delivering critical payloads in GNSS-contested environments, Eagle offers unparalleled flexibility and performance.”

The system’s ability to operate in environments where traditional GPS guidance systems may be disrupted or unavailable further underscores its tactical superiority. The Eagle’s design and technology are poised to support a range of mission types, including intelligence gathering, electronic warfare, and precision strikes, while operating in a variety of theater conditions from arctic to desert environments.

With the successful completion of its development and flight tests, the Eagle Advanced Payload Delivery System is now positioned as a key asset in the arsenal of modern military forces. The combination of its speed, altitude capability, stealth, and versatility make it a force multiplier in a wide array of operations. As geopolitical tensions rise and modern warfare continues to evolve, platforms like the Eagle will play a crucial role in providing military forces with superior capabilities for both conventional and asymmetrical engagements.

Landing Zones Canada Inc. has once again demonstrated its leadership in the field of advanced aerospace systems, providing a unique and powerful tool that will undoubtedly reshape the future of military aerospace technology. The Eagle promises to become a cornerstone of military operations, offering unparalleled capabilities in stealth, endurance, and precision.

For more information on the Eagle Advanced Payload Delivery System and Landing Zones Canada Inc.’s innovations, stay tuned for future announcements.

This milestone marks a major leap forward in aerospace technology, with the Eagle providing both a strategic and tactical advantage for military operations worldwide.

**172 . Date: 08-01-2025Requirement - Lithuania Strengthens Its Drone Capabilities with New UAV Acquisitions from United StatesURL: https://armyrecognition.com/news/army-news/2025/lithuania-strengthens-its-drone-capabilities-with-new-uav-acquisitions-from-united-states**

Lithuania continues its commitment to enhancing its defense capabilities with recent acquisitions from the United States, including advanced manpack radios and small uncrewed aerial vehicles (UAV). These agreements, signed by the Defence Materiel Agency (DMA) under the Ministry of National Defence, represent an investment in modernizing the Lithuanian Armed Forces.

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Illustration photo issued by the Lithuanian Ministry of Defense. (Picture source: Lithuanian MoD)

One of the key acquisitions involves a set of L3Harris manpack radios, valued at approximately 25 million dollars. These advanced communication systems will be integrated into Lithuania’s Joint Light Tactical Vehicles (JLTV) and Vilkas Infantry Fighting Vehicles, providing enhanced communication capabilities for troops in the field. L3Harris radios are considered among the most advanced in their category, ensuring that the Lithuanian forces will have reliable and efficient communication technology.

In addition to the radios, Lithuania secured a contract for the acquisition of a small UAS from the U.S. manufacturer AeroVironment Inc., a leader in uncrewed aerial systems. Worth 7.8 million dollars, this deal focuses on vertical take-off drones designed for fire control and adjustment tasks. These systems will be integrated with the Switchblade 600 combat drones, also acquired from the U.S. government. The UAS is scheduled for delivery by the end of 2025, with plans for future supplementation to further strengthen Lithuania's drone capabilities.

AeroVironment offers several UAS (uncrewed aerial systems) models that could match the description given in the release, particularly vertical take-off drones for fire control and adjustment tasks. Here are some of the AeroVironment UAS models that could potentially be part of this acquisition.

The Wasp AE is a tactical medium-altitude, long-endurance (MALE) drone designed to offer surveillance and reconnaissance capabilities, and it is capable of vertical takeoff using a launch ramp. Although it is larger than smaller UAS, it could be suitable for fire control tasks due to its surveillance capabilities and endurance.

The Puma 3 AE is a small drone designed for surveillance and reconnaissance missions. It is capable of vertical takeoff and landing and is used for tactical missions, including intelligence, surveillance, and reconnaissance. This model could be a good candidate for fire control and adjustment tasks, although it is lighter and designed for shorter missions.

Although not specifically mentioned in the articles, the Quantix Recon is a hybrid drone capable of both long-range surveillance missions and data collection tasks, with the ability to take off and land vertically. This model is particularly useful for hard-to-access areas, which could make it an interesting option for fire control support missions.

Lithuania’s growing acquisitions from the United States reflect its strengthening defense posture in the Baltic region. With a mid-term procurement plan valued at 1.3 billion dollars, the country has become the largest purchaser of U.S. weaponry among the Baltic states, accounting for approximately 20% of its military acquisitions. Among the systems acquired are Javelin anti-tank missiles, JLTV vehicles, Black Hawk helicopters, HINARS, AMRAAM for medium-range NASAMS, and Switchblade drones, all contributing to the modernization of the Lithuanian Armed Forces.

These acquisitions are part of Lithuania's broader defense strategy to improve its operational capabilities and strengthen regional security in an increasingly complex geopolitical landscape.

**173 . Date: 06-03-2025Requirement - Netherlands to Invest EUR 700 Million in Drone Production with Focus on Ukraine’s Defense IndustryURL: https://armyrecognition.com/news/army-news/2025/netherlands-to-invest-eur-700-million-in-drone-production-with-focus-on-ukraines-defense-industry**

The Dutch government is set to invest EUR 700 million in the development of advanced drone technologies, with a significant portion of the investment directed toward supporting Ukraine's defense capabilities. This initiative was announced by Dutch Prime Minister Dick Schoof following a recent meeting with Ukrainian President Volodymyr Zelensky.

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High Eye wins a tender from the Dutch Ministry of Defence. (Picture source: High Eye)

In a statement shared on the social media platform X, Schoof highlighted the importance of continued international collaboration in strengthening Ukraine’s defense infrastructure. He confirmed that the EUR 700 million investment package would be utilized to advance drone production, with part of the funds earmarked to enhance Ukraine's defense industry. This strategic investment underlines the Netherlands' commitment to Ukraine’s ongoing struggle against Russian aggression, reflecting a broader trend of European nations increasing their support for the country.

The announcement came after a discussion between Schoof and Zelensky, which followed a high-level meeting in London. In addition to the drone investment, the two leaders also addressed various other aspects of Ukraine's defense needs and the broader geopolitical situation. Schoof emphasized the Netherlands’ unwavering political, military, financial, and moral support for Ukraine, reaffirming the country’s dedication to helping Ukraine counter Russian advances.

The investment in drone production represents a significant step in the Netherlands' ongoing commitment to technological innovation within the defense sector. Drones have become an increasingly critical component of modern warfare, offering tactical advantages such as surveillance, reconnaissance, and precision strikes. By investing in drone technology, both domestically and in cooperation with Ukraine, the Netherlands aims to enhance the operational capabilities of the Ukrainian military, while also positioning itself as a key player in the European defense industry.

This announcement is part of a broader effort by international partners to coordinate defense strategies and strengthen Ukraine’s military resilience. Schoof and Zelensky also discussed ongoing efforts to prepare a joint peace plan aimed at achieving a just and lasting resolution to the conflict, underscoring the need for coordinated international support to ensure Ukraine’s sovereignty.

The Netherlands’ EUR 700 million drone investment is expected to play a crucial role in bolstering Ukraine's defense infrastructure, making significant strides toward modernizing its military technology and enhancing its ability to respond to emerging threats. The continued support from European nations, including the Netherlands, highlights the critical role of international collaboration in ensuring Ukraine’s defense and achieving peace in the region.

**174 . Date: 30-04-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - New GA-ASI MQ-9A ER Drone Enters Service with US Marines Enhancing Intelligence CapabilitiesURL: https://armyrecognition.com/news/army-news/2025/new-ga-asi-mq-9a-er-drone-enters-service-with-us-marines-enhancing-intelligence-capabilities**

The U.S. Marine Corps has officially inducted a next-generation intelligence, surveillance, and reconnaissance (ISR) platform into its operational structure with the delivery of the MQ-9A Reaper® Block 5 Extended Range (ER) Unmanned Aircraft System (UAS), developed by General Atomics Aeronautical Systems, Inc. (GA-ASI). Delivered on April 22, 2025, the aircraft is now in the hands of Marine Operational Test and Evaluation Squadron 1 (VMX-1) at Marine Corps Air Station Yuma, Arizona, where it will undergo extensive operational evaluation. This milestone represents a significant leap in the Marine Corps' pursuit of long-endurance, persistent ISR capabilities, tailored for the modern battlefield. Follow Army Recognition on Google News at this link

U.S. Marines integrate the new GA-ASI MQ-9A ER drone into VMX-1 operations, enhancing persistent surveillance and maritime domain awareness. (Picture source: GA-ASI)

While the MQ-9A Reaper is not new to the Marine Corps—having already fielded 18 units—the latest Block 5 ER variant introduces major upgrades that align perfectly with the Corps’ Force Design 2030 initiative. This modernization effort emphasizes distributed lethality, maritime operations, and advanced autonomous capabilities. The MQ-9A ER fits squarely within this vision, offering a platform that is more than a surveillance tool—it’s a strategic force multiplier.

At the core of the MQ-9A ER’s value is its extended endurance, achieved through field-retrofittable wing-borne fuel pods and reinforced landing gear, allowing flight times of over 30 hours. This capability enables the U.S. Marines to maintain constant aerial coverage across vast operational theaters without the need for forward-deployed basing. Such persistence is particularly crucial in the Indo-Pacific region, where geography demands long-range ISR and communication relay capabilities for distributed forces operating from expeditionary advanced bases (EABs).

The drone is equipped with a cutting-edge sensor suite that includes Full-Motion Video (FMV), Synthetic Aperture Radar (SAR), Moving Target Indicator (MTI), and Maritime Mode Radar. These systems allow the MQ-9A ER to detect, track, and analyze targets across land and sea, delivering real-time intelligence that supports precision strike coordination, battle damage assessment, and operational command and control. In an age of peer and near-peer threats, where adversaries deploy mobile and camouflaged units, this persistent overwatch capacity is an essential advantage.

Reliability is another cornerstone of the MQ-9A ER’s design. The drone features a fault-tolerant flight control system and a triple-redundant avionics architecture, engineered to meet and exceed the reliability standards of manned aircraft. These features make it suitable for austere or contested environments where conventional support infrastructure may be limited.

The integration of the MQ-9A ER into VMX-1's operational framework is more than a simple platform deployment; it represents a shift in how the Marine Corps develops and validates operational concepts. VMX-1 is responsible for testing the aircraft in realistic scenarios, shaping tactics, techniques, and procedures (TTPs) that will allow it to operate seamlessly as part of the broader Marine Air-Ground Task Force (MAGTF). These efforts will ensure that the MQ-9A ER can support a wide array of missions, including ISR overwatch, electronic warfare coordination, and maritime domain awareness, all while maintaining connectivity within a joint force network.

The arrival of the MQ-9A ER illustrates the Marine Corps’ commitment to expanding its ISR architecture with mature, scalable systems capable of operating across multiple domains. The decision to field this platform reflects confidence in its potential to transition from acquisition to real-world capability development. The Corps aims to move rapidly from testing to operational integration, ensuring new capabilities reach the field quickly and effectively—meeting the challenges of modern conflict environments head-on.

With two more MQ-9A ERs scheduled for delivery before the end of 2025, the Marine Corps is rapidly solidifying its unmanned ISR architecture. The new Reaper ER is more than an aircraft—it is a strategic asset designed to give Marines a decisive edge in both high-intensity conflict and grey-zone operations. In a battlespace where information dominance can determine mission success, the MQ-9A ER delivers unmatched persistence, survivability, and flexibility.

This latest entry into service reflects a broader shift in U.S. military doctrine, where autonomous systems, long-endurance ISR platforms, and multi-domain integration are no longer optional—they are essential. For the U.S. Marines, the MQ-9A ER is not just a new tool in the arsenal; it is a transformative capability that enhances awareness, agility, and effectiveness across the full spectrum of operations.

**175 . Date: 06-01-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - PlatformSpain Advances In SIRTAP Program First Fully Locally Made Tactical Military DroneURL: https://armyrecognition.com/news/army-news/2025/spain-advances-in-sirtap-program-first-fully-locally-made-tactical-military-drone**

The Spanish Ministry of Defence has announced a little milestone in the country’s aerospace and defense sector with the progress of the SIRTAP Programme (High-Performance Tactical Remotely Piloted Aircraft System). One of the most ambitious defense projects in Spain, the SIRTAP marks a major step forward in the country’s strategic independence in military aviation systems. The program, which is on schedule, aims to deliver Spain's first fully indigenous military drone, with the prototype and its inaugural flight expected in 2025. This follows the successful completion of the Critical Design Review (CDR) in June 2024.

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The SIRTAP is set to become an asset for the Spanish armed forces, offering an advanced, reliable, and entirely indigenous system for Intelligence, Surveillance, and Reconnaissance missions. (Picture source: Spanish MoD)

The SIRTAP is set to become a revolutionary asset for the Spanish armed forces, offering an advanced, reliable, and entirely indigenous system for Intelligence, Surveillance, and Reconnaissance (ISR) missions. The drone, designed to enhance the operational capabilities of both the Army and the Spanish Air and Space Force, will be capable of operating in highly demanding environments. Its design allows it to conduct both day and night missions while withstanding extreme weather conditions, ranging from high temperatures to intense cold.

The SIRTAP Programme represents a major technological leap for Spain’s defense industry, with the development of Class II/III Unmanned Aerial Vehicles (UAVs). As the first drone of its kind fully developed in Spain, it highlights the country’s commitment to strengthening its technological and industrial base in the defense sector. The drone’s impressive specifications, including a length of 7.3 meters, a height of nearly 2.5 meters, and a wingspan of 11.3 meters, demonstrate its capabilities to carry out long and complex missions. With a range exceeding 2,000 kilometers, the SIRTAP will significantly enhance the tactical reach of the Spanish armed forces.

This advanced drone will be equipped to carry out a wide range of ISR operations, providing real-time intelligence to commanders in various operational theaters. The sophisticated sensor suite of the system will allow continuous surveillance and reconnaissance over vast areas, making it an essential asset for both peacetime monitoring and combat operations.

The SIRTAP project represents a decisive breakthrough not only for Spain’s defense capabilities but also for its aerospace industry. The assembly and production of the drones will take place at the Airbus Defence and Space facility in Getafe, Madrid, which will play a key role as the industrial leader for the program. This facility will be instrumental in integrating many Spanish companies through the program’s Industrial Participation Plan, ensuring that the project drives innovation and job creation within Spain’s aerospace sector.

The program envisions the production of nine systems, each consisting of three unmanned aircraft, a ground control station, and two simulators. The first system and simulator are scheduled for delivery in 2026, with serial production to begin the following year. The program is expected to conclude by 2030, marking the deployment of a high-tech, self-sustaining military UAV system.

The Spanish Ministry of Defence views the SIRTAP program as a key element in its efforts to modernize and diversify its defense capabilities. By developing a fully indigenous drone system, Spain not only strengthens the tactical capabilities of its armed forces but also establishes itself as a leader in the rapidly evolving field of UAV technology. The SIRTAP program is expected to serve as a cornerstone for future defense projects, providing a platform for upcoming technological advancements and the evolution of military aviation in Spain.

As the program progresses towards its 2025 prototype flight and beyond, the development of SIRTAP underscores Spain’s commitment to ensuring its defense independence while fostering innovation in aerospace technology. The SIRTAP program is poised to make a significant contribution to Spain’s defense posture, providing cutting-edge capabilities for a range of operational scenarios and solidifying Spain’s position in the global defense market.

**176 . Date: 12-02-2025Fixed Wing - Loitering Munition - Mini - General - PlatformThales TOUTATIS Loitering Munition Enhances Tactical Autonomy in High-Altitude CombatURL: https://armyrecognition.com/news/army-news/2025/thales-toutatis-loitering-munition-enhances-tactical-autonomy-in-high-altitude-combat**

During the first edition of the International Mountain Troops Summit, Thales presents TOUTATIS, a new-generation loitering munition developed in partnership with the French company Aeromapper. Designed for high-intensity operations, it provides the French Armed Forces with an autonomous and precise strike capability, adapted to complex environments, including those where communications and geolocation signals are disrupted. This technology allows engaged units, particularly in mountainous terrain, to neutralize mobile targets without direct exposure, enhancing both troop security and operational effectiveness.

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Designed for rapid deployment, TOUTATIS is compatible with multiple launch platforms, including ground vehicles, portable launch tubes, helicopters, and other drones. (Picture source: Army Recognition )

TOUTATIS aligns with the initiative launched by France in 2022 to strengthen domestic production of loitering munitions. Although Thales was not selected for the Colibri project, supported by the Defense Innovation Agency and the French Defense Procurement Agency, the company has continued investing independently in this field. The munition is equipped with a one-kilogram warhead, capable of inflicting significant damage on lightly armored vehicles. With a 45-minute endurance and a range of 10 kilometers, it exceeds the Colibri program's initial requirements, which called for a five-kilometer range and 30-minute endurance.

Designed for rapid deployment, TOUTATIS is compatible with multiple launch platforms, including ground vehicles, portable launch tubes, helicopters, and other drones. Its compact design, featuring an 85 cm wingspan with foldable wings, facilitates transport and field deployment. Once activated, the munition is operational in less than two minutes, ensuring rapid response in critical situations.

Its interoperability with reconnaissance and surveillance drones such as Spy’Ranger, Noctua, and Grizzly is another key feature. These drones can detect and identify targets before transmitting their coordinates to TOUTATIS, enabling a targeted strike without direct human intervention in the field. This integration enhances engagement precision and improves coordination between forces in operation.

In a mountainous environment, TOUTATIS offers a tactical advantage for specialized troops operating at high altitudes. Rugged terrain and the lack of accessible roads often limit the use of traditional artillery systems. With its ease of transport and immediate strike capability, this munition provides mountain units with an autonomous and effective offensive tool, reducing reliance on conventional support. Additionally, its resistance to electronic jamming allows it to operate in environments where GPS signals and communications are compromised, a crucial factor for high-altitude operations.

TOUTATIS is part of a broader technological innovation strategy led by Thales, which is also working on the development of autonomous drone swarms capable of conducting missions without direct human control. In October 2024, a demonstration highlighted how these systems can reduce the cognitive workload of operators while improving situational awareness and target acquisition.

With TOUTATIS, Thales positions itself within a key segment of the loitering munition market, competing with established models such as AeroVironment’s Switchblade, UVision’s Hero, and the Lancet used by Russian forces. By developing a fully French-made solution, the company contributes to national strategic autonomy while anticipating the evolution of future battlefields. This munition could become a critical asset for units requiring rapid and precise response capabilities, particularly in challenging environments such as those encountered by mountain troops.

**177 . Date: 13-02-2025Fixed Wing - Armed ISR / ISTAR - MALE - Contract - Türkiye signs agreement with Indonesia to locally produce Bayraktar TB3 and Akıncı aerial dronesURL: https://armyrecognition.com/news/army-news/2025/tuerkiye-signs-agreement-with-indonesia-to-locally-produce-bayraktar-tb3-and-akinci-aerial-drones**

According to information published by the Turkish newspaper Daily Sabah on February 12, 2025, leading Turkish drone manufacturer Baykar has signed a joint venture agreement with Indonesia’s defense company Republikorp to establish a state-of-the-art unmanned aerial vehicle (UAV) manufacturing facility in Indonesia. This agreement, signed during Turkish President Recep Tayyip Erdoğan's official visit to Indonesia, marks a significant milestone in the growing defense cooperation between the two nations. Follow Army Recognition on Google News at this link

The Turkish-made Bayraktar TB3 will be produced locally in Indonesia. (Picture source: Wikimedia)

This joint venture is part of a broader effort to enhance Indonesia’s defense industry and technological capabilities. The agreement includes the co-production of two of Baykar’s most advanced drones: the Bayraktar TB3 and the Akıncı. These UAVs will be manufactured locally, ensuring technology transfer and strengthening Indonesia’s defense manufacturing sector. In addition, Baykar will export these drones to Indonesia, further solidifying the country’s position as a key player in Southeast Asia’s drone industry.

The deal is one of several agreements signed between Türkiye and Indonesia during Erdoğan’s visit, highlighting their commitment to strengthening bilateral relations, particularly in the defense sector. In recent years, Indonesia has shown a growing interest in Turkish defense products. In 2023, the Indonesian government purchased 12 Turkish drones worth approximately $300 million as part of its military modernization program.

The Bayraktar TB3 is an advanced unmanned combat aerial vehicle (UCAV) developed by Baykar. Designed for naval operations, the TB3 features foldable wings, allowing it to operate from short-runway vessels such as aircraft carriers and amphibious assault ships. This capability makes it particularly valuable for Indonesia, an archipelagic nation with extensive maritime security needs.

The TB3 can carry a payload of up to 280 kilograms, including smart munitions and surveillance equipment. With an endurance of up to 24 hours and a satellite communications system, it is capable of conducting long-range reconnaissance, target acquisition, and strike missions. Notably, the TB3 recently made history by becoming the first UCAV to successfully take off and land on a short-deck vessel, demonstrating its potential for naval warfare.

The establishment of a UAV manufacturing facility in Indonesia represents a strategic move for both nations. For Indonesia, it means access to cutting-edge drone technology and reduced dependency on foreign imports. For Türkiye, it strengthens its position as a leading global drone exporter and expands its influence in Southeast Asia’s defense market.

As Indonesia continues to modernize its armed forces, partnerships like this will be crucial in enhancing its defense capabilities. The collaboration between Baykar and Republikorp is not just a business agreement but a step toward greater defense autonomy for Indonesia and stronger bilateral ties with Türkiye.

**178 . Date: 30-01-2025M-Rotary - Loitering Munition - Mini - General - PlatformTurkish Armed Forces' new Bazna kamikaze drone could take off from underwater for surprise attacksURL: https://armyrecognition.com/news/army-news/2025/turkish-armed-forces-new-bazna-kamikaze-drone-could-take-off-from-underwater-for-surprise-attacks**

As reported by Defence Turk on January 29, 2025, the Bazna drone, developed by the Turkish company Dönmezoğlu Bilişim, has officially entered the inventory of the Turkish Armed Forces. Able to take off while submerged, as demonstrated at the Saha 2024 exhibition, the Bazna kamikaze drone was recently observed during a visit by Turkish Land Forces Commander General Selçuk Bayraktaroğlu and Azerbaijani Deputy Minister of Defense and Land Forces Commander Lieutenant General Hikmet Mirzeyev to the 6th Corps and Joint Special Task Force Command in Kilis Çıldıroba. Follow Army Recognition on Google News at this link

Designed to operate effectively under signal jamming conditions due to its advanced communication technology, the drone is also suited for reconnaissance and surveillance missions in addition to its kamikaze function. (Picture source: Dönmezoğlu Bilişim)

Developed at Dönmezoğlu Bilişim’s Ankara facilities, which operate under the Dönmezoğlu Group managed by Osman Dönmez, the Bazna drone was first deployed in the field in 2023. Since then, it has been used in various military operations under conditions that included interference from multiple jamming systems. To ensure operational reliability, this FPV drone has been tested against modern jamming systems developed by Turkish defense industry firms such as Aselsan. Dönmezoğlu Bilişim Deputy General Manager Mustafa Soydan noted that the drone has demonstrated notable signal stability, with no recorded instances of signal loss-related failures.

Designed to operate effectively under signal jamming conditions due to its advanced communication technology, the drone is also suited for reconnaissance and surveillance missions in addition to its kamikaze function. In the latter role, it is capable of carrying various munitions, including a 660-shrapnel-effect ball weighing 350 grams. This payload features a non-explosive composition, a diameter of 107 millimeters, and a tolerance of ±5 millimeters.

By 2024, the Bazna drone had been incorporated into NATO’s inventory. This Turkish system stands out for its resistance to electronic disruption, water-resistant structure, and thermal imaging capabilities for night operations. Equipped with adaptive munitions, a four-stage security system, and FPV goggles for real-time visual feedback, the drone offers tactical advantages on modern battlefields. Its vertical takeoff and landing (VTOL) capability, including while underwater (as demonstrated at the Saha 2024 exhibition), further enhances its deployment across diverse terrains.

Technically, the Bazna drone has a maximum operational range of 9 kilometers and a flight duration of approximately 15 minutes. With a takeoff weight of 1,780 grams, it can carry a payload of 600 grams, reaching a maximum flight weight of 2,200 grams. The drone can achieve speeds of up to 120 kilometers per hour and operates within temperature ranges of -10°C to 45°C. Its compact dimensions of 390×390×180 millimeters contribute to its portability and deployment efficiency.

In Türkiye, the Bazna drone has also been employed in border security operations and is under consideration for integration with unmanned marine vehicles. Discussions are ongoing among naval officials regarding its possible applications in maritime operations. Given its versatility, the Bazna drone has attracted interest from multiple countries, suggesting potential use in future naval operations.

**179 . Date: 07-03-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Mini - General - PlatformUAE recognizes the potential of Saudi Arabia's new Haris SA-3B vertical take-off droneURL: https://armyrecognition.com/news/army-news/2025/uae-recognizes-the-potential-of-saudi-arabias-new-haris-sa-3b-vertical-take-off-drone**

During IDEX 2025, the Emirati ADNEC Group and the organizing committee of the exhibition recognized the potential of the new SA-3B Vertical Take-Off and Landing (VTOL) drone by selecting it as a Top 20 Winner with the Innovation Trail Award. Haris Unmanned Systems, the Saudi company responsible for developing the UAV, conducted a presentation detailing its future objectives. The company also exhibited its range of unmanned aerial systems and counter-drone technologies, aligning its efforts with Saudi Vision 2030’s goals for technological advancement. Follow Army Recognition on Google News at this link

The Haris SA-3B is a VTOL unmanned aerial vehicle (UAV) with a maximum takeoff weight of 20 kilograms, an empty weight of 13.5 kilograms, and a payload capacity of 2.5 kilograms. (Picture source: Army Recognition)

The Haris SA-3B is a VTOL unmanned aerial vehicle (UAV) with a maximum takeoff weight of 20 kilograms, an empty weight of 13.5 kilograms, and a payload capacity of 2.5 kilograms. It carries 6.5 kilograms of fuel and has a wingspan of 2.911 meters. The UAV is powered by a 30cc engine, allowing it to hover for up to 4.1 minutes. The SA-3B has a maximum range of 1,280 kilometers and can reach a top speed of 97 kilometers per hour. It offers a maximum endurance of 15 hours at an endurance speed of 75 kilometers per hour and can cruise at an altitude of 1,500 meters above sea level, achieving a maximum speed of 135 kilometers per hour at that altitude. These specifications indicate its capability for extended missions and operational flexibility.

Haris Unmanned Systems also showcased other UAV models, including a loitering munition drone, anti-drone systems, a midlift drone, a ground control station, and secure tactical communication solutions. The company used IDEX 2025 to introduce its second-generation UAVs and technologies while engaging with defense professionals and industry stakeholders. Key discussions included AI-driven autonomy, obstacle avoidance, real-time data processing, and counter-drone technologies. Representatives from the Singapore Defense Delegation, UAE Defense Forces, and the Red Cross Society participated in these discussions, reflecting interest in unmanned aerial solutions for security and humanitarian applications.

The VTOL defense drone market has expanded due to advancements in technology and evolving military strategies. The conflict in Ukraine has demonstrated the role of drones, leading to increased production and demand. Ukraine, for example, has developed cost-effective kamikaze drones, some costing as little as $300, to target armored vehicles, impacting battlefield tactics. In addition, the joint venture between Italy's Leonardo and Turkey's Baykar seeks to address unmanned technology gaps in Europe, where the UAV market is projected to reach €100 billion over the next two decades. Companies like Anduril Industries have introduced autonomous VTOL drones for intelligence and strike missions, with operational capabilities including over 40 minutes of flight time and a range of up to 20 kilometers, emphasizing the shift toward cost-efficient and adaptable unmanned systems.

VTOL drones have been increasingly adopted by armed forces due to their ability to take off and land vertically, allowing deployment in confined or rugged environments without requiring runways. The Shield AI MQ-35A V-BAT, with its ducted fan design, is used from ship decks and restricted land areas for reconnaissance and surveillance. The Bell V-247 Vigilant provides continuous support for ground forces while requiring minimal space for storage and transport, further illustrating the adaptability of VTOL drones in military operations.

Market growth is further driven by AI-based autonomy, real-time data processing, and counter-drone technologies. Companies such as Anduril Industries and Epirus lead developments in these fields, while the Ukraine conflict continues to demonstrate the significance of a broader transition toward efficient and cost-effective unmanned systems capable of operating in diverse environments without reliance on traditional runways.

**180 . Date: 19-02-2025M-Rotary - ISR / ISTAR - Mini - General - PlatformUAE's new Sea Drone lands on water to enhance surveillance and emergency responseURL: https://armyrecognition.com/news/army-news/2025/uaes-new-sea-drone-lands-on-water-to-enhance-surveillance-and-emergency-response**

At IDEX 2025, the UAE-based company Advanced Integrated Technology (AIT), a subsidiary of Streit Group, introduced the Sea Drone, a quadcopter drone designed for operations in adverse weather conditions. Capable of landing on water, the drone is resistant to snow, rain, salt fog, and fine dust, allowing for deployment in maritime and desert environments. The system is intended for cargo delivery and territory monitoring, providing operational capabilities in various scenarios. Follow Army Recognition on Google News at this link

With customizable payloads, the Sea Drone can be deployed in security operations, coastal monitoring, and disaster response scenarios. (Picture source: Army Recognition)

The Sea Drone is equipped with multiple payload options to support different functions. These include a loudspeaker system, a Wingsland Z15 flashing light, a ball drop system for fire extinguishing, a mobile cellular station, and a lifebuoy casting system designated MSS SSI-9D-L. It also integrates the KURSIR search engine, enabling search operations in case of crashes. These features allow the drone to be used for civilian and security applications, such as emergency response operations and reconnaissance missions.

The Sea Drone has a flight time of up to 30 minutes and a payload capacity of up to 5 kg. It reaches a maximum flight speed of 60 km/h and operates in temperatures ranging from -40°C to 40°C. The drone can achieve a flight altitude of up to 2,000 meters and withstand wind speeds of up to 15 meters per second. This drone measures 1,750 mm in width, 1,750 mm in length, and 745 mm in height, ensuring compact deployment and maneuverability.

The Sea Drone features IP67-rated protection, making it capable of operating in extreme environmental conditions, including after sandstorms or in high-salinity coastal areas. This differentiates it from several UAVs that require additional protective measures to function in such conditions. With customizable payloads, it can be deployed in security operations, coastal monitoring, and disaster response scenarios. Its capacity to operate in extreme temperatures and high wind speeds makes it suited for conditions where conventional UAVs may face performance limitations.

Similar waterproof quadcopter drones have been used across multiple industries due to their ability to operate in difficult conditions. In search and rescue missions, particularly during floods or maritime emergencies, these drones can cover large areas, locate individuals, and deliver supplies without putting rescue personnel at risk. In marine research, waterproof drones are utilized for monitoring underwater ecosystems and tracking marine species while collecting environmental data. They are also used in industrial inspections, including bridge and offshore platform assessments, reducing the need for human divers in hazardous areas.

The durability and versatility of waterproof drones are attributed to their design. Sealed electronics and corrosion-resistant materials enable them to function in wet and harsh weather conditions. Flotation devices allow them to land safely on water surfaces, expanding their operational scope. Their ability to transition between aerial and aquatic environments enhances their use in missions that require both types of mobility.

Several existing models demonstrate the operational capabilities of waterproof multicopter drones, such as the SwellPro SplashDrone 4, built for all-weather use and featuring a waterproof 4K gimbal camera for imaging in wet conditions. Another example is the HexH2O Pro V2, a hexacopter that integrates aerial and underwater capabilities, making it suitable for inspections and exploration tasks.

**181 . Date: 23-04-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Mini - Contract - UK to acquire £30 million worth of New Zealand-made drones to support Ukraine.URL: https://armyrecognition.com/news/army-news/2025/uk-to-acquire-30-million-worth-of-new-zealand-made-drones-to-support-ukraine**

On April 22, 2025, British Prime Minister Sir Keir Starmer hosted New Zealand Prime Minister Christopher Luxon at 10 Downing Street. The two leaders had earlier jointly visited Operation Interflex, where Ukrainian troops are being trained by UK and New Zealand personnel. During the meeting, both sides emphasised the continued importance of long-term support for Ukraine and confirmed their countries' cooperation within the framework of the Coalition of the Willing. Prime Minister Starmer noted New Zealand’s ongoing participation and stated that planning efforts across land, air, regeneration, and maritime domains were progressing. Follow Army Recognition on Google News at this link

The New Zealand company SYOS Aerospace proposes the SA5 UAS, a vertical take-off and landing drone in the sub-25kg category powered by a proprietary 4-stroke gasoline engine. (Picture source: SYOS)

Just before this visit, the UK Prime Minister's Office announced future UK contracts worth £30 million for uncrewed systems manufactured by SYOS Aerospace, a New Zealand company operating out of Hampshire. These drones will be provided to support Ukraine. This procurement forms part of the UK’s assistance package and reflects an area of bilateral industrial cooperation. Prime Minister Starmer also welcomed New Zealand’s recent increase in defence expenditure, and both leaders discussed the broader connection between defence investment, national economic security, and household-level economic outcomes.

SYOS Aerospace produces a family of autonomous uncrewed systems including aerial (UAS), surface (USV), and ground (UGV) platforms. Among these is the SA5 UAS, a vertical take-off and landing drone in the sub-25kg category powered by a proprietary 4-stroke gasoline engine. It provides 8 to 10 hours of endurance. The SA5 integrates SYOS’ AAIMS system for swarm operations, and uses MuV-NaP for GNSS-denied navigation based on optical flow or visual cues. It can operate without preloaded maps and estimate its position using ground movement, functioning in day or night conditions. It is intended for ISR tasks in land and maritime domains, with the ability to land on moving vessels.

The SA200 UAS is another aerial system produced by SYOS. It is an uncrewed helicopter with a 200kg payload capacity and a base range of 230km. With an optional extended fuel tank, it can reach nearly 1000km and operate for more than 8 hours. Designed for ISR, EW, and logistical resupply, the SA200 incorporates aviation-grade and military-standard components. It features anti-jamming and data encryption measures to operate in environments where counter-UAS systems are present.

The SG400 UGV is a 6×6 uncrewed ground vehicle with optional track configurations. It has a payload capacity of 500kg and a maximum range of 230km. It is designed for autonomous operations in logistics, ISR, and route clearance. When equipped with the AAIMS system, the SG400 supports swarm coordination and uses computer vision-based navigation. Communications for beyond-visual-line-of-sight operations include RF, LTE, and satellite links with encryption and up to 16-channel CRPA GNSS.

The SM300 USV is a maritime platform with a payload capacity of 300kg and a range of up to 650 nautical miles. It is used for ISR, EW, signal rebroadcasting, and cargo delivery. Autonomy features include AI-enabled mission planning, computer vision with automatic target tracking, and an interface that allows operator control through a ground control station. Navigation capabilities include CRPA GNSS, satellite communications, visual navigation, and dead reckoning, with the ability to estimate its own position within swarms. SYOS offers integration of the SM300’s autonomy suite into existing surface vessels.

Beyond defence and procurement matters, the two leaders also discussed broader regional issues, particularly the Indo-Pacific. They agreed on the need for coordinated efforts to support stability and address hostile activities in the region. In terms of trade, both welcomed the strong commercial ties between the UK and New Zealand and noted the UK’s recent accession to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). They concluded their meeting with a commitment to continued engagement and coordination on mutual interests.

**182 . Date: 07-03-2025Fixed Wing - Loitering Munition - Mini - Contract - United Kingdom and Anduril Strike New Deal to Supply Advanced Attack Drones to UkraineURL: https://armyrecognition.com/news/army-news/2025/united-kingdom-and-anduril-strike-new-deal-to-supply-advanced-attack-drones-to-ukraine**

The UK government has entered into a new agreement with Anduril UK to supply advanced attack drones to the Ukrainian Armed Forces. These drones, designed to assist Ukraine in countering Russian aggression, will play a pivotal role in operations in the Black Sea.

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This deal includes the provision of Altius 600m and Altius 700m drones. (Picture source: Anduril)

This deal, worth nearly £30 million, includes the provision of Altius 600m and Altius 700m drones, loitering munitions designed to monitor an area before striking targets that enter it. These cutting-edge drones will enhance Ukraine's ability to conduct precise strikes while maintaining a strategic advantage in the ongoing conflict.

The announcement follows a visit by UK Defence Secretary John Healey to Anduril's facilities in Washington D.C. Healey's visit, which occurred ahead of a meeting with his US counterpart Pete Hegseth at the Pentagon, underscores the UK's continued commitment, along with its allies, to support Ukraine in its defense against Russian aggression. The UK remains determined to ensure Ukraine is in the strongest possible position to negotiate a secure and lasting peace.

As part of this initiative, the drones, launchers, and essential spare parts are expected to be delivered to Ukraine in the coming months. The deal is managed by Defence Equipment and Support (DE&S), the procurement arm of the UK Ministry of Defence, under the framework of the International Fund for Ukraine (IFU). This fund, now exceeding £1.3 billion, includes contributions from several allied nations, with the UK committing £500 million.

In addition to the drones, the UK continues to provide substantial military and financial support to Ukraine. Over the past year, the UK has committed more than £5.26 billion in aid, including £3 billion per year in military support and £2.26 billion in loans for military spending, all aimed at enhancing Ukraine's defense capabilities.

Dr. Rich Drake, Managing Director of Anduril UK and Europe, expressed pride in collaborating with the UK government to deliver these vital capabilities. He highlighted the company's commitment to developing and deploying technologies that meet the urgent needs of the UK and its allies. The rapid delivery of these drones to Ukraine emphasizes the company's ability to respond quickly to evolving defense challenges.

This deal is part of the ongoing initiative announced in January, in which 30,000 drones will be sent to Ukraine by the international Drone Capability Coalition, co-led by the UK and Latvia. The UK's role in this coalition highlights its leadership in providing advanced military technologies to support Ukraine.

The UK's continued military support to Ukraine aligns with broader defense priorities, including the recent decision by the UK government to increase defense spending to 2.5% of GDP by 2027, marking the largest sustained increase in defense spending since the Cold War. This commitment reflects the UK's strategic focus on ensuring national security while stimulating economic growth through defense-related investments.

The agreement with Anduril UK is also part of a broader collaboration between the UK and US armed forces, with both nations continuing to align their defense operations worldwide. From the fight against Daesh in the Middle East to joint maritime security efforts in the Indo-Pacific, the UK and US are strengthening their defense ties in multiple regions.

This announcement coincides with the UK receiving the final batch of 50 AH-64E Apache attack helicopters, one of the most advanced attack helicopters in the world. The delivery of these helicopters supports over 300 jobs in the UK, underscoring how defense investments contribute to the growth of the UK economy.

In addition to military support, the UK is deepening its defense ties with the US through exercises such as Exercise Red Flag, where the UK, US, and Australian air forces conducted high-intensity combat training. These joint exercises demonstrate the strong military relationship between the two nations and their shared commitment to global security.

As the conflict in Ukraine continues, the UK's support remains steadfast. With advanced drones, enhanced defense capabilities, and continued financial aid, Ukraine is better equipped to defend its sovereignty and move closer to a lasting peace.

**183 . Date: 16-01-2025Fixed Wing - Loitering Munition - Mini - Contract - US Army Expands Loitering Munitions Arsenal with AeroVironment's New Switchblade OrderURL: https://armyrecognition.com/news/army-news/2025/us-army-expands-loitering-munitions-arsenal-with-aerovironments-new-switchblade-order**

AeroVironment (AV), a globally recognized player in intelligent multi-domain robotic systems, recently announced the receipt of its second delivery order for Switchblade loitering munitions, valued at $55.3 million. This order is part of the US Army's "Directed Requirement" (DR) program aimed at enhancing its capabilities with lethal unmanned systems. The contract, structured as an Indefinite Delivery, Indefinite Quantity (IDIQ) agreement, has a ceiling value of $990 million over five years. It was formalized by the Army Contracting Command-Aberdeen Proving Ground in August 2024, marking a significant milestone for the operational capabilities of the US Army.

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By combining reconnaissance, surveillance, and strike capabilities into a single platform, Switchblade systems redefine tactical efficiency (Picture source: US DoD)

Switchblade loitering munitions represents a key technological development in precision strike systems. Designed to meet multi-domain requirements, these systems provide a flexible and effective solution for modern armed forces. They are characterized by extended endurance, multi-mission capabilities, and high-precision optics, enabling thorough reconnaissance before engagement or the targeted neutralization of threats. Proven in real combat scenarios, these systems demonstrate reliability in complex and evolving environments, addressing the increasing demands of contemporary conflicts.

Brett Hush, Senior Vice President and General Manager of Loitering Munition Systems at AeroVironment, emphasized the strategic importance of this order, stating, "AV is committed to delivering under this significant contract, ensuring the US Army has access to the most capable solutions." He also highlighted the company’s enhanced production capabilities and streamlined supply chain, which support timely deliveries and consistent operational support.

This improved production capacity, combined with optimized logistics, underscores AeroVironment's commitment to maintaining high-quality and responsive services. The US Army benefits from robust solutions that integrate seamlessly into its broader defense strategies, where speed and precision are critical.

Switchblade loitering munitions go beyond conventional strike platforms. They represent a new generation of tactical systems adaptable to various combat scenarios. Their ability to operate in land, maritime, or aerial environments makes them a strategic asset. These systems enable armed forces to respond effectively and quickly to diverse threats, including reconnaissance missions, target neutralization, or tactical support for deployed units.

Compact and portable, the Switchblade systems are designed for ease of use in the field. Their rapid-launch mechanism allows operators to act within minutes, minimizing critical delays in situations where swift action is essential. With extended range and endurance, these munitions provide unparalleled operational flexibility, allowing for prolonged surveillance of targets before engagement.

Based in Arlington, Virginia, AeroVironment specializes in intelligent robotic systems, including aerial and ground platforms, advanced sensors, software analytics, and connectivity solutions. The company is known for its technological expertise and commitment to innovation. By delivering reliable and adaptive systems, AeroVironment enables its clients, whether military or civilian, to make informed decisions in critical situations.

This contract with the US Army reaffirms AeroVironment’s role as a key provider of advanced solutions. The company continues to contribute to enhancing military capabilities while addressing the growing need for modernization and digitalization within athe rmed forces worldwide.

The integration of Switchblade loitering munitions into the US Army's arsenal reflects a major strategic shift. These systems not only address current requirements but also set the stage for the future of military operations. By combining reconnaissance, surveillance, and strike capabilities into a single platform, Switchblade systems redefine tactical efficiency. Their role in multi-domain operations, where coordination across various combat levels is crucial, highlights their strategic significance.

With this second delivery order, AeroVironment and the US Army strengthen their partnership within a rapidly evolving technological and operational landscape. This contract, aligned with modern requirements for unmanned lethal systems, also underscores the growing importance of robotic solutions in contemporary defense. As military strategies continue to evolve, systems like Switchblade are poised to become indispensable tools for addressing emerging challenges.

This order not only enhances the US Army's operational capabilities but also highlights AeroVironment's central role in shaping global defense strategies. Switchblade systems, with their proven performance and adaptability, are set to remain pivotal in modern military operations.

**184 . Date: 06-04-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - U.S. Army National Guard to Receive Gray Eagle 25M Drones to Boost Surveillance and Strike CapabilitiesURL: https://armyrecognition.com/news/army-news/2025/u-s-army-national-guard-to-receive-gray-eagle-25m-drones-to-boost-surveillance-and-strike-capabilities**

On April 4, 2025, General Atomics Aeronautical Systems, Inc. (GA-ASI) announced that the first of twelve Gray Eagle® 25M unmanned aircraft systems (UAS), funded through the U.S. Congress’ Fiscal Year 2023 defense budget, is on track for delivery to the U.S. Army National Guard beginning in 2027. This acquisition marks a pivotal advancement in the Guard’s aerial intelligence, surveillance, and reconnaissance (ISR) capabilities, introducing a platform specifically engineered for multi-domain operations and operational dominance in contested environments. Follow Army Recognition on Google News at this link

The Gray Eagle 25M unmanned aircraft system, set to enter service with the U.S. Army National Guard in 2027, brings next-generation surveillance, strike, and multi-domain capabilities. (Picture source: GA-ASI)

While the Gray Eagle 25M builds on the established legacy of the Gray Eagle Extended Range (GE-ER) UAS (Unmanned Aerial System), the 25M variant incorporates an array of transformative enhancements that make it one of the most capable unmanned platforms in the world. Notably, it introduces an open-architecture Modular Open Systems Approach (MOSA), enabling rapid integration of new technologies and payloads, drastically reducing upgrade cycles and improving mission adaptability.

Technically, the Gray Eagle 25M boasts a strengthened airframe designed for higher durability and greater payload capacity. It is powered by a new heavy-fuel engine that provides increased power output, improved fuel efficiency, and better performance in extreme environments. The UAS offers more than 40 hours of flight endurance and can operate at altitudes above 29,000 feet. It supports a wide array of payloads, including advanced EO/IR sensors, synthetic aperture radar (SAR), electronic warfare (EW) systems, and long-range communications relay equipment.

Additional upgrades include triple-redundant flight control systems, autonomous taxi and takeoff/landing capabilities, and an advanced datalink suite to enable secure, resilient communications in GPS-denied or electronically contested environments. A redesigned tail structure and enhanced wing design support greater lift and stability, further improving mission endurance and sensor effectiveness.

The Gray Eagle 25M is built not just to collect data, but to control the battlespace. It can launch a wide range of effects, including air-launched loitering munitions (ALLMs) and other precision strike payloads, effectively transforming it from a reconnaissance platform into a forward-operating combat enabler. It can also serve as a node in the Army’s Tactical Intelligence Targeting Access Node (TITAN) network, integrating battlefield data in real time and supporting long-range precision fires.

Retired Colonel Denny Winningham, formerly of the Army National Guard’s 1st Battalion, 285th Aviation Regiment and now with GA-ASI, emphasized the operational value of the system: “Gray Eagles provide persistent presence at operationally relevant ranges for sensors, payloads, and launched effects while requiring no risk of our U.S. soldiers,” said Winningham. “When we operate, we put Gray Eagle 25M in danger, not a human pilot and crew.”

Although derived from the existing Gray Eagle platform, the 25M introduces significant technological and operational overmatch. The upgrades are so substantial that Army National Guard units equipped with this UAS will possess unique capabilities not currently available to any other unmanned aviation units globally.

As Winningham further noted, “The new 25M model delivers the only relevant multi-domain operations capability available now and will sustain the Army National Guard as a relevant and reliable partner for active-duty divisions and cement the ARNG as the world’s premier combat reserve.”

In terms of strategic deployment, the initial twelve aircraft funded in the 2023 budget are just the beginning. Advocates within the defense community are pushing for additional procurement, including twelve more systems in the FY2025 budget and thirty-six more in FY2026. The 2025 funding is earmarked for the 40th Infantry Division, which includes National Guard units from California, Oregon, and Nevada. The 2026 budget proposal would support the 28th Infantry Division (Pennsylvania, West Virginia, Tennessee), the 35th Infantry Division (Kansas, Arkansas, Oklahoma), and the 36th Infantry Division (Texas, Mississippi).

This long-term investment strategy underscores the U.S. Army’s commitment to equipping the National Guard with capabilities that match or exceed those of active-duty forces. With its unprecedented ISR reach, strike potential, and survivability, the Gray Eagle 25M will serve as a critical enabler of both homeland defense and expeditionary operations.

The U.S. Army National Guard is thus poised to become a key player in modern, networked warfare—leveraging the Gray Eagle 25M not just for surveillance, but for decisive action across the full spectrum of conflict.

**185 . Date: 04-02-2025Fixed Wing - Loitering Munition - Mini - Contract - US Army Strengthens Strike Capabilities with Expanded Switchblade Loitering Munition ContractsURL: https://armyrecognition.com/news/army-news/2025/us-army-strengthens-strike-capabilities-with-expanded-switchblade-loitering-munition-contracts**

On February 3, 2025, AeroVironment (AV), a global provider of multi-domain intelligent robotic systems, announced that it has received its third delivery order, valued at $288 million, for Switchblade loitering munition systems. This order is part of the U.S. Army’s Directed Requirement (DR) for Lethal Unmanned Systems (LUS). It falls under a five-year Indefinite Delivery, Indefinite Quantity (IDIQ) contract awarded by Army Contracting Command-Aberdeen Proving Ground, with a total ceiling of $990 million, initially announced in August 2024.

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A West-Coast based Naval Special Warfare Operator fires a Switchblade 300 Lethal Miniature Aerial Munition System during ground mobility training exercises (Picture source: US DoD)

This contract is intended to enhance the offensive and defensive capabilities of U.S. forces by providing precision-strike solutions suited to modern conflict requirements. The increasing use of loitering munitions like the Switchblade 300 Block 20 highlights the role of autonomous systems and military robotics in asymmetric warfare and high-intensity environments. These armed drones offer a tactical advantage by enabling the identification, tracking, and engagement of targets with high accuracy while reducing risk to personnel.

AeroVironment emphasizes the significance of this new order, which allows it to continue executing a key contract for the U.S. Army. According to Brett Hush, the company’s senior vice president and general manager of loitering munition systems, this collaboration is aimed at equipping U.S. forces with reliable and effective loitering munitions tailored to current operational needs. The company highlights its robust supply chain and advanced manufacturing capabilities, ensuring a consistent response to military requirements. AeroVironment’s systems are designed to enhance operational autonomy, providing precision and flexible engagement options to optimize unit effectiveness in the field.

The Switchblade loitering munition family offers armed forces a precision-strike capability adapted to contemporary combat scenarios. The Switchblade 300, an ultra-light system weighing 2.5 kg, is designed for easy transport in a backpack and can be launched within seconds from a portable tube or vehicle. It engages light targets within a range of 10 km, with an endurance of 15 minutes, utilizing an electro-optical/infrared guidance system and GPS-based "cursor-on-target" targeting. A key feature of this system is its ability to abort an attack mid-flight, allowing for greater flexibility in infantry and special operations.

The Switchblade 600, a larger and more powerful variant, is designed to engage armored vehicles and fortified targets. With a range of 40 km and an endurance of 40 minutes, it provides an alternative to traditional anti-tank missiles without requiring additional launch platforms. Equipped with a warhead derived from the Javelin missile, it is capable of penetrating heavy armor and can be controlled manually or autonomously through an intuitive touchscreen interface. Its rapid deployment and maneuverability make it a strategic asset for precision engagements and operations against mechanized units.

Deployed by the U.S. Army, Marine Corps, and Ukrainian forces, the Switchblade 300 and 600 have become integral to modern military operations, combining surveillance and strike capabilities. Their resistance to electronic warfare, continuous sensor improvements, and adaptability to complex environments reinforce their role in both asymmetric and high-intensity engagements. These systems reflect the evolving military doctrine, where speed, precision, and operational flexibility are key factors in mission effectiveness.

**186 . Date: 01-05-2025Fixed Wing - Loitering Munition - Mini - Contract - US Marine Corps to deploy three new types of loitering munitions into infantry battalions by early 2026URL: https://armyrecognition.com/news/army-news/2025/us-marine-corps-to-deploy-three-new-types-of-loitering-munitions-into-infantry-battalions-by-early-2026**

As reported by National Defense on April 29, 2025, the U.S. Marine Corps is scheduled to receive the first units of its Organic Precision Fires-Light (OPF-L) loitering munitions in January 2026 for initial end-user evaluation. Two battalions will be equipped with the systems, which are intended to provide rifle squads and platoons with an individually operated, man-portable loitering munition capable of engaging beyond-line-of-sight targets. Full-scale fielding is expected to take place by the end of 2026. The systems are being developed under the OPF-L program, which is part of a broader initiative to provide organic precision strike capabilities at the small-unit level. Follow Army Recognition on Google News at this link

Loitering munitions are used to strike concealed or mobile targets with minimal exposure of higher-value platforms and may include capabilities such as real-time target identification, programmable flight paths, and abort or return-to-base procedures. (Picture source: US Marine Corps)

Three companies, AeroVironment, Anduril Industries, and Teledyne FLIR, were selected by the Department of Defense in April 2024 through an open competition from a group of eight vendors. Each company was awarded an initial contract under an Indefinite Delivery/Indefinite Quantity (IDIQ) agreement, with values of $8.9 million, $6.4 million, and $12 million respectively. The combined ceiling of the IDIQ contract is $249 million.

A loitering munition, also referred to as a suicide drone, kamikaze drone, or exploding drone, is a weapon system that basically combines features of a drone and a guided missile. It is typically designed to remain airborne for a period of time while searching for a target, then attack by crashing into the target and detonating an onboard warhead. These systems can be manually controlled or semi-autonomous and may be recoverable if the target is not engaged. Loitering munitions are used to strike concealed or mobile targets with minimal exposure of higher-value platforms and may include capabilities such as real-time target identification, programmable flight paths, and abort or return-to-base procedures. Some are designed for tactical deployment at the squad level and others for integration into larger vehicle or naval platforms.

Teledyne FLIR will deliver the first 127 OPF-L systems for testing and evaluation in the summer of 2025. Its system consists of a vertical take-off and landing (VTOL) quadrotor drone platform designed to be recoverable and reusable. The company has indicated that the system has undergone testing against both mobile and stationary targets, including dismounted personnel and vehicles. The contract includes a five-year base period and a three-year option. Teledyne FLIR published a computer-generated image of its VTOL system, showing low-altitude flight operations in urban terrain. The design aims to operate within what has been described by the company as the “Atmospheric Littoral,” referring to low-altitude, unobstructed airspace used by tactical ground units.

Anduril Industries is also providing a VTOL solution with a quadrotor platform. According to the company, its system integrates previously tested technologies including tracking and guidance capabilities, return-to-base functionality, and terminal engagement features. Unlike its previous fixed-wing systems such as the Altius 700, which was selected by U.S. Special Operations Command for the Maritime Precision Engagement Munition program, Anduril’s OPF-L submission marks a shift toward rotor-based designs. The Marine Corps has stated that VTOL and fixed-wing platforms may be deployed in parallel, with no current plan for a down-select process, provided that all systems meet performance and certification requirements. A Marine Corps Systems Command (MARCORSYSCOM) spokesperson stated that VTOL and fixed-wing loitering munitions are viewed as complementary capabilities and that the service is seeking non-developmental systems for qualification and testing during fiscal years 2024 and 2025.

AeroVironment will provide its Switchblade 300 Block 20 as a fixed-wing entry to the OPF-L program. The Block 20 model includes an Explosively Formed Penetrator (EFP) warhead for armor penetration, improved target attack angles, extended flight endurance, longer radio range, and increased battery life. The Switchblade 300 system has been in operational use since 2012. AeroVironment has stated that over 6,000 units have been produced and tested. The company confirmed its readiness to produce and deliver initial orders under the contract and to meet subsequent production demands. According to the firm, the Switchblade 300 is designed for launch from a tube and supports engagement of both static and moving targets beyond line of sight. The Marine Corps acquisition documentation calls for OPF-L systems that are man-portable and composed of the loitering munition, ground control station, training simulator, and associated equipment.

Three companies, AeroVironment, Anduril Industries, and Teledyne FLIR, were selected in April 2024 and awarded an initial contract under an Indefinite Delivery/Indefinite Quantity (IDIQ) agreement, valued at a total of $249 million. (Picture source: US Marine Corps)

According to Marine Corps statements during the April 2025 Modern Day Marine conference, the OPF-L program addresses the need for a responsive, squad-level precision strike capability. Maj. Gen. Farrell Sullivan noted that the initial two battalions will deploy with the systems as part of an end-user evaluation. Col. Sean Hoewing acknowledged that the service is behind in fielding uncrewed aerial systems but emphasized that industry is now responding to urgent requirements for organic precision fires. The Marine Corps has stated that the next steps involve clearly documenting requirements and ensuring that program offices are adequately resourced to deliver these systems. Col. Scott Cuomo noted that the service will require new military occupational specialties and unit formations to integrate these technologies, while Col. Erick Clark stated that the use of loitering munitions fits within existing Marine Corps combined arms practices. Marine officials have further emphasized that the systems will be distributed to smaller units to reduce dependence on external air support.

The OPF-L program is one component of the Marine Corps’ wider transformation under Force Design 2030. The 2023 annual update explicitly stated that the OPF program is progressing too slowly and directed the acceleration of procurement and training for both Infantry (OPF-I) and Mounted (OPF-M) variants. The Infantry Battalion Experimentation (IBX) effort included 13 force-on-force trials across multiple environments and led to a revised battalion structure increasing from 735 to 811 Marines. Changes included all-weather surveillance and additional anti-armor and indirect fire capabilities. The Corps mandated implementation of the new battalion structure by September 2023. For OPF-M, Mistral Inc. and UVision were selected in 2021 to integrate their Hero 120 system onto vehicles including the JLTV, Light Armored Vehicle-Medium, and the Long Range Uncrewed Surface Vessel. A 2019 Request for Information (RFI) indicated that the OPF-M was intended to expand indirect fire capacity and provide organic fires to maneuver units.

The Marine Corps’ official RFI for OPF-L, identified as M67854-22-I-1043, outlined detailed technical expectations. These include a minimum munition range of 10 kilometers, a total system weight under 55 pounds, and programmable behaviors such as mission abort, loss-of-link, and GPS-denied operation. Systems must provide loitering and strike capabilities against anti-personnel and anti-materiel targets, and integrate uplink/downlink communications, GPS guidance, and ground control stations with preflight and inflight programming functionality. Additional requirements include endurance metrics, system reliability, launch method, warhead type, camera and sensor capabilities, manufacturing readiness, and supply chain resilience. The RFI requested technical readiness level justification, unit cost estimates by component, and production scalability projections for fiscal years 2023–2028.

Officials such as Travis Bowden have acknowledged challenges in adapting commercial drone lessons from Ukraine to Marine expeditionary environments, citing battery storage on ships and climate variability as operational factors. (Picture source: US Marine Corps)

Recovery and reuse were identified as preferred but not mandatory features. Systems are expected to select safe ditch zones and include fail-safe procedures. Integration from Navy facilities, ships, and aircraft is part of the program’s goals. Marine Corps officials have also emphasized the need for electromagnetic resilience, mission planning autonomy, and supportability under expeditionary logistics constraints. Data collected from responses to the RFI have been used to inform acquisition strategies and future procurement planning.

In the broader context, the Marine Corps has conducted experiments with loitering munitions since at least 2018, when the Marine Corps Warfighting Laboratory tested a single operator managing six drones. Subsequent iterations explored expanding control to 15 drones per operator, combining kinetic and electronic warfare capabilities. In 2022, combat modeling conducted at the Naval Postgraduate School simulated a Marine company’s defense of an expeditionary base using OPF munitions. The analysis indicated that a minimum of 10 anti-armor OPF systems were required to engage an enemy mechanized company, with diminishing returns after 18 units. The study also found that early engagement with mixed munition types was more effective than synchronized mass fires. Under certain scenarios, platoons suffered over 30 percent casualties but remained capable of achieving their objectives. The modeling also revealed challenges in fire support deconfliction, identification of friendly and enemy UAS in congested airspace, and synchronization of effects. Javelin teams were particularly vulnerable due to proximity during operations. The study suggested that disaggregating anti-armor specialists could improve survivability.

The Marine Corps has also been exploring logistical applications of drones. The TRV-150C Tactical Resupply Unmanned Aircraft System can deliver 150-pound payloads over nine miles and has been fielded in limited numbers. Personnel from logistics units have been tasked with operating the drone, which has prompted new procedures for deconflicting airspace and addressing system repair in field conditions. Marine officials have noted that current systems for tracking unmanned and manned aircraft do not integrate effectively and highlighted the need for improved situational awareness tools. Repairs currently rely on contractor support, but training programs may eventually include in-unit repair capabilities such as motor replacements and micro-soldering.

As of early 2025, the Marine Corps plans to deploy OPF-L systems to squads by fiscal year 2027. Officials such as Travis Bowden have acknowledged challenges in adapting commercial drone lessons from Ukraine to Marine expeditionary environments, citing battery storage on ships and climate variability as operational factors. Bowden noted that logistical chains, weather conditions, and electromagnetic spectrum limitations may prevent large-scale swarming, though scalable deployment remains part of the long-term plan. He also emphasized that targeting, communications, and munitions development must progress concurrently to achieve fully integrated targeting processes at the squad level.

**187 . Date: 04-09-2024ISR / ISTAR - Mini - General - PlatformAerial Dominance Redefined by ST-35 Silent Thunder and SR-1200 at MSPO 2024 in PolandURL: https://armyrecognition.com/news/army-news/army-news-2024/aerial-dominance-redefined-by-st-35-silent-thunder-and-sr-1200-at-mspo-2024-in-poland**

During the MSPO 2024 exhibition, the National Association of Ukrainian Defense Industries (NAUDI) unveiled two major innovations in unmanned aerial systems: the SR-1200 multicopter and the ST-35 "Silent Thunder" loitering munition system. Both devices, developed by the Ukrainian company Athlon Avia, have been designed to meet various military needs, particularly for precision strikes and surveillance operations. Follow Army Recognition on Google News at this link

The SR-1200 multicopter is a versatile drone that can be used with the ST-35 for reconnaissance, signal relaying, or munitions delivery missions. (Picture source: Army Recognition)

The ST-35 "Silent Thunder" is a loitering munition for high-precision strikes against camouflaged or hard-to-reach targets. It is specifically developed for use in urban environments or areas where minimizing collateral damage is crucial. This capability is essential in modern conflicts, where operations in densely populated areas are common.

One of the key strengths of the ST-35 is its ability to carry different types of explosive warheads, including fragmentation-explosive, thermobaric, incendiary, and cumulative warheads. These options allow the drone to adapt to a variety of targets, such as radars, ammunition depots, or communication points. The drone also boasts impressive precision, with a circular error probable (CEP) of just three meters, ensuring a 95% success rate on selected targets.

The ST-35 has an electric motor that powers six propellers arranged for vertical takeoff (VTOL). After takeoff, the munition is released and transitions to horizontal flight to reach its target. Thanks to its X-shaped aerodynamic design, it achieves a cruising speed of 120 and 140 km/h, with an operational range of 30 km. This long-range capability is supported by an operational altitude of 800 to 1,200 meters, allowing the drone to evade most radar defense systems.

One of the ST-35’s major advantages is its low radar, visual, and acoustic visibility. These characteristics are crucial for penetrating deep into enemy defenses while remaining undetected until the moment of impact. Additionally, it can be launched via a multicopter, which plays a key role in extending its flight endurance and ensuring precise guidance.

The SR-1200 multicopter, on the other hand, is a versatile drone that can be used independently or in conjunction with the ST-35 for reconnaissance, signal relaying, or munitions delivery missions. Compact and mobile, it stands out for its ability to operate in conditions where other transport drones might be impractical. It can be quickly assembled in the field, and its manual and automatic flight modes make it adaptable for various operations.

The SR-1200 has a flight endurance of 60 minutes and a range of 10 to 15 km, enabling it to remain in position to relay signals or monitor an area for an extended period. It is also equipped with day and night cameras as well as thermal sensors, making it useful for reconnaissance and nighttime surveillance missions. It can carry loads ranging from 2 to 4 kg, such as munitions, medical supplies, or provisions to inaccessible areas.

In combination with the ST-35, the multicopter plays a crucial role in launching loitering munitions. It can lift the drone to an altitude of over 500 meters before releasing it on its flight path. After the munition is deployed, the SR-1200 continues to relay signals, ensuring communication between the operator and the drone.

The ST-35 "Silent Thunder" and the SR-1200 multicopter represent a technological advancement in the field of unmanned aerial systems, an area where Ukraine excels. As complementary elements, they allow for highly effective strike and surveillance operations while minimizing risks to civilian infrastructure. Their presentation at the MSPO 2024 exhibition highlights Ukraine’s commitment to developing innovative defense technologies that meet the needs of modern conflicts.

**188 . Date: 04-10-2024ISR / ISTAR - Small - General - PlatformAeroVironment offers Vapor 55 MX helicopter UAS with 9-kilogram payload at KADEX 2024URL: https://armyrecognition.com/news/army-news/army-news-2024/aerovironment-offers-vapor-55-mx-helicopter-uas-with-9-kilogram-payload-at-kadex-2024**

At KADEX 2024, AeroVironment, a U.S.-based company, introduced its latest unmanned aircraft system (UAS), the Vapor 55 MX. This all-electric helicopter UAS is designed to meet a variety of mission requirements across defense, commercial, and industrial sectors. Its modular design allows users to configure it with single or multiple sensor payloads, depending on specific operational needs. Follow Army Recognition on Google News at this link

A key aspect of the Vapor 55 MX is its modular, low-profile structure, which improves portability through its telescoping tail and fold-up landing gear. (Picture source: Army Recognition)

A key aspect of the Vapor 55 MX is its modular, low-profile structure, which improves portability through its telescoping tail and fold-up landing gear. The system is engineered to carry heavier payloads and operate over longer distances. It offers a payload capacity of up to 4.5 kilograms at a gross takeoff weight (GTOW) of 24.9 kg. The endurance in cruise mode is up to 75 minutes. For defense-specific missions, the GTOW can be increased to 29.5 kg, allowing for payloads of up to 9 kg, although with a reduction in endurance.

The UAS operates at altitudes ranging from 0 to 3,657 meters and can handle sustained wind speeds of up to 55.5 km/h. It is equipped with various data link options, including 900 MHz, 2.4 GHz, and 5.8 GHz for video transmission, with the possibility of integrating Silvus, Persistent Systems, or MicroHard radios. The modular radio interface connector enables quick switching between different communication systems.

The design also incorporates a larger payload bay, expanded by 20%, with belly-mounted Picatinny rails that allow for quick mounting and dismounting of payloads. The UAS can be fitted with various sensors, including electro-optical/infrared (EO/IR) systems, hyperspectral sensors, PPK mapping, and drop mechanisms, among other payloads.

The Vapor 55 MX helicopter UAS operates at altitudes ranging from 0 to 3,657 meters and can handle sustained wind speeds of up to 55.5 km/h. (Picture source: AeroVironment)

Maintenance requirements have been addressed through design choices that aim to reduce operational costs. For example, the system does not require belt replacements, which increases the mean time between overhauls. The UAS is controlled through an advanced flight control system that includes autopilot features and robust flight controls for various operational conditions.

In terms of dimensions, the Vapor 55 MX measures 1.8 meters in length, 0.67 meters in width, and 0.64 meters in height, with a rotor diameter of 2.29 meters. It is capable of operating in temperatures between -17°C and 49°C, providing flexibility for use in different environmental conditions.

The UAS has a maximum ground speed of 15 meters per second and can operate within a range of up to 32 kilometers when using Silvus or MPU5 radios. The system is designed for quick deployment and assembly, making it suitable for both military and civilian applications that require a fast response.

The UAS has a maximum ground speed of 15 meters per second and can operate within a range of up to 32 kilometers when using Silvus or MPU5 radios. (Picture source: AeroVironment)

**189 . Date: 09-07-2024General - ArmamentAUKUS Nations Test AI-Enabled Drones for Precision Targeting and Ground Strike OperationsURL: https://armyrecognition.com/news/army-news/army-news-2024/aukus-nations-test-ai-enabled-drones-for-precision-targeting-and-ground-strike-operations**

The AUKUS (Autonomy Working Group) partnership between Australia, the United Kingdom, and the United States has achieved a significant milestone with the successful trial of AI-enabled unmanned aerial vehicles (UAVs) designed to locate, disable, and destroy ground targets. This groundbreaking exercise, which took place as part of the annual US-hosted multinational Project Convergence experimentation exercise, marks the first real-time military application of autonomy and artificial intelligence (AI) within the AUKUS framework. Follow Army Recognition on Google News at this link

AUKUS nations conduct tests on AI-powered unmanned aerial vehicles that enable human operators to identify, neutralize, and eliminate ground targets. (Picture source: UK MoD)

The trial, led by experts from the British Defence Science and Technology Laboratory (Dstl) alongside AUKUS partners, showcased a seamless integration of AI and autonomous systems, demonstrating the potential for enhanced operational capabilities. The exercise featured multiple drones from each AUKUS nation operating cohesively within the same airspace, coordinated by an AUKUS AI team that continuously retrained and deployed AI models onto the platforms in real-time.

Commodore Rachel Singleton, Head of the British Defence Artificial Intelligence Centre (DAIC) and the UK's lead for the AUKUS AI and Autonomy Working Group, emphasized the importance of this collaboration: "Resilient and Autonomous Artificial Intelligence Technologies provide the opportunity to develop, test, and trial AI models on autonomous systems. The AUKUS partnership is key to ensuring that the systems designed by each nation are interoperable into the future."

The successful trial is part of the broader AUKUS Resilient and Autonomous Artificial Intelligence Technologies (RAAIT) series, highlighting the rapid development of AI and autonomy technologies within the partnership. Since the first UK trial in April 2023, significant advancements have been made, positioning AUKUS to incorporate these technologies onto national platforms, thereby offering a critical operational advantage in response to evolving global threats.

The exercise also underscored the importance of interoperability among the AUKUS nations, ensuring that military personnel from each country can be supported by capabilities developed collaboratively. The AI-enabled UAVs significantly reduced the time required to identify and engage enemy targets, thereby minimizing risk to human life.

As part of AUKUS's Pillar 2 initiative, which focuses on deepening cooperation on cutting-edge military technologies, these trials represent a crucial step forward in enhancing the military edge of the UK, Australia, and the US. The collaboration not only strengthens defense capabilities but also opens opportunities for sovereign industry partners across the three nations.

AUKUS, a landmark defense and security partnership, continues to play a pivotal role in safeguarding Euro-Atlantic and Indo-Pacific security, reinforcing the rules-based international order. With the successful deployment of AI and autonomous systems, AUKUS partners are well-positioned to defend against rapidly evolving threats, ensuring a secure future for their respective nations and allies.

**190 . Date: 07-06-2024Loitering Munition - Mini - General - PlatformAustralian Army to Introduce Next-Gen Innovaero Owl Loitering MunitionURL: https://armyrecognition.com/news/army-news/army-news-2024/australian-army-to-introduce-next-gen-innovaero-owl-loitering-munition**

The Australian Army is set to deploy the "Owl" loitering munition, an advanced electric-powered drone capable of covering nearly 200 kilometers or loitering in the air for 30 minutes with a lethal payload, by the end of this year. Follow Army Recognition on Google News at this link

Innovaero Next-Gen "Owl" Loitering Munition (Picture source: Innovaero)

Developed by Western Australia-based Innovaero and its subsidiary Boeing Insitu Pacific, the Owl is currently undergoing testing with an unspecified special operations unit of the Australian Army. This one-way loitering munition (OWL) has been in development since 2022 and is designed to integrate with other drones acquired by the Australian Defence Force (ADF).

A government tender document reveals that Innovaero, partly owned by BAE Systems Australia, has secured over $5.3 million in defense contracts since May 2022 to design, develop, build, and test the device. The increasing importance of armed drones was highlighted by Russia's invasion of Ukraine, prompting criticism from military experts about Australia's urgency in acquiring such lethal technology.

A Defence spokesperson, while refusing to comment specifically on Innovaero's Owl, confirmed to ABC that "the loitering munition capability will be introduced this calendar year." In line with the National Defence Strategy and the Integrated Investment Program, the Defence Department continues to test maritime, land, and air platforms with both Australian and foreign suppliers to ensure the ADF can deploy the latest technologies and maximize its advantage.

The introduction of loitering munitions across most combat units of the Australian Army will be guided by the outcomes of these trials.

While the defense industry is pleased with the progress of Innovaero's Owl, it warns of significant delays in other critical innovation programs due to a lack of funding for advancing contracts. "The services have very little funding, so they cannot finance these small programs and meet the long-term needs of ships and aircraft," said a senior official to ABC, speaking anonymously.

It appears that a decision has been made to prioritize large, expensive, long-term projects—small, inexpensive, and immediate capabilities are not funded, added the industry source.

**191 . Date: 08-07-2024Loitering Munition - Mini - Requirement - Australia to Acquire US-Made Switchblade 300 Drones Combat-Proven in Ukraine ConflictURL: https://armyrecognition.com/news/army-news/army-news-2024/australia-to-acquire-us-made-switchblade-300-drones-combat-proven-in-ukraine-conflict**

The Australian government is set to enhance its military capabilities by acquiring Switchblade 300 drones from the American company AeroVironment, a type of precision loitering munition effectively used by Ukrainian forces. The announcement, scheduled by the Albanese government for Monday, marks a significant step in modernizing the Australian Defence Force (ADF) with advanced unmanned systems. Follow Army Recognition on Google News at this link

Weighing just 4 pounds, this lightweight, miniature, precision-guided lethal missile can be deployed in less than 2 minutes via tube-launch from land, sea, or mobile platforms providing greater mission flexibility. (Picture source: AEROVIRONMENT)

The Switchblade 300 is noted for its lightweight design and ability to carry an explosive payload, making it highly portable for military operations. The drone has a range of approximately 10 kilometers and has gained attention for its use on the Ukrainian battlefield against Russian forces. Manufactured by AeroVironment, the Switchblade 300 employs a strike missile capable of engaging targets beyond the line of sight, enhancing the tactical flexibility of the forces using it.

The acquisition comes amid growing concerns about the ADF's current capabilities with unmanned aerial systems, which are primarily made up of about 760 systems used mostly for surveillance. The ongoing conflict in Ukraine, where the effectiveness of unmanned systems in combat has been clearly demonstrated, has amplified these concerns. In response, the Australian government, led by Defence Industry Minister Pat Conroy, has committed to expanding its drone arsenal, including a significant investment exceeding $10 billion in drone technology, with at least $4.3 billion allocated to unmanned aerial systems.

While details on the quantity and total cost of the Switchblade 300 drones remain undisclosed, prices are estimated to be between about $90,000 and $120,000 each. This purchase aligns with recent international defense trends, as Washington recently approved a substantial sale of the same model to Taiwan and has supplied them to other allies, including Ukraine, France, and the UK following the onset of the conflict in Ukraine in 2022.

In addition to the Switchblade 300, the Australian Army is also preparing to introduce a locally made, electrically powered loitering munition capable of traveling up to 200 kilometers or loitering for 30 minutes with a lethal payload. However, defense sources suggest that this domestic drone will likely enter service after the Switchblade 300.

**192 . Date: 03-07-2024Loitering Munition - Small - General - Belarus starts local manufacturing of Iranian Shahed-136 drones as NomadURL: https://armyrecognition.com/news/army-news/army-news-2024/belarus-starts-local-manufacturing-of-iranian-shahed-136-drones-as-nomad**

On July 3, 2024, the Belarusian army showcased for the first time the Iranian Shahed-136 kamikaze drone as part of its arsenal during the Independence Parade in Minsk. This event marked the 80th anniversary of Belarus' liberation from Nazi occupation. These drones, referred to as Geran-2 in Russian nomenclature, were introduced as a "new domestic development" in Belarus, now named Nomad. Follow Army Recognition on Google News at this link

These Shahed-136 kamikaze drones, referred to as Geran-2 in Russian nomenclature, were introduced as a "new domestic development" in Belarus, now named Nomad. (Picture source: Russian social media)

The Independence Day parade in Minsk featured over 6,000 participants, including servicemen from Russia, Azerbaijan, Kazakhstan, Kyrgyzstan, China, Tajikistan, and Uzbekistan. The event displayed more than 300 units of military equipment, including the first appearance of Russian-origin Iskander-M systems. The presence of radiation hazard signs on the Iskander systems indicated Belarus' potential possession of non-strategic nuclear weapons or the systems' capability to use nuclear missiles.

Since 2016, Belarusian President Alexander Lukashenko has aimed to update the country's military capabilities, expressing interest in the Iskander-M systems. In June 2022, Russian President Vladimir Putin announced that these missile systems, including both conventional and nuclear-capable versions, would be transferred to Belarus. The transfer process began later that year, with the first systems officially handed over to Belarus by April 2023.

During the parade, at least four Geran-2/Shahed-136/Nomad loitering munitions were transported on SUVs, indicating Belarus' ability to ensure the Nomad's mobility and deployment readiness. Belarus had previously sought to purchase ready-made drones from Iran and acquire the technology for domestic UAV production. The announcer's reference to these drones as "Geran-2" and a "new domestic development" suggests possible localized production in collaboration with Iranian or Russian specialists.

The parade included the first appearance of Russian-origin Iskander-M systems, and the presence of radiation hazard signs on the Iskander systems indicated Belarus' potential possession of non-strategic nuclear weapons or the systems' capability to use nuclear missiles. (Picture source: Russian social media)

The Shahed-136, known as Geran-2 in Russian service, is an Iranian-designed loitering munition developed by the Iran Aircraft Manufacturing Industrial Company (HESA). It is designed for precision attacks on ground targets, featuring a delta-wing shape with a length of 3.5 meters and a wingspan of 2.5 meters. The drone is powered by a Mado MD550 piston engine, allowing it to reach a maximum speed of 185 km/h and an operational range of up to 2,500 kilometers.

A notable characteristic of the Shahed-136 is its affordability, with each unit costing between $20,000 and $60,000. This cost range makes it accessible for Iran and its allies, including Russia, which has renamed it Geran-2 for use in Ukraine. The drone is launched using a rocket-assisted takeoff system, with its piston engine taking over post-launch. It carries a warhead of approximately 40 kilograms and is capable of evading air defenses by launching in swarms.

The Shahed-136 has been used in various conflicts, such as the Yemeni Civil War and the Russian invasion of Ukraine. Wreckage parts indicate that its design incorporates components from several countries, including the United States, China, and Switzerland, showing Iran's ability to bypass sanctions and produce effective military hardware. Despite its basic technology, the drone's role in overwhelming enemy defenses and its application in modern asymmetric warfare underscore its strategic value to Iran and its partners.

A notable characteristic of the Shahed-136 is its affordability, with each unit costing between $20,000 and $60,000. This cost range makes it accessible for Iran and its allies, including Russia, which has renamed it Geran-2 for use in Ukraine. (Picture source: Russian social media)

**193 . Date: 06-10-2024Armed ISR / ISTAR - HALE - Safety - Breaking News: Rare Russian S-70 Okhotnik Stealth Drone Reportedly Shot Down Over Donetsk in UkraineURL: https://armyrecognition.com/news/army-news/army-news-2024/breaking-news-rare-russian-s-70-okhotnik-stealth-drone-reportedly-shot-down-over-donetsk-in-ukraine**

According to pictures released on Social Networks on October 5, 2024, the Russian-made S-70 Okhotnik-B stealth unmanned combat aerial vehicle (UCAV), one of Russia's most advanced drones, has been reportedly shot down near Kostyantynivka in the Donetsk region in Ukraine. The incident marks a rare and crucial loss for Russia, as the S-70 Okhotnik-B is a high-tech stealth UCAV central to Russia's evolving aerial warfare strategy. Follow Army Recognition on Google News at this link

A very rare Russian stealth S-70 Okhotnik-B unmanned combat aerial vehicle (UCAV) was reportedly shot down near Kostyantynivka in the Donetsk region, Ukraine, marking a significant loss for Russian military forces in the ongoing conflict. (Picture source: Russian Social Network)

According to various sources, the S-70 was brought down by friendly fire in what appears to be a catastrophic misidentification by Russian forces. However, other credible reports suggest that Ukrainian air defense systems were responsible for shooting down the highly sophisticated drone. This conflicting information reflects the fog of war and the challenges of verifying events in active combat zones, but it underscores the high-stakes nature of modern warfare, where even the most advanced systems are not immune to destruction.

If Ukrainian forces were indeed responsible for the downing, it would signify a considerable achievement, especially considering the S-70’s stealth capabilities and cutting-edge technology designed to evade advanced air defenses. The incident raises critical questions about the vulnerabilities of stealth drones in combat zones teeming with sophisticated air defense systems, a point that is particularly significant in the context of modern warfare.

This incident could have serious implications for the Russian military’s perception of its advanced unmanned aerial assets. The S-70 Okhotnik-B, which is part of Russia's next-generation aerial warfare strategy, was designed to perform stealth missions, reconnaissance, and precision strikes in highly contested environments. Its development has been seen as a pivotal step in Russia's move toward autonomous warfare, leveraging artificial intelligence and integrated combat systems.

However, the fact that the drone was shot down—whether by friendly fire or enemy action—suggests that the Okhotnik’s electronic warfare capabilities and stealth features may need significant refinement when facing modern air defenses. This event is likely to prompt the Russian military to reconsider how it deploys these drones on the battlefield. One possibility is that Russia might shift toward using the S-70 in stand-off roles, keeping it at a safe distance from enemy defenses, or enhancing its Electronic Countermeasures (ECM) to better defend against anti-air systems.

The incident could also speed up technological upgrades for the S-70, particularly in terms of improving its communication systems, stealth profile, and survivability in hostile airspaces. Russia’s defense industry might now focus on developing countermeasures that can protect the drone from advanced missile systems like those deployed by Ukraine.

Beyond the immediate military implications, this incident could have broader geopolitical effects. The loss of such a valuable drone on the Donetsk front could further escalate the arms race in drone technology, particularly between Russia and Ukraine, but also involving NATO and other global powers. As drones become more integral to modern warfare, the development of more advanced offensive and defensive systems will likely intensify.

The incident serves as a reminder that even the most advanced technologies must continuously evolve to stay ahead of rapidly advancing air defense capabilities. Both Russia and Ukraine are expected to intensify their efforts to adapt to the realities of drone warfare, leading to continued advancements in artificial intelligence, automation, and stealth technologies.

The S-70 Okhotnik-B, with its integration into Russia’s broader military strategy, represents a shift toward more autonomous and interconnected systems in modern warfare. These drones offer the potential to combine human piloting with AI-driven unmanned support, reshaping the dynamics of air combat. With its stealth design and ability to carry out precision strikes, the S-70 was expected to play a key role in Russian operations, especially in contested regions like Donetsk.

However, the loss of such an asset may lead to a reconsideration of tactics and technological adjustments. The incident could also serve as a cautionary tale for other nations developing similar platforms, emphasizing the need for constant adaptation in the face of evolving threats and the crucial role of electronic warfare in drone survivability.

In summary, the downing of the S-70 Okhotnik-B over Donetsk is not just a blow to Russia's military efforts but a reflection of the intense and rapidly changing nature of modern aerial warfare, where even advanced stealth drones are vulnerable to cutting-edge air defense systems. This event could mark a turning point in how such technologies are deployed and defended in future conflicts.

The S-70 Okhotnik-B is a Russian stealth unmanned combat aerial vehicle (UCAV) designed for autonomous missions and advanced aerial warfare. (Picture source Russian Social Network)

The Sukhoi S-70 Okhotnik-B, also known as the Okhotnik ("Hunter"), is a cutting-edge Russian unmanned combat aerial vehicle (UCAV) designed by Sukhoi in collaboration with other branches of the Russian defense industry. It represents a significant advancement in Russia's military technology, aimed at developing a stealth-capable heavy UCAV capable of performing a wide range of combat and reconnaissance missions. The Okhotnik is part of Russia's broader efforts to modernize its defense capabilities and compete with other nations' unmanned aerial systems.

The development of the S-70 Okhotnik began in the early 2010s, driven by the increasing global focus on drones for military applications. Russia had recognized the importance of UAVs not only for reconnaissance but also for combat operations. The Okhotnik's design incorporates lessons learned from earlier Russian drone programs while drawing from global trends in stealth technology and UCAVs. It made its public debut in the mid-2010s, with its first flight taking place on August 3, 2019, marking a key milestone in its development.

One of the most distinctive aspects of the S-70 Okhotnik is its role as a "loyal wingman" to the Su-57, Russia's fifth-generation stealth fighter. This collaborative concept envisions the UCAV working in coordination with manned aircraft, enabling complex mission strategies where the Okhotnik can autonomously perform reconnaissance or strike roles while being directed by the Su-57. Tests conducted in late 2021 demonstrated this operational synergy, showcasing the potential of the two platforms working in tandem.

The Okhotnik is built to perform various combat tasks, with stealth as one of its defining features. Its flying-wing design, resembling the shape of advanced U.S. drones like the X-47B, helps reduce its radar cross-section, making it difficult to detect in enemy airspace. This design is complemented by radar-absorbing materials, further enhancing its stealth capabilities. As a strike platform, the S-70 can carry a wide array of precision-guided munitions, including air-to-surface missiles and bombs, making it capable of engaging high-value targets in contested environments. Additionally, the aircraft is equipped for intelligence, surveillance, and reconnaissance (ISR) missions, using its advanced sensors to gather critical battlefield information.

The UCAV is designed for both autonomous and semi-autonomous operations, meaning it can function independently or be remotely controlled by operators or manned aircraft. Its potential role in joint missions with the Su-57 demonstrates its versatility in both solo and collaborative operations. Furthermore, the Okhotnik is equipped with advanced artificial intelligence, allowing it to perform complex tasks like navigation, target recognition, and engagement with limited human input.

Regarding technical specifications, the S-70 Okhotnik features a large and heavy structure for a UCAV, measuring around 14 meters (46 feet) in length and with a wingspan of approximately 20 meters (65 feet). It is powered by a single jet engine, possibly a variant of the AL-31 engine used in the Su-27 or the more advanced AL-41 from the Su-57, giving it subsonic speeds of up to 1,000 kilometers per hour (620 mph). The UCAV has a long operational range, likely exceeding 6,000 kilometers (3,730 miles), making it suitable for long-distance missions far from its base. Its payload capacity is significant, with the ability to carry up to 2.8 tons of munitions, housed in an internal weapons bay to maintain stealth during combat operations.

Overall, the S-70 Okhotnik represents a major advancement in Russia's military drone capabilities. It is critical to Russia's evolving approach to modern warfare, where unmanned and manned systems work together to achieve strategic goals. Although the Okhotnik is still in the testing phase, it is expected to enter full operational service in the coming years, providing Russia with a powerful new tool for both reconnaissance and strike missions.

**194 . Date: 27-05-2024Armed ISR / ISTAR - MALE - General - China delivers three more CH-4 drones to support Democratic Republic of Congo to fight M23 rebelsURL: https://armyrecognition.com/news/army-news/army-news-2024/china-delivers-three-more-ch-4-drones-to-support-democratic-republic-of-congo-to-fight-m23-rebels**

According to Military Africa on May 20, 2024, the Democratic Republic of Congo (DRC) received three additional CH-4 Rainbow drones from China. These medium-altitude, long-endurance (MALE) drones will be deployed to the eastern region of the country to support military operations against the M23 rebels and the Rwanda Defence Force. This delivery follows an initial batch, with three more drones expected to arrive in the coming months, totaling nine. Follow Army Recognition on Google News at this link

Noted for its affordability and less stringent acquisition conditions, the CH-4 drone was unveiled in 2011 and is designed for various missions including reconnaissance, surveillance, target acquisition, and strike operations. (Picture source: Chinese social media)

The CH-4, also known as the Cai Hong-4, is an unmanned combat aerial vehicle (UCAV) developed by the China Aerospace Science and Technology Corporation (CASC). Noted for its affordability and less stringent acquisition conditions, this drone was unveiled in 2011 and is designed for various missions including reconnaissance, surveillance, target acquisition, and strike operations. The CH-4 is available in two main variants: the CH-4A, primarily for reconnaissance, and the CH-4B, which is armed for combat missions.

The drone features a piston engine driving a three-bladed propeller, providing a top speed of 235 km/h and a maximum endurance of up to 40 hours. It can carry a payload of up to 345 kilograms, including munitions such as the AR-1 air-to-ground missile and FT-9 guided bombs. The CH-4 has been used by several countries for military operations, especially against non-state actors in conflict zones.

Last year, the Congolese government revealed its plan to procure nine CH-4 attack drones, marking a significant step in its campaign against the M23 rebels. The first batch of three drones was delivered earlier, with the remaining six expected later this year. The drones will be stationed at the South Kavumu military airport, strategically located near conflict zones. In June of the previous year, a video surfaced showing three CH-4 drones and a ground control station at N'Dolo airport in Kinshasa. The footage featured one drone taxiing on the runway in front of a hangar where two other drones were parked, demonstrating their operational readiness.

The CH-4 drones, noted for their affordability and less stringent acquisition conditions, have become a viable option for nations seeking to enhance their defense capabilities, aligning with a broader trend in Africa. Countries such as Nigeria, Morocco, Egypt, Algeria, and Ethiopia have also acquired Chinese military drones, reflecting China's goal of becoming a prominent player in the global UAV market. These acquisitions include the Cai Hong (Rainbow) family of drones, developed by CASC, which comprises various models like the CH-1, CH-2, CH-3, and the larger CH-5, each tailored for different mission profiles from basic reconnaissance to advanced combat roles.

The CH-4 can carry a payload of up to 345 kilograms, including munitions such as the AR-2 air-to-ground missile and FT-9 guided bombs. (Picture source: Army Recognition)

The Cai Hong series of Chinese drones has gained international attention for its practicality and ease of procurement, attracting countries in the Middle East, Africa, and Asia. These drones are equipped with advanced avionics, synthetic aperture radars, and electro-optical targeting systems, making them suitable for a broad range of military applications. Continuous upgrades have been made to enhance their performance and capabilities, corresponding to the broader strategy announced last year by the DRC to strengthen the Congolese army's efforts against the ongoing insurgency in the east.

The eastern region of the DRC, where the drones will be deployed, is troubled by violence from numerous ethnic militias and armed groups competing for control near the borders with Uganda and Rwanda. According to the United Nations, at least 120 armed groups operate in this area, complicating efforts to achieve peace and stability.

Since February 2024, intensified clashes between the Congolese military and the M23 rebels have led to significant territorial gains by the rebels, and over 7.1 million people are now displaced across the country, with makeshift camps around Goma overwhelmed by the influx.

The campaign against the M23 rebels in the DRC has seen intensified military efforts in recent months, involving both the Congolese armed forces and UN peacekeepers. This escalation aims to counter the M23's territorial advances in the eastern regions, notably around Goma and South Kivu. The conflict has resulted in significant displacement, with over 200,000 people forced to flee their homes, exacerbating an already severe humanitarian crisis. Accusations have been exchanged between the DRC and Rwanda, with Kinshasa alleging Rwandan support for the M23 and various armed groups, a claim that Kigali denies.

The withdrawal of the UN peacekeeping mission, MONUSCO, and the deployment of regional forces have not stabilized the situation, with continued violence symbolized by the M23, or March 23 Movement, a rebel group that initially formed in 2012 from defectors of the Congolese army, primarily consisting of ethnic Tutsis. The group's name references a peace agreement signed on March 23, 2009, which they argue the DRC government has failed to uphold. The M23 briefly captured Goma in 2012 before being driven out by Congolese and UN forces. After a period of inactivity, the group re-emerged in late 2021, citing similar grievances. The resurgence has led to renewed violence and instability in the eastern DRC, involving regional actors and complicating efforts to achieve lasting peace.

**195 . Date: 26-09-2024Loitering Munition - Mini - General - PlatformChina launches DFX-50 loitering munition modeled on Iran's Shahed-136URL: https://armyrecognition.com/news/army-news/army-news-2024/china-launches-dfx-50-loitering-munition-modeled-on-irans-shahed-136**

At the Africa Aerospace and Defence (AAD) 2024 exhibition, the Chinese company Centaur Defense Systems LLC showcased the DFX-50, a small loitering munition inspired by the Iranian Shahed-136 drone. This is not the only drone from the company inspired by the Shahed-136 design, as it also offers the larger DFX-100, also known as the GHQ-100. Follow Army Recognition on Google News at this link

Showcased at the AAD 2024 exhibition, the Chinese DFX-50 loitering munition has a maximum takeoff weight of 16.5 kilograms and can carry a payload of up to 5 kilograms. (Picture source: Army Recognition)

The DFX-50's structure incorporates composite materials and parts made from Expanded Polyolefin (EPO), aiming to make the fuselage less expensive and quicker to manufacture. According to the company, this design facilitates deployment in various operational settings. The control system has been adapted for different application scenarios, focusing on control precision and minimizing interference. It can automatically target fixed points by setting target coordinates and is equipped with an electro-optical seeker, allowing it to identify, track, and engage both stationary and moving targets within a designated area.

The unmanned aerial vehicle (UAV) has a wingspan of 1.8 meters, a length of 1.6 meters, and a height of 0.3 meters. It has a maximum takeoff weight of 16.5 kilograms and can carry a payload of up to 5 kilograms. The DFX-50 is launched using an air ejection method. It cruises at a speed of 26 meters per second, has an endurance of over 120 minutes, and operates within a range exceeding 100 kilometers. It functions at a cruise altitude below 3,000 meters and can achieve a strike speed of up to 250 meters per second. These specifications indicate its suitability for missions requiring long endurance and the capability to engage various types of targets.

Centaur Defense Systems also offers a larger loitering munition inspired by the Shahed-136, known as the DFX-100 or GHQ-100. The DFX-100 is presented as a conventional remote precision-guided missile designed for cost-effective military operations. Its primary function is to conduct strikes on known targets by launching the missile early in an engagement and performing attacks at appropriate times through its long-term hover capability over mission areas. The DFX-100 can be used in both single and multiple low-cost remote launch configurations, enhancing effectiveness for strikes on targets while maintaining cost efficiency.

Inspired by the Shahed-136's design, the DFX-50 is much smaller, with a wingspan of 1.8 meters, a length of 1.6 meters, and a height of 0.3 meters. (Picture source: Centaur Defense Systems)

The DFX-100 has a wingspan of 2.9 meters and a fuselage length of 3.3 meters. It possesses a takeoff weight of 110 kilograms and can reach a flight ceiling of 3,000 meters. The system offers a cruising range of up to 1,000 kilometers, a cruising speed of 150 kilometers per hour, and can remain airborne for up to eight hours. It carries a warhead weighing 50 kilograms, with a damage range between 150 and 300 meters. The system can be prepared for deployment within 30 minutes, indicating a rapid response capability.

In military applications, the DFX-100 is said to be capable of hovering over mission areas for extended periods and is equipped with targeting systems that allow for operations beyond visual range, enabling precise strikes on predetermined stationary ground targets. It includes navigation and terminal guidance functions to ensure accurate targeting.

The DFX-100 offers multiple characteristics, such as the ability to be launched from a single UAV launcher, providing flexibility in deployment. Once the warhead is installed, it can target and engage large stationary ground targets. The system includes wireless monitoring capabilities, allowing operators to track the munition's status during missions. It is claimed to surpass the Iranian Shahed-136 in terms of performance while offering enhanced capabilities at a lower price.

Centaur Defense Systems also offers a larger loitering munition inspired by the Shahed-136, known as the DFX-100 or GHQ-100, which is presented as a conventional remote precision-guided missile. (Picture source: Centaur Defense Systems)

The Shahed-136, also known by its Russian designation Geran-2, is an Iranian-designed loitering munition that has influenced several UAV developments worldwide. In Russian service, the Geran-2 has been manufactured domestically with modifications, including the integration of Russian-made components like a GLONASS satellite navigation system. Russia and Iran agreed to manufacture these drones in the Alabuga Special Economic Zone in Tatarstan, aiming to build around 6,000 units by 2025.

The Geran-2 has a range of up to 2,500 kilometers with a 90 kg warhead, and recent upgrades have included different warhead weights and a hardened structure. Its design allows for cost-effective mass production, with each unit estimated to cost between $20,000 and $60,000, making it accessible for widespread use.

A smaller variant, the Shahed-131 or Geran-1 in Russian service, features a range of 900 kilometers and is powered by a Wankel engine, a copy of the Beijing Micropilot UAV Control System Ltd MDR-208. Carrying a 15 kg warhead, it has vertical stabilizers that extend only upwards, differing from the larger Shahed-136.

Belarus has also entered the arena of loitering munitions by starting local manufacturing of the Iranian Shahed-136 under the name "Nomad." On July 3, 2024, the Belarusian army showcased the Nomad drone during the Independence Parade in Minsk, marking its debut as part of Belarus's military arsenal. The drones were introduced as a "new domestic development," suggesting localized production potentially in collaboration with Iranian or Russian specialists.

The Belarusian army unveiled the Nomad drone during the Independence Parade in Minsk, marking its debut as part of Belarus's military arsenal. (Picture source: Russian social media)

The proliferation of drones like the Shahed-136 and its variants has prompted various countries to develop similar technologies, either through domestic production or by creating replicas for training and defense purposes. For instance, Turkish drone manufacturer Robit Technology has developed the Azab T150 and T200, considered replicas of the Shahed-131 and Shahed-136 drones. The Azab T150 and T200 have maximum ranges of 200 kilometers and 500 kilometers, respectively, which is less than the original Shahed-136’s range. These drones can be equipped with various warheads and operate using GPS coordinates or be guided by military personnel using high-performance cameras. They have completed flight tests and are expected to undergo ammunition trials later this year.

Israeli company Smart Drones also unveiled a detailed replica of the Iranian Shahed-136 UAV, named Delta-wing RS2. This UAV replica is being produced primarily for use by the Israeli Air Force and defense companies as part of their training operations within a "Red Squadron," which simulates enemy tactics and capabilities during training exercises to enhance pilot training realism. The Delta-wing RS2, along with other UAVs like the Predator and RS-1 developed by Smart Drones, is used to test and improve air defense systems.

In Ukraine, a copy of the Shahed drone called Hupalo is being used for training air defense units. The target drone is utilized at the WeTrueGun school to train military personnel in realistic conditions, allowing them to develop their skills in detecting and engaging such targets. It is not specified whether the Hupalo replicates the exact characteristics of the Shahed-136. Training with realistic air targets enables mobile air defense groups to assess their capabilities and identify areas for improvement.

The Israeli Delta-wing RS2 is being produced primarily for use by the Israeli Air Force and defense companies as part of their training operations within a "Red Squadron." (Picture source: RC Team)

**196 . Date: 12-09-2024Partnership - China to build UAV facility in Malaysia producing 3,000 drones annuallyURL: https://armyrecognition.com/news/army-news/army-news-2024/china-to-build-uav-facility-in-malaysia-producing-3-000-drones-annually**

As reported by Lowyat.net on September 11, 2024, Malaysia will collaborate with China to establish an unmanned aerial vehicle (UAV) manufacturing facility in Malaysia. The facility is planned to be operational by 2025 and is expected to have a production capacity of around 3,000 UAVs annually. The agreement, signed between MARA Aerospace & Technologies Sdn Bhd and Honeycomb Aerospace Technologies, involves an investment of RM100 million (approximately $23.12 million), according to Deputy Prime Minister Datuk Seri Dr. Ahmad Zahid Hamidi. Follow Army Recognition on Google News at this link

In the first phase, Honeycomb Aerospace will set up a UAV assembly plant at the UniKL Malaysian Institute of Aviation Technology campus in Sepang by October, with an expected production capacity of around 3,000 UAVs once fully operational. (Picture source: Honeycomb Aerospace)

The partnership between MARA Aerospace & Technologies Sdn Bhd and China’s Honeycomb Aerospace Technologies (Beijing) Co Ltd aims to facilitate the exchange of expertise and promote the local development of UAV technology. Zahid noted that this cooperation could provide significant opportunities for Malaysia's UAV industry and its technical and vocational education and training (TVET) sector.

An essential element of the partnership is the transfer of technology from China, which is expected to benefit Malaysian TVET students, particularly those at Universiti Kuala Lumpur (UniKL). Zahid stated that the skills and knowledge gained through this collaboration could enable students to build UAVs, potentially enhancing their capabilities in the growing field of UAVs.

The agreement, formalized through a Memorandum of Understanding (MoU) between MARA Aerospace & Technologies and Honeycomb Aerospace Technologies, includes a commitment from Honeycomb Aerospace to invest RM100 million (approximately $23.12 million) to establish a UAV manufacturing facility in Malaysia. The facility is planned to become operational in 2025. In the first phase, Honeycomb Aerospace will set up a UAV assembly plant at the UniKL Malaysian Institute of Aviation Technology campus in Sepang by October, with an expected production capacity of around 3,000 UAVs once fully operational.

Zahid explained that Honeycomb Aerospace’s decision to invest in Malaysia was driven by strong domestic and regional demand for UAVs. He mentioned that these UAVs could serve various purposes, such as enhancing border security with their ability to monitor areas within a 300-kilometer radius. Additionally, the UAVs could have applications in the agricultural sector, including tasks like seed planting and fertilization.

Honeycomb's portfolio extends to unmanned helicopters, such as the HC-245 and HC-235 models, which are used for a range of activities including aerial mapping, agriculture and forestry operations, maritime patrol, and military applications. (Picture source: Honeycomb Aerospace)

China’s Honeycomb Aerospace Technologies offers a range of UAV products designed for different applications. The company's multi-rotor UAVs include the HC-332E, designed for long endurance and efficiency, and the HC-342E, equipped for nuclear radiation monitoring. In the fixed-wing UAV category, Honeycomb Aerospace offers models like the HC-141, which has multiple task development capabilities, and the HC-140, known for high aerodynamic efficiency and easy assembly.

The company also provides vertical take-off and landing (VTOL) UAVs, including the HC-525, intended for forest inspections, and the HC-541, designed for emergency communication purposes. Their portfolio extends to unmanned helicopters, such as the HC-245 and HC-235 models, which are used for a range of activities including material delivery, aerial mapping, security supervision, scientific experiments, agriculture and forestry operations, disaster monitoring, maritime patrol, and military applications. These UAVs are designed to operate in challenging environments, such as low-altitude areas in mountainous regions and over sea surfaces, with features that enable beyond visual range operations and relay capabilities.

Honeycomb Aerospace also offers specialized systems, including a smart UAV command vehicle for aerial monitoring and a management platform, the HC-SMART, which functions as an intelligent drone control system. The company's broad range of UAV products and systems reflects its focus on diverse applications, from security and agriculture to disaster response and scientific research.

**197 . Date: 09-05-2024Loitering Munition - Mini - General - PlatformDSA 2024 : Malaysia Firms Mindmatics unveils first loitering munition called TODAKURL: https://armyrecognition.com/news/army-news/army-news-2024/dsa-2024-malaysia-firms-mindmatics-unveils-first-loitering-munition-called-todak**

At the DSA 2024 exhibition held in Malaysia from May 6 to May 9, 2024, the Malaysian company Mindmatics introduced for the first time the loitering munition named TODAK. This small payload munition, which is easily accessible to armies, aims to equip units with the capabilities to strike at more significant targets. Follow Army Recognition on Google News at this link

Todak loitering munition presented for the first time at DSA 2024 exhibition (Picture source: Army Recognition)

Mindmatics Sdn. Bhd. is a Malaysia-based company specializing in personal care services. Founded on November 2, 2001, and headquartered in Kajang, Selangor, the company has also ventured into defense technology alongside its medical technology development activities, facing financial challenges. This was demonstrated by its presentation of the Helang VTOL drone at the Defence Services Asia (DSA) 2022 exhibition. This drone is designed for surveillance missions and has been deployed by the Eastern Sabah Security Command for border surveillance missions, and now for the introduction of the TODAK loitering munition.

The TODAK loitering munition is described as carrying AI to detect targets and adjust its flight accordingly. Additionally, human control is possible through a device capable of controlling multiple loitering munitions. Launched by a catapult, TODAK is announced to have a setup time of less than 15 minutes. Capable of operating within a radius of 40 km at a maneuvering speed of 100 km/h, the munition carries a 3 kg armor-piercing explosive charge, which it launches at a speed of 170 km/h before impact. The TODAK munition can loiter for more than 40 minutes at a maximum altitude of 20,000 feet (6,000 meters). Relatively small in size (2000x1350x180mm) and powered by an electric motor (Li-ion battery 25.2V), its discretion and high altitude enable significant stealth.

Today, loitering munitions are an indispensable tool in combat operations. As vehicles have become essential for moving units over long distances, loitering munitions that combine autonomy and endurance enable strikes on vehicles that cripple an enemy's operational capabilities. Several other nations are researching and developing loitering munitions or kamikaze drone programs.

**198 . Date: 18-06-2024ISR / ISTAR - Mini - General - PlatformEurosatory 2024: German Company B&S Unveils an Aluminum UAVURL: https://armyrecognition.com/news/army-news/army-news-2024/eurosatory-2024-german-company-b-s-unveils-an-aluminum-uav**

At the Eurosatory exhibition, B&S unveiled its latest technological marvel, the UAV "Hitbird 350." This device stands out for its innovative features and cutting-edge aluminum design, meeting the growing demands of modern military missions. Follow Army Recognition on Google News at this link

The Hitbird 350 is specifically developed for fully scalable mass production at reduced costs. (Picture source: Army Recognition)

The Hitbird 350 is specifically developed for fully scalable mass production at reduced costs. This approach eliminates the dilemma between using cheap, disposable aerial platforms and more sophisticated, expensive ones. The Hitbird 350 offers an all-in-one solution, optimizing operational efficiency while minimizing deployment and system costs.

Thanks to its entirely aluminum structure, the Hitbird 350 provides exceptional robustness and stability, capable of withstanding the most extreme conditions of use and handling. Its modular design, with interchangeable airframe elements and outer skin, facilitates field repairs, ensuring maximum operational availability. Additionally, the airframe is optimized to present the lowest radar signatures in its category, enhancing its stealth and mission effectiveness.

One of the aspects of the Hitbird 350 is its unique mission planning and flight control system, both intuitive and easy to update. This system is used across the entire range of B&S UAVs, reducing training costs and ensuring efficient and economical operation.

It can be configured for disposable (attack) or recoverable missions (ISTAR, reusable/rechargeable strikes, etc.). It is also capable of performing saturation and swarm attack missions with remarkable efficiency. The mission and flight control options, communication solutions, and payload configurations are varied and can be integrated or adapted to specific mission needs. The Hitbird 350 offers internal and external payload options, including attachment points on the wings.

Regarding propulsion, the Hitbird 350 adapts to various technologies depending on the specific mission requirements.

One of the strengths of the Hitbird 350 lies in its economic model. Its low-cost mass production, with the capability for rapid and flexible production volume increases, is accompanied by decentralized manufacturing possibilities, making this system not only innovative but also extremely economical.

Finally, in terms of navigation, the Hitbird 350 integrates an inertial navigation system, proprietary flight control, and interfaces for optional GNSS systems, offering increased precision and reliability.

This is a remarkable novelty that we had the chance to see at Eurosatory 2024, and we are curious to see the future development of this new addition to the UAV range.

**199 . Date: 12-11-2024Armed ISR / ISTAR - HALE - General - PlatformExclusive: China's New CH-9 Drone Boasts 11,500 km Range and Advanced Strike CapabilitiesURL: https://armyrecognition.com/news/army-news/army-news-2024/exclusive-chinas-new-ch-9-drone-boasts-11-500-km-range-and-advanced-strike-capabilities**

China’s CH-9 (Cai Hong-9) UAV (Unmanned Aerial Vehicle), developed by the Chinese Company CASC (China Aerospace Science and Technology Corporation), was unveiled at AirShow China 2024 as a versatile and capable multi-role drone in the “Rainbow” series. Known for its impressive range of up to 11,500 km, the CH-9 provides sustained ISR (Intelligence, Surveillance, Reconnaissance) and strike capabilities over vast distances, making it a valuable asset for military operations and an attractive option in the global defense market. Follow Army Recognition on Google News at this link

The CH-9 UAV (Unmanned Aerial Vehicle) has a wingspan of 24.8 meters and a maximum takeoff weight of 5,000 kg, enabling it to carry a variety of payloads and mission-specific equipment. With a payload capacity of 480 kg, the CH-9 is well-suited for carrying advanced electro-optical and infrared sensors, which are crucial for real-time intelligence gathering. Additionally, it can be equipped with a range of precision-guided munitions, allowing it to conduct accurate strikes against ground targets.

The CH-9 can carry several precision-guided munitions that significantly enhance its tactical strike capabilities. Among these, the FT Series Guided Bombs are designed for accurate strikes on specific targets, allowing the CH-9 to neutralize high-value or fortified positions with pinpoint accuracy. This makes it particularly effective in missions where precision is critical to minimize collateral damage and achieve specific tactical objectives.

The CH-9 can also carry the CM-502 Missile, a compact, precision-guided missile ideal for tactical ground targets. The CM-502’s lightweight design aligns well with the CH-9’s payload capacity, enabling high-precision attacks on armored vehicles, enemy fortifications, and other critical ground assets. This missile further expands the CH-9’s range of effective targets in complex combat environments.

Additionally, the LS-6 Guided Bomb offers another precision-strike option. Equipped with an advanced guidance system, the LS-6 enhances the CH-9’s ability to deliver controlled, high-accuracy strikes. This capability is essential for missions requiring minimal collateral damage, making the CH-9 a reliable choice for surgical operations and sensitive military engagements.

These weapon options extend the CH-9’s capabilities beyond traditional ISR (Intelligence, Surveillance, Reconnaissance) missions, making it suitable for limited tactical strike roles and enabling it to perform both surveillance and light-attack tasks.

The CH-9’s endurance and range are equally impressive. With a maximum range of up to 11,500 km and an operational endurance of up to 40 hours, the CH-9 can monitor large areas and conduct sustained operations over extended periods. Its cruise speed of 200-350 km/h and maximum speed of 420 km/h allow it to cover significant distances quickly or loiter over areas of interest when required. The maximum altitude of 11,000 meters further enhances its high-altitude surveillance capabilities, making it harder to detect and counter.

Regarding operational flexibility, the CH-9 can be controlled over an operational radius of up to 2,000 km when satellite communication allows it to perform missions well beyond the line of sight. This capability is precious in regions where long-range UAV missions are required for border security or regional stability, as well as for strategic monitoring in contested areas.

For export markets, the CH-9 provides a competitive alternative for countries that need both ISR and limited strike capabilities without the cost of heavier, larger platforms. With its long endurance, adaptable payload options, and reliable strike capabilities using precision-guided munitions, the CH-9 appeals to countries focused on security, counter-terrorism, and regional monitoring. Its compatibility with various guided bombs and missiles gives it versatility across a range of mission types, from surveillance to targeted attacks.

In conclusion, the CH-9 represents a step forward in China’s development of cost-effective, multi-role UAVs. With its impressive endurance, extensive operational range, and flexible payload options, including precision-guided munitions like the FT series bombs, CM-502 missile, and LS-6 bombs, the CH-9 is poised to be a valuable asset for both the Chinese military and international buyers. This balance of surveillance capability and tactical strike options positions the CH-9 as a significant player in the global UAV market, aligning with the growing demand for versatile, affordable unmanned systems capable of multi-mission performance.

**200 . Date: 02-11-2024ISR / ISTAR - Small - General - Exclusive: Ukraine Secretly Uses US-Made V-BAT Drone to Locate Russian SA-11 Air Defense for HIMARS StrikesURL: https://armyrecognition.com/news/army-news/army-news-2024/exclusive-ukraine-secretly-uses-us-made-v-bat-drone-to-locate-russian-sa-11-air-defense-for-himars-strikes**

According to information from the Defense One website published on October 31, 2024, Ukraine has secretly received advanced V-BAT aerial drones to bolster its battlefield intelligence and precision strike capabilities. The V-BAT, developed by the American-based company Shield AI, has been deployed to assist Ukrainian forces in locating and targeting a Russian SA-11 BuK-M1 mobile air defense missile system for destruction by HIMARS MLRS (Multiple Launch Rocket System). Brandon Tseng, president and co-founder of American Company Shield AI, revealed the drone's performance in a recent mission. Follow Army Recognition on Google News at this link

A V-BAT unmanned aerial system is positioned after completing flight operations during Exercise III with the 26th Marine Expeditionary Unit (MEU) at Marine Corps Auxiliary Landing Field Bogue, North Carolina, on March 8, 2023. (Picture source: U.S. DoD)

According to information revealed by Brandon Tseng, president and co-founder of Shield AI and published by the Defense One website, in August 2024, Ukrainian special operators near Dnipro encountered a critical challenge when Russian electronic warfare (EW) systems disrupted their traditional reconnaissance drones. As a solution, they employed the V-BAT, a drone specifically designed to endure the heavy electronic interference that has become prevalent on the Ukrainian battlefield. Operating from 40 kilometers behind the front line, the V-BATs flew beyond enemy lines to locate and track a SA-11 Buk-M1 air defense missile system over 100 kilometers away. Once targets were identified, the drones relayed precise coordinates to artillery units, enabling the HIMARS Multiple Launch Rocket System to execute successful strikes.

The V-BAT's mission marked a significant test of its operational capability, as the drone not only collected and transmitted targeting data but did so under severe EW conditions. According to Tseng, this coordination—gathering real-time intelligence and relaying it to long-range artillery systems—demonstrated the V-BAT's unique adaptability in a modern electronic warfare environment. Unlike other drones capable of evading EW systems through onboard autonomy, the V-BAT offers data transmission over extended ranges, making it ideal for coordinating with high-powered artillery like the Lockheed Martin HIMARS.

The V-BAT’s extended range of up to 483 km (300 miles) and prolonged loitering capabilities gave Ukrainian forces a tactical advantage. Tseng emphasized that the Ukrainian troops previously relied on drones with limited endurance and range, often restricted to 60 to 100 kilometers and operational durations as brief as 10 to 15 minutes. In contrast, the V-BAT can loiter for eight to 11 hours, allowing for sustained surveillance and the ability to identify multiple targets over a single deployment.

The V-BAT is an advanced vertical take-off and landing (VTOL) unmanned aerial system (UAS) developed by Shield AI, a San Diego-based technology company specializing in autonomous defense solutions. Designed for reconnaissance, surveillance, and precision targeting, the V-BAT is particularly suited for contested environments where electronic warfare (EW) interference is common, such as the current battlefield in Ukraine.

One of the V-BAT's standout features is its VTOL capability, which allows it to launch and land vertically. This design enables it to operate in confined spaces, such as dense urban settings or narrow clearings, without needing a traditional runway. Such flexibility allows military units to deploy the V-BAT closer to the front lines, making it highly effective in mobile, constrained environments.

The V-BAT can stay airborne for 8 to 11 hours, monitor targets over long distances, and maintain continuous surveillance. This extended loitering capability far surpasses that of many conventional drones, offering tactical advantages by allowing operators to observe and track targets for prolonged periods.

A crucial feature of the V-BAT is its resilience against electronic warfare. In modern conflict zones where EW systems are deployed to disrupt communications and reconnaissance, the V-BAT’s design makes it highly resistant to jamming and other interference tactics. This EW resistance is vital for maintaining reliable communication and data transmission, especially when it comes to gathering intelligence and designating targets in active, contested airspace.

The V-BAT is also distinguished by its ability to transmit real-time data over long distances, enabling it to provide actionable intelligence directly to artillery and missile systems. This capability allows it to support coordinated precision strikes by relaying accurate targeting information to systems like HIMARS (High Mobility Artillery Rocket System), thereby enhancing the effectiveness of these strikes in battlefield operations.

Compact and lightweight, the V-BAT is easy for small teams to transport and deploy, making it ideal for missions where portability and quick setup are essential. Additionally, the V-BAT features a modular payload system that can be outfitted with various sensors and equipment, such as electro-optical/infrared (EO/IR) sensors, communications relays, and electronic warfare modules. This modularity makes it adaptable to various mission requirements, whether for reconnaissance, surveillance, or target designation.

Lastly, the V-BAT incorporates advanced autonomy features from Shield AI’s software, allowing it to operate independently and navigate complex environments without direct operator input. This autonomy also enables it to perform reliably in GPS-degraded conditions, ensuring that it can complete missions even in challenging operational scenarios.

The V-BAT's performance underscores the critical role that cutting-edge drone technology can play in modern conflicts, where electronic warfare and air defense systems are increasingly sophisticated. By integrating the V-BAT into its operational framework, Ukraine is enhancing its intelligence and strike capabilities and demonstrating the effectiveness of unmanned systems in countering advanced enemy defenses.

**201 . Date: 29-11-2024Fixed Wing - ISR / ISTAR - Small - General - PlatformExclusive: US HitchHiker Interceptor Drone Tested in Ukraine for Advanced Counter-Drone OperationsURL: https://armyrecognition.com/news/army-news/army-news-2024/exclusive-us-hitchhiker-interceptor-drone-tested-in-ukraine-for-advanced-counter-drone-operations**

According to a recent report by the American news magazine Newsweek, the advanced HitchHiker interceptor drone, developed by American companies IronNet and Asterion Systems, is currently being tested on the Ukrainian frontline. Designed to counter a wide range of unmanned aerial vehicles (UAVs), this state-of-the-art platform not only enhances battlefield situational awareness but also provides an effective tool for neutralizing aerial threats. Its deployment highlights the increasing role of cutting-edge technology in modern warfare. Follow Army Recognition on Google News at this link

The US-made HitchHiker interceptor drone is undergoing testing on the Ukrainian frontline, demonstrating its advanced capabilities in detecting and neutralizing aerial threats. (Picture source: Asterion Group)

The HitchHiker drone has been engineered to detect, classify, and track aerial threats, offering real-time intelligence and precision in neutralizing hostile drones. Its capabilities are particularly crucial in countering drones such as the Iranian-made Shahed loitering munitions, which have become a significant threat in the conflict. This project marks the collaboration of IronNet, a leader in AI-driven cybersecurity, and Asterion Systems, a specialist in counter-drone technologies. Together, they have developed a platform that integrates advanced AI with cutting-edge hardware to tackle some of the most pressing challenges on the battlefield.

With a range of up to 200 km and a top speed of 450 km/h, the HitchHiker is both fast and versatile. It is launched through the ASTERION PERIMASTER C4 system, a sophisticated command-and-control platform that integrates long-range sensor data. This system positions the HitchHiker directly behind incoming threats, enabling operators to visually inspect potential targets in real-time before neutralizing them or recalling the drone to base. Such flexibility makes the drone valuable for both surveillance and direct action missions.

One of the HitchHiker’s standout features is its ability to deploy automatically from fixed or mobile platforms. This capability allows it to respond quickly to threats and even counter drone swarms, a growing concern in contemporary conflicts. By automating launch and operation, the system reduces response times and maximizes efficiency on the battlefield.

Looking ahead, Asterion Systems is developing a jet-powered version of the HitchHiker, capable of engaging high-speed, jet-propelled UAVs. This upgrade will further expand the drone’s tactical applications, allowing it to intercept targets beyond the reach of current electric-powered models and solidifying its position as a leading counter-UAV technology.

For Ukraine, the deployment of the HitchHiker represents a critical addition to its defense arsenal. As the conflict increasingly features UAVs for reconnaissance, surveillance, and strike missions, platforms like the HitchHiker provide a significant advantage. By integrating advanced AI and autonomous systems, the HitchHiker not only strengthens Ukraine’s defense capabilities but also offers a glimpse into the future of drone warfare. Success in these trials could pave the way for broader adoption across NATO forces, setting a new benchmark for counter-drone solutions in modern warfare.

**202 . Date: 03-09-2024ISR / ISTAR - Small - General - PlatformForged by Conflict Against Russia, Ukraine Showcases Its Expertise with GOR Drone at MSPO 2024URL: https://armyrecognition.com/news/army-news/army-news-2024/forged-by-conflict-against-russia-ukraine-showcases-its-expertise-with-gor-drone-at-mspo-2024**

At the MSPO 2024 defense exhibition, Ukraine presents its development in its unmanned aerial systems (UAS) capabilities with the introduction of the GOR drone by Airlogix, designed for surveillance and real-time image transmission. This presentation underscores Ukraine's ongoing efforts to enhance its military technology, particularly in the field of drones, despite the ongoing conflict that has lasted for more than two years. Developed by leading Ukrainian defense industry experts, the GOR system is intended to improve battlefield surveillance, providing critical data and intelligence to ground forces. Follow Army Recognition on Google News at this link

The drone operates at altitudes ranging from 800 to 3,500 meters and has a data transmission range of up to 40 kilometers (Picture source: ArmyRecognition)

The GOR drone is characterized by its robust performance and advanced technological features. It is capable of flying for up to four hours, covering distances of up to 260 kilometers, making it an essential tool for extended missions. The drone operates at altitudes ranging from 800 to 3,500 meters and has a data transmission range of up to 40 kilometers. Its electric propulsion system allows for a maximum speed of 108 km/h, while its compact design, with a wingspan of 2.6 meters, enables it to launch via catapult and land on its belly, enhancing its operational flexibility.

Designed to withstand electronic warfare, the GOR drone is equipped with features that ensure its reliability even in contested environments. This includes a backup navigation system that allows it to function effectively during GNSS jamming, as well as an advanced EO-IR camera system with an 80x zoom capability and digital stabilization. The communication system includes both a primary and backup channel, ensuring constant connectivity between the drone and the ground control station, which is crucial for real-time intelligence gathering and mission success.

The conflict in Ukraine has highlighted the growing importance of drones on the modern battlefield. Over the past two years, Ukrainian forces have extensively used drones, including kamikaze drones and FPV (first-person view) drones, to conduct strategic operations. While kamikaze drones are often used for direct attacks, surveillance drones like the GOR play an equally crucial role in reconnaissance missions. They allow military units to monitor enemy movements, identify targets, and anticipate threats without unnecessarily exposing ground troops. This capability is essential for gaining a strategic advantage, as it enables forces to plan and execute operations with a higher degree of precision.

The use of surveillance drones has become a cornerstone of modern military strategy, particularly in the context of the Ukrainian conflict. These drones provide real-time intelligence that is essential for decision-making on the battlefield. By identifying enemy positions and movements from a distance, they help to mitigate risks to human life while maximizing the effectiveness of military operations. The GOR drone, with its advanced features and proven reliability, exemplifies Ukraine's commitment to developing and deploying cutting-edge UAS technology in response to the demands of modern warfare.

Despite the challenges posed by the ongoing conflict, Ukrainian defense manufacturers continue to innovate, developing systems like the GOR drone that meet the evolving needs of modern warfare. As Ukraine expands its UAS offerings, it positions itself as a key player in the global defense industry, with the potential for wider adoption of its technologies by allied nations.

**203 . Date: 17-05-2024Requirement - Germany seeks to establish a drone army inspired by Ukraine's combat experienceURL: https://armyrecognition.com/news/army-news/army-news-2024/germany-seeks-to-establish-drone-army-inspired-by-ukraines-combat-experience**

On May 14, 2024, during a session of the German Bundestag, the CDU/CSU parliamentary group advocated for the establishment of a dedicated drone branch within the German Army. In their proposal, the CDU/CSU calls on the federal government to create a drone army tailored to the needs of the air force, land forces, and navy, considering both strategic and tactical impacts. Follow Army Recognition on Google News at this link

The prominence of drones has led to significant organizational changes within the Ukrainian military, as these UAVs are cheaper and easier to deploy than ever before, with Ukraine reportedly using up to 10,000 drones monthly. (Picture source: Ukrainian MoD)

This proposed drone army would draw on the experiences of the Ukrainian armed forces, ensuring sufficient drones for reconnaissance and combat, and include specialists for defending against drones and drone swarms. The proposal states that over two years into the conflict between Ukraine and Russia, the war has significantly changed both offensive and defensive military strategies. Civilian and dual-use technologies, particularly drones of various sizes and their combination with Artificial Intelligence (AI), are playing an increasingly pivotal role on the battlefield.

The CDU/CSU points out that the conflict has revealed the challenge of maneuvering large mechanized formations due to the omnipresence of drones. Hundreds, even thousands, of drones in the sky at any given time track, observe, and counteract movements, making traditional offensive operations exceedingly difficult. This has been observed in both the Ukrainian counteroffensive in the summer of 2023 and recent Russian attempts to advance, where attacks were quickly halted due to immediate counteractions facilitated by drones.

The prominence of drones has led to significant organizational changes within the Ukrainian military, which now has dedicated drone units. These unmanned aerial vehicles (UAVs) are cheaper and easier to deploy than ever before, with Ukraine reportedly using up to 10,000 drones monthly. AI-enhanced drone swarms, capable of autonomously classifying, recognizing, and attacking targets, represent the next stage of development, despite current limitations due to sensor performance and data transmission rates.

Chancellor Olaf Scholz stressed the need to counter Russia's capabilities in his Zeitenwende speech on February 27, 2022. Both Defense Minister Boris Pistorius and Chief of Staff Carsten Breuer have stated that Germany must become war-capable within five years, given the Kremlin's open expression of imperial ambitions. Experts predict that within five to eight years, Russia could conventionally challenge NATO. The CDU/CSU asserts that the federal government has inadequately responded to these changes, noting that Chancellor Scholz's directive to develop capabilities against the Russian threat has not been effectively implemented in the realm of military drones and their defense.

The CDU/CSU's proposal includes several key measures. Firstly, the parliamentary group proposes that every combat military unit from platoon strength upwards should be capable of combating drones, with supporting forces equipped accordingly. They also call for the establishment of a new branch within the Bundeswehr dedicated to unmanned systems and drone defense. This "drone army" would be cross-dimensional, involving the air force, land forces, and navy, and modeled after the experiences of the Ukrainian armed forces.

The proposal indicates the need for sufficient drones for reconnaissance and combat, and for specialists in drone and drone swarm defense. It also stresses the importance of adapting the basic Bundeswehr training to ensure all soldiers acquire the skills necessary to handle, defend against, and combat drones, explicitly including loitering munition.

Furthermore, the proposal advocates for guaranteed procurement agreements with the German security and defense industry and investment in drone development across air, land, and sea domains, along with the creation of a foundational stockpile of essential hardware and spare parts. This includes various drone classes and deployment levels, such as High Altitude Long Endurance (HALE), Medium Altitude Long Endurance (MALE), Unmanned Combat Aerial Vehicles (UCAV), and others. It also mentions the importance of AI, swarm technology, autonomy, and other advanced technologies.

The proposal underlines the need for cybersecurity and technological sovereignty, ensuring all components of manufactured drones come from NATO or NATO-equivalent states, preferably from domestic industry. It also calls for investment in defense systems against drones, including laser-based weapons, electromagnetic warfare capabilities, jamming, spoofing, and advanced detection systems.

To support innovation, the proposal suggests promoting competitions, innovation labs, demonstrator projects, and start-ups, leveraging NATO and EU resources. It includes integrating drone technologies into national key technologies and establishing clear legal frameworks for drone defense, including liability issues for collateral damage.

Additionally, the proposal calls for continuous development and adaptation of the Bundeswehr's strategic documents and procurement programs. It emphasizes Germany's participation in NATO and EU projects to develop and provide drone capabilities, and advocates for a Centre of Excellence within NATO to advance the conceptual and technological development of drones. Finally, the CDU/CSU parliamentary group argues that these measures are critical for developing a war-ready Bundeswehr capable of protecting critical civil and military infrastructure against sabotage and terrorist attacks.

**204 . Date: 27-11-2024M-Rotary - Cargo - MALE - General - Germany to Modernize Combat Support Networks with Avilus' Grille Logistics DroneURL: https://armyrecognition.com/news/army-news/army-news-2024/germany-to-modernize-combat-support-networks-with-avilus-grille-logistics-drone**

On November 6, 2024, the German company Avilus announced its collaboration with the Bundeswehr to test the Grille drone system. The trials, conducted in a simulated environment, focused on evaluating the system's capabilities to improve operational efficiency and adaptability in military contexts.

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Avilus' Grille logistics drone (Picture source: AVILUS)

The demonstration focused on improving communication, interoperability, and process automation, three essential elements for modernizing military operations. The tests highlighted Grille's potential to meet the demands of modern conflicts, particularly in scenarios involving electronic threats and complex terrain conditions.

A logistics mission conducted with KNDS demonstrated the coordination between autonomous aerial and ground transport. The Grille drone transported cargo over several kilometers, including an intermediate reloading operation, while maintaining high performance levels. During the mission, the German Army’s electronic warfare unit EloKa tested the system’s resistance to electronic jamming, confirming its robustness in contested environments.

Mission control was also showcased through the integration of Avilus' ground control segment (GCS) with the BOXER armored vehicle. This configuration allows remote mission supervision directly from the field, offering a mobile and secure platform for managing robotic and autonomous systems. This feature proved particularly valuable in high-risk operations, such as medical evacuation (RASEVAC), where remote coordination enhances both safety and efficiency.

The development of the Grille drone by Avilus spanned several years and was based on collaboration among industry, academia, and the armed forces. The initiative began in 2020 when Ernst Rittinghaus, founder of Avilus, proposed the idea of a "flying stretcher" to doctoral students at the Institute of Flight System Dynamics at the Technical University of Munich. Within weeks, a preliminary technical concept was developed, quickly evolving into the drone evacuation system, named DRONEVAC.

Between 2020 and 2021, the team used advanced simulation tools, such as Simulink, to model and optimize the aircraft's behavior, resolving potential issues before building a physical prototype. In 2021, a functional prototype was tested to validate its performance, including autonomy, payload capacity, and robustness. By 2022, Avilus partnered with the German Army, particularly the Bundeswehr Medical Academy and the Medical Squadron Bischofswiesen, to test the drone in real military exercises. These trials were supplemented by logistics missions and medical evacuation scenarios conducted in collaboration with KNDS to demonstrate the coordination between autonomous aerial and ground transport systems. In 2023, the drone was officially presented as a modular and operational solution, also integrating a ground control segment (GCS) linked to the BOXER armored vehicle, enabling mobile and secure mission management. This gradual development reflects Avilus' commitment to meeting modern operational needs by combining technological innovation, digital simulation, and strategic partnerships.

The Grille drone stands out for its advanced technical capabilities. Designed as a vertical take-off and landing (VTOL) aerial vehicle, it can carry a maximum payload of 135 kg with a total take-off weight of 695 kg. Powered by a 240 kW electric system, it reaches a cruising speed of 86 km/h, with a range of 51 km and a maximum altitude of 2,100 meters. Its modular cabin allows it to adapt quickly to various missions, including logistics, reconnaissance, or medical evacuation. Additionally, its compact design enables transport in a standard ISO container, enhancing its operational mobility.

In the context of the war in Ukraine, technologies like the Grille drone could provide crucial solutions. Its speed and flexibility would ensure effective resupply in hard-to-reach areas or under constant threat. Its ability to operate in extreme weather conditions and resist electronic jamming makes it well-suited to the demands of modern conflicts, where mobility and autonomy have become essential elements in ensuring the resilience of armed forces.

**205 . Date: 09-10-2024Loitering Munition - Small - Contract - Greece purchases 592 US-made Switchblade 300 and 600 loitering munitions for Special ForcesURL: https://armyrecognition.com/news/army-news/army-news-2024/greece-purchases-592-us-made-switchblade-300-and-600-loitering-munitions-for-special-forces**

According to Doureios on October 10, 2024, Greece plans to acquire 592 units of Switchblade 300 Block 20 and Switchblade 600 loitering munitions from the United States. The Hellenic Parliament’s Special Permanent Committee on Armaments and Contracts approved this procurement on September 17, 2024, as part of a broader defense enhancement initiative. Follow Army Recognition on Google News at this link

Most of these Switchblade loitering munitions will be allocated to Greek Special Operations and Special Forces units, with a smaller portion assigned to infantry units for operational familiarization. (Picture source: AeroVironment)

Greece's decision follows a series of strategic evaluations that began in December 2023, when the Hellenic National Defense General Staff (GEETHA) approved a related study for the acquisition, upgrade, and modernization of military equipment. Initial considerations involved two companies: the Israeli firm Aeronautics, which offered the Orbiter 1K, and the American company AeroVironment, which manufactures the Switchblade.

However, in late 2023, Greece opted solely for the Switchblade, a choice influenced by a shift in funding priorities. The initial plan to procure used AAV7A1 amphibious armored vehicles from the United States was “frozen,” with the allocated funds redirected to the loitering munitions program. Specifically, $25 million in Foreign Military Financing (FMF) credits, provided under the U.S. European Recapitalization Incentive Program (ERIP), were repurposed to cover part of the Switchblade procurement costs. This funding was initially available to support Greece's transition away from its BMP-1 armored vehicles of Soviet origin.

Additionally, Greece received a further $30 million in FMF credits as part of U.S. assistance for Greece’s support of Ukraine. Combined, these credits amount to approximately two-thirds of the €75.2 million total cost of the loitering munitions procurement, reducing Greece’s direct financial outlay. The acquisition involves both the Switchblade 300 and Switchblade 600 models, which together total 592 units. Most of these loitering munitions will be allocated to Greek Special Operations and Special Forces units, with a smaller portion assigned to infantry units for operational familiarization.

The Switchblade 300 Block 20 variant extends the 300 model's operational capabilities, increasing flight time to 20 minutes and adding a panning EO/IR camera suite for continuous target identification. (Picture source: AeroVironment)

The Switchblade 300 is a small, expendable loitering munition designed to provide platoon-sized infantry units with precision strike capabilities. This UAV assists units under enemy fire by engaging long-range targets, following a pre-programmed path, and allowing operators to redirect its course en route. It has been deployed to destroy light-armored vehicles and personnel, and it can detonate mid-flight if necessary. Utilizing a Ground Control Station (GCS) compatible with other AeroVironment UAVs, such as the Wasp, RQ-11 Raven, and RQ-20 Puma, the Switchblade 300 can be coordinated with other drones to locate and attack targets.

Its forward-firing warhead minimizes collateral damage, with an option to adjust detonation height mid-flight. The system is considered a loitering munition rather than a UAV, as it is not recoverable and is controlled by a fly-by-radio frequency signal. Additionally, it has been paired with SRC Inc.’s software and counter-drone technologies, enhancing its capability to intercept hostile UAVs.

The Switchblade 300 Block 20 variant extends the 300 model's operational capabilities, increasing flight time to 20 minutes and adding a panning EO/IR camera suite for continuous target identification. With a gross weight of around 8 pounds, it supports land, sea, and mobile platforms, allowing rapid deployment in under two minutes. The Block 20 also features an improved Digital Data Link (DDL) for secure, encrypted communication, reducing signal interception risks, enabling concurrent operations of multiple Switchblade systems, and supporting extended range operations through additional UAVs.

The Block 20 includes a Multi-Pack Launcher (MPL), which can remotely launch several units in configurations from 2 to 20 rounds, with reloading times of under 30 seconds per round. This configuration supports base defense and facilitates "sensor-to-shooter" operations by transmitting mission plans from other AeroVironment UAVs.

The Switchblade 600 is a larger loitering munition intended for anti-armor missions, weighing 54.5 kilograms when loaded in the tube with the fire control system. (Picture source: AeroVironment)

The Switchblade 600 is a larger loitering munition intended for anti-armor missions, weighing 54.5 kilograms when loaded in the tube with the fire control system. It can travel up to 40 kilometers in 20 minutes, then loiter for another 20 minutes, giving it a total range of 80 kilometers. Its warhead is based on the Javelin anti-tank missile, and it operates at a speed of 185 kilometers per hour during the terminal phase of its flight.

The Switchblade 600 is controlled through a tablet-based system with autonomous and manual modes, secured by encrypted data links and anti-spoofing GPS. It is also compatible with a pocket DDL module for longer-range engagements. As part of the Army's Single Multi-Mission Attack Missile development program, AeroVironment has been able to scale production to manufacture up to 6,000 Switchblade 600 units annually. This model can also be configured for a six-pack vehicle-mounted launcher or air-launch options, broadening its potential deployment scenarios.

The agreement, valued at 3.47 billion euros, includes the procurement of 20 F-35A Lightning II aircraft, with an option to order an additional 20 fighters. (Picture source: US DoD)

Greece’s procurement of these munitions is part of its larger ten-year defense spending strategy, which includes plans to acquire 20 F-35A Lightning II aircraft, with an option to order an additional 20 fighters, from the United States and a fourth Belharra frigate from France. The Switchblades are also intended to complement other weapons systems in Greece’s inventory, such as the Spike anti-tank missiles recently purchased from Israel, which will be stationed on Greek islands in the Aegean Sea. In addition, Greece is developing its own drone and anti-drone technologies as part of a broader focus on modernizing its defense capabilities.

The choice to procure Switchblade munitions directly from the United States rather than through domestic production has raised questions regarding the Greek defense industry’s capacity for developing similar technologies. While some efforts have been made to advance indigenous loitering munition projects, these remain at the initial design or early development stages. The Greek Armed Forces' reliance on foreign partners reflects current operational requirements that domestic capabilities have not yet met.

This loitering munitions acquisition aligns with ongoing U.S.-Greece defense cooperation and has received approval from Greece's top foreign and defense decision-making body, the Government Council for Foreign Affairs and Defense (KYSEA). The decision situates Greece’s defense procurement within the context of its relations with NATO allies and broader strategic objectives, as well as ongoing regional tensions with Turkey over maritime boundaries, airspace, and resource rights in the Aegean Sea.

**206 . Date: 19-08-2024Loitering Munition - Mini - General - PlatformIran reveals B1 Kamikaze Drone with 12 km strike range and 2 kg payload at Army-2024URL: https://armyrecognition.com/news/army-news/army-news-2024/iran-reveals-b1-kamikaze-drone-with-12-km-strike-range-and-2-kg-payload-at-army-2024**

At the Iranian pavilion of the Army-2024 International Military-Technical Forum in Kubinka, Moscow Region, Iran's Ministry of Defence presented new developments in unmanned aerial vehicles (UAVs). Among the new products were the H5 reconnaissance drone and the B1 Suicide UAV, also known as a kamikaze drone. Follow Army Recognition on Google News at this link

Among the new products presented were the H5 reconnaissance drone (right) and the B1 suicide drone (left), also known as a kamikaze drone. (Picture source: Mikhail Zherdev)

The B1 Suicide UAV is designed for dual functionality, capable of performing both surveillance and kamikaze missions. The UAV has a maximum take-off weight of 7 kilograms and can carry a fragmentation or penetrating warhead, each with a maximum weight of 2 kilograms. This design allows the UAV to be used in various mission profiles, targeting different types of objectives.

The drone's operational specifications include a flight endurance of 25 minutes when fully loaded with the 2-kilogram warhead, extending to 35 minutes when the warhead is not carried. This range of endurance offers flexibility depending on the mission's requirements, whether it involves a short, targeted strike or an extended period of surveillance.

In terms of range, the B1 UAV can operate within a 15-kilometer radius for surveillance tasks and has a 12-kilometer range when deployed in kamikaze mode. It is equipped with a 3-axis seeker gimbal and a seeker sensor with 10x zoom and full HD resolution, providing the capability to capture detailed imagery and ensure accurate targeting.

The B1 UAV operates at a cruise speed of 80 kilometers per hour and is capable of engaging both moving and stationary targets. The UAV also includes an interception aborting feature, which allows for the mission to be discontinued if necessary.

**207 . Date: 09-01-2025Fixed Wing - Loitering Munition - Is New Iranian Rezvan Loitering Munition a Potential Concern for Israeli ForcesURL: https://armyrecognition.com/news/army-news/army-news-2024/is-new-iranian-rezvan-loitering-munition-a-potential-concern-for-israeli-forces**

On January 9, 2025, Iran's Islamic Revolutionary Guard Corps (IRGC) introduced the Rezvan unmanned loitering munition system, featuring a containerized launch mechanism. This unveiling represents a significant development in the Islamic Republic’s aerial military capabilities. Images released by the Iranian media outlet Tasnim News highlighted its use during the "Payambar-e Azam 19" military exercises held earlier this month in western Iran.

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The loitering munition is launched from a cylindrical container and is equipped with a front-facing camera that transmits real-time imagery to its operator, allowing precise target selection (Picture source: Tasnim)

These exercises involved IRGC forces and showcased advanced weapon systems. The Rezvan stands out for its technical and operational features, designed to optimize its effectiveness in short-range strike missions. Categorized as a loitering munition—also known as a kamikaze drone—it combines surveillance and precision strike capabilities in a single platform.

The Rezvan has a flight endurance of 20 minutes within a 20-kilometer operational radius and is controlled remotely by an operator. It includes an optical module in the nose, featuring day vision and thermal imaging channels, enabling precise targeting. While details on additional guidance systems remain undisclosed, its potential to carry explosive fragmentation or shaped-charge warheads makes it a versatile platform for tactical operations.

The drone is launched from a cylindrical container and is equipped with a front-facing camera that transmits real-time imagery to its operator, allowing precise target selection. This feature enhances its flexibility, particularly for rapid response units operating in challenging terrains such as mountainous regions. The use of folding wings, necessary for containerized launches, simplifies deployment and reduces preparation time compared to traditional catapult systems. Additional imagery from Tasnim News highlights the control station’s antenna, mounted on a tripod to facilitate data transmission between the drone and its operator.

The Rezvan builds on a series of IRGC innovations, following systems like the Sina drone, unveiled two years ago. The Sina, a smaller loitering munition inspired by the American Switchblade 300, targets infantry units and unarmored vehicles. With a range of 5 kilometers and an endurance of 8 minutes, it can carry a payload between 300 and 1,000 grams. Its electric motor ensures low acoustic, thermal, and visual detectability, and it can be operated manually or autonomously.

Amid rising regional tensions, Iran continues to advance its military capabilities. Alongside the Rezvan’s unveiling, the country has recently conducted extensive air defense drills under the Eqtedar 1403 program, aimed at securing uranium enrichment facilities following reports of potential U.S. strikes.

Since the 1980s, Iran has developed a sophisticated drone industry, producing systems such as the Shahed 129, a medium-altitude long-endurance (MALE) surveillance and combat drone, and the Shahed 136, a loitering munition used for precision strikes. These drones have been deployed in conflicts in Syria and Yemen, demonstrating tactical effectiveness. In Ukraine, Russia has employed Iranian drones like the Shahed 136, rebranded as Geran-2, to target infrastructure, posing significant challenges to Ukrainian air defenses and underscoring the influence of Iranian drone technology on modern warfare.

The Rezvan’s technical features and operational flexibility could present challenges to adversaries, including Israeli forces, particularly in scenarios involving border skirmishes or asymmetric warfare. Its containerized launch system and portability allow rapid deployment in complex terrains, potentially complicating traditional detection and interception measures. While its 20 km range limits strategic reach, its precise targeting capabilities make it suitable for high-value targets and critical infrastructure near contested areas.

However, the Rezvan’s effectiveness would depend on factors such as deployment scale, the availability of counter-drone technologies, and the readiness of advanced air defense systems like Israel’s Iron Dome and David’s Sling, which are designed to neutralize similar threats. In recent operations, these systems have demonstrated their ability to intercept short-range projectiles and unmanned aerial systems effectively, suggesting that while the Rezvan introduces a tactical challenge, existing defenses may mitigate its impact.

The Rezvan’s unveiling highlights Iran’s continued focus on diversifying its aerial capabilities. When compared to international equivalents, such as the Russian Lancet, the Rezvan aligns with similar missions but features distinct attributes like containerized deployment and adaptability to rugged environments. These advancements, alongside systems like the Sina, reflect Iran’s strategic intent to address contemporary military challenges and assert its technological presence on the global stage.

**208 . Date: 15-10-2024Loitering Munition - Small - General - PlatformIsrael Aerospace Designs ROC-X World First Hand-Launched VTOL Loitering MunitionURL: https://armyrecognition.com/news/army-news/army-news-2024/israel-aerospace-designs-roc-x-world-first-hand-launched-vtol-loitering-munition**

Israel Aerospace Industries (IAI) has introduced the ROC-X, a high-tech, hand-launched vertical takeoff and landing (VTOL) precision strike missile, designed to enhance military operational capabilities. This innovative missile, currently showcased at the AUSA 2024 exhibition in Washington, D.C., from October 9 to 11, 2024, aims to significantly improve the lethality of troops in the field, allowing for swift and precise engagements against a wide range of targets. With the ROC-X, IAI reinforces its commitment to integrating advanced technology into defense solutions, solidifying its reputation as a aerospace and defense sector leader. Follow Army Recognition on Google News at this link

IAI ROC-X Hand-Launched VTOL Loitering Munition (Picture source: Army Recognition)

Israel Aerospace Industries (IAI) has unveiled the Point Blank, also known as the ROC-X, the world’s first hand-launched electro-optical VTOL (Vertical Takeoff & Landing) missile designed to engage both stationary and moving targets. As the first hand-held loitering munition, the Point Blank represents a major advancement in battlefield technology, providing a unique capability that allows a single soldier to launch, operate, and recover the missile independently. Featuring a fuselage length of 1 meter and an X-shaped wing configuration with a wingspan of 0.8 meters, the missile incorporates a ducted propeller propulsion system with no moving parts, enabling stealthy, quiet, and highly maneuverable operation.

The ROC-X boasts an impressive accuracy of one meter circular error probable (CEP), enabling effective strikes at a tactical range of up to 10 kilometers. This precision is achieved through advanced electro-optical and GPS guidance systems, ensuring that operators can engage targets without the need for a dedicated launcher. The hand-launch capability of the ROC-X allows for rapid deployment, providing troops with a versatile tool for modern combat scenarios. This feature is especially beneficial in dynamic environments where speed and adaptability are paramount.

Operational advantages of the ROC-X include fast engagement times and high maneuverability, making it well-suited for a variety of missions. The missile’s design incorporates stealth features that reduce both noise and thermal signatures, facilitating covert operations in hostile territories. Furthermore, the automatic end-game function activates once the operator locks onto a target, ensuring that the missile remains on course for a lethal impact, thus minimizing the risk of collateral damage.

For armed forces, the ROC-X brings a concrete advantage in terms of agility, precision, and independence on the battlefield. Its hand-launched VTOL design means that individual soldiers can deploy it without additional equipment or launchers, making it suitable for rapid-response situations and varied terrains. With a range of 10 kilometers, soldiers can safely engage targets from a distance, both stationary and moving, without exposing themselves to direct enemy fire. Its quiet, stealthy operation reduces the risk of detection, making it ideal for covert missions. Furthermore, the missile’s high accuracy—less than a meter CEP—ensures precise strikes, minimizing collateral damage in populated or sensitive areas. The electro-optical and GPS guidance systems allow real-time control, while the option to abort or redirect the missile mid-flight adds a level of control rarely seen in similar systems, providing tactical flexibility to adapt to changing battlefield conditions.

Weighing 6.8 kilograms and measuring one meter in length, the ROC-X is designed for ease of handling and deployment by troops. It features a 2-kilogram warhead with impact and proximity fuses, enhancing its effectiveness against both static and mobile targets. The missile's operational endurance allows for flight times of up to 20 minutes, with versatile flight modes that include both manual and fully automatic operations. This flexibility ensures that operators can adapt to evolving battlefield conditions, making the ROC-X an invaluable asset in modern warfare.

The development of similar systems to the ROC-X in other armed forces aims to create precise and versatile loitering munitions that can be operated by individual soldiers. However, the ROC-X stands out for its true portability, being entirely hand-launched, unlike other systems such as the U.S. Switchblade 300 or China’s CH-901, which require specific launchers for deployment. This feature makes the ROC-X particularly suited to dynamic environments, enabling quick reaction and flexible engagement in the field, giving soldiers greater autonomy compared to similar systems.

**209 . Date: 03-12-2024Contract - Israel MOD Secures Contracts with Elbit Systems for ISR Drones and Autonomous SystemsURL: https://armyrecognition.com/news/army-news/army-news-2024/israel-mod-secures-contracts-with-elbit-systems-for-isr-drones-and-autonomous-systems**

The Directorate of Defense Research & Development (DDR&D) of the Israeli Ministry of Defense announced on December 3, 2024, a significant technological development for the Israeli Defense Forces (IDF). Contracts totaling approximately $40 million have been signed with Elbit Systems, a leading provider of autonomous systems. These agreements aim to equip the IDF with advanced drones and autonomous systems to significantly enhance its operational capabilities in the field.

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The systems to be delivered under these contracts include drones for intelligence gathering, capable of operating within Seek & Strike swarms and intelligence platoons (Picture source: Elbit Systems)

These systems, developed jointly by the DDR&D, the IDF Ground Forces, and Elbit Systems, are designed to maintain Israel's technological edge on the battlefield. With a focus on a wide range of missions, they prioritize precise intelligence collection and targeted strikes.

The systems to be delivered under these contracts include drones for intelligence gathering, capable of operating within Seek & Strike swarms and intelligence platoons. Combat forces will also benefit from drones equipped with advanced intelligence, surveillance, and reconnaissance (ISR) capabilities, terrain dominance features, and attack functionalities. Additionally, strike solutions based on mini-drones are specifically designed for urban operations. Elbit Systems will also provide resilient communication solutions essential for unmanned systems operating in complex environments.

Although specific models have not been disclosed, Elbit Systems offers several platforms that align with the described capabilities.

The HuntAIR-X provides an integrated solution for managing swarms of autonomous drones equipped with advanced payloads. It is optimized for terrain domination, target detection, and threat mapping, with real-time capabilities in both day and night operations, even in GNSS-denied environments.

The THOR, a fully autonomous vertical take-off and landing (VTOL) mini-UAS, is designed for various military applications. Compact and transportable, it can be deployed within two minutes, carrying payloads of up to 10 kilograms. Its adaptability makes it suitable for urban and maritime operations, with a flight endurance of up to 75 minutes.

The Lanius, another innovation, is an autonomous drone designed for swarming, mapping areas or buildings, and neutralizing detected threats. Tailored for urban combat scenarios, it can operate independently or in coordination with other drones via the Legion-X swarm management system.

The Legion-X system is a networked combat solution integrating various robotic platforms and heterogeneous swarms. It enhances planning, operation, and management across unmanned systems, increasing efficiency in multi-domain warfare.

This renewed collaboration between the Ministry of Defense and Elbit Systems strengthens the autonomous combat capabilities of the IDF. The Director General of the Ministry of Defense, Major General (Res.) Eyal Zamir, highlighted the strategic continuity of this partnership. Brigadier General Yehuda Almakias, head of the R&D Department at DDR&D, stated that these acquisitions are part of a broader military modernization strategy driven by ongoing conflict. They aim to ensure that troops are equipped with the necessary tools to perform their missions effectively. He emphasized the importance of unmanned aerial systems (UAS) in enabling scalable, precise intelligence collection and strikes.

Haim Delmar, Executive Vice President and General Manager of the C4i and Cyber Division at Elbit Systems, welcomed these contracts as a testament to the company's innovative capabilities in robotics and autonomous systems (RAS). He reaffirmed Elbit Systems' commitment to developing and delivering reliable, efficient solutions tailored to the evolving operational needs of armed forces.

**210 . Date: 19-07-2024ISR / ISTAR - Small - General - PlatformKalashnikov Successfully Tests Its Legionnaire E33K UAVURL: https://armyrecognition.com/news/army-news/army-news-2024/kalashnikov-successfully-tests-its-legionnaire-e33k-uav**

As part of the intensive educational and project initiative "Archipel 2024," the Kalashnikov consortium, under the brand GC "Silent Wings," conducted demonstration flights of its "Legionnaire E33K" drone. This event marks a milestone in the development of unmanned aviation technologies, highlighting the capabilities of the consortium's latest creation. Follow Army Recognition on Google News at this link

The Legionnaire E33K is a Russian Unmanned Aerial Vehicle. (Picture source: Kalashnikov)

The "Legionnaire E33K" completed the planned route, demonstrating stability in strong winds, unwavering reliability, and the ability to operate in challenging weather conditions. These features confirm the high level of engineering integrated into the design of the device.

"Participating in 'Archipel 2024' is an excellent opportunity to showcase the advantages of Kalashnikov's unmanned aviation systems," said Kirill Maslyanko, Sales Director at GC "Silent Wings." "We continuously work on improving our technologies to provide reliable and efficient solutions for various industries."

The maximum takeoff weight of the device is 29.9 kg, which, combined with an electric motor, ensures eco-friendly and silent operation. With a wingspan of 4 meters, the "Legionnaire" offers exceptional aerodynamic stability. It can cover a distance of 200 km with a 3 kg payload, or 50 km with a 10 kg payload, making it a versatile solution for various delivery missions.

The size of the cargo compartment (400x220x208 mm) allows for the transportation of diverse loads, while the flight duration of up to 150 minutes ensures high efficiency in mission completion. Notably, the drone can withstand winds of up to 15 m/s and operate in temperatures ranging from -25 to 40°C, enabling its use in a wide range of climatic conditions. The assembly and startup time, not exceeding 15 minutes, make this device extremely convenient and quick to use.

The demonstrated capabilities of the "Legionnaire E33K" underline Kalashnikov's intention to position itself as a leader in the development of unmanned aviation systems. The "Archipel 2024" intensive has proven to be an important platform for showcasing cutting-edge technologies and promoting unmanned aviation across various industries.

**211 . Date: 11-07-2024Loitering Munition - Mini - General - PlatformKNDS France Develops New Generation LARINAE Anti-Tank Loitering MunitionURL: https://armyrecognition.com/news/army-news/army-news-2024/knds-france-develops-new-generation-larinae-anti-tank-loitering-munition**

KNDS France, the French division of the European defense consortium KNDS, has announced a significant milestone in the development of its next-generation loitering munition, LARINAE. This advanced weapon, engineered for precision strikes against armored vehicles and main battle tanks, represents a major leap in land defense technology. Follow Army Recognition on Google News at this link

During Eurosatory 2024, a defense exhibition in Paris, KNDS France displayed its new LARINAE anti-tank loitering munition. (Picture source: Army Recognition Group)

The LARINAE loitering munition boasts an impressive autonomy of three hours and an operational range between 80 to 120 kilometers. Developed in collaboration with EOS Technologie and TRAAK, LARINAE is equipped with a core-generating warhead (CGN), designed to penetrate and neutralize even the most formidable armored threats, including those equipped with advanced active protection systems.

In a recent breakthrough, KNDS France successfully conducted long-range secure communication trials, essential for the operational effectiveness of LARINAE. These trials demonstrated the capability of maintaining a secure radio link between an operator and a ground platform over a distance of up to 7 kilometers in open terrain. Additionally, a reliable connection was achieved up to 80 meters inside a naval ship during tests with the French Navy. These trials are crucial as they confirm the robustness of the communication systems used for LARINAE, ensuring reliable control over the munition throughout its mission range.

The tested secure radio link system is designed to function over distances up to 80 kilometers, a critical feature for the LARINAE loitering ammunition program. The success of these trials marks a significant step forward, ensuring that operators can maintain command and control of the munition in various operational environments.

The first live demonstrations of the LARINAE munition, equipped with an inert charge, are scheduled for early 2025. These demonstrations will further validate the munition's capabilities and operational readiness, paving the way for its deployment in modern military arsenals.

KNDS France, through its partnership with Krauss-Maffei Wegmann (Germany) and Nexter (France), continues to lead in the innovation and development of cutting-edge defense solutions. The LARINAE loitering munition is set to become a pivotal asset in future combat scenarios, providing unmatched precision and effectiveness against armored threats.

**212 . Date: 02-10-2024Loitering Munition - Small - General - PlatformKorean Air launches KUS-LM loitering munition for runway-free operationsURL: https://armyrecognition.com/news/army-news/army-news-2024/korean-air-launches-kus-lm-loitering-munition-for-runway-free-operations**

At the KADEX 2024 exhibition, Korean Air introduced the KUS-LM, an unmanned aerial vehicle (UAV) classified as a loitering munition. This system is capable of launching multiple rockets and can operate without the need for traditional runways. It is also fully autonomous, with an option for operators to manually control the system using Man-in-the-Loop (MITL) functionality. Follow Army Recognition on Google News at this link

The KUS-LM features a length of 1.5 meters and a width of 1.2 meters. It is powered by a two-cylinder engine and can reach a maximum speed of 1,500 kilometers per hour. (Picture source: Army Recognition)

The KUS-LM features a length of 1.5 meters and a width of 1.2 meters. It is powered by a two-cylinder engine and can reach a maximum speed of 1,500 kilometers per hour. However, some technical details, such as the payload weight, operational range, and altitude, remain unspecified.

The development of the KUS-LM aligns with ongoing advancements in loitering munitions, which are designed to stay airborne over a target area before launching an attack. Its combination of autonomous capabilities and multiple rocket launchers highlights its potential role in various operational environments.

**213 . Date: 04-10-2024ISR / ISTAR - Small - General - PayloadKUS-VX An Innovative South Korean VTOL Drone Unveiled at KADEX 2024URL: https://armyrecognition.com/news/army-news/army-news-2024/kus-vx-an-innovative-south-korean-vtol-drone-unveiled-at-kadex-2024**

The KUS-VX, an unmanned aerial vehicle (UAV) system developed by Korean Air, was showcased at the KADEX 2024 exhibition in South Korea. This model stands out due to its innovative configuration as a VTOL (Vertical Take-Off and Landing) or "tail-sitter," meaning it is capable of vertical take-offs and landings without the need for runways. This feature makes it particularly effective for operations in confined areas where space is limited.

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The KUS-VX is an unmanned aerial vehicle (UAV) system developed by Korean Air. (Picture source: Army Recognition)

KADEX 2024 is an international defense and security exhibition held in South Korea, gathering companies, government delegations, and defense industry experts to present the latest military technological innovations. This major event serves as a platform for the demonstration of new weapon systems, military vehicles, cutting-edge technologies in the fields of aviation, land, and naval defense, as well as cybersecurity solutions. KADEX 2024 places special emphasis on strategic partnerships and international cooperation opportunities, attracting key global players in the sector while highlighting South Korea's growing technological capabilities in defense.

One of the main features of the KUS-VX is its ability to enhance operability through its automatic vertical take-off and landing system, allowing for use in complex environments, such as mountainous terrain or dense urban areas. Unlike other VTOLs, the KUS-VX stands out with its simplified structure, lacking a rotor tilting mechanism, which optimizes its design and reduces mechanical risks.

In terms of technical specifications, the KUS-VX has a length and width of 2.2 meters, making it compact enough to be used in confined spaces while maintaining robust operational capability. Its maximum take-off weight (MTOW) is 25 kg, highlighting its lightweight nature for a UAV of this category. In flight, it can reach an impressive maximum speed of 180 km/h, offering swift execution in various missions, whether for reconnaissance, observation, or surveillance.

The presentation of the KUS-VX at KADEX 2024 underscores Korean Air's commitment to pushing the boundaries of military aviation technologies. This drone, with its unique capabilities, could potentially be integrated into military operations requiring maximum flexibility and a discreet presence on the ground. Its compact size and speed make it a promising tool for armed forces, especially in demanding environments where space is limited, and rapid intervention is crucial.

**214 . Date: 10-09-2024ISR / ISTAR - Mini - General - PlatformMara-2P Drone Delivered to Ukrainian Armed Forces by Kyiv Regional Military AdministrationURL: https://armyrecognition.com/news/army-news/army-news-2024/mara-2p-drone-delivered-to-ukrainian-armed-forces-by-kyiv-regional-military-administration**

The Kyiv Regional Military Administration has officially handed over a Mara-2P unmanned aerial vehicle (UAV) to the Ukrainian Armed Forces, as confirmed by Ruslan Kravchenko, the head of the regional administration. Ukrainian soldiers chose this reconnaissance UAV for its operational effectiveness on the front lines in the ongoing conflict with Russia. The Mara-2P, having garnered positive reviews, has proven itself as a reliable asset in the field. Follow Army Recognition on Google News at this link

Weighing approximately 2.5 kg, the Mara-2P features a low-noise electric motor and can conduct target identification and surveillance over a range of up to 25 km, both during the day and at night. (Picture source: Ukrainian MoD)

Capable of performing reconnaissance missions, the Mara-2P reaches high speeds and can remain airborne for up to 90 minutes, even at low altitudes and in adverse weather conditions, according to Kravchenko. The drone was acquired by the Civil Defense Department of Kyiv's regional state administration through a grant from the Skvyra community. Produced in Ukraine, the Mara UAV has been used on the front lines even prior to Russia's full-scale invasion.

Weighing approximately 2.5 kg, the Mara-2P features a low-noise electric motor and can conduct target identification and surveillance over a range of up to 25 km, both during the day and at night. The drone has a flight range of up to 100 km, a maximum speed of 100 km/h, and can operate at an altitude of up to 3,000 meters.

Its ability to withstand strong winds of up to 20 meters per second, combined with its low-altitude operational capabilities, makes it valuable for military missions. Additionally, the Mara-2P is designed to resist enemy electronic warfare systems, enhancing its effectiveness in operations behind enemy lines.

The Mara-2P has been successfully deployed in Ukraine's ongoing conflict with Russia, logging over 10,000 flight hours (Picture source: Ukrainian MoD)

The Mara-2P is a short-range reconnaissance UAV developed by MARA-DRONE, a Ukrainian military tech company. In use by the Ukrainian Armed Forces since 2016, it has been praised for its reconnaissance and surveillance missions. The Mara-2P is powered by an electric propulsion system, allowing it to cover distances up to 150 km, with a flight duration of 120 minutes.

It is optimized for rapid deployment and does not require specialized launch equipment. The drone’s modular payload system supports the integration of various sensors, enhancing its operational versatility. With a surveillance range of 50 km, it provides critical intelligence on enemy movements and infrastructure.

The Mara-2P has been successfully deployed in Ukraine's ongoing conflict with Russia, logging over 10,000 flight hours. It is endorsed by the Ukrainian Ministry of Defense for its resilience to enemy electronic warfare, which makes it particularly useful in contested airspaces. While primarily used in Ukraine, its battlefield success has garnered international attention, although there is no confirmed widespread use beyond Ukraine.

**215 . Date: 08-11-2024Loitering Munition - Mini - Partnership - MBDA and Fly-R from France Enter Kamikaze Drone Market with RD-120 Raijin Loitering MunitionURL: https://armyrecognition.com/news/army-news/army-news-2024/mbda-and-fly-r-from-france-enter-kamikaze-drone-market-with-rd-120-raijin-loitering-munition**

At Euronaval 2024, a naval defense exhibition that was held in Paris, France, MBDA, in collaboration with French defense company Fly-R, unveiled the RD-120 Raijin loitering munition, an advanced "kamikaze" drone designed for high-precision, autonomous strikes on critical targets. This new addition to MBDA's arsenal represents a strategic entry into the loitering munition market, an area of growing international demand fueled by recent conflicts, including the ongoing war in Ukraine. The RD-120 Raijin combines Fly-R's innovative engineering with MBDA's operational expertise, offering militaries an agile, potent solution for engaging enemy forces in dynamic battlefield conditions. Follow Army Recognition on Google News at this link

A scale model of the Fly-R RD-120 Raijin loitering munition was displayed at the MBDA booth during Euronaval 2024, showcasing the latest in precision strike technology from the French defense industry. (Picture source: Army Recognition Group)

The RD-120 Raijin loitering munition is designed with a strong focus on flexibility, power, and precision. Equipped with a high-performance day/night camera, it can detect, identify, and engage targets in diverse lighting conditions. The munition includes a customizable pyrotechnic charge, allowing for adaptability to the armor levels of various targets, from light vehicles to heavily armored assets, maximizing mission effectiveness.

In its folded state, the RD-120 Raijin measures 250 mm in width, 255 mm in height, and 1,195 mm in length, allowing for compact storage and transport. When deployed, its wings automatically expand to reach unfolded dimensions of 1,215 mm in width, 225 mm in height, and 1,070 mm in length. Weighing 5 kg at maximum takeoff weight (MTOW) and with a mission and military payload capacity of up to 1.5 kg, the Raijin is compact yet powerful.

This loitering munition’s propulsion is driven by an electric motor, enabling a versatile operational speed range between 95 km/h and 200 km/h, depending on mission requirements. The RD-120 Raijin launches from a portable tube launcher, reaching an initial speed of 95 km/h, which it can quickly increase to its cruise speed of 110 km/h. Upon entering its attack phase, the Raijin accelerates to an impressive dive speed of 270 km/h, ensuring a swift and forceful strike on the target. Its range extends up to 50 km, with an endurance of 45 minutes at its cruising speed, making it well-suited for prolonged missions and extensive battlefield coverage. The Raijin is capable of operating at altitudes up to 3,000 meters, giving it an advantage in varied and challenging terrains.

One of the RD-120 Raijin's defining characteristics is its rhomboid wing configuration. This unique design enhances maneuverability and reduces its wingspan and overall mass by approximately a third, allowing for a higher lift-to-drag ratio and greater stability during flight. This structure allows the Raijin to perform rapid, precise maneuvers, maintaining flight stability even at high speeds, and to approach targets from steep angles, ideal for surprise and precision strikes.

Designed for rapid deployment, the RD-120 Raijin can be launched directly from its reusable transport container. Its autonomous flight mode can be overridden by a ground operator, who verifies target identification and gives the final engagement order. Fly-R’s advanced guidance algorithms ensure precise targeting, providing exceptional accuracy on both stationary and moving targets. In the attack phase, the rhomboid wing design further enhances the drone’s visual, acoustic, and thermal stealth, making it difficult for adversaries to detect or intercept.

With a takeoff weight of 5 kg, including a 1.5 kg payload, the RD-120 Raijin offers a potent blend of power and efficiency. Its adaptability and versatile attack options allow it to meet the operational needs of various combat scenarios, from precision strikes on high-value assets to swarm operations alongside other drones. The Raijin’s performance, maneuverability, and tactical flexibility make it an appealing choice for countries aiming to expand their capabilities with advanced loitering munitions.

The RD-120 Raijin loitering munition enters a defense landscape where demand has surged, partly due to the conflict in Ukraine, where loitering munitions have been deployed extensively. Both Ukrainian and Russian forces have relied on these munitions to strike targets in contested zones, including infrastructure, armored vehicles, and command centers. The effectiveness of loitering munitions in this conflict has underscored their strategic value, leading to an increased interest among military forces worldwide. By launching the RD-120 Raijin, MBDA and Fly-R seek to capitalize on this growing demand, positioning the Raijin as a critical asset for militaries looking to enhance their precision strike capabilities.

**216 . Date: 13-09-2024Armed ISR / ISTAR - MALE - General - PlatformMilkor Keeps South Africa in Global UAV Race with Milkor 380URL: https://armyrecognition.com/news/army-news/army-news-2024/milkor-keeps-south-africa-in-global-uav-race-with-milkor-380**

South African private defense company Milkor has positioned the country among the top global producers of large uncrewed aerial vehicles (UAVs) with the development of the Milkor 380. This medium-altitude, long-endurance (MALE) UAV is the largest drone ever produced in South Africa, ensuring that the nation remains competitive in the global UAV market. Milkor fully financed the project and is currently manufacturing the first batch of these advanced UAVs. Follow Army Recognition on Google News at this link

The Milkor 380 offers a high level of autonomy, although it remains under human supervision, with automatic take-off and landing capabilities (Picture source: Milkor)

Milkor’s marketing and communications director, Daniel du Plessis, highlights the growing demand for UAVs. Recognizing this market potential, the company began building a UAV design and production team from the ground up. Over the last five years, the team has grown to 350 employees, with 80% being engineers. The challenge was to develop nearly every component of the Milkor 380 in-house, from its airframe and avionics to its communications systems. However, the engine and payloads, such as sensors or weapon systems, are sourced externally. The Milkor 380 offers a high level of autonomy, although it remains under human supervision, with automatic take-off and landing capabilities. It can operate within a 250-kilometer range via a ground-based control station but can be managed over much longer distances using satellite communications. This flexibility allows for a wide range of operational missions, including intelligence gathering, reconnaissance, maritime and border surveillance, as well as armed strike capabilities if necessary. In terms of performance, the UAV has a range of over 2,000 kilometers and an endurance of 35 hours, with a fuel capacity of 515 kilograms and a payload limit of 220 kilograms. The aircraft’s speed can reach up to 250 kilometers per hour, with a cruising speed between 110 and 150 kilometers per hour. It can fly at altitudes of up to 30,000 feet, though its normal operating altitude is between 15,000 and 18,000 feet.

The Milkor 380 can be equipped with weapons for combat roles, its endurance and range are reduced when configured in this way (Picture source: Milkor)

Although the Milkor 380 can be equipped with weapons for combat roles, its endurance and range are reduced when configured in this way. Du Plessis also points out that, like other MALE UAVs, the Milkor 380 is vulnerable to modern shoulder-launched surface-to-air missiles and is not intended for high-intensity combat zones. Instead, it is most effective in support roles during low-intensity conflicts, which are common in parts of Africa. In such scenarios, the armed version of the UAV can provide essential air cover for ground forces.

The Milkor 380 will be showcased at the Africa Aerospace and Defence 2024 exhibition at Air Force Base Waterkloof, near Pretoria, where it has already generated substantial international interest, particularly from other African nations. According to Du Plessis, the UAV is designed to serve as a strategic national asset, demonstrating its importance to both South Africa’s defense capabilities and its standing in the global UAV market.

**217 . Date: 20-09-2024Armed ISR / ISTAR - MALE - General - Milkor to double annual production of Africa's largest combat droneURL: https://armyrecognition.com/news/army-news/army-news-2024/milkor-to-double-annual-production-of-africas-largest-combat-drone**

In an interview with Army Recognition on September 16, 2024, Daniel du Plessis, Marketing and Communications Director of the South African company Milkor, outlined plans to increase the annual production of its Milkor 380 unmanned combat aerial vehicles (UCAVs). Responding to growing interest in the Milkor 380, currently the largest UAV produced in Africa and expected to rank among the world's top ten Medium Altitude Long Endurance (MALE) UAVs in operational capability, Milkor plans to double its production rate from 8 to 16 units per year by 2026. Follow Army Recognition on Google News at this link

Milkor’s new facility In Cape Town, South Africa, has allowed to increase the 380 production capacity from 8 to 16 units annually. (Picture source: Army Recognition)

The development of the Milkor 380 began in 2021, with taxi testing in early 2023 and its first flight on September 19, 2023. To support the program, Milkor recently expanded its facilities in Cape Town, South Africa, by introducing a new 10,000-square-meter building. This expansion is designed to consolidate all previous research and development (R&D) functions and create new areas for offices, production, testing, and subsystem integration.

The Cape Town location offers logistical advantages for the production and development of the UAV due to its proximity to several South African Air Force bases, such as Air Force Base Langebaanweg, Air Force Base Ysterplaat, and Overberg Air Force Base. These bases provide essential infrastructure for pilot training, aircraft operations, and weapons testing. Additionally, Cape Town's infrastructure, including its harbor and international airport, facilitates access to necessary raw materials.

As highlighted in this interview, the new facility has enabled the company to increase its production capacity to 8 units annually, with a potential production capacity of up to 16 units by 2026, aligning with projected future demand.

Milkor has developed several key components of the Milkor 380 internally, including communications, avionics, automation, and control systems. (Picture source: Army Recognition)

Milkor has developed several key components of the Milkor 380 in-house, including its communications, avionics, automation, and control systems, as over the past five years, the team has expanded to 350 employees, 80% of whom are engineers.

The Milkor 380 is equipped with dual redundant Line of Sight (LOS) and satellite communication capabilities to enable continuous data exchange over long distances. It is compatible with existing Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems to facilitate real-time data transfer and mission coordination.

The Milkor 380, intended for use in Intelligence, Surveillance, and Reconnaissance (ISR) missions as well as for precision strikes, comes equipped with optical systems for high-definition, infrared, and multispectral imaging, which are designed to provide real-time situational awareness and enhance surveillance and reconnaissance effectiveness.

The development of the Milkor 380 began in 2021, with taxi testing in early 2023 and its first flight on September 19, 2023. (Picture source: Milkor)

The adaptable airframe is also equipped with five hardpoints that can carry various payloads, such as sensor pods, electronic warfare systems, glide bombs, precision-guided munitions, and missiles, to suit different mission requirements. For instance, the AeroForce 380, developed in collaboration with the German company Aerodata AG, is a new variant specifically optimized for maritime surveillance and suitable for Navy or Coast Guard monitoring operations.

Incorporating modern technologies such as Synthetic Aperture Radar (SAR) and Inverse Synthetic Aperture Radar (ISAR), the Milkor 380 features a flight control system capable of autonomous operations, including take-offs, flights, and landings, reducing the need for human involvement in these processes. Additionally, two types of Ground Control Stations (GCS) are available for the Milkor 380: the Strategic GCS (SGCS) for permanent installations and the Tactical GCS (TGCS) for rapid deployment.

**218 . Date: 28-08-2024Armed ISR / ISTAR - Mini - General - PlatformMSPO 2024: Poland to Unveil New Compact and Lethal X-FRONTER Drone for InfantryURL: https://armyrecognition.com/news/army-news/army-news-2024/mspo-2024-poland-to-unveil-new-compact-and-lethal-x-fronter-drone-for-infantry**

Poland is set to introduce a technological advancement at the upcoming International Defence Industry Exhibition (MSPO) in Kielce, with the unveiling of the X-FRONTER drone developed by WB Electronics. This compact drone, weighing just over one kilogram, is designed for easy transport in a backpack, offering infantry soldiers both reconnaissance and strike capabilities in an extremely portable form. Follow Army Recognition on Google News at this link

The X-FRONTER can fly at a maximum speed of 60 kilometers per hour, reach an altitude of 300 meters, and operate for up to 40 minutes, providing significant flexibility in its missions. (Picture source: WB GROUP)

The X-FRONTER, which was first presented as a demonstrator two years ago, will now be showcased in its fully developed version. The drone features a military-grade encrypted communication link, resistant to jamming attempts, ensuring reliable surveillance over several kilometers. In addition to surveillance, the X-FRONTER is capable of carrying a small explosive payload, allowing it to engage enemy targets directly. In the future, it may also be equipped with more advanced warheads, such as thermobaric, fragmentation, or cumulative warheads.

One distinctive feature of the X-FRONTER is its design, resembling the size and shape of a PET bottle, making it highly portable for soldiers on the ground. Beyond explosive charges and cameras, this drone can be fitted with various technical equipment, including infrared markers, flares, and even smoke screens, further expanding its operational capabilities.

Another key innovation of the X-FRONTER is its ability to operate in swarms. This functionality allows multiple drones to collaborate and share tasks. For example, some drones can be used for reconnaissance, while others, equipped with explosive payloads, can serve as mobile artillery to strike approaching enemies. This versatility is managed from a compact control panel, enabling effective coordination in the field.

The X-FRONTER can reach a maximum speed of 60 kilometers per hour and ascend to an altitude of 300 meters. With a flight time of up to 40 minutes, it offers substantial operational flexibility, allowing soldiers to quickly adapt their strategy based on battlefield needs.

**219 . Date: 04-10-2024Cargo - MALE - General - PlatformNew Generation of South Korean Unmanned Military Helicopters Unveiled at KADEX 2024URL: https://armyrecognition.com/news/army-news/army-news-2024/new-generation-of-south-korean-unmanned-military-helicopters-unveiled-at-kadex-2024**

The KADEX 2024 exhibition in South Korea showcased an innovative project by KAI (Korea Aerospace Industries): the Korean Future Vertical Lift (KFVL). This new-generation unmanned helicopter concept stands out with its three main variants, each designed to meet specific mobility and payload requirements. The KFVL aims to address the growing demands of modern defense missions with advanced rotor technology, improved speed, and increased range.

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The Korean Future Vertical Lift (KFVL) at KADEX2024. (Picture source: Army Recognition)

During KADEX 2024, KAI presented the Korean Future Vertical Lift (KFVL), a new-generation helicopter. The project features three variants with advanced rotor technologies, offering enhanced speed and range.

The three variants presented are the coaxial rotor model, the compound rotor model, and the tilt-rotor model. Each of these variants offers distinct advantages in terms of maneuverability, speed, and lifting capacity. The coaxial rotor model, with its two counter-rotating rotors, promises improved stability and space efficiency, ideal for operations in confined environments. The compound rotor model combines the capabilities of traditional helicopters with those of fixed-wing aircraft for enhanced performance. Lastly, the tilt-rotor model stands out for its ability to take off and land vertically while offering cruising speeds comparable to airplanes.

With a maximum takeoff weight (MTOW) of 13.6 tons (approximately 30,000 pounds) and over 7,000 SHP (shaft horsepower), these helicopters are designed for optimal performance. The increased speed and range make these aircraft essential tools for modern military missions, particularly in remote or hard-to-reach areas. KAI also highlights significant design improvements compared to traditional helicopters, further strengthening the KFVL’s position in rotorcraft technology.

The KFVL, still in the preliminary research phase, embodies South Korea's ambitions in military aeronautics. With a particular focus on the core technologies required for these helicopters, the project presents itself as a strategic response to the future needs of the South Korean armed forces, while also potentially attracting international interest. The versatility of the three proposed platforms allows for adaptation to various operational theaters, enhancing the intervention and transport capabilities of armed forces in complex environments.

The presentation of the Korean Future Vertical Lift at KADEX 2024 clearly demonstrates KAI's ambitions for technological innovation in the military sector. With its design variants and enhanced capabilities, the KFVL could redefine the standards of future military helicopters.

**220 . Date: 10-09-2024Market - Norway pledges €47.9 Million in drones and air defense systems for UkraineURL: https://armyrecognition.com/news/army-news/army-news-2024/norway-pledges-47-9-million-in-drones-and-air-defense-systems-for-ukraine**

On September 3, 2024, Norway announced a new contribution to Ukraine, allocating NOK 570 million (€47.9 million) for drones and air defense systems. This effort is part of a broader initiative involving the United Kingdom, the Netherlands, Lithuania, and Norway. It is coordinated through the British-led International Fund for Ukraine (IFU), which facilitates the procurement of military equipment for Ukraine. Norway has contributed a total of NOK 1.8 billion (€151.2 million) to this fund since 2022, while other countries, including Denmark, Sweden, Australia, New Zealand, and Iceland, have brought the total commitment to over NOK 12.5 billion (€1.05 billion). Follow Army Recognition on Google News at this link

Norway already donated 850 Black Hornet Nano drones, jointly purchased with the UK, and 1,000 new drone kits to Ukraine, alongside 3 Aeryon SkyRanger R60s and 10 DJI Mavic 2/3s provided by Veteran Aid Ukraine. (Picture source: 116th Mechanized Brigade)

The Norwegian Minister of Defense, Bjørn Arild Gram, stated that Norway, together with other countries, would contribute what they could to meet Ukraine's urgent need for more military equipment in response to the Russian war of aggression. Norway's contributions through the IFU have included air defense systems, mine-clearing equipment, artillery ammunition, transport vehicles, engineering vehicles, pavers, spare parts, and equipment for maintaining Ukrainian platforms and small boats. The funding for these contributions comes from the Nansen program.

Norway's support for Ukraine is outlined in a multi-year program for 2023 to 2027, totaling NOK 75 billion (€6.3 billion), with an annual distribution of approximately NOK 15 billion (€1.26 billion). This assistance is intended to support both Ukraine and neighboring countries affected by the conflict, such as Moldova. For 2024, NOK 22 billion (€1.848 billion) has been allocated under the Nansen Support Programme, including NOK 8.5 billion (€714 million) for civilian and humanitarian support and NOK 13.5 billion (€1.134 billion) for military support.

Details of Norway's 2024 humanitarian and civilian support include NOK 2.55 billion (€214.2 million) for humanitarian aid, NOK 3 billion (€252 million) directed to Ukraine’s government administration through the World Bank's Ukraine Relief, Recovery, Reconstruction, and Reform Trust Fund, NOK 1.1 billion (€92.4 million) for securing electricity in Ukraine, and NOK 100 million (€8.4 million) allocated for nuclear safety measures via the Norwegian Radiation and Nuclear Safety Authority. Additionally, NOK 350 million (€29.4 million) is earmarked for Moldova, while NOK 70 million (€5.88 million) is set aside for a new grant scheme to support Ukrainian civil society organizations.

In 2023, Norway provided approximately NOK 19.9 billion (€1.671 billion) in total support to Ukraine, including the delivery of 8 Leopard 2A4 main battle tanks. (Picture source: Norwegian MoD)

In 2023, Norway provided approximately NOK 19.9 billion (€1.671 billion) in total support, including around NOK 8.9 billion (€747.6 million) for civilian and humanitarian aid and NOK 11 billion (€924 million) for military assistance. Civilian support was distributed through institutions such as the World Bank and the European Bank for Reconstruction and Development, while humanitarian aid was delivered via the United Nations, the Red Cross Movement, Norwegian humanitarian organizations, and the EU's Civil Protection Mechanism. Additionally, NOK 520 million (€43.68 million) was allocated for civilian aid to Moldova, and NOK 180 million (€15.12 million) supported Ukrainian refugees in Poland, Romania, and other European Economic Area countries.

The military support in 2023 included NOK 10 billion (€840 million) through the Nansen program and NOK 1 billion (€84 million) outside of it. The military aid provided by Norway includes NASAMS air defense systems valued at NOK 335 million (€28.14 million), various artillery systems, multiple launch rocket systems (MLRS), tanks, mine-clearing systems, and artillery hunting radars (Arthur), among other equipment. Norway also contributed to training programs for Ukrainian soldiers, including Explosive Ordnance Disposal training, and participated in various multinational efforts to enhance Ukraine's military capabilities.

In 2022, Norway provided NOK 10.7 billion (€898.8 million) to Ukraine, with civilian and humanitarian support totaling approximately NOK 6.3 billion (€529.2 million). This included NOK 2.6 billion (€218.4 million) through the United Nations, the Red Cross, Norwegian and international humanitarian organizations, and the EU's Civil Protection Mechanism. Additionally, Norway supported gas purchases for Ukraine, reconstruction efforts, and nuclear safety initiatives, and extended assistance to Ukrainian refugees in neighboring countries.

Norway's military support in 2022-2023 amounted to around NOK 4.4 billion (€369.6 million), with NOK 3 billion (€252 million) allocated for military equipment, training, and contributions to international funds managed by NATO, the EU, and the United Kingdom. This support included anti-tank weapons, artillery vehicles, missile systems, and other equipment, alongside training and logistical aid for Ukrainian forces. Norway also supported training for Ukrainian soldiers in Great Britain and contributed to the EU Military Assistance Mission for Ukraine.

The military aid provided by Norway includes NASAMS air defense systems valued at NOK 335 million (€28.14 million), various artillery systems, multiple launch rocket systems (MLRS), tanks, mine-clearing systems, and artillery hunting radars (Arthur), among other equipment. (Picture source: Norwegian MoD)

**221 . Date: 21-11-2024Armed ISR / ISTAR - MALE - General - PlatformPakistan Continues to Develop Its Local Military Industry With Unveiling of Its Shahpar-III DroneURL: https://armyrecognition.com/news/army-news/army-news-2024/pakistan-continues-to-develop-its-local-military-industry-with-unveiling-of-its-shahpar-iii-drone**

Pakistan marked the opening of the 12th edition of the International Defence Exhibition and Seminar (IDEAS 2024), held from November 19 to 22 at the Karachi Expo Centre, by introducing an innovation in its defense arsenal. The Shahpar-III drone, developed by the national organization Global Industrial and Defence Solutions (GIDS), highlights the country’s ability to design systems in the domain of unmanned combat aerial vehicles. This drone positions Pakistan among the international players capable of competing with platforms such as the American MQ-9 Reaper and the Turkish AKINCI.

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The Shahpar-III drone was developed by the national organization Global Industrial and Defence Solutions. (Picture source: Pakistan MoD)

Classified as a MALE drone, standing for Medium Altitude Long Endurance, it is capable of conducting prolonged surveillance and reconnaissance missions while offering precision strike capabilities. With a flight endurance of up to 30 hours, it can cover extensive geographical areas for diverse missions ranging from intelligence gathering to the neutralization of strategic targets.

The development of this drone is based on a local production strategy, underlining Pakistan’s commitment to achieving technological autonomy. The Shahpar-III integrates advanced avionics, high-performance sensor systems, and precision flight control. These components, entirely designed and manufactured within Pakistan, demonstrate the expertise and skill of local engineers. For GIDS, this achievement represents the culmination of three decades of effort, as highlighted by Asad Kamal, CEO of the organization, who emphasized the importance of this innovation for national security and sovereignty.

The presentation of the Shahpar-III comes at a time when drones play a central role in modern military operations. Recent conflicts have shown that these systems have become essential for armed forces seeking to maximize their capabilities while minimizing risks to human forces. By bringing to market a product capable of competing with the most advanced drones globally, Pakistan positions itself as a key player in the defense industry and a potential partner for countries interested in robust and affordable technological solutions.

IDEAS 2024 serves as an ideal international platform to showcase this technological advancement. The event brings together delegations from 55 nations, including new participants such as Iran, Italy, and the United Kingdom. With the participation of 224 local companies and 333 international exhibitors, this edition highlights Pakistan’s growing contribution to the global defense industry. A dedicated start-up hall is also a key feature of the exhibition, aimed at encouraging young enterprises to propose innovative solutions and stimulating the development of new technologies.

The Shahpar-III represents a significant milestone for Pakistan’s defense strategy. It is not only a technological breakthrough but also a strategic tool to reduce the country’s dependence on arms imports. In a regional context marked by growing tensions, particularly between Pakistan and India, this drone could bolster the country’s deterrence capability while contributing to regional stability. This advancement could also create new opportunities in the international arms market, where drones play an increasingly crucial role.

The unveiling of the Shahpar-III at IDEAS 2024 clearly demonstrates Pakistan’s ambition to establish itself as a technological and strategic leader in the field of defense. This drone embodies a combination of performance, innovation, and sovereignty, qualities that could strengthen the country’s position on the international stage and meet the growing needs of modern armed forces.

**222 . Date: 02-10-2024ISR / ISTAR - Micro - General - PlatformPapyDrone-800 Cardboard Drone Attracts Armed Forces with its Low Cost at KADEX 2024URL: https://armyrecognition.com/news/army-news/army-news-2024/papydrone-800-cardboard-drone-attracts-armed-forces-with-its-low-cost-at-kadex-2024**

The PapyDrone-800 reconnaissance drone was unveiled at the KADEX 2024 exhibition in South Korea, marking a presentation in the field of low-cost military aeronautics. Made from cardboard materials, this lightweight, fixed-wing drone was designed to provide high-efficiency surveillance capabilities while minimizing production and deployment costs. Follow Army Recognition on Google News at this link

The PapyDrone-800 at KADEX2024. (Picture source: Army Recognition)

The PapyDrone-800 stands out for its compact dimensions and reduced weight. With a wingspan of 800 mm and a maximum takeoff weight of 1 kg, it is optimized for rapid deployment in the field. Its manual launch allows for deployment without heavy infrastructure, offering valuable flexibility in today's combat environments. This drone can fly at a maximum speed of 100 km/h with an operational range of 20 minutes, which is sufficient for short-range reconnaissance missions.

In addition to its low cost, the PapyDrone-800 is equipped with a reconnaissance camera that provides real-time images. This makes it a viable replacement for more complex and expensive drone systems for certain specific missions. The system offers live video transmission and real-time targeting, enhancing the operational efficiency of military units.

Another key feature is its integrated avionics system, which includes a KCNA/P authentication security module to ensure the integrity of flight and mission data. Its lightweight control system manages flight trajectories, navigation, and sensor data processing, simplifying mission management. A dedicated app also allows for quick connection and the simultaneous management of five drones, optimizing operational coordination.

The PapyDrone-800 also features a waterproof coating compliant with the IPX3 standard, ensuring its use even in harsh weather conditions. Moreover, it can be customized based on specific mission needs, including an internally developed autopilot module capable of encrypting flight logs and mission data.

This cardboard drone positions itself as an economical solution designed to offer reconnaissance capabilities to units operating in demanding conditions while limiting the cost and complexity of current systems. The PapyDrone-800 represents a new approach to military surveillance, combining simplicity, low cost, and efficiency — qualities particularly valued in modern conflicts where agility and responsiveness are essential.

The KADEX 2024 exhibition, also known as the Korea Army International Defense Industry Exhibition, is taking place from October 2 to October 6, 2024. This major event is held in Gyeryongdae, Chungcheongnam-do province, South Korea, which is home to the headquarters of the South Korean armed forces. KADEX is a key platform for South Korea’s defense industry, bringing together military delegations and defense companies from around the world to showcase the latest technological innovations in fields such as aviation, mobility, firepower, and advanced defense technologies, including artificial intelligence and drones.

**223 . Date: 29-05-2024Loitering Munition - Small - General - PlatformPoland Launches Warmate 5.0 Loitering Munition to Rival Russia's LancetURL: https://armyrecognition.com/news/army-news/army-news-2024/poland-launches-cutting-edge-warmate-loitering-munition-to-rival-russias-lancet**

The Polish defense industry has developed a new attack drone, WARMATE 5.0. According to a statement from the company Grupa Wb, which develops the Warmate series of kamikaze drones, the development of Version 5.0 is now complete. This enhanced version will gradually join the Polish ranks and replace the currently deployed Warmate 3.0. This aligns with a very current Polish strategy. Follow Army Recognition on Google News at this link

Warmate plateform loitering munition at International Defence Industry Exhibition 2023 in Kielce (Picture source: Michał Derela)

WARMATE attack drones have been in service with the Polish armed forces for several years and are also exported to Ukraine, Georgia, and other countries. The 5.0 version of the Warmate drone carries a larger explosive payload (around 5 kg) and has been modernized. The data transmission channel parameters and the control station have been improved, the software has been modified, and new warhead modifications have been introduced.

The WARMATE 5.0 is analogous to the Russian Lancet loitering munition. The Polish armed forces are currently purchasing it under the Gladius program.

The attack drone is used to strike a wide range of targets, including command posts, anti-aircraft missile positions, and other significant targets.

In the Polish operational doctrine, the Warmate is intended to target radar systems, electronic warfare systems, air defense systems, and enemy concentration positions around training centers or troop concentration points.

The system will also receive upgrades that will allow the integration of advanced artificial intelligence, providing a high level of information processing to identify priority targets.

In Ukraine, WARMATE is used in conditions of heavy signal jamming. It has exclusive video guidance, placing it somewhere between a loitering munition and an FPV drone, and it also has a tracking capability, allowing the munition to lock onto a moving target.

WB Group has announced the development and commercialization of a long-range unmanned aerial strike system, the Warmate 20, which is larger with greater endurance and payload capacity.

This extensive development of weaponry in Poland is part of a strategy to strengthen capabilities at all levels. Poland fears a Belarusian action, made credible from the Polish perspective by the organization of the migration crisis and the opening of a new migration route in 2021. Poland, due to its geographical position and past crises, fears being a target for actions by Slavic countries east of its border and is fortifying itself. Anti-tank mines have been deployed along the border with Belarus, as well as dragon's teeth (anti-tank obstacles) along the fence bordering the two nations. Recently, fortified firing positions with sandbag structures have been set up, and military units and border guards have been deployed in the area. It seems that Poland is actively preparing for conflict, which can be seen as an illustration of a Pre-war Country.

**224 . Date: 02-10-2024Loitering Munition - Small - General - PlatformRise of Hybrid Drones: WTA-DC001 Designed for Offensive and Reconnaissance OperationsURL: https://armyrecognition.com/news/army-news/army-news-2024/rise-of-hybrid-drones-wta-dc001-designed-for-offensive-and-reconnaissance-operations**

At KADEX 2024, held in South Korea from October 2 to 5, the WTA-DC001 hybrid suicide drone has taken center stage, showcasing its advanced design and operational capabilities. This drone represents an important step in autonomous warfare technology, designed for both offensive and reconnaissance missions with precision and efficiency. Follow Army Recognition on Google News at this link

WTA-DC001 Hybrid Drone (Picture source: Army Recognition)

Crafted from high-quality composite materials, including Fiber-Reinforced Plastic (FRP) and carbon, the WTA-DC001 boasts a robust yet lightweight structure. Its delta-wing configuration enhances aerodynamic performance, allowing for more efficient flight and precise targeting. The drone’s compact size, measuring 1500 by 1000 mm, and a weight of only 1 kilogram, ensure its agility in complex operational environments.

The WTA-DC001 is capable of carrying a payload of up to 4 kilograms, which can include an 80mm mortar shell for combat missions or a reconnaissance camera for surveillance operations. This flexibility allows the drone to serve dual purposes, making it a valuable asset in both direct engagement and intelligence-gathering missions.

Powered by either a lithium-ion or lithium-polymer battery, the drone can sustain flight for up to 40 minutes, reaching speeds between 80 and 100 km/h. Its ability to operate autonomously or in semi-autonomous modes, thanks to its integrated autopilot system, offers users enhanced control and adaptability depending on mission requirements. This autonomous capability minimizes human intervention and reduces the risk of operator error during critical missions.

Another key feature of the WTA-DC001 is its compatibility with infrared (IR) and electro-optical (EO) cameras, optimizing it for long-range reconnaissance and target detection. This enhances its situational awareness, making it highly effective in modern combat scenarios where information dominance is crucial.

Presented at KADEX 2024, the WTA-DC001 exemplifies the evolving role of unmanned systems in military operations. Its ability to combine offensive striking power with advanced reconnaissance capabilities positions it as a game-changer in drone warfare. As South Korea hosts this international defense exhibition, the spotlight on autonomous systems like the WTA-DC001 highlights the growing importance of technological innovation in securing strategic advantages on the battlefield.

The introduction of the WTA-DC001 at KADEX 2024 signals a broader trend in the defense industry: the increasing reliance on autonomous and semi-autonomous systems to perform complex tasks that traditionally required human intervention. This shift promises to reshape the future of warfare, with drones like the WTA-DC001 leading the charge in next-generation military capabilities.

**225 . Date: 24-06-2024ISR / ISTAR - Mini - Contract - Romania Enhances Aerial Reconnaissance Capabilities with New Quantum Systems Vector Drone PurchaseURL: https://armyrecognition.com/news/army-news/army-news-2024/romania-enhances-aerial-reconnaissance-capabilities-with-new-quantum-systems-vector-drone-purchase**

On June 24, 2024, Romania signed a contract for 18.4 million euros ($19.7 million) to purchase Vector unmanned aerial systems (UAS), manufactured by the German company Quantum Systems. This development continues the Romanian Armed Forces' 2040 transformation program, aimed at strengthening the country's defense capabilities. The acquisition of these advanced UAS is pivotal in enhancing ground troops' operational awareness and combat tactics, particularly in complex environments where real-time surveillance and reconnaissance are critical for effective engagement and threat management. Follow Army Recognition on Google News at this link

Quantum Systems Vector Unmanned Aerial Vehicle (Picture source: Quantum Systems)

The Romanian government, which had already enhanced its air fleet with second-hand F-16s from Denmark, Bayraktar TB2 drones from Türkiye, and Watchkeeper X drones from Israel, sees the acquisition of these new drones as an opportunity to increase its reconnaissance and surveillance operations. The importance of these new capabilities is especially critical in the context of the ongoing security instability in the Black Sea region.

The contract signed on May 14, 2024, stipulates a three-year delivery period for the UAS. Each Vector drone, with a unit cost of 180,000 euros, is equipped with impressive capabilities: electric propulsion, vertical takeoff, and the ability to fly for 180 minutes in challenging weather conditions. The Vector can also transmit real-time video to multiple ground control stations over a maximum distance of 35 kilometers through encrypted Mesh IP data links.

Sven Kruck, Chief Sales Officer of Quantum-Systems, expresses his pride: "Our collaboration with Romania marks an important milestone in our mission to support global defense initiatives with reliable and efficient unmanned aerial solutions."

The Vector drone is a cutting-edge dual-use ISR (Intelligence, Surveillance, Reconnaissance) system developed by Quantum-Systems GmbH, designed to excel in both civilian and military applications due to its versatility and advanced technological features. This electric vertical take-off and landing (eVTOL) system was officially released on February 15th, 2024, and serves as a state-of-the-art solution for mobile, disconnected military and security operations as well as for commercial use in geospatial data collection.

Vector is uniquely engineered to operate in confined areas with its compact design, supporting a wingspan of 2.8 meters and weighing under 8.5 kg, which allows for vertical takeoff and landing capabilities. This drone is equipped with AES-256 encrypted mesh network radio for secure communication and includes a tactical hand controller and an optional laptop for operations. It boasts high endurance and resilience, capable of operating in winds up to 27 knots and at altitudes up to 4500 meters MSL. Its operational flexibility is enhanced by the onboard AI processing with NVIDIA Jetson Orin, making it ideal for complex mission environments where real-time data processing is critical. Vector’s integration with various command and control systems and its compatibility with existing operational protocols underscore its role in modern ISR tasks, providing a robust platform for both tactical military engagements and advanced commercial applications.

The Vector drones stand out for their low noise emissions, making them ideal for covert surveillance operations. They can be deployed and operational in just three minutes by a few soldiers, thus providing a quick and effective response in various reconnaissance and security scenarios.

As a reminder, the Romanian armed forces are structured around territorial defense, support for NATO and EU missions, and contributing to regional and global stability and security. According to the National Defense Strategy 2020-2024, principal security threats include Russia’s increased presence in the Black Sea, hybrid warfare, cyber-attacks, terrorism, and the economic impact of the coronavirus pandemic. Under the Armata 2040 project, authorities are looking to modernize and upgrade the armed forces to NATO standards. A defense budget increase was announced in March 2022. Bucharest has signed defense cooperation agreements with regional allies and, following Russia’s 2022 invasion of Ukraine, has enhanced cooperation with the US, France, and regional allies in the Bucharest Nine organization. There is a strategic partnership with the US.

Quantum Systems Vector Unmanned Aerial Vehicle (Picture source: Quantum Systems)

**226 . Date: 14-06-2024Armed ISR / ISTAR - MALE - General - Romanian Army Takes Reception of First Turkish-Made Bayraktar TB2 Aerial DronesURL: https://armyrecognition.com/news/army-news/army-news-2024/romanian-army-takes-reception-of-first-turkish-made-bayraktar-tb2-aerial-drones**

The Romanian army have initiated the qualitative and quantitative reception procedures for their first Turkish-made Bayraktar TB2 unmanned aircraft system, according to Defense Romania online defense magazine. This significant step marks the beginning of a new era in Romania's military capabilities, with the first training flights for Romanian pilots expected by the end of this month or the start of July. The Bayraktar TB2 aircraft, bearing the Romanian tricolor cockade on their wings, will officially be registered as Romanian state aircraft. Follow Army Recognition on Google News at this link

In August 2022, the Romanian Ministry of National Defense sought parliamentary approval for the purchase of three Bayraktar TB2 unmanned aircraft systems (UAS) to equip the Romanian Land Forces. (Picture source: X Account Dacina Draco)

The introduction of Bayraktar TB2 unmanned aircraft systems (UAS) is a critical component of Romania's Army Transformation Program, set to be achieved by 2040. This acquisition aligns with the Capability Targets within the NATO defense planning process, bolstering Romania's strategic objectives.

In August 2022, the Romanian Ministry of National Defense sought parliamentary approval to purchase three Bayraktar TB2 UAS, each comprising six aircraft, totaling approximately $321 million. This package includes related munitions, initial logistical support, and specific training and education equipment. The purchase contract, signed in April 2023, outlined delivery dates in June 2024, September 2024, and January 2025.

Earlier this year, from February to June, the first batch of Romanian aeronautical personnel underwent training in Turkey. Simultaneously, the manufacturer conducted acceptance, testing, and reception activities for the technical equipment, ensuring readiness for deployment.

The Bayraktar TB2, developed by the Turkish company Baykar Makina, is a medium-altitude, long-endurance (MALE) unmanned combat aerial vehicle (UCAV). It is primarily designed for reconnaissance, surveillance, and precision strike missions, gaining prominence for its operational success in various conflict zones. The TB2's design features a composite structure, a monocoque fuselage, and a blended wing body, allowing a maximum takeoff weight of 650 kg and a payload capacity of 150 kg. It can carry four MAM laser-guided bombs or Roketsan Cirit missiles, effectively engaging diverse targets.

Equipped with advanced avionics, the TB2 includes an onboard avionic suite with a triple-redundant flight control system and a MIL-STD-1553B compliant interface. Its communication system supports encrypted data links for secure, long-range control, and real-time video transmission. With an endurance of approximately 27 hours and a maximum altitude of 27,000 feet, the TB2 is suitable for prolonged operations in varied environments. Its success has led to widespread export and adoption by several countries, solidifying its status as a reliable and versatile asset in modern warfare.

This acquisition marks a significant enhancement of Romania's defense capabilities, positioning the Romanian Army at the forefront of modern military technology.

**227 . Date: 15-10-2024ISR / ISTAR - Small - General - PlatformRussia is Ready to Start Production of SKAT 350M an Advanced Unmanned Aerial VehicleURL: https://armyrecognition.com/news/army-news/army-news-2024/russia-is-ready-to-start-production-of-skat-350m-an-advanced-unmanned-aerial-vehicle**

The unmanned aerial system (UAS) SKAT 350M, developed by Izhevsk Aviation Plant LLC (IAZ)—a subsidiary of the Kalashnikov Group—has been officially entered into the register of products manufactured in the Russian Federation. This major step, achieved under Government Resolution No. 719 of July 17, 2015, allows the SKAT 350M to participate in public tenders and execute government orders, marking progress for Russia's domestic drone industry.

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The SKAT 350M is designed for a variety of missions, including surveillance, reconnaissance, and potentially electronic warfare support. (Picture source: Kalashnikov)

The expert report confirming the system's compliance with the requirements to be recognized as a product manufactured in Russia was issued by the Chamber of Commerce and Industry of the Udmurt Republic.

The SKAT 350M is designed for a variety of missions, including surveillance, reconnaissance, and potentially electronic warfare support. It is believed to be equipped with advanced avionics, sophisticated communication systems, and offers payload versatility to meet various operational requirements. The drone likely has an extended operational range, allowing it to cover vast distances for intelligence-gathering missions.

The inclusion of the SKAT 350M in the official register has several strategic implications. For the Russian military, it is an opportunity to integrate a high-performance domestic drone, enhancing situational awareness and operational effectiveness on the ground. For the Izhevsk Aviation Plant and the Kalashnikov Group, it paves the way for increased revenues through government contracts and greater investment in research and development. This approach also supports Russia's objective of strengthening its technological independence by reducing reliance on foreign technologies and promoting domestic innovation in critical defense sectors.

The Izhevsk Aviation Plant has a long history in aircraft manufacturing and has recently focused on developing unmanned systems. As an integral part of the Kalashnikov Group—the largest Russian producer of automatic weapons and precision munitions—the plant benefits from extensive expertise and substantial resources in defense technology development.

The adoption of drones such as the SKAT 350M reflects a global trend toward the use of unmanned systems in military applications. Drones offer several advantages, including reducing risks to human pilots in hostile environments, increased economic efficiency over their operational life cycle compared to manned aircraft, and great versatility due to the ability to equip different sensors and payloads suited to various missions.

Government Resolution No. 719, issued on July 17, 2015, establishes the criteria for classifying products as manufactured in the Russian Federation. Compliance with this resolution is essential for manufacturers wishing to participate in government procurement processes. The inclusion of the SKAT 350M under this resolution attests to its adherence to national production standards.

The entry of the SKAT 350M into the Russian register of domestically manufactured products is an important step. It demonstrates Russia's commitment to improving its military capabilities through indigenous technologies. Of course, this drone will very likely be sent to Ukraine, where massive use will allow us to determine its quality and real impact on the battlefield; it also remains to be seen whether Russia will be able to produce this drone in substantial numbers.

**228 . Date: 08-11-2024General - SoftwareSaab Reinvents Drone Swarm Coordination for US UK And Australian AllianceURL: https://armyrecognition.com/news/army-news/army-news-2024/saab-reinvents-drone-swarm-coordination-for-us-uk-and-australian-alliance**

Saab’s Autonomous Swarm technology played a central role in the AUKUS-led Project Convergence 2024 trials, held over a month in the United States. These trials involved a team of 40 specialists from BlueBear, a Saab subsidiary, along with the UK’s Defence Science and Technology Laboratory (Dstl), demonstrating advanced interoperability by deploying Artificial Intelligence (AI) within swarms of Uncrewed Aircraft Systems (UAS).

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Saab’s Autonomous Swarm technology played a central role in the AUKUS-led Project Convergence 2024 trials. (Picture source: Saab)

AUKUS is a strategic security alliance formed in 2021 between Australia, the United Kingdom, and the United States. Focused on enhancing defense and security cooperation, particularly in the Indo-Pacific region, AUKUS aims to strengthen each member nation's military capabilities through collaborative projects and technology sharing. One of its most notable initiatives involves supporting Australia in developing and deploying nuclear-powered submarines, but AUKUS also emphasizes advanced research and development in areas like artificial intelligence, cyber capabilities, and autonomous systems. This alliance reflects the countries' shared commitment to stability, security, and technological advancement in response to evolving global challenges.

The trilateral AUKUS partnership—comprising Australia, the United Kingdom, and the United States—places particular emphasis on developing networked, collaborative swarm technologies. During these trials, BlueBear’s Centurion mission system demonstrated its capacity to allow a single operator to control and manage a broad array of autonomous UAS in complex multi-domain environments. This highlights the growing value of BlueBear’s AI-enabled autonomy for critical operations.

At the core of BlueBear’s technological advancement is the flexibility of “hot-swapping” AI modules from various suppliers within an autonomous systems framework. This capability greatly enhances the adaptability of networked sensors and effectors, marking a transformative step for integrated battlefield operations. In practice, the AUKUS trials showcased the use of BlueBear’s RedKite and Ghost UAS, operating alongside the Centurion system. This combination enabled the AUKUS team to reconfigure and deploy AI algorithms rapidly, optimizing UAS payloads and capabilities according to real-time operational needs.

“The AUKUS trials represent a substantial advance in our capacity to achieve seamless interoperability with allied forces, both in mission execution and core technology,” said Andy Fraser, Group Managing Director of Saab UK. “The joint investment from the UK government and Saab’s BlueBear has facilitated the rapid development and testing of high-value, strategically essential technologies for modern warfare.”

The success of the AUKUS trials reflects decades of dedicated research and development under the Dstl’s Autonomy and Open Architecture program, consistently funded over the past 20 years. This sustained support has enabled BlueBear and its partners to reach new milestones in operational capabilities for autonomous swarm technology.

Saab’s acquisition of BlueBear in August 2023 has bolstered its technology portfolio, accelerating the development of innovative solutions and integrating them into Saab’s broader strategic capabilities.

**229 . Date: 06-09-2024ISR / ISTAR - Tactical - Regulation - Schiebel Obtains Design Verification Report from European Union for its Camcopter S-100URL: https://armyrecognition.com/news/army-news/army-news-2024/schiebel-obtains-design-verification-report-from-european-union-for-its-camcopter-s-100**

The Camcopter S-100, developed by Schiebel, reached a major milestone by receiving the first-ever Design Verification Report (DVR) from the European Union Aviation Safety Agency (EASA) for a Rotary Wing Unmanned Air System (RWUAS) in Vienna on September 5, 2024. This achievement marks a pioneering step in the certification of rotary-wing drones in Europe. Follow Army Recognition on Google News at this link

The Camcopter S-100 is a versatile Unmanned Air System (UAS) that has been operationally proven in both military and civilian applications. (Picture source: Schiebel)

The DVR, issued for specific drone operations, follows a thorough evaluation process. EASA observed 300 flight hours under strict supervision to assess the airworthiness, safety, and enhanced containment measures of the Camcopter S-100. In addition, the system demonstrated its compliance with laser safety protocols, cybersecurity measures, and resistance to High Intensity Radiated Fields (HIRF).

This EASA certification opens the door to further regulatory approvals, notably allowing the French Navy to issue a "Military Operational Authorization." It also simplifies the approval process for S-100 flight operations in all EASA member states.

The Camcopter S-100 is a versatile Unmanned Air System (UAS) that has been operationally proven in both military and civilian applications. As a Vertical Takeoff and Landing (VTOL) system, it requires no prepared area or additional equipment for launch and recovery. Designed for day and night operations in challenging weather conditions, it has a beyond-line-of-sight range of up to 200 kilometers (108 nautical miles) over land and sea.

Built with a carbon fiber and titanium fuselage, the Camcopter S-100 offers a variety of payload and endurance options. It can carry up to 34 kilograms (75 pounds) of payload for 10 hours, with an operational ceiling of 5,500 meters (18,000 feet). The aircraft is powered by AVGas or JP-5 heavy fuel and transmits high-definition imagery to the control station in real time. In addition to GPS waypoint navigation, the system can operate in GPS-denied environments, providing significant flexibility for various missions.

Founded in 1951 in Vienna, Schiebel is a leader in the development and production of high-tech military, commercial, and humanitarian products. With a strong emphasis on after-sales service, Schiebel has built a solid international reputation with facilities in Austria, France, the United States, the United Arab Emirates, and Australia.

Hans Georg Schiebel, Chairman of the Schiebel Group, stated: "Receiving the DVR is an important milestone for Schiebel and a significant step toward the full certification of the Camcopter S-100 UAS." The DVR process, launched by EASA in late 2021, aims to enhance the safety and regulation of drone operations in Europe, particularly in the rapidly growing sector of Unmanned Aerial Systems (UAS).

**230 . Date: 10-07-2024Loitering Munition - Mini - Requirement - South Korea eyes Polish Warmate loitering munition used in UkraineURL: https://armyrecognition.com/news/army-news/army-news-2024/south-korea-eyes-polish-warmate-loitering-munition-used-in-ukraine**

Since June 2024, South Korea has been studying the possibility of buying Warmate loitering munitions from Poland to strengthen its defense capabilities. A South Korean delegation is scheduled to visit Warsaw to inspect these Polish-made unmanned aerial vehicles (UAVs) and assess their suitability for operations on the Korean peninsula. Follow Army Recognition on Google News at this link

Polish WB Group Warmate loitering munition (Picture source: Army Recognition)

This initiative follows the visit of South Korean Defense Minister Shin Won Sik to Poland last month, during which Warsaw requested Seoul to purchase their weapons systems. The South Korean military has shown particular interest in the Warmate drones, which have demonstrated their combat effectiveness in Ukraine. "Since Polish drones are currently being used in real combat operations, we will review whether there are areas that can be used by our military," said a spokesperson for the South Korean Ministry of Defense.

This potential acquisition is part of a growing defense cooperation between South Korea and Poland. In 2022, Poland signed agreements with South Korean defense companies to purchase various weapons systems, including FA-50 fighter jets, K2 tanks, K9 self-propelled howitzers, and Chunmoo rocket artillery systems.

"The demand for small unmanned aerial vehicles in our army has increased, and Poland has bought many of our weapons," added a South Korean official. "If our military wants a type of drone, it will be a good match."

The Warmate is a kamikaze drone developed by WB Electronics. Designed for reconnaissance, surveillance, and target engagement missions, it can carry different types of warheads, including multiple-explosive and high-explosive, allowing it to effectively destroy armored vehicles and other targets. With a range of up to 30 km and a flight time of 60 minutes, the Warmate offers manual and automatic control capabilities and quick launch preparation, making it particularly effective on the battlefield.

South Korea's decision to potentially integrate Warmate drones into its military arsenal highlights the growing importance of UAVs in modern defense strategies. If this acquisition goes through, it could mark a new chapter in defense cooperation between South Korea and Poland, enhancing the military capabilities of both nations.

The Warmate loitering munition measures 1 meter in length, has a 1.4-meter wingspan, and weighs 5 kilograms. It is easily transportable by a single soldier using a backpack and features foldable main wings and V-shaped tail fins.

Warmate can be employed for reconnaissance in various combat scenarios, with the option to carry different types of payloads or explosive warheads.

This versatile system can function as a standalone unit, be transported by land forces, or accompany special operations units. Its design allows for installation on various vehicles, including cars and APCs, and integrates seamlessly with onboard systems through the Ground Control Station and Ground Data Terminal.

Unlike traditional anti-tank guided missiles, Warmate offers a significantly larger operational radius, allowing for extended target detection and observation over an extended period, with a flight time of approximately 70 minutes. Additionally, it can be equipped with a laser-seeking warhead.

**231 . Date: 02-10-2024Armed ISR / ISTAR - Small - General - PlatformSouth Korean Company NES&TEC Innovates with TM-200 Tilting Multicopter Drone Designed for Tactical Military OperationsURL: https://armyrecognition.com/news/army-news/army-news-2024/south-korean-company-nes-tec-innovates-with-tm-200-tilting-multicopter-drone-designed-for-tactical-military-operations**

The Korea Army International Defense Exhibition, Kadex 2024, taking place from October 2 to 6, 2024, in South Korea, was marked by the presentation of the TM-200, an innovative multicopter developed by the South Korean company NES&TEC. This next-generation drone, designed for military and tactical missions, drew attention from participants due to its advanced technical features and operational potential in complex environments. Follow Army Recognition on Google News at this link

NES&TEC TM-200 Tilting Multicopter Drone (Picture source: Army Recognition)

The TM-200 is a tilting multicopter, with compact dimensions (1420 mm in diameter and 500 mm in height), making it easily transportable while maintaining a payload capacity of 6 kg. With a total weight of 14 kg, it stands out for its relative lightness, while offering a cruising speed of 40 km/h in automatic mode. Thanks to its flight autonomy of up to 60 minutes and an operational range between 5 and 10 km, this drone is particularly suited for extended missions and deep reconnaissance operations.

One of the key features of the TM-200 is its ability to perform precise strikes thanks to its attitude control system, which allows for highly accurate targeting. Additionally, the drone is equipped with an integrated encryption module, ensuring confidentiality and secure communications throughout its missions.

The TM-200 is specifically designed for targeted attack missions and surgical strikes, particularly in tactically sensitive environments. With its capability to be operated by a single individual, this drone is easy to deploy, making it a valuable asset for military forces seeking to enhance their field responsiveness.

At Kadex 2024, the TM-200 demonstrated its capabilities as a modern and efficient solution for missions requiring precision and reliability. Its presentation garnered significant interest among international military delegations present at the event, positioning NES&TEC as a key player in the development of versatile tactical drones.

NES&TEC TM-200 Tilting Multicopter Drone (Picture source: Army Recognition)

**232 . Date: 04-09-2024Loitering Munition - Mini - Contract - South Korea to purchase 200 Polish-made Warmate loitering munitions for over $10 MillionURL: https://armyrecognition.com/news/army-news/army-news-2024/south-korea-to-purchase-200-polish-made-warmate-loitering-munitions-for-over-10-million**

According to Hankyung on September 3, 2024, the South Korean Ministry of National Defense requested a contract from the Defense Acquisition Program Administration (DAPA) for the purchase of approximately 200 Polish-made Warmate loitering munitions, with the total cost estimated at about 14.6 billion Korean won ($10,883,745.20). The contract is expected to proceed with some units to be delivered before the end of this year, and the remainder by the following year, for integration into operational service. Follow Army Recognition on Google News at this link

The Polish Warmate loitering munition is capable of carrying various types of warheads, including high-explosive (HE), fragmentation (FRAG), and high-explosive anti-tank (HEAT) types. (Picture source: WB Group)

The drones under consideration are from the Warmate series, produced by the Polish defense firm WB Group. South Korea's decision follows the use of these drones in the Ukraine conflict, where their performance has been evaluated in combat conditions to target assets such as the Pantsir-S1 air defense system and the Podlet radar. The Warmate series includes several models, each designed for specific operational roles, including reconnaissance and strike missions. The original Warmate model, introduced in 2016, has an operational range of 30 kilometers and a flight endurance of about 70 minutes.

It is capable of carrying various types of warheads, including high-explosive (HE), fragmentation (FRAG), and high-explosive anti-tank (HEAT) types. The Warmate 2, a more advanced variant, has an extended range of up to 240 kilometers and is equipped to carry heavier warheads for targeting armored vehicles and command posts. It also features enhanced flight control, weather resilience, and night combat capabilities.

South Korea began exploring the possibility of acquiring Warmate loitering munitions in June 2024, amidst concerns over North Korea's accelerated development of similar kamikaze drones. A South Korean delegation, including officials from the Drone Operations Command, was dispatched to Warsaw to inspect the Polish-made UAVs and assess their potential for operations on the Korean Peninsula. This initiative followed a visit by South Korean Defense Minister Shin Won Sik to Poland the previous month, during which the Polish government formally requested Seoul to consider purchasing its unmanned aerial vehicles (UAVs).

The South Korean Army has expressed interest in the Warmate drones, noting their use in active combat scenarios in Ukraine. A Ministry of Defense spokesperson stated, "Since Polish drones are currently being used in real combat operations, we will review whether there are areas that can be used by our military." Additionally, the production capacity in Poland is seen as a factor that could enable rapid procurement to meet South Korea's operational needs.

The Warmate drones are notable for their ability to function as a self-contained system, which can be transported or carried by land or special forces units. (Picture source: WB Group)

This visit aligns with ongoing defense trade activities between the two nations, as Poland has already entered into several agreements to buy various South Korean-made weapons systems, such as K9 self-propelled howitzers and K2 tanks, with additional contracts anticipated. Analysts have suggested that this drone acquisition may represent a "countertrade" arrangement, where military purchases are part of reciprocal agreements aimed at deepening defense cooperation between the two countries.

The Warmate drones are notable for their ability to function as a self-contained system, which can be transported or carried by land or special forces units. The design also permits installation on vehicles, such as cars and armored personnel carriers (APCs), and allows for the integration of the Ground Control Station and Ground Data Terminal with onboard vehicle systems. The Warmate provides an alternative to traditional anti-tank guided missiles, as it can operate over a larger radius, enabling the detection and observation of potential targets over a longer period, with a flight time of approximately 70 minutes. The system can also be equipped with a laser-seeking warhead if required. In its combat configuration, the Warmate is designed to be expendable, while in an observation role, it can be recovered and reused.

The Warmate is designed as a fully autonomous solution that supports real-time airborne operations using a video feed from its surveillance subsystem. The UAV is equipped with control modules that ensure the automation of most flight phases, while also allowing the operator to maintain full control and responsibility for activating the armed state to execute combat tasks. This balance of automation and operator oversight is intended to enhance its effectiveness in various operational scenarios.

The technical specifications of the Warmate loitering munitions include a line-of-sight operational range (RLOS) of 30 kilometers and an operational speed of 80 km/h, powered by an electric motor. The drone's wingspan is 1.6 meters, with a fuselage length of 1.1 meters, and a maximum take-off weight of 5.7 kilograms. It can operate at altitudes between 150 and 300 meters above ground level (AGL) and can carry different types of warheads, such as high-explosive and thermobaric types. The maximum speed during an attack is 150 km/h.

**233 . Date: 23-10-2024Armed ISR / ISTAR - Small - General - PlatformTITRA Enhances Türkiye’s Reconnaissance and Strike Power with Dumrul Mini Combat DroneURL: https://armyrecognition.com/news/army-news/army-news-2024/titra-enhances-tuerkiyes-reconnaissance-and-strike-power-with-dumrul-mini-combat-drone**

The Dumrul Mini UCAV, a combat drone developed by TITRA, is being showcased at the SAHA 2024 defense exhibition, held in Istanbul from October 25 to 28, 2024. This unmanned system, designed for reconnaissance and precision strike missions, is part of the innovative solutions presented by the Turkish company to meet the needs of armed forces.

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TITRA Dumrul Mini Combat Drone Designed for Reconnaissance and Strike Missions (Picture source: Army Recognition)

In the constantly evolving landscape of modern warfare, unmanned systems have become essential assets, offering flexibility, precision, and reduced risk to soldiers. The Dumrul Mini UCAV (Unmanned Combat Aerial Vehicle), developed by Pasifik Teknoloji, embodies this trend with a design that incorporates advanced technology for various mission profiles. Equipped with state-of-the-art capabilities and technical specifications tailored to the needs of modern military forces, the Dumrul Mini UCAV stands out for its versatility and operational efficiency.

At the heart of the Dumrul Mini UCAV system is its ability to deliver a range of offensive and defensive payloads with precision. Designed to operate effectively in diverse environments, the platform features a service ceiling of 12,000 feet, providing flexibility for both high-altitude surveillance and low-altitude tactical engagements.

With a payload capacity of 8 kg, this UCAV can carry a variety of mission-critical munitions. Key payload options include ISR (Intelligence, Surveillance, and Reconnaissance) systems, dual 81mm mortars, laser-guided mini missiles, and a 40mm rotary gun capable of holding up to six rounds. This range of payloads makes the Dumrul Mini UCAV not only a versatile reconnaissance platform but also a formidable tool in both offensive and defensive roles, capable of responding to various threats.

Two remarkable features of the Dumrul system are its mortar and grenade launcher capabilities, both engineered for precision and efficiency. The 81mm mortar has a total round weight of 1,900 grams and a length of 337mm, filled with 550g of Comp B explosive and supported by a durable composite body. The mortar’s fragmentation capacity – 1,296 fragments – ensures significant impact over a 50m diameter, making it a powerful tool for suppressive fire and area denial. The MKE MOD 128 fuze provides reliable detonation, with specialized UAV ammunition ensuring compatibility with unmanned systems.

Additionally, the 40mm grenade launcher adds further tactical versatility. Capable of firing both 40x46mm and 40x51mm rounds, the launcher operates with a gas recoil system and a rotary cylinder holding six rounds. With a maximum effective range of 800m (using medium-speed ammunition), this launcher is optimized for both close-quarters engagements and long-range attacks, allowing the UCAV to strike targets from a safe distance. Its semi-automatic and manual operation modes, coupled with robust safety features such as a double-sided safety latch and drum locking pin, make the grenade launcher a reliable asset during combat.

Endurance is a crucial factor for any UAV, particularly in tactical scenarios requiring prolonged operation. The Dumrul Mini UCAV boasts an impressive endurance of 30+ minutes per mission, ensuring it can support long-duration engagements and provide continuous overwatch in complex operational environments.

In addition to endurance, the Dumrul system is designed to withstand challenging weather conditions, with wind resistance of 25 knots. This allows the UCAV to operate in environments where other systems might be grounded due to adverse conditions.

One of the defining characteristics of the Dumrul Mini UCAV is its adaptability across a range of missions. The platform’s modular design enables it to switch roles seamlessly, offering ISR capabilities for reconnaissance missions, direct strike capabilities with its mortar and grenade launcher systems, and logistics support with its cargo transport capability. This flexibility makes the Dumrul system a valuable asset in both conventional and asymmetric warfare.

The UCAV’s control radius of 10 km, extendable up to 60 km with additional communication equipment, allows operators to deploy the system deep into hostile territory while maintaining secure control from a safe distance. This extended operational range increases the UCAV’s utility in both urban and rural combat zones, enabling it to engage targets or conduct surveillance far beyond the immediate vicinity of its operators.

The Dumrul UCAV is also a key component of the METE Mission Concept, which integrates unmanned aerial and ground-based systems for synchronized battlefield operations. This concept enhances the Dumrul system’s effectiveness by allowing it to work in conjunction with ground control stations equipped with advanced missile management software, airborne and ground-based designation systems, and laser-guided mini missiles.

Integration with FPV goggles ensures real-time situational awareness for operators, providing them with a direct feed from the UCAV’s sensors, thereby enhancing mission accuracy and decision-making in dynamic combat situations.

TITRA, a Turkish company specializing in technology and defense, has rapidly established itself as a key player in the field of autonomous systems and innovative solutions for armed forces. Its expertise is primarily focused on developing unmanned systems, including drones and autonomous aerial vehicles. Among its notable achievements is the Togan, a tactical drone designed for surveillance and reconnaissance missions, capable of providing real-time intelligence to forces on the ground. In addition to the Togan, TITRA has also developed other systems such as the METE, a laser-guided mini missile, and missile management solutions tailored for both ground and aerial environments. The company plays a crucial role in modernizing the Turkish armed forces and expanding its influence internationally, leveraging innovation to meet the complex demands of modern conflicts.

The development of the Dumrul Mini UCAV began in the 2010s, a period during which Turkey intensified its efforts to modernize its armed forces, particularly after conflicts in Syria and growing tensions with armed groups in the region. By 2016, the need for autonomous and versatile defense technologies became more pressing as the country faced increasingly complex asymmetric threats. It was in this context that TITRA, an emerging company in the defense technology sector, began designing the Dumrul Mini UCAV. In 2020, Turkey accelerated its drone programs following the successes observed during operations in Libya and Nagorno-Karabakh, demonstrating the effectiveness of unmanned systems in modern conflicts. Officially launched in 2022, the Dumrul represents the culmination of these efforts, with advanced reconnaissance and strike capabilities, reflecting both the country’s immediate operational needs and its strategic goal to position itself as a major player in drone technology.

**234 . Date: 14-10-2024Partnership - Turkiye and Serbia Sign Defense Cooperation Agreement Focused on Drone TechnologyURL: https://armyrecognition.com/news/army-news/army-news-2024/turkey-and-serbia-sign-defense-cooperation-agreement-focused-on-drone-technology**

According to information published by Middle East Monitor on October 12, 2024, Turkish President Recep Tayyip Erdoğan and Serbian President Aleksandar Vučić announced a strategic collaboration between their countries in the defense industry during an official visit to Belgrade. Follow Army Recognition on Google News at this link

The Bayraktar TB3 Unmanned Combat Aerial Vehicle. (Picture source: Navy Recognition)

This agreement includes joint efforts in military technology, particularly focusing on drones, a sector where Turkey has become a global leader. Erdoğan emphasized that Turkish drone technology, including the renowned Bayraktar TB2 systems, would be an integral part of this cooperation.

Turkish Defense Industry in Balkan countries

Several Balkan countries have purchased Bayraktar TB2 drones from Türkiye, reflecting the growing military ties between the region and Ankara. Kosovo, which has been working to strengthen its defense capabilities, received its first batch of Bayraktar TB2 drones in July 2023. This acquisition is viewed as a strategic move amid ongoing tensions with Serbia, and it has been reported that Kosovo bought five drones, although the exact number remains unconfirmed.

Albania also joined the ranks of Bayraktar TB2 buyers in 2022, purchasing three drones to support both military and civilian operations, including surveillance and firefighting efforts.

Bosnia and Herzegovina recently followed suit, placing an order for at least six Bayraktar TB2 drones in 2024. This move is designed to bolster its defense capabilities amid the complex security dynamics of the Balkans.

Turkey’s role is not without challenges. Its involvement in the defense sectors of both Serbia and Kosovo positions it at the center of regional tensions. The sale of advanced weapons to countries in close proximity, often with competing interests, requires a careful diplomatic balance. Turkey has used its military strength and its defense industry to foster partnerships, positioning itself as a reliable supplier of advanced military technology, but it must also be wary of exacerbating existing conflicts.

In the Balkans, Turkish arms sales serve not only as an economic driver but also as a tool for increasing Ankara’s regional influence. The Balkan states, many of which are NATO members or aspirants, see Turkish military technology as a valuable addition to their security frameworks.

Turkey’s defense industry policy in the Balkans is a calculated mix of economic strategy, geopolitical ambition, and military influence. As Turkey continues to expand its defense exports, its ability to manage the complex political landscape of the Balkans will be crucial to its long-term success in the region.

**235 . Date: 06-11-2024Partnership - Ukraine Could Open Its Drone Export Market to Malaysia for First TimeURL: https://armyrecognition.com/news/army-news/army-news-2024/ukraine-could-open-its-drone-export-market-to-malaysia-for-first-time**

On November 2, 2024, Ukraine identified Malaysia as a strategic partner for enhancing collaborations in the drone sector in Southeast Asia. This announcement was made during the visit of Taras Kachka, Ukraine's Deputy Economy Minister, to Malaysia, where he co-chaired the inaugural meeting of the Joint Trade Committee (JTC) with Malaysia’s Deputy Minister of Investment, Trade, and Industry, Liew Chin Tong.

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Ukrainian Shark Unmanned Aerial Vehicle (Picture source: UkrSpecSystems)

During the visit, Kachka highlighted Malaysia’s importance as a gateway to ASEAN markets for Ukraine’s drone technologies. The Deputy Minister emphasized Malaysia's advanced position in terms of digital infrastructure, semiconductor spare parts supply, and skilled labor, which are crucial for supporting the unmanned aerial vehicle (UAV) sector. “Malaysia is the most advanced country in ASEAN regarding technological infrastructure, and its strong digital economy makes it an ideal partner for our regional collaboration ambitions,” Kachka stated.

Military relations between Malaysia and Ukraine have strengthened in recent years, notably through technical collaborations and expertise exchanges in defense. Ukraine, with extensive experience in drone and armored vehicle technology, views Malaysia as a strategic partner in Southeast Asia. Recently, the two countries have begun discussions to enhance cooperation on unmanned aerial vehicles (UAVs), with a focus on civil and military surveillance applications suited to Malaysia’s specific challenges, particularly in dense jungle areas that are hard to access. Furthermore, Malaysia has shown interest in Ukrainian defense technologies, drawn to innovations developed in response to recent conflicts. This partnership promises to evolve towards deeper cooperation, with Malaysia seeking to diversify its defense alliances and modernize its national security capabilities.

To date, Malaysia and Ukraine have not developed any specific drones jointly. However, recent discussions between the two nations have highlighted a mutual interest in collaboration in the unmanned aerial vehicle (UAV) field. During his visit to Malaysia from October 31 to November 2, 2024, Taras Kachka, Ukraine’s Deputy Economy Minister, emphasized Malaysia’s role as a strategic partner for expanding Ukrainian drone technologies in Southeast Asia. He underscored Ukraine’s expertise in developing drones for both civilian and military purposes, as well as Malaysia’s capabilities in infrastructure and skilled labor. Although discussions are ongoing between companies from both countries, no concrete joint drone development project has been officially announced at this time.

Malaysia has intensified its drone development efforts with local companies such as Aerodyne Group and DefTech (DRB-HICOM Defence Technologies), which focus on solutions tailored to the country's specific needs, including surveillance, agriculture, and disaster management. Aerodyne Group, a global leader in drone services and analytics based in Kuala Lumpur, develops drones equipped with advanced technologies for long-duration surveillance missions, designed to operate in the region’s tropical conditions. DefTech, on the other hand, specializes in drones for military and security applications, including border surveillance and combating illegal activities in dense jungle areas. These drones, like the DT UAV developed by DefTech, enable real-time detection and tracking operations. The Malaysian government actively supports innovation in the UAV sector by fostering partnerships between these local companies and foreign actors, aiming to position Malaysia as a technological hub for drones in Southeast Asia.

Kachka highlighted the rapid development of UAVs in Ukraine, where their use extends from defense to civilian applications, notably in agriculture. “The development of UAVs in Ukraine is naturally linked to defense and security, but their usage has also expanded to civilian purposes like agriculture. Currently, UAV usage in Ukraine is so intensive that it mobilizes all engineering resources... which is why Ukrainian expertise is applied in Malaysia,” he explained at a press conference. This increased demand in Ukraine has enabled the accumulation of significant expertise, which the country now seeks to leverage in international markets such as Malaysia.

Ukraine has demonstrated an impressive capacity to develop and export drones despite the wartime context. Thanks to growing expertise and rapid innovation in drone technologies, Ukraine has been able to diversify applications to include surveillance, reconnaissance, and attack missions, used both on the battlefield and for export. Although Ukrainian legislation is strictly regulated regarding the export of sensitive military technologies, the government has relaxed certain restrictions to promote international partnerships and respond to the growing demand for its drones. This adaptive legislative framework allows Ukraine to support its defense industry while ensuring rigorous export control. The experience gained in conflict situations has also helped boost the competitiveness of Ukrainian drones, which are now sought after by several countries for their proven performance in wartime conditions.

The Charge d’Affaires ad interim of the Ukrainian Embassy in Malaysia, Denys Mykhailiuk, specified that Malaysian companies are primarily interested in surveillance drones, which are particularly useful for border control operations in dense jungle areas where human patrolling remains difficult. Mykhailiuk emphasized that these are not military attack drones but surveillance devices. “We are not talking about attack drones, but rather surveillance drones adapted to local needs,” he stated, adding that discussions are already underway between Ukrainian and Malaysian companies to assess concrete opportunities.

Surveillance drones are of particular interest to Malaysia, which is seeking solutions adapted to the challenges of border control in its dense jungle regions. This specific need directs the interest of Malaysian companies toward drones capable of conducting reconnaissance operations over vast and hard-to-access areas. Ukrainian drone models, such as the PD-2 and the Shark UAV, are well-suited to these needs due to their extended autonomy and ability to operate in demanding environments. These devices are equipped with high-definition cameras and advanced sensors, enabling continuous and precise surveillance. The PD-2, in particular, is known for its long-range detection performance and real-time data transmission capabilities—key features for monitoring difficult areas where human patrols are limited. These unarmed surveillance drone models align with Malaysia's priorities to enhance border security while avoiding military attack devices. Discussions between Ukrainian and Malaysian companies are underway to explore the potential of these systems in local security operations.

**236 . Date: 02-09-2024Loitering Munition - Small - General - PlatformUkraine Develops SkyFall Kamikaze Drone for 60 km StrikesURL: https://armyrecognition.com/news/army-news/army-news-2024/ukraine-develops-skyfall-kamikaze-drone-for-60-km-strikes**

Ukraine's defense industry is currently developing a new kamikaze drone named SkyFall, designed to destroy armored vehicles and fortifications at ranges between 40 and 60 kilometers. This unmanned aerial vehicle (UAV) is being developed by StarkDefence, a Ukrainian company specializing in drone design, according to information reported by Militarnyi. Follow Army Recognition on Google News at this link

The SkyFall drone is equipped with a 5-kilogram warhead, manufactured in Ukraine, which can be either explosive or HEAT-Frag (Picture source: Militarnyi)

The SkyFall project is presently in the development and testing phase. Engineers at StarkDefence are focused on assessing the performance of the guidance system under various conditions, as well as on aspects related to the combat unit and safety protocols. According to a StarkDefence representative, the SkyFall system includes a control station and three to five attack drones. A key innovative feature of this drone is its vertical takeoff and landing capability, which eliminates the need for special launching devices such as catapults.

The SkyFall drone is equipped with a 5-kilogram warhead, manufactured in Ukraine, which can be either explosive or HEAT-Frag (anti-tank). The drone's guidance system is capable of targeting moving or stationary objects, day or night. These kamikaze drones are most effective when coordinated with reconnaissance drones for target detection and signal relay.

A key feature of the SkyFall drone is its ability to abort a mission if the target has already been destroyed or has left the area. In such cases, the drone can return to its base, land vertically, and be ready for reuse after recharging its battery. This feature maximizes the drone's effectiveness while reducing unnecessary losses.

Since the onset of the war with Russia, Ukraine has significantly developed its defense industry, particularly in the drone sector. This rapid expansion has been driven by the need to innovate in the face of Russian air superiority and the uncertain timelines of promised arms deliveries from Western allies. As a result, Ukraine has increased its local drone production, growing from just seven specialized companies before 2022 to about 80 today. Companies like StarkDefence and Piranha-Tech play a crucial role in developing kamikaze drones, anti-drone systems, and even hybrid missiles capable of striking deep into Russian territory.

Ukraine is not merely producing drones for its own use; it is also developing innovative systems to maximize battlefield effectiveness. For instance, reconnaissance drones are used in coordination with kamikaze drones to optimize strike precision, while systems like the "Palianytsia," a hybrid missile-drone, demonstrate Ukraine's ability to create indigenous solutions to address challenges posed by restrictions on imported weapons.

**237 . Date: 05-09-2024Armed ISR / ISTAR - Small - General - PlatformUkraine War's Tactical Teachings Lead to PGZ's Creation of T.U.R.T.L.E Mine-Laying DroneURL: https://armyrecognition.com/news/army-news/army-news-2024/ukraine-wars-tactical-teachings-lead-to-pgzs-creation-of-t-u-r-t-l-e-mine-laying-drone**

The T.U.R.T.L.E quadcopter drone, developed by Polska Grupa Zbrojeniowa (PGZ), is an advanced unmanned aerial system designed for precise mine-laying operations across various environments. Introduced at the MSPO 2024 international defense industry exposition, it represents a significant evolution in the military's capability to employ autonomous technologies for minefield management. Follow Army Recognition on Google News at this link

PGZ T.U.R.T.L.E quadcopter drone (Picture source: Army Recognition)

Drones like T.U.R.T.L.E represent a strategic pivot in military operations, offering safer, quicker, and more accurate mine deployment. They minimize personnel risk and enhance the military's ability to quickly fortify areas or set up ambushes without direct human presence, which is crucial in scenarios where access is challenging or the risk of enemy exposure is high.

The Polish Baobab-K system, developed by Huta Stalowa Wola (HSW), exemplifies the diversity of mines that can be integrated into such devices. This system uses programmable MN-123 anti-tank mines, designed to be scattered over a broad area. These mines can instantly create anti-tank minefields that effectively block or slow down enemy armored advances. The programmability of these mines for autonomous destruction times or specific triggers increases their tactical effectiveness.

The MN-123 anti-tank mines are designed for creating minefields using the scatterable mining technique. The MN-123 mine is equipped with a double-acting shaped charge and a non-contact fuse, activating when a vehicle passes over it. This mine is available in three versions: the operational MN-123, the training MN-123C, and the inert MN-123/O model.

In addition to anti-tank mines, anti-personnel mines can also be deployed, strategically placed to protect borders or secure areas against on-foot incursions. The versatility of the T.U.R.T.L.E drone in carrying and deploying various types of munitions adds considerable flexibility in military operation planning.

Incorporating drones like T.U.R.T.L.E into military arsenals transforms ground warfare doctrines. They enable the implementation of more complex and less predictable defensive and offensive strategies, thereby enhancing defensive capabilities while maintaining operational initiative. These systems also improve the armed forces' responsiveness, enabling quick and precise responses to evolving threats.

Belma MN 123 Anti-Tank Mine (Picture source: Belma)

**238 . Date: 20-06-2024ISR / ISTAR - Tactical - General - PlatformUMS SKELDAR Unveils the Versatile Skeldar V-200 at Eurosatory 2024URL: https://armyrecognition.com/news/army-news/army-news-2024/ums-skeldar-unveils-the-versatile-skeldar-v-200-at-eurosatory-2024**

UMS SKELDAR has showcased its latest multi-purpose unmanned VTOL system, the Skeldar V-200, at Eurosatory 2024. This system is designed to meet the diverse operational needs of naval forces worldwide, offering a robust solution for a variety of missions. Follow Army Recognition on Google News at this link

For naval surveillance, the V-200 offers class-leading endurance, maintaining an Over the Horizon (OTH) vantage point for extensive periods (Picture source: ArmyRecognition)

The Skeldar V-200 is a versatile unmanned aerial vehicle (UAV) designed to operate in challenging environments. Its ability to perform in adverse weather and harsh saltwater conditions makes it an invaluable asset for maritime and border surveillance. The system features ship-based automatic take-off and landing (ATOL), making it suitable for dynamic operations on pitching and rolling ship helidecks. The V-200 can land in winds up to twenty-five knots and in reduced visibility conditions such as nighttime, fog, and heavy rain.

This UAV is equipped with a heavy fuel engine designed to operate on kerosene-based Jet A-1, JP-5, and JP-8 fuels. The Hirth direct-injected parallel-twin two-stroke engine sets a benchmark for efficiency and dependability, providing excellent reliability and prolonging the times between overhauls (TBO). The V-200 can carry multiple payloads, supporting role changes for various mission-specific requirements. It offers options such as high-resolution Electro-Optical/Infrared (EO/IR) sensors, Synthetic Aperture Radar (SAR), Light Detection and Ranging (LiDAR), and Electronic Warfare (EW) payloads.

The Skeldar V-200 excels in border protection, providing authorities with a reliable solution for monitoring remote and difficult-to-access borders. Its six-hour flight time and numerous payload options make it ideal for coastal and overland border monitoring operations. For naval surveillance, the V-200 offers class-leading endurance, maintaining an Over the Horizon (OTH) vantage point for extensive periods. It provides the host ship crew with crucial information to stay ahead of evolving seaborne threats. Equipped with Signals Intelligence (SIGINT) gathering payloads, it can intercept signals and provide geodetic positioning information in high-risk scenarios.

In anti-submarine warfare (ASW), the V-200 supports wide-area ASW and countermine operations, making it a valuable tool for classifying, locating, and tracking submersible threats. When equipped with maritime sensors, it allows operations at a safer stand-off range, reducing risks to personnel and the host vessel.

The V-200 enhances ship detection range and surveillance capabilities in real-time. When equipped with an EO/IR and SAR sensor combination, it can track multiple targets simultaneously, improving the detectability of illegal activities such as piracy, narco-trafficking, and illegal migration.

The Skeldar V-200 is designed with system redundancy, ensuring that it remains airborne in case of emergencies. It features redundant power and fuel systems, a dual-core flight control unit (FCU), and strong datalinks. Its compact size allows for efficient transportation and storage, with modular design and easily removable access panels facilitating routine maintenance and inspections.

UMS SKELDAR emphasizes training and simulation, offering approved training programs such as their Intelligence, Surveillance, and Reconnaissance (ISR) training led by experienced professionals. The V-200 integrates with various command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems, providing unmatched levels of aerial situational awareness and reducing response times.

**239 . Date: 06-12-2024H-Rotary - Cargo - Tactical - Requirement - US Marines test British TRV-150 drone for critical medical resupply at Bold Quest 24 exerciseURL: https://armyrecognition.com/news/army-news/army-news-2024/us-marines-test-british-trv-150-drone-for-critical-medical-resupply-at-bold-quest-24-exercise**

On October 30, 2024, the Combat Logistics Battalion 8 (CLB-8), part of the 2nd US Marine Logistics Group, demonstrated the capabilities of the British-made Tactical Resupply Vehicle 150 (TRV-150) cargo drone during Bold Quest 24. This joint-staff-sponsored multinational exercise, held at Camp Lejeune, North Carolina, aimed to enhance interoperability across air, land, sea, space, and cyber domains. During the exercise, the TRV-150 was employed to deliver 38.5 kilograms of medical supplies, including real blood, under operational conditions. Follow Army Recognition on Google News at this link

During the Bold Quest 24 exercise, the British-made TRV-150 cargo drone managed to deliver 38.5 kilograms of medical supplies, including real blood, under operational conditions. (Picture source: US DoD)

In April 2023, the U.S. Navy awarded a contract worth $8.4 million to the British company Malloy Aeronautics and its American reseller, Survice Engineering, for 21 units. This decision followed the TRV-150's first-place ranking at the PMA-263 Tactical Resupply UAS Challenge in 2019. On October 27, 2023, the Marine Corps declared Initial Operational Capability (IOC) for the TRV-150C at Marine Corps Base Hawaii, equipping and training the Third Littoral Logistics Battalion (LLB-3) to operate the system. The U.S. Marine Corps plans to deploy the Tactical Resupply Unmanned Aircraft System (TRUAS) across all logistics battalions by 2028, with each unit expected to receive three to six drones.

The development of the TRV-150 traces back to Malloy Aeronautics' earlier work on hoverbike concepts in 2012, which evolved into more practical unmanned cargo delivery systems. The TRV-150C, an electric vertical takeoff and landing (eVTOL) cargo drone, can transport up to 68 kilograms of supplies over a range of 70 kilometers at a cruising speed of 108 kilometers per hour. It has a flight time of 36 minutes and uses waypoint navigation for autonomous mission planning.

The TRV-150 features eight electric motors driving propellers, removable batteries for quick replacement, and modular components, including foldable propeller booms and fixed skid landing gear, for compact storage and ease of transport. It is designed to be deployable by a single individual and operational in diverse weather conditions, including rain, wind, desert, and Arctic environments. The drone can deliver cargo either by landing or via aerial drops.

The demonstration of the TRV-150C during Bold Quest 24 highlights a broader trend in military logistics, with armed forces increasingly relying on autonomous drones to address challenges in battlefield supply operations. These unmanned systems can transport critical items, such as ammunition, food, and medical materials, reducing reliance on human-operated convoys in high-risk areas. The U.S. Army is pursuing similar initiatives, developing autonomous aerial resupply systems for infantry brigade combat teams. Advancements in battery technology are expected to enhance the payload, range, and speed of these systems, with potential plans for wireless in-flight recharging.

Drones like the TRV-150C are particularly valuable in medical resupply missions, where sensitive materials such as blood must be transported under challenging conditions. The U.S. Army's Project Crimson employs the FVR-90 drone, which features vertical takeoff and landing capabilities, to deliver whole blood to combat medics. During Project Convergence 22, drones transported simulated blood packages in the Mojave Desert, demonstrating their effectiveness in mass-casualty scenarios. These initiatives aim to improve medical supply logistics in contested airspace and rough terrain, potentially enhancing survival rates for wounded personnel.

**240 . Date: 05-06-2024Research - Partnership - PlatformUS Military Partners with Four Companies for Modular Drone DevelopmentURL: https://armyrecognition.com/news/army-news/army-news-2024/us-military-partners-with-four-companies-for-modular-drone-development**

On June 3, 2024, the U.S. Air Force and the Defense Innovation Unit (DIU) announced a collaborative initiative with four defense companies to develop a modular unmanned aerial vehicle (UAV), named the Enterprise Test Vehicle (ETV). This project aims to explore commercial and dual-use technology solutions that demonstrate modularity for subsystem upgrade testing. This initiative marks a strategic shift towards incorporating non-traditional aerospace entities to enhance test capabilities in an affordable and effective manner. Follow Army Recognition on Google News at this link

ETV Design rendering from IS4S (Picture source: Integrated Solutions for Systems)

The selected companies, Anduril Industries, Integrated Solutions for Systems, Inc., Leidos Dynetics, and Zone 5 Technologies, were chosen from a competitive field of over 100 applicants. These companies are tasked with developing prototypes that will demonstrate their ability to support various military technologies, including sensors for airborne operations. The project will also investigate the use of commercially available components to address supply chain issues and reduce costs.

Andrew Hunter, Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics, highlighted the project's potential to leverage industry innovations to develop test capabilities that can be rapidly and economically produced. The ETV project is designed as a foundation for large-scale production, with initial flight demonstrations planned within seven months from the award dates. Following these demonstrations, one or more prototypes may be selected for further development towards a production variant.

The ETV will employ an open systems architecture, allowing for future design improvements and rapid subsystem integration. This modular approach enables the UAV to support a minimum range of 500 nautical miles and a speed of 100 knots, with capabilities to deliver kinetic payloads. The flexibility in launch methods, including deployment from cargo aircraft, is also a key feature of the ETV.

Design renderings of the ETV prototype optimized for high-rate production from Zone 5 Technologies (Picture source: Zone 5 Technologies)

Cassie Johnson, the ETV Program Manager at the Armament Directorate, stated that it is crucial to broaden the scope to include more non-traditional aerospace companies to meet the project’s cost, schedule, and production goals. Doug Beck, Director of the Defense Innovation Unit, added that this partnership is aimed at fostering innovation at a pace and scale necessary to meet strategic needs, focusing on developing autonomous systems that are simple, affordable, and scalable.

The ETV project also involves various government collaborators and evaluators such as the Air Force Research Laboratory (AFRL), Special Operations Command (SOCOM), Naval Air Systems Command (NAVAIR), and U.S. Indo-Pacific Command (USINDOPACOM). This comprehensive approach ensures that the developed technologies align well with the operational needs and strategic objectives of the U.S. military.

Prototype vehicle design from Leidos Dynetics(Picture source: Leidos Dynetics)

**241 . Date: 19-08-2024Armed ISR / ISTAR - HALE - Requirement - SoftwareU.S. military prioritizes AI-powered drones in defense modernizationURL: https://armyrecognition.com/news/army-news/army-news-2024/u-s-military-prioritizes-ai-powered-drones-in-defense-modernization**

A new era in defense is emerging, marked by the rise of AI-powered military drones capable of operating without human intervention. This technological development is attracting increasing interest from the U.S. government, which is dedicating significant funds to it. Unmanned systems, including platforms operating autonomously or remotely in the air, on land, at sea, and in space, have become a priority for the U.S. Department of Defense (DoD). This shift is driven by the increase in global conflicts, the rise of AI technologies, and ongoing security efforts in the Indo-Pacific region, according to Andre Madrid, vice president and analyst at BTIG. Follow Army Recognition on Google News at this link

An XQ-58A Valkyrie low-cost unmanned aerial vehicle launches at the U.S. Army Yuma Proving Ground, Ariz., Dec. 9, 2020 (Picture source: US DoD)

The DoD is currently undergoing a generational transformation of its unmanned fleets. Recent conflicts in Nagorno-Karabakh, Ukraine, and the Middle East have demonstrated the significant impact of these systems, which are not limited to aerial drones. Despite attention on both high-tech and low-tech systems, much of the funding is directed toward production programs. According to BTIG, the DoD requested $5.3 billion for unmanned systems in fiscal year 2025, with projected annual funding growth of 9.5% through 2029. Most of these requests come from the Collaborative Combat Aircraft (CCA) program, part of the U.S. Air Force's Next Generation Air Dominance initiative aimed at maintaining U.S. air superiority in future conflicts.

The CCA program aims to develop a new generation of lower-cost, AI-enabled unmanned combat aerial vehicles (UCAVs) that would collaborate with manned fighter jets to enhance their capabilities. Currently, the U.S. Navy is the largest recipient of DoD funding for unmanned systems, particularly for aerial drones and unmanned surface vessels. However, the U.S. Air Force is expected to see the highest growth in funding over the next five years. The Pentagon projects that Air Force funding for unmanned systems will grow at an annual rate of 34% between fiscal years 2024 and 2029, driven entirely by the CCA program.

The DoD is actively exploring how to leverage unmanned technology and autonomy to accomplish more missions in the near future. Traditionally, the DoD has not procured software on such a large scale, but this approach is evolving with the rise of autonomous systems. This shift in technology acquisition could significantly transform the defense landscape.

Several companies stand to benefit from the increased spending on unmanned systems, according to BTIG. These include AeroVironment, General Dynamics, Kratos Defense & Security Solutions, Northrop Grumman, and Lockheed Martin. Other analysts, such as Kristine Liwag from Morgan Stanley, have also become more optimistic about the broader defense sector, despite its underperformance last year due to supply chain and inflation concerns, as well as fears of a slowdown in U.S. defense spending.

Northrop Grumman, one of the leading American weapons manufacturers, is positioned to benefit from the DoD's renewed focus. With its expertise in unmanned aerial systems, Northrop could gain from the CCA program if the U.S. Air Force integrates these new UCAVs with Northrop's B-21 Raider stealth bomber. Northrop is also a contender for future production contracts under the program. Additionally, the company has a strong presence in the unmanned systems domain with products such as the MQ-4C Triton, a high-altitude, long-endurance unmanned aerial vehicle used by the U.S. Navy, and the RQ-4 Global Hawk, operated by the U.S. Air Force.

While Northrop is a more diversified option, AeroVironment is considered a pure player in the military drone market. The company dominates this sector, particularly among publicly traded firms, due to its growing international orders for Switchblade drones, widely used by countries such as Ukraine and France, as well as other U.S. allies.

Kratos, on the other hand, derives about 20% of its business from unmanned systems, primarily target drones, with the rest focused on microwave electronics, rocket testing, space training, and other markets. However, recent developments, such as the contracting of its Apollo drone and the anticipated contract for its Athena drone, could strengthen Kratos' position in the unmanned domain. The company has also been operating the Valkyrie XQ-58A, an AI-enabled combat drone, since 2019 and has expressed interest in competing for future CCA contracts.

General Dynamics could also benefit from increased spending on unmanned systems, with a product portfolio that includes small and medium unmanned undersea vehicles, unmanned S-MET ground vehicles for the U.S. Army, and littoral combat ships for the U.S. Navy. Last year, the DoD awarded multi-million dollar contracts to General Dynamics, Lockheed Martin, and Northrop Grumman to support aspects of the Navy's littoral combat ship fleet. Morgan Stanley shares this optimism about General Dynamics, citing growing demand for its defense products, including ammunition and ground vehicles, as an indicator of potential earnings growth.

In conclusion, the rise of AI and autonomous systems in the military sector is creating new opportunities for several defense companies amid ongoing geopolitical tensions.

**242 . Date: 12-06-2024Requirement - US Plan to Flood Taiwan Strait with Drones to Counter ChinaURL: https://armyrecognition.com/news/army-news/army-news-2024/us-plan-to-flood-taiwan-strait-with-drones-to-counter-china**

On May 6, 2024, in response to escalating tensions in the Taiwan Strait, Admiral Samuel Paparo, commander of the U.S. Indo-Pacific Command, unveiled a bold strategy designed to counter any attempt by China to invade Taiwan. At the Shangri-La Dialogue summit of the International Institute for Strategic Studies, the admiral presented a plan to saturate the Taiwan Strait with thousands of drones, in what he described as an "unmanned hellscape." Follow Army Recognition on Google News at this link

US present a plan to saturate the Taiwan Strait with thousands of drones (Picture source: Army Recognition)

This initiative aims to create a massive and automated first line of defense, capable of making life "absolutely miserable" for Chinese forces for at least a month. This period, according to Admiral Paparo, would be crucial for the United States to mobilize an adequate response to support Taiwan.

The concept relies on the deployment of a wide range of unmanned systems, including aerial drones, surface ships, and submarines, which would be engaged immediately at the first sign of a Chinese incursion. The initiative leverages the Defense Department's Replicator program, a long-term project aimed at developing thousands of autonomous systems to enhance U.S. military capabilities. The budget allocated for this fiscal year amounts to $1 billion, underscoring the strategic importance of the program.

This "mass against mass" strategy is designed to counter the considerable number of ships, missiles, and personnel that China could deploy in a conflict. Deputy Secretary of Defense Kathleen Hicks emphasized that the U.S. relies on systems that are difficult to predict, target, and neutralize to overcome the Chinese numerical advantage.

Exemplifying the Department's focus on harnessing the value of commercial technology to solve critical operational challenges, the first iteration of the Replicator initiative has reached a key execution milestone.

Deputy Secretary Hicks announced some of the capabilities and one of the systems selected for accelerated deployment as part of the first tranche of the Replicator initiative, which is focused on deploying all-domain attritable autonomous (ADA2) systems.

The Department has secured the necessary funding of about $500 million for FY24, including approximately $300 million from the FY 2024 defense appropriations bill supporting the Department's reprogramming request and additional funding identified using existing authorities and Defense-wide sources. For PB25, the Department has requested a roughly equal amount to the FY24 total and will work with Congress to support this request.

These investments bring together the capabilities of a broad range of traditional and nontraditional technology companies, including systems vendors, component manufacturers, and software developers.

The first tranche of Replicator capabilities includes uncrewed surface vehicles (USV), uncrewed aerial systems (UAS), and counter-uncrewed aerial systems (c-UAS) of various sizes and payloads from several traditional and non-traditional vendors.

In the aerial domain, the Department will accelerate the deployment of the Switchblade-600 loitering munition, produced by AeroVironment Inc., based in Simi Valley, California. U.S.-supplied Switchblade drones have already demonstrated their utility in Ukraine, and this system will provide additional capability to U.S. forces.

In the maritime domain, the Department is diversifying the vendor base for USVs through the recently announced Production-Ready, Inexpensive, Maritime Expeditionary (PRIME) Commercial Solutions Opening (CSO). The CSO process allows U.S. and international companies to pitch technologies to the Department in a fast-track process for a prototype contract. Launched on January 30, 2024, the PRIME CSO received over one hundred applications from commercial technology companies. With FY24 funding secured, the Department is on track to award several contracts this summer.

The first tranche of Replicator also includes certain capabilities that remain classified, including others in the maritime domain and some in the counter-UAS portfolio.

Since Deputy Secretary Hicks' announcement of the Replicator initiative and its initial focus on ADA2 systems just over seven months ago, the Department-wide effort has systematically aligned senior leaders around a common vision to identify and validate key joint operational gaps and rapidly field solutions in 18-24 months. The Department is also preparing the next tranche of capabilities to add to the ADA2 portfolio.

"This is just the beginning," said Admiral Christopher Grady, Vice Chairman of the Joint Chiefs of Staff. "Replicator is helping us jumpstart the delivery of critical capabilities at scale. We will build on that momentum with industry partners to deliver what the warfighter needs, and remove barriers to doing so again and again."

Recent Chinese military exercises around Taiwan, which simulated a blockade of the island, not only demonstrated China's rapid ability to implement such a strategy, but also served as a learning opportunity for American forces. According to Admiral Paparo, these maneuvers resembled a general rehearsal for an invasion, allowing the United States to refine its own preparations accordingly.

The unveiling of this strategic plan comes at a critical time when stability in the Indo-Pacific region is increasingly threatened by China's territorial ambitions. By transforming the Taiwan Strait into a largely automated battlefield, the United States hopes not only to deter China from any future aggression but also to effectively protect Taiwan's sovereignty in the face of imminent military escalation.

**243 . Date: 23-07-2024Requirement - US Updates Arctic Strategy in Response to Sino-Russian CooperationURL: https://armyrecognition.com/news/army-news/army-news-2024/us-updates-arctic-strategy-in-response-to-sino-russian-cooperation**

On July 22, 2024, the Pentagon unveiled an update to its Arctic strategy, adopting a "monitor-and-respond" policy to address the growing cooperation between China and Russia and the challenges posed by climate change. This update comes as the region is increasingly viewed as a battleground for global strategic competition. Follow Army Recognition on Google News at this link

A U.S. Air Force F-15 during North American Aerospace Defense Command’s Artic air defense exercise, Amalgam Dart 20-05, August 20, 2020. (Picture source: US DoD)

Defense Secretary Lloyd J. Austin III highlighted the Arctic as a "venue for strategic competition," necessitating an enhancement of American military capabilities in the region. Deputy Defense Secretary Kathleen H. Hicks pointed out that the melting ice is creating larger shipping lanes and increasing access to the Arctic. Despite the ongoing war in Ukraine, Russia remains active in the region, and China is asserting itself as a "near-Arctic" nation by promoting the area as a "global commons" to influence Arctic governance in its favor.

The strategy also notes that while Russian and Chinese interests are not fully aligned, the conflict in Ukraine has brought them closer together, leading to increased military cooperation in the Arctic, including more joint exercises. Deputy Assistant Secretary of Defense for Arctic and Global Resilience, Iris A. Ferguson, reported that Chinese and Russian warships have been conducting exercises off the coast of Alaska in recent months, prompting the U.S. to keep a "watchful eye." This vigilance is part of an ongoing modernization effort, as the harsh conditions and unique location of the Arctic make maintaining equipment and infrastructure particularly challenging.

To enhance domain awareness in the region, the strategy calls for the Pentagon to invest in new technologies such as improved radars, new satellites, and better communication networks. Hicks has expressed interest in developing new unmanned platforms for domain awareness missions to reduce the operational burden on human personnel in harsh conditions.

Ensuring the durability of these unmanned systems is crucial, whether through longevity or cost-effectiveness, given their consumable nature. This requires extensive research, development, and testing, focusing on exploring the capabilities of unmanned systems. Ferguson noted that many issues affecting manned systems in the Arctic could also impact drones, particularly due to weather conditions and connectivity challenges. The strategy emphasizes testing and research to ensure these platforms can operate effectively.

The Pentagon plans to maintain its current investments in both manned and unmanned ISR (Intelligence, Surveillance, Reconnaissance) platforms for the Arctic while conducting a needs analysis for future unmanned platforms.

To prepare for potential crises in the Arctic, the Pentagon intends to continue regular exercises and develop regional expertise. The strategy includes regular exercises with an Air Force presence, such as Northern Edge by the U.S. Indo-Pacific Command, Noble Defender by Northern Command, and Arctic Challenge by European Command. These are designed to enhance expertise, in addition to operations like supporting NATO’s Air Policing mission in Iceland and providing airlift and refueling capabilities to U.S. and allied aircraft in the Arctic region.

Air Force leaders have emphasized the need to improve training in the Arctic. In 2023, Major General David S. Nahom, head of Alaskan Command, highlighted training deficiencies during the AFA’s Air, Space, & Cyber Conference, noting that the current training does not adequately prepare personnel for the demanding Arctic conditions.

A unique Arctic capability of the Air Force is its LC-130, equipped with skis for landing on ice. Known as the "Skibird," this fleet has been updated over the years, though some legislators are calling for a renewal after decades of service. Beyond the LC-130, the Air Force maintains a strong presence near the Arctic with F-16 and F-35 fighters, KC-135 tankers, and HH-60 helicopters stationed at Eielson Air Force Base in Alaska, with plans to expand this fighter presence.

By the 2030s, the United States and its Arctic allies aim to operate over 250 advanced multi-role combat aircraft that could be deployed for Arctic operations. This reflects the alignment of U.S. allies and partners in the region, with the majority expected to deploy the F-35, according to Ferguson.

This updated Arctic strategy underscores the Pentagon's commitment to collaborating with allies and partners to ensure the Arctic remains a secure and stable region where American homeland defense and national interests are actively protected.

**244 . Date: 02-08-2024Loitering Munition - Mini - General - PlatformVietnam Unveils Locally-Made Loitering Munition Inspired by US Switchblade DesignURL: https://armyrecognition.com/news/army-news/army-news-2024/vietnam-unveils-locally-made-loitering-munition-inspired-by-us-switchblade-design**

Vietnam has unveiled its new locally-developed loitering munition based on the American-made Switchblade design, as revealed by photographs released on July 31 by the VietDefense Facebook account. This advancement signifies a major leap in Vietnam's military capabilities, showcasing indigenous technology and innovation in modern warfare. Follow Army Recognition on Google News at this link

The image captures Vietnam's cutting-edge, locally-developed loitering munition, which is currently being tested in multiple variations, including single tube-launched and vehicle-based platforms. (Picture source: Facebook VietDefense)

The newly developed loitering munition, which remains unnamed, is currently undergoing rigorous testing in various configurations. The trials include both single tube-launched models and vehicle-based platforms, highlighting the weapon's versatility and adaptability across different combat scenarios. The design has participated in training exercises conducted by the recently established 12th Army Corps, where it demonstrated its ability to provide precision fire support. The incorporation of this new technology aims to enhance the operational effectiveness of Vietnam’s armed forces by allowing for strategic targeting and engagement of enemy positions with high precision.

One of the most notable features of the new loitering munition is its foldable wings, reminiscent of the design used in the American-made Switchblade loitering munition. This design choice allows for greater portability and ease of deployment in the field. The munition's foldable wings enable it to be compactly stored within its launch tube and then rapidly deployed in combat situations. This aerodynamic design not only aids in swift deployment but also enhances the munition's flight stability and range, making it an effective tool for reconnaissance and strike missions.

The introduction of this new loitering munition aligns with Vietnam's strategic objective to modernize its military forces and reduce reliance on foreign weaponry. By developing indigenous technologies, Vietnam seeks to strengthen its defense capabilities and ensure greater autonomy in its military operations. The participation of the loitering munition in exercises with the 12th Army Corps indicates Vietnam's commitment to integrating advanced weaponry into its military strategy. This newly established unit is likely to play a crucial role in deploying this technology, providing an edge in precision strikes and battlefield awareness.

While the official designation for this loitering munition has not been disclosed, its development represents a significant milestone in Vietnam’s defense technology. Further tests and refinements are expected as Vietnam continues to enhance the capabilities of this new weapon system.

Over the last decade, Vietnam has made significant strides in developing its defense industry, driven by the need to enhance national security and reduce reliance on foreign military imports. The Vietnamese government has focused on modernizing its armed forces and building a self-sufficient defense industry capable of producing advanced military equipment. This effort has been supported by increased defense spending, which rose from $4.6 billion in 2010 to around $6.2 billion in 2020, reflecting a strategic shift towards strengthening domestic defense capabilities. Key areas of focus include the production of small arms, artillery, naval vessels, and defense electronics. Additionally, Vietnam has pursued joint ventures and technology transfers with countries like Russia, Israel, and India, further bolstering its indigenous defense manufacturing capabilities.

Vietnam's defense industry development has also been characterized by a push towards technological innovation and collaboration with international partners. The country has established several defense research institutes and industrial complexes, such as the Viettel Military Industry and Telecoms Group, which has played a crucial role in developing military communication systems and cyber defense solutions. In recent years, Vietnam has also shown interest in producing more sophisticated weapons systems, such as drones and missile technology, signaling a commitment to expanding its defense production capabilities. These efforts align with Vietnam's broader defense strategy, which emphasizes maintaining regional security and protecting its maritime interests, particularly in the South China Sea. As a result, Vietnam's defense industry is gradually emerging as a significant player in the Southeast Asian region, with ambitions to become a key exporter of military equipment in the future.

**245 . Date: 06-11-2024Loitering Munition - Mini - General - Warmate Loitering Munition Tested with a New Anti-Tank Warhead: An Effective Tool Against Armored VehiclesURL: https://armyrecognition.com/news/army-news/army-news-2024/warmate-loitering-munition-tested-with-a-new-anti-tank-warhead-an-effective-tool-against-armored-vehicles**

On November 6, 2024, WB Group announced that it had tested a new anti-tank warhead for its Warmate loitering munition, developed in collaboration with the Military Institute of Armament Technology (WITU). This innovation aims to enhance strike effectiveness against armored vehicles, meeting the increasing demands of modern combat against Soviet-era tanks. The series of tests, conducted under various climatic and operational conditions, confirmed the newly shaped charge's capability to penetrate armor, thereby reinforcing Warmate's appeal for armed forces seeking versatile, high-performance solutions.

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Warmate on a launcher, with a new anti-tank warhead (Picture source: WB Group)

The testing of this new warhead occurred in two phases: initially in static conditions with the standalone warhead, followed by dynamic conditions simulating direct attacks by the loitering munition on selected targets. WB Group sought to evaluate the function and formation of the shaped charge jet during strikes from various angles. The tests were rigorous, subjecting the munition to strong crosswinds and precipitation to assess its precision and effectiveness in demanding environments. Despite modifications to shape and sensor placement compared to previous versions, the results adhered to precision standards for this type of weapon, with a CEP (circular error probable) rating ensuring 50% of hits within a defined radius around the target center.

The Warmate’s warhead, weighing around 2 kg, offers penetration capabilities exceeding 300 mm of rolled homogeneous armor (RHA) thickness. This significantly strengthens its destructive potential against armored vehicles, particularly those based on Soviet technology. By targeting vulnerable areas such as the rear, sides, or top of vehicles, this penetration capacity increases the probability of damage or destruction. Additionally, this new warhead allows for not only vertical but also frontal attacks, expanding its effectiveness across a range of vehicles, including tanks, infantry fighting vehicles, troop transporters, and support units.

The Warmate system, produced on a large scale by WB Group, has seen approximately 5,000 units manufactured in recent months, featuring interchangeable warheads and adaptable reconnaissance modules. Although the anti-tank warhead has a specific shape and sensor configuration, it remains compatible with earlier munition versions, enabling integration without significant modifications. Deployed in combat situations in Ukraine, the Warmate system is also used by the Polish Territorial Defense Forces and by NATO countries such as Turkey, as well as other nations like Georgia, India, and, most recently, South Korea.

Despite modifications to shape and sensor placement compared to previous versions, the results adhered to precision standards for this type of weapon, with a CEP (circular error probable) rating ensuring 50% of hits within a defined radius around the target center. (Picture source: WB Group)

The WARMATE, developed by the Polish WB Group, has gained notable traction internationally as an efficient loitering munition. Besides its use by Polish armed forces, it has been acquired by several countries, including Turkey, Georgia, India, and South Korea. In October 2024, South Korea signed a contract to purchase more than 100 WARMATE 3 units, marking the first export of Polish military equipment to this country. This growing adoption highlights the confidence placed in this system across diverse operational environments.

Loitering munitions like the WARMATE have seen increased usage, particularly in Ukraine, where they play a critical role in modern military operations. Their ability to monitor an area before engaging a specific target makes them especially suited to asymmetrical conflicts and urban settings. In Ukraine, these systems have been used to neutralize strategic targets, demonstrating their effectiveness and relevance on today’s battlefields. This trend underscores the shift in military doctrines toward more flexible, precise solutions, addressing the challenges of modern conflicts.

**246 . Date: 16-10-2024Cargo - MALE - General - PlatformWaveAerospace Develops High-Altitude Logistics Mule Designed for Autonomous Aerial Cargo TransportURL: https://armyrecognition.com/news/army-news/army-news-2024/waveaerospace-develops-high-altitude-logistics-mule-designed-for-autonomous-aerial-cargo-transport**

WaveAerospace is presenting its logistics system, the Mule, an unmanned aerial vehicle (UAV) designed for autonomous cargo transport in challenging environments, at the AUSA 2024 show, held from October 9 to 11 in Washington, D.C. This drone model, engineered for logistics missions in contested zones, stands out for its endurance and durability, making it suitable for operations in complex terrains. The event, organized by the Association of the United States Army, showcases leading innovations in defense for U.S. and international armed forces. Follow Army Recognition on Google News at this link

WaveAerospace High-Altitude Autonomous Aerial Cargo Transport System (Picture source: Army Recognition)

The WaveAerospace Mule is a versatile logistics unmanned aerial vehicle specifically designed for demanding environments. Created to transport cargo in difficult terrains, this UAV embodies resilience and adaptability, ensuring effective and reliable goods transport across complex geographic areas. With an optimized design, the Mule operates efficiently in diverse environments, whether at sea, along coastlines, or in mountainous terrain. Its ability to navigate challenging conditions makes it a robust and indispensable solution for logistics missions in contested zones.

The Mule is a Multi-Mission, Utility, Logistics, & Expedition (M.U.L.E.) aircraft with vertical takeoff and landing (VTOL) capabilities, uniquely suited for heavy transport. It offers a flight endurance of up to four hours, withstands winds of 50 knots (57 mph or 25.7 m/s), and cruises at speeds between 50 and 70 knots (57-80 mph or 25-36 m/s). These attributes make the Mule ideal for a variety of missions, including cargo delivery, emergency response, ship-to-ship operations, reconnaissance, and long-duration surveillance. Its JP-8/electric hybrid system, self-recharging with heavy fuels or liquid propane, ensures operational autonomy without the need for additional charging equipment.

With a 4-meter wingspan and a maximum takeoff weight of 181 kg (400 lb), the Mule can carry payloads exceeding 40 kg (100 lb class). Designed to fly at altitudes up to 2,500 meters (8,200 feet) and operating within temperatures from -17°C to 50°C (0°F-122°F), its pre-balanced carbon fiber propellers allow optimal performance, even under harsh weather conditions, enhancing its versatility.

The Mule’s advanced capabilities include four hours of endurance in zero visibility and high ocean conditions, radar with accelerometer compensation, and inertial guidance for precise navigation in rough seas. Its 100 kW electrical system and 20 kW APU provide 30 minutes of power without the APU running, while its battery power enables discreet takeoffs, landings, and approaches. Equipped with terrain tracking, optical recognition, and fully encrypted communication, the Mule is well-protected from external interference.

The Mule is available in multiple variants to meet mission-specific needs. The Logistics Mule can be outfitted with EO/IR payloads and additional camera options upon request. The ISR Mule supports intelligence, surveillance, and reconnaissance missions, while the High Altitude Logistics Mule and High Altitude ISR Mule are designed for operations at higher altitudes.

WaveAerospace developed the Mule in response to increasing logistics needs in difficult, contested areas, particularly for military, humanitarian, and security operations. With rising conflicts in geographically challenging environments, often inaccessible by conventional means, WaveAerospace sought to meet the challenges of mobility and material transport in hostile terrain. Advances in technology, along with increasingly complex requirements from military forces and relief organizations, have driven the need for versatile aerial solutions capable of autonomous missions in extreme weather and terrain. The Mule’s endurance, wind resistance, and operational flexibility in high seas or altitude make it a strategic solution where traditional logistical infrastructure is limited or absent.

Many military forces are turning to unmanned aerial systems (UAS) to improve logistics in complex environments. The U.S. Marine Corps, for example, used the Kaman K-MAX in Afghanistan from 2012 to 2013. This autonomous heavy-lift helicopter enabled resupply of remote outposts, circumventing risks associated with ground routes in hostile areas. With high load capacity and autonomous landing capabilities, the K-MAX has demonstrated the value of drones in logistical missions where infrastructure is limited and threats are high.

The U.S. Navy has also experimented with the Blue Water UAS program, using tilt-rotor drones for logistics between ships. Designed for essential component transport over long distances, these drones reduce dependence on helicopters and can operate autonomously even in challenging conditions. The Orca model by Traverse Aero is another example of a logistics drone for challenging environments. Capable of transporting palletized loads and operating where traditional vehicles are inefficient, the Orca integrates advanced AI systems, allowing navigation in GPS- or communication-compromised settings.

**247 . Date: 05-09-2024Loitering Munition - Mini - General - PlatformWITU Showcases B0 at MSPO 2024, a Loitering Munition System for Precise StrikesURL: https://armyrecognition.com/news/army-news/army-news-2024/witu-showcases-b0-at-mspo-2024-a-loitering-munition-system-for-precise-strikes**

At MSPO 2024, the Polish Military Institute of Armament Technology (WITU) showcased a range of unmanned systems and advanced munitions, among which the innovative B0 loitering munition system stood out. This system, part of WITU’s impressive display, is designed to carry out precision strikes on both static and moving targets, utilizing modern technologies to operate effectively in complex combat environments. The B0 represents a significant advancement in unmanned aerial systems (UAS), illustrating Poland’s growing expertise in autonomous weaponry. Follow Army Recognition on Google News at this link

The B0 can be equipped with various warheads, including the GX-1 and GX-4 families, which feature anti-tank, thermobaric, and high-explosive (HE) warheads (Picture source: Armyrecognition)

The B0 system features a fixed-wing configuration and is equipped with sophisticated video tracking technology, allowing it to locate and engage targets without relying on satellite navigation during the attack phase. This characteristic offers greater operational flexibility, particularly in situations where electronic interference could render traditional navigation systems ineffective.

Measuring 2430 mm in length and 1450 mm in wingspan, the B0 is compact yet efficient for tactical deployments. Its flight time reaches 30 minutes, providing ample time for reconnaissance missions and target engagement. With a take-off weight of 8 kg, the system is lightweight and portable, making it ideal for rapid field deployments. The operational range of 30 km allows the B0 to engage targets well beyond the immediate launch area.

In terms of speed, the B0 can reach a maximum velocity of 100 km/h and operates optimally at around 72 km/h, enabling both fast approaches and more controlled maneuvers as needed. The system can fly at altitudes between 130 and 500 meters, offering a tactical advantage for low-altitude reconnaissance and targeted strikes.

The B0 can be equipped with various warheads, including the GX-1 and GX-4 families, which feature anti-tank, thermobaric, and high-explosive (HE) warheads. These options provide flexibility depending on mission objectives. Equipped with a 1920x1080 camera operating at 30 frames per second, the B0 uses video tracking technology to detect, follow, and engage targets. The absence of satellite navigation dependency during the attack phase ensures reliability, even in environments with high electronic interference.

The communication system of the B0 operates in the L Band (1200-1700 MHz), with frequency hopping capabilities and AES 256 encryption, ensuring secure and jam-resistant communications. As for human resources, the B0 is designed for operation by a small team, requiring only two soldiers to manage and deploy the system.

The B0 is part of a broader trend of increasing reliance on unmanned systems in modern conflicts. Recent examples, particularly the conflict in Ukraine, have demonstrated that loitering munitions are highly effective against armored targets and fortified positions. With its speed, range, and flexibility, the B0 is well-positioned to play a key role in future operations. It also underscores the growing importance of drone technology in the evolution of military strategies, where autonomous systems are becoming essential assets, especially in electronic warfare scenarios where GPS systems may be compromised.

This advanced technology, presented by WITU at MSPO 2024, reflects Poland’s progress in the field of autonomous defense systems. As global demand for loitering munitions continues to rise, platforms like the B0 are expected to become critical tools in future conflicts.

**248 . Date: 13-11-2024Armed ISR / ISTAR - MALE - General - PlatformExclusive: China unveils new Wing Loong-X naval warfare drone capable of launching anti-ship missilesURL: https://armyrecognition.com/news/navy-news/2024/china-unveils-new-wing-loong-x-naval-warfare-drone-capable-of-launching-anti-ship-missiles**

As reported by Global Times on November 13, 2024, the Aviation Industry Corporation of China (AVIC) officially introduced the Wing Loong-X UAV at the 15th China International Aviation and Aerospace Exhibition in Zhuhai. The Wing Loong-X is a medium-altitude, long-endurance unmanned aerial vehicle designed for multi-role functionality, including maritime escort, anti-submarine warfare, air close support, anti-radiation strikes, low-altitude alert and interception, and maritime search and rescue. Built to address combat needs in long-range scenarios, this UAV provides a range of capabilities aimed at operating across various combat environments and domains. Follow Army Recognition on Google News at this link

In the anti-submarine role, the Wing Loong-X's configuration includes payloads for sonar buoy deployment, radar pods for detection, and ET-60 electric anti-submarine torpedoes. (Picture source: Weibo)

The Wing Loong-X UAV is structured for a heavy payload and long-range operation, and it integrates features and technology developed from the existing Wing Loong series. The aircraft has undergone regular test flights and inherits prior operational experience while incorporating recent technological advancements in UAV systems. The design of the Wing Loong-X reflects an effort to address customer demands for multi-tasking UAV platforms with independent intellectual property rights. Currently in the test flight phase, the UAV combines reconnaissance and strike capabilities, as well as cross-domain coordination and emergency response functions.

A highlight of the Wing Loong-X’s introduction at the air show was the public debut of its anti-submarine warfare configuration. This variant is equipped with specialized payloads, including sonar buoy pods, torpedoes, air-to-air missiles, and air-to-ship missiles, allowing it to conduct anti-submarine missions and secure specific maritime areas. According to Tang Yong, the UAV’s chief designer, the anti-submarine variant can perform essential tasks for area control, such as wide-area maritime reconnaissance, submarine search and attack, long-range patrols, and integration into coordinated system operations. Tang explained that this configuration’s anti-submarine patrols allow for coverage and surveillance of critical areas, enhancing systemized marine security and operations.

At the air show, AVIC displayed the UAV’s capability for various combat operations beyond anti-submarine missions. The Wing Loong-X can perform full-domain reconnaissance and strike, operate in electronic reconnaissance and interference roles, relay communications, and provide support in both maritime and land scenarios. The UAV is equipped with different payloads, including torpedoes, electronic warfare pods, and several missile types, allowing for versatile mission configurations. Specific weapons compatible with the Wing Loong-X include the LD-8A anti-radiation missile, PL-12 and PL-10 air-to-air missiles, YJ-9 and CM-400AKG anti-ship missiles, and LS-6 250kg and 500kg guided bombs. Additionally, it can support jamming tasks through payloads like the CRJP jamming pod.

In the anti-submarine role, the UAV configuration includes payloads for sonar buoy deployment, radar pods for detection, and ET-60 electric anti-submarine torpedoes. These tools allow the Wing Loong-X to conduct missions such as maritime patrols, wide-area surveillance, and submarine engagement, offering extended flight time to support continuous operations in expansive maritime zones. Tang Yong also noted that the Wing Loong-X’s endurance provides added value for long-duration operations, contributing to the formation of an anti-submarine network that can effectively cover large areas and coordinate with other UAVs and manned systems to address submarine threats.

At this exhibition, the Wing Loong-X UAV and over 20 other AVIC-developed UAVs, including those in the Wing Loong and Cloud Shadow series, were displayed collectively. The AVIC aims for the Wing Loong-X to fill roles in cross-domain support, combat adaptability in counter-environment scenarios, and emergency rescue operations. This air show appearance marks a significant point in the testing and demonstration phase of the Wing Loong-X UAV, highlighting its full integration of operational capacities for various defense scenarios.

**249 . Date: 07-11-2024Armed ISR / ISTAR - MALE - General - ArmamentEuronaval 2024: Airbus Unveils VSR700 Naval Helicopter Drone with Advanced Anti-Submarine Warfare CapabilitiesURL: https://armyrecognition.com/news/navy-news/2024/euronaval-2024-airbus-unveils-vsr700-naval-helicopter-drone-with-advanced-anti-submarine-warfare-capabilities**

At the Euronaval 2024 Naval Defense Exhibition in Paris, France, Airbus showcased an advanced version of its VSR700 Vertical Take-Off and Landing (VTOL) unmanned aerial vehicle (UAV), specifically designed for Anti-Submarine Warfare (ASW). This latest iteration incorporates critical ASW capabilities and a state-of-the-art radar system, enhancing its role in maritime defense and extending its utility in naval operations. Follow Army Recognition on Google News at this link

Airbus showcases the VSR700 naval helicopter drone in its new anti-submarine warfare (ASW) configuration at Euronaval 2024. (Picture source: army Recognition Group)

The VSR700 is Airbus’s flagship VTOL (Vertical Take-Off and Landing) UAV (Unmanned Aerial Vehicle), developed to support naval forces with flexible and autonomous operational capabilities. In this new configuration, Airbus has integrated lightweight, compact ASW weapons tailored to the needs of unmanned systems. The ASW weapon system, mounted on each side of the VSR700 drone, is optimized for both warning and tactical engagement purposes against submarines. Measuring 1 meter in length, with a diameter of 200 mm and a weight of 30 kg, these ASW systems offer a balanced solution for countering underwater threats, including unmanned underwater vehicles (UUVs) and midget submarines for neutralization. This addition significantly bolsters the VSR700’s operational role, enabling it to conduct ASW missions autonomously or as part of a coordinated fleet.

Anti-submarine warfare operations are critical to safeguarding maritime domains from underwater threats, and integrating such capabilities into a UAV enhances a fleet's ability to conduct surveillance and counteract submarines without risking crewed assets. The VSR700’s VTOL capability allows it to operate from various naval platforms, including those with limited deck space, such as frigates and corvettes, providing flexibility across multiple mission profiles and operating environments.

A defining feature of this upgraded VSR700 is its front-mounted Diades C-Ranger 200 radar, a powerful tool for real-time situational awareness and target acquisition. The Diades C-Ranger 200 is a compact, high-performance radar optimized for unmanned aerial systems. Operating in the X-band frequency, it provides high-resolution imagery and is adept at detecting, tracking, and classifying both surface and low-flying targets in complex maritime environments. It features an advanced synthetic aperture radar (SAR) and moving target indication (MTI) capabilities, which allow it to capture clear images of small and fast-moving objects, even in rough sea states. This lightweight radar complements the VSR700’s design, ensuring that the UAV’s endurance and maneuverability are not compromised.

The radar's advanced capabilities make it ideal for operations in coastal and open-sea environments, where quick, reliable detection of both surface and submerged targets is crucial. With the Diades C-Ranger 200, the VSR700 can effectively serve in a multi-role capacity, supporting ASW missions, surface surveillance, and reconnaissance tasks.

Its technical specifications are at the core of the VSR700’s appeal, which allows it to perform a diverse range of maritime missions with high endurance and precision. The VSR700 is designed as a VTOL UAV with a compact and modular structure, optimizing it for ship-based operations in confined spaces. It boasts a payload capacity of up to 100 kg, allowing it to carry various mission-specific systems, including radar, sonar buoys, electro-optical sensors, and now lightweight ASW weapons. The UAV is powered by a single 155-horsepower engine, giving it an endurance of up to 10 hours depending on payload, and a top speed of 110 knots.

With an operational range extending beyond 100 nautical miles, the VSR700 can remain on station for extended periods, offering persistent situational awareness and rapid response capabilities. Its advanced navigation and control systems ensure stable flight even in challenging weather conditions, which is critical for maintaining precision and effectiveness in ASW and ISR operations. The VSR700 is also compatible with NATO-standard data links, enabling seamless integration with existing naval platforms and facilitating real-time data sharing with command centers and other fleet assets. This makes the VSR700 a highly versatile and resilient solution for multi-role operations in maritime defense.

The VSR700’s enhanced ASW version highlights the growing trend in deploying UAVs to perform roles traditionally handled by manned platforms. By equipping the VSR700 with ASW capabilities, Airbus addresses the modern navy's demand for high-endurance, low-risk solutions for detecting and countering underwater threats.

With ASW threats becoming increasingly complex, the VSR700’s upgraded configuration offers a cost-effective, versatile alternative to larger, more resource-intensive ASW systems. Its modular design and payload flexibility also make it easily adaptable for other mission requirements, such as intelligence, surveillance, and reconnaissance (ISR), electronic warfare, or even mine detection.

Airbus’s unveiling of this ASW-focused VSR700 represents an important step in their commitment to developing cutting-edge defense technologies in collaboration with leading maritime forces. By integrating advanced ASW and radar capabilities into its UAV portfolio, Airbus aligns itself with modern navies' needs, prioritizing unmanned solutions for increased range, stealth, and adaptability.

The VSR700’s unveiling at Euronaval 2024 reflects Airbus’s responsiveness to emerging maritime threats and the defense sector's push toward next-generation, unmanned naval systems. As such, the VSR700 is well-positioned to become a key asset for navies worldwide looking to bolster their ASW capabilities while reducing operational risks and costs.

**250 . Date: 06-11-2024Armed ISR / ISTAR - Small - General - ArmamentEuronaval 2024: Greece's Altus LSA Introduces First Anti-Tank Drone Equipped with French Akeron MP MissilesURL: https://armyrecognition.com/news/navy-news/2024/euronaval-2024-greeces-altus-lsa-introduces-first-anti-tank-drone-equipped-with-french-akeron-mp-missiles**

Greek defense innovator Altus LSA has introduced the ATLAS 8H “Kerveros,” an advanced heavy-lifting quadcopter drone specially designed to carry out anti-tank missions. This groundbreaking drone, the first of its kind in Greece, is armed with French-made Akeron MP anti-tank guided missiles, giving it formidable strike capabilities against armored targets on the battlefield. Follow Army Recognition on Google News at this link

Altus LSA's ATLAS 8H 'Kerveros,' Greece's first anti-tank drone equipped with Akeron MP missiles, showcased at Euronaval 2024. (Picture source: Army Recognition Group)

The ATLAS 8H, dubbed “Kerveros” by Altus LSA, is a quadcopter-based unmanned aerial system (UAS) capable of carrying up to 50 kg (110 lbs) of payload. This heavy-lifter platform, outfitted with eight rotors for added stability and redundancy, has been developed with flexibility, making it ideal for logistical and combat applications. The Kerveros’ modular design allows for quick adaptation to various mission requirements, from transporting supplies to deploying weapons in high-intensity conflict zones.

Integrating the Akeron MP missile system from French defense manufacturer MBDA transforms the Kerveros from a mere cargo drone into a lethal anti-armor weapon. The Akeron MP, a state-of-the-art anti-tank missile, is specifically designed for high precision and lethality against armored vehicles and hardened targets. With these missiles, the Kerveros can strike from above with precision, providing a unique advantage in modern warfare scenarios where unmanned platforms are increasingly essential.

The Kerveros is available in two configurations, each designed with a unique propulsion system to accommodate different mission profiles. The Electric Version of the Kerveros has a maximum take-off weight (MTOW) of 120 kg and a payload capacity of 50 kg. It offers a flight range of 30 km, extendable based on mission needs, and can reach a maximum altitude of 16,400 feet above sea level. At maximum weight, the electric version has a flight endurance of 25 minutes and operates on a 2.4 GHz communication link with AES 128 and 256 encryption for secure data transmission.

In contrast, the Hybrid Version combines electric motors with an internal combustion engine to extend operational range and endurance. This version has an MTOW of 150 kg and the same 50 kg payload capacity. It provides a longer flight range of up to 100 km and an impressive endurance of 3 to 4 hours at maximum weight, making it suitable for extended missions. Like the electric version, it also supports a 2.4 GHz communication link with AES 128 and 256 encryption.

The Kerveros’ ability to deploy the Akeron MP anti-tank guided missile represents a significant leap forward for Greece’s defense capabilities. The Akeron MP, developed by MBDA, is known for its fire-and-forget and man-in-the-loop capabilities, making it adaptable for both autonomous and operator-guided missions. This missile system has been proven effective against various armored targets, from tanks to fortified positions, providing exceptional precision and impact power.

By integrating the Akeron MP, Altus LSA has transformed the Kerveros into a highly versatile combat platform capable of executing anti-tank missions remotely, with minimal risk to personnel. This new capability enhances the Greek armed forces' firepower and aligns with a global shift toward using drones to conduct high-risk missions.

The Kerveros offers a strategic advantage in asymmetric warfare scenarios, where flexible, unmanned systems provide a tactical edge against larger, conventional forces. The drone’s ability to carry and launch guided missiles from a high altitude, paired with its extended endurance and range in the hybrid version, makes it ideal for long-range, precision strikes in hostile environments.

Furthermore, the ATLAS 8H Kerveros’ modular design means it can switch between combat and logistical roles, providing an all-in-one solution for battlefield resupply and strike missions. This adaptability positions the Kerveros as an invaluable asset for offensive and support roles, capable of rapidly responding to changing battlefield dynamics.

**251 . Date: 06-11-2024Loitering Munition - Mini - General - Euronaval 2024: Thales Introduces TOUTATIS Loitering Munition Before its French Army Deployment in 2025URL: https://armyrecognition.com/news/navy-news/2024/euronaval-2024-thales-introduces-toutatis-loitering-munition-before-its-french-army-deployment-in-2025**

During the Euronaval 2024 exhibition, Thales presented TOUTATIS, a new-generation loitering munition developed in partnership with the French company Aeromapper. This debut marks a significant development for French defense capabilities in autonomous weapons systems, as TOUTATIS is scheduled to become operational in 2025. Specifically designed for high-intensity operations, the TOUTATIS munition meets the French Armed Forces' modern needs by providing a rapid, autonomous strike capability that can neutralize targets in electronically complex combat environments.

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TOUTATIS supports Thales' strategy to equip the French Armed Forces with advanced, AI-driven solutions for operational superiority in high-intensity missions (Picture source: Army Recognition)

Loitering munitions, also known as "kamikaze drones," have proven decisive in recent conflicts, such as the Second Nagorno-Karabakh War and Russia's invasion of Ukraine. These systems combine surveillance and strike features, allowing operators to follow a target, identify it, and neutralize it when needed. In response, France initiated programs in May 2022 to promote the domestic production of these advanced munitions. One of these, the Colibri program, backed by the Defense Innovation Agency (AID) and the French Defense Procurement Agency (DGA), issued a call for proposals to develop autonomous munitions that could engage light armored vehicles while resisting electronic interference. Although Thales was not selected for Colibri, the company continued its independent investment in TOUTATIS, strengthening its position as an innovator in this field.

TOUTATIS is distinguished by its advanced technical specifications and adaptability to extreme conditions. It carries a one-kilogram warhead, sufficient to inflict critical damage on lightly armored vehicles. With a range of 10 kilometers and 45 minutes of autonomy, TOUTATIS offers operational flexibility that surpasses Colibri’s original requirements of a 30-minute endurance and a range of five kilometers. Additionally, it features Thales’ VisioLoc technology, a precise localization system that allows it to operate in GNSS-denied environments, a critical advantage for modern warfare theaters.

Designed for rapid deployment, TOUTATIS is compatible with various launch platforms: it can be launched from ground vehicles, launch tubes, helicopters, or other drones, enabling flexible use across different terrains and scenarios. With foldable wings and a compact 85 cm wingspan, it is easily transportable for field units. Within two minutes, TOUTATIS can be activated and ready for use, offering rapid response capability for precision strikes.

Beyond its deployment attributes, TOUTATIS is optimized for day and night missions and ensures interoperability with other ISR (Intelligence, Surveillance, and Reconnaissance) drones, such as Spy’Ranger, Noctua, or Grizzly. These drones can locate and identify targets with their optical sensors, transmitting data to TOUTATIS for controlled engagement. This interoperability enhances strike accuracy and effectiveness, reducing reliance on a direct operator and facilitating optimal battlefield coordination.

TOUTATIS aligns with Thales’ broader strategy to provide advanced solutions for the French Armed Forces. Concurrently, the company is developing AI-enabled drone swarms capable of managing missions autonomously. In a demonstration on October 16, 2024, Thales showcased how these swarms can reduce human operators’ cognitive load while improving situational awareness and target acquisition. Coupled with loitering munitions like TOUTATIS, these innovative technologies aim to ensure operational superiority in high-intensity scenarios.

The proliferation of systems like TOUTATIS and other autonomous technologies reflects a new era in modern conflicts. As numerous armed forces seek to strengthen their capabilities with autonomous precision systems, TOUTATIS emerges as a strong competitor against well-established models like AeroVironment’s Switchblade, Israel’s UVision Hero, and the Lancet used by Russian forces. By establishing itself in this strategic domain, Thales is supporting France's technological autonomy. In developing 100% French solutions, the company addresses the urgent need for technological sovereignty while anticipating the challenges of future battlefields, positioning itself within the global competition in the loitering munition sector.

**252 . Date: 10-10-2024Armed ISR / ISTAR - MALE - Requirement - India approves Defense projects for nuclear submarines and Predator drones to counter ChinaURL: https://armyrecognition.com/news/navy-news/2024/india-approves-defense-projects-for-nuclear-submarines-and-predator-drones-to-counter-china**

According to information published by the Times of India on October 9, 2024, India has approved two major defense initiatives aimed at enhancing its naval capabilities amid growing regional tensions. The government's recent clearance includes a project to build two nuclear-powered attack submarines and the acquisition of 31 MQ-9B Predator drones from the United States. The combined cost of these programs is estimated at approximately $8.2 billion. The move is seen as part of India's broader strategy to counter China's expanding military presence in the Indian Ocean and beyond. Follow Army Recognition on Google News at this link

Artist rendering with submarines, surface ships and drones. (Picture source: Generated by AI)

The submarines, part of the "Project-77," will be constructed at the Ship Building Centre in Visakhapatnam. These nuclear-powered attack submarines (SSNs) will feature conventional weaponry, such as torpedoes and land-attack cruise missiles. Designed for non-nuclear combat operations, they are expected to be highly versatile, with capabilities to strike targets at sea and on land. The first submarine is projected to be operational in 10-12 years, with the majority of its components sourced indigenously. Initial plans had called for six such submarines, but the approval for the additional four will be decided at a later date.

The drones, costing around $3.3 billion, will be divided among the Indian Navy, Army, and Air Force. Fifteen Sea Guardian drones will be allocated to the Navy, while eight Sky Guardians each will be assigned to the Army and Air Force. These drones are capable of extended intelligence, surveillance, and reconnaissance (ISR) missions, anti-submarine warfare, and anti-ship operations. The aircraft, equipped with Hellfire missiles and GBU-39B bombs, will be assembled in India over a six-year period.

The decision follows the commissioning of INS Arighaat, India's second nuclear-powered submarine armed with ballistic missiles, marking a significant addition to India's naval deterrence capabilities. With China's increased naval activity in the region, India aims to expand its own fleet of SSNs and SSBNs to enhance its underwater combat and strategic deterrence capabilities.

Additionally, the deal includes plans for General Atomics, the manufacturer of the MQ-9B drones, to establish a maintenance, repair, and overhaul (MRO) facility in India.

This arrangement will support the drones for eight years and facilitate local sourcing of components, which is expected to reach 34% of the total. It also aims to promote the development of indigenous high-altitude, long-endurance drones in collaboration with India's Defense Research and Development Organization (DRDO).

The approval represents a step towards strengthening India's naval power to address the challenges posed by China's expanding maritime footprint, aligning with similar global strategies such as the AUKUS pact between the U.S., UK, and Australia.

**253 . Date: 16-12-2024General - Iran’s IRGC Navy Prepares to Unveil Revolutionary UAVURL: https://armyrecognition.com/news/navy-news/2024/irans-irgc-navy-prepares-to-unveil-revolutionary-uav**

According to information published by Tasnim News on December 12, 2024, the Islamic Revolution Guards Corps (IRGC) Navy is set to enhance its capabilities with the integration of a unmanned aerial vehicle (UAV). Rear Admiral Alireza Tangsiri, commander of the IRGC Navy, made the announcement during the 12th Islamic Republic International Aerospace Exhibition on Kish Island, situated in the strategic southern waters of Iran. Follow Army Recognition on Google News at this link

The vertical take-off drones Sepehr, Shahab-2, and Hodhod-4. (Picture source: FARS)

Describing the new UAV as "world-surprising," Admiral Tangsiri highlighted its significance, attributing its development to a collaborative effort between the IRGC Navy and Iran’s Defense Ministry. He emphasized that the addition of this drone would redefine the scope of bilateral cooperation between the two entities.

The commander expressed confidence that the unveiling of the new UAV would mark a significant milestone in Iran's defense capabilities. Although specific details of the UAV's design and functionality remain undisclosed, its development follows a pattern of innovative advancements in Iran's military drone technology. Admiral Tangsiri assured that this drone would not be the final product of the IRGC Navy's collaboration with the Defense Ministry, suggesting more advanced projects in the pipeline.

Iran has made considerable strides in drone technology, leveraging it for both defensive and reconnaissance purposes. Earlier this year, the IRGC and the Iranian Army showcased an array of UAVs and advanced military hardware during a series of 20 nationwide military drills. Among the developments were kamikaze and combat drones equipped with cutting-edge technologies.

In September, Iran unveiled a kamikaze drone capable of traveling over 4,000 kilometers, demonstrating the country’s growing expertise in long-range unmanned systems.

The IRGC’s UAV capabilities have frequently been used to monitor U.S. naval activities in the Persian Gulf. Iranian drones have reportedly captured precise surveillance footage of American aircraft carriers and other warships operating in the region.

IRGC Navy

The IRGC-N has significantly expanded its UAV fleet in recent years. A notable acquisition was the delivery of 188 drones in 2020, which included models capable of launching from small boats. This has enhanced operational flexibility and provided the IRGC-N with tools tailored for asymmetrical maritime warfare. Among its assets is the Mohajer-6 UAV, a multirole platform capable of carrying precision-guided munitions. This drone complements the larger Shahed 129 UAVs operated by the IRGC Aerospace Force, broadening the operational scope of Iran’s unmanned systems.

One of the most strategic additions to the IRGC-N's arsenal is the development of drone carriers. Merchant ships are being converted to deploy UAVs over vast distances, effectively extending the operational reach of the IRGC-N. The Shahid Bagheri, a former container ship equipped with a 180-meter runway, exemplifies this transformation. Such initiatives not only enhance surveillance but also amplify the IRGC-N’s capacity for rapid response and unconventional tactics in maritime zones.

The IRGC-N’s focus on UAVs aligns with its asymmetrical warfare doctrine, emphasizing agility, surprise, and intelligence gathering. By integrating these systems, the IRGC-N enhances its ability to monitor, protect, and potentially disrupt maritime activities in contested areas like the Persian Gulf.

**254 . Date: 16-07-2024Armed ISR / ISTAR - MALE - Contract - Japan Coast Guard purchases two SeaGuardian drones for enhanced maritime surveillanceURL: https://armyrecognition.com/news/navy-news/2024/japan-coast-guard-purchases-two-seaguardian-drones-for-enhanced-maritime-surveillance**

According to a PR published by General Atomics on August 15, 2024, the Japan Coast Guard (JCG) has finalized a deal to purchase two SeaGuardian Remotely Piloted Aircraft (RPA) from General Atomics Aeronautical Systems (GA-ASI), with delivery scheduled for 2025. Follow Army Recognition on Google News at this link

Japanese Coast Guard SeaGuardian Remotely Piloted Aircraft. (Picture source: GA-ASI)

The SeaGuardian drones have been instrumental in various JCG missions, including search and rescue operations, disaster response, and maritime surveillance. Notably, the aircraft were deployed following the 7.6 magnitude earthquake near the Noto Peninsula earlier this year and during the 2023 G-7 Summit in Hiroshima.

Equipped with advanced sensors and capable of flying for over 24 hours, the SeaGuardian offers enhanced maritime surveillance capabilities. GA-ASI has also integrated its Optix+ software suite into the system, providing real-time intelligence, surveillance, and reconnaissance (ISR) data. This software facilitates the detection of unusual activities at sea by correlating data from multiple sources, ensuring a comprehensive operational picture for JCG operators.

Japan Coast Guard

Over recent years, the JCG has been significantly upgrading its fleet and capabilities to address evolving security challenges, particularly in the East China Sea where tensions with China over the Senkaku Islands persist.

A major development in the JCG’s capabilities is the planned construction of its largest-ever patrol vessel. This multipurpose vessel, expected to be about 200 meters long and three times the tonnage of its largest current vessel, is designed to act as an offshore base.

It will carry smaller boats to counter potential incursions and could also be used for evacuating residents from remote islands in the event of a regional crisis. This ship is part of Japan's broader strategy to deter Chinese actions near the disputed islands and is expected to be operational by 2029.

In addition to strengthening its surface fleet, the JCG has been enhancing its aerial capabilities. It recently expanded its fleet of Airbus H225 helicopters, increasing the total number to 18. Furthermore, the JCG has engaged in international cooperation, notably conducting joint exercises with Taiwan's Coast Guard.

**255 . Date: 25-11-2024Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - Pitch - Philippine Navy Modernization Accelerated by US Deployment of Advanced Unmanned TechnologiesURL: https://armyrecognition.com/news/navy-news/2024/philippine-navy-modernization-accelerated-by-us-deployment-of-advanced-unmanned-technologies**

According to MaxDefense Philippines, the U.S. Department of Defense is ramping up its efforts to modernize the Philippine Navy by facilitating the transfer of advanced unmanned technologies. These include additional Unmanned Surface Vehicles (USVs), such as larger models than the recently showcased MANTAS T12. This growing cooperation highlights the strategic role of unmanned technologies in modern maritime operations.

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The Flexrotor, developed by Aerovel, a subsidiary of Airbus Helicopters, is a Group 2 small tactical unmanned aerial system (STUAS) (Picture source: Airbus)

The MANTAS T12, developed by MARTAC, is a versatile USV measuring 3.6 meters in length with a payload capacity of 64 kg. Powered by a sixth-generation electric engine, it can reach speeds exceeding 30 knots and perform various missions, including surveillance, mine countermeasures, intelligence gathering, and swarm operations. The system can be deployed from the shore, a ship, or smaller vessels and integrates various sensors, including EO/IR cameras, sonars, and lidars. An optional “gator” configuration allows for enhanced stealth capabilities with a flooding hull suitable for discreet missions.

In addition to USVs, the United States will provide the Philippine Navy with advanced Unmanned Aerial Vehicles (UAVs). Among these is the Aerovel Flexrotor, a vertical take-off and landing (VTOL) UAV designed for surveillance and reconnaissance missions launched from small ships, such as patrol boats.

The Flexrotor, developed by Aerovel, a subsidiary of Airbus Helicopters, is a Group 2 small tactical unmanned aerial system (STUAS). It features 33-hour endurance, a top speed of 180 km/h, and an 8 kg payload capacity, making it suitable for both maritime and land-based operations. Compact in design (2.1 meters long with a 3-meter wingspan), it requires minimal support equipment and can operate from confined platforms. Equipped with a heavy-fuel engine, it offers increased operational efficiency and range.

The Flexrotor is outfitted with an Alticam stabilized turret capable of capturing HD imagery day and night. It supports a variety of payloads tailored to mission needs and can transmit real-time video over a range of 120 km. It is fully autonomous after takeoff and operates effectively in GPS-denied environments, making it suitable for both military and civilian applications, including environmental monitoring and data collection.

Separately, the Philippine Navy has issued a tender for VTOL-capable “suicide drones,” also known as loitering munitions. These systems are designed for precision strikes but can return to base and be reused if a mission is aborted, emphasizing versatility and cost-efficiency in operations.

The use of UAVs and USVs offers significant strategic and operational benefits for the Philippines, particularly given its geographic and security challenges as an archipelagic nation. These unmanned systems enhance maritime surveillance across the country’s vast Exclusive Economic Zone (EEZ), enabling the detection of illegal fishing, smuggling, and unauthorized incursions. They provide continuous, cost-effective monitoring and reduce the strain on manned naval assets while ensuring broader coverage of the country’s waters.

In addition, these systems bring advanced intelligence, surveillance, and reconnaissance (ISR) capabilities, delivering real-time data through sensors like EO/IR cameras, sonars, and radars. Their ability to operate in remote or high-risk areas, even in adverse weather conditions, makes them ideal for addressing the region’s complex security landscape. UAVs and USVs also offer versatility in missions, including disaster response, environmental monitoring, and search and rescue operations, making them a crucial asset for both defense and civilian applications.

**256 . Date: 15-05-2024ISR / ISTAR - Small - Contract - Royal Netherlands Navy selects High Eye's Airboxer VTOL Unmanned Aerial VehiclesURL: https://armyrecognition.com/news/navy-news/2024/royal-netherlands-navy-selects-high-eyes-airboxer-vtol-unmanned-aerial-vehicles**

According to a PR published by High Eye on May 14, 2024, the company has entered into a partnership with the Royal Netherlands Navy following the selection of its Airboxer VTOL UAV for maritime applications. Follow Army Recognition on Google News at this link

High Eye Airboxer Unmanned Aerial Vehicle at LIMA 2023, in Langkawi. (Picture source: Navy Recognition)

The High Eye Airboxer is a vertical take-off and landing (VTOL) unmanned aerial vehicle (UAV), developed by the Dutch company High Eye, tailored for both defense and civilian tasks. It is equipped for long-range missions and engineered to withstand a range of environmental conditions from temperatures between -20 to 45 degrees Celsius. The UAV's endurance exceeds three hours, and it can carry various payloads up to a maximum of 7 kg, depending on its configuration.

Technologically, the Airboxer is capable of reaching speeds up to 70 knots with operational capabilities beyond visual line of sight (BVLOS) for distances up to 180 kilometers on a single tank of fuel. It features advanced communication systems capable of transmitting high-definition video over significant distances.

UAVs in the Royal Netherlands Armed Forces

The Royal Netherlands Armed Forces have integrated unmanned aerial vehicles (UAVs) into their operations, primarily using the General Atomics MQ-9A Reaper drones, which they received in 2018.

The Royal Netherlands Air Force (RNLAF) plans to double its fleet of MQ-9A Reapers from four to eight by 2026. The existing Reapers will be equipped with advanced capabilities such as maritime radars, communications relays, extended range fuel tanks, electronic support measures, and armaments.

**257 . Date: 25-09-2024ISR / ISTAR - Tactical - Contract - Schiebel CAMCOPTER S-100 supports coastguard missions in France and Belgium for enhanced maritime safetyURL: https://armyrecognition.com/news/navy-news/2024/schiebel-camcopter-s-100-supports-coastguard-missions-in-france-and-belgium-for-enhanced-maritime-safety**

According to a PR published by Schiebel on September 25, 2024, the European Maritime Safety Agency (EMSA) has contracted Schiebel to support multi-purpose maritime operations in the Channel (La Manche) and the southern North Sea with its advanced Unmanned Air System (UAS), the CAMCOPTER® S-100. Follow Army Recognition on Google News at this link

CAMCOPTER® S-100 unmanned aerial vehicle in Northern France. (Picture source: Schiebel)

This operation aims to assist maritime authorities in France and Belgium, enhancing a range of coastguard functions, including emission monitoring and search and rescue operations.

Stationed at the Gris-Nez Maritime Rescue Coordination Centre (MRCC) in Pas-de-Calais, France, the CAMCOPTER® S-100 operates within airspace approved by civil aviation authorities. Its deployment provides critical support for maritime safety, environmental protection, and surveillance efforts. The UAS also plays a key role in responding to maritime accidents and disasters.

Equipped with advanced sensor technology, the S-100 is fitted with a Trakka TC-300 electro-optical/infrared (EO/IR) sensor, an Explicit Mini Sniffer for emission monitoring, a Becker Avionics BD406 Emergency Beacon Locator, an Automatic Identification System (AIS) receiver, and a Mode-S Transponder ADS-B out. This array of equipment allows the UAS to detect small objects and anomalies at sea.

Background

One of the demonstrations of the CAMCOPTER S-100’s capabilities occurred during the NATO-led REPMUS and Dynamic Messenger 2023 exercises in Portugal. The exercises involved cutting-edge deployments for anti-submarine warfare (ASW), mine countermeasures (MCM), and environmental assessment. The UAV successfully deployed NATO-standard G-size sonobuoys, showcasing its potential as an end-to-end solution for ASW missions.

In 2024, Schiebel has achieved significant milestones with the CAMCOPTER S-100, including receiving civil airspace approval in Australia, marking it as the first VTOL UAS to gain such recognition. This opens up its utility beyond defense, allowing it to operate in civilian environments.

**258 . Date: 03-07-2024ISR / ISTAR - Small - Contract - Shield AI wins $198 million contract to provide US Coast Guard with V-BAT DronesURL: https://armyrecognition.com/news/navy-news/2024/shield-ai-wins-198-million-contract-to-provide-us-coast-guard-with-v-bat-drones**

According to a PR published by Shield AI on July 1, 2024, the defense technology firm, has been awarded a $198,106,876 indefinite-delivery, indefinite-quantity firm fixed-price contract by the U.S. Coast Guard. Follow Army Recognition on Google News at this link

The V-BAT vertical take-off and landing reconnaissance unmanned aerial vehicle. (Picture source: Shield AI)

The contract mandates Shield AI to provide Intelligence, Surveillance, and Reconnaissance (ISR) services using its V-BAT unmanned aircraft system (UAS) under a Contractor Owned Contractor Operated (COCO) model.

Brandon Tseng, Shield AI’s President, Co-founder, and former Navy SEAL, emphasized that the V-BAT's selection reflects a market shift towards affordable drones capable of completing a majority of mission sets, as opposed to more costly crewed or uncrewed aircraft.

The V-BAT aircraft is unique as the only single-engine ducted fan vertical takeoff and land (VTOL) UAS in operational deployment that can launch and recover from a hover and transition to horizontal flight.

With over five years of consistent operational use at sea, the V-BAT has proven to be a versatile platform capable of performing a range of UAS missions from Group 2 to Group 5 and beyond, attracting both U.S. and international clients.

Technical data

The V-BAT unmanned aircraft system measures 9 feet in length with a wingspan of 9.7 feet. It has a gross weight of 125 pounds. The aircraft is powered by a single Suter TOA 288 two-cylinder engine. It can achieve a maximum speed of 56 mph and has an endurance of 10 hours. The service ceiling of the V-BAT reaches up to 20,000 feet.

**259 . Date: 21-11-2024ISR / ISTAR - Small - Contract - Textron Systems to Equip US Navy Littoral Combat Ships with more Aerosonde UASURL: https://armyrecognition.com/news/navy-news/2024/textron-systems-to-equip-us-navy-littoral-combat-ships-with-more-aerosonde-uas**

According to a PR published by Textron Systems on November 18, 2024, the subsidiary of Textron Inc., has been awarded a new task order worth up to $47 million by the U.S. Navy’s Naval Air Systems Command (NAVAIR). This contract will provide Contractor-Owned, Contractor-Operated (COCO) uncrewed aircraft system (UAS) services to support three additional Independence-class Littoral Combat Ships (LCS) deploying to the U.S. Navy's 5th Fleet. This marks a continuation of Textron Systems’ pivotal role in providing UAS support to the Navy, building on a 2023 contract that extended services to seven other vessels. With this new task order, the Aerosonde® UAS system will now support a total of 10 Navy ships. Follow Army Recognition on Google News at this link

The Aerosonde UAS from Textron Systems empowers Independence-class Littoral Combat Ships with advanced ISR capabilities. (Picture source: US Navy)

Textron Systems will deploy its battle-proven Aerosonde UAS, along with highly trained personnel, to deliver advanced Intelligence, Surveillance, and Reconnaissance (ISR) capabilities. The contract leverages Aerosonde’s multi-mission payload configurations to enhance mission overwatch and extended range reconnaissance for naval operations.

The Aerosonde UAS has demonstrated operational success aboard various ship classes, including Expeditionary Sea Base (ESB)-4 and ESB-5, two DDG-class destroyers, and multiple LCS vessels. Notably, in December 2023, the Aerosonde completed its first operational flight from the LCS-28 USS Savannah.

The Aerosonde UAS boasts a remarkable track record, with over 700,000 flight hours amassed during more than a decade of global operations. Its vertical takeoff and landing (VTOL) and fixed-wing configurations support diverse mission profiles, making it an indispensable asset for maritime ISR missions. The system's ability to carry a range of advanced payloads—including sensors for intelligence gathering, targeting, and overwatch—enhances its operational value in high-stakes environments.

In 2024, the maritime security landscape is increasingly defined by escalating conflicts and asymmetric threats. Regions such as the Red Sea, Gulf of Oman, and South China Sea have become focal points for tension, where global trade routes intersect with geopolitical rivalries and unconventional warfare. Against this backdrop, Textron Systems' recent $47 million contract to deploy its Aerosonde Uncrewed Aircraft System (UAS) aboard three additional U.S. Navy Littoral Combat Ships (LCS) signals a critical advancement in addressing these challenges.

The Aerosonde UAS is more than an ISR platform—it represents an operational lifeline for naval forces operating in contested and high-risk waters. Its deployment in the U.S. Navy’s 5th Fleet, which oversees volatile areas like the Red Sea and Gulf of Oman, comes at a pivotal time. These waters are witnessing heightened threats, including attacks on commercial and military vessels by non-state actors such as Iran-backed Houthi rebels. These adversaries employ drones, missiles, and fast attack boats, presenting unconventional challenges that demand real-time intelligence and surveillance capabilities.

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As tensions grow in the Indo-Pacific, the South China Sea has also become a flashpoint. China's expansionist policies and aggressive maneuvers in the region are forcing the U.S. Navy to respond with agility and technological superiority. The Aerosonde UAS, with its ability to operate from the agile Littoral Combat Ships, provides the flexibility and extended reach required to monitor and respond to such threats effectively. This capability aligns with the Navy’s broader strategic objectives of maintaining freedom of navigation and countering adversarial actions in contested zones.

**260 . Date: 24-05-2024Armed ISR / ISTAR - Tactical - Partnership - When Turkish and French Defense industries forge closer tiesURL: https://armyrecognition.com/news/navy-news/2024/when-turkish-and-french-defense-industries-forge-closer-ties**

According to information published by the Anadolu Ajansi on May 22, 2024, in a strategic collaboration between Titra Technology and Airbus, Turkey's first unmanned helicopter, ALPİN, is set to gain the capability to take off and land on maritime platforms. Follow Army Recognition on Google News at this link

ALPIN Unmanned Helicopter at IDEF 2021, Istanbul. (Picture source: Army Recognition)

The partnership was formalized during the SEDEC Homeland Security Fair, where Titra Technology's CEO, Abdulkadir Şener, revealed that the collaboration with Airbus has been underway for approximately 4-5 months. This initiative aims to integrate ALPİN's functionality with naval operations, a complex task that involves adapting the helicopter to land on moving ships.

The project involves significant hardware and software integration, leveraging Titra’s autopilot technology and Airbus’s expertise. The collaboration is expected to yield a functional maritime-capable ALPİN within six months, potentially leading to further joint projects.

Şener also noted the high level of international interest in ALPİN, with discussions ongoing with numerous countries across various continents. Titra Technology is establishing a new factory to meet the production demands and aims to finalize agreements with several countries by the end of the year. After its deployment in Northern Iraq, ALPİN received valuable field feedback, driving continuous improvement of the platform.

Context

The military relations between Turkey and France have experienced significant fluctuations, characterized by periods of tension and recent efforts towards rapprochement.

Historically, tensions have arisen from differing geopolitical interests, particularly in the Eastern Mediterranean and Libya. In the Eastern Mediterranean, conflicts over natural gas exploration and maritime boundaries have led to military standoffs. France has increased its military presence in the region to counter Turkish activities, which it views as violations of international law and Greek-Cypriot sovereignty.

In Libya, the two countries have supported opposing factions, further straining their relationship. Turkey’s military intervention in Libya, backing the Government of National Accord (GNA), clashed with France's support for the Libyan National Army (LNA), leading to direct military incidents, such as the Courbet incident in 2020, where a French frigate was involved in a standoff with Turkish naval vessels.

Despite these conflicts, recent global events, particularly the Russian invasion of Ukraine, have catalyzed a shift towards cooperation. Both countries, as NATO members, have found common ground in supporting Ukraine and countering Russian aggression.

**261 . Date: 27-02-2025H-Rotary - ISR / ISTAR - Tactical - General - British Navy Deploys New Mini Helicopter Drone Peregrine for Maritime Security OperationsURL: https://armyrecognition.com/news/navy-news/2025/british-navy-deploys-new-mini-helicopter-drone-peregrine-for-maritime-security-operations**

The UK Royal Navy has successfully deployed its new mini remotely piloted helicopter, Peregrine, on a long-term maritime security mission in the Middle East. This marks the first operational use of the drone, which was first announced for deployment in 2023.

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The Peregrine is a 10ft long uncrewed aerial vehicle. (Picture source: UK MoD)

Peregrine, a 10ft long uncrewed aerial vehicle (UAV), has demonstrated remarkable capabilities, including conducting extended sorties of up to five hours, operating beyond the horizon. The UAV was launched from the flight deck of the Type 23 frigate HMS Lancaster, where it played a key role in monitoring illicit activities on the so-called "Hash Highway," a major route for smuggling operations in the region.

The Peregrine UAV is a variant of the Schiebel S-100, equipped with advanced UK military technology, customized for the Royal Navy’s requirements. Its features include radar and an infra-red/electro-optical camera, enabling it to operate in both day and night conditions, and in poor visibility. With a maximum speed of 125 mph, the drone provides real-time intelligence by relaying live radar feeds and imagery directly to the ship’s operations room.

Lancaster's commanding officer, Sam Stephens, highlighted the significance of the integration of Peregrine into the longest-serving operational Type 23 frigate. He noted that the UAV represents a force-multiplier for the Navy, enhancing its ability to gain a strategic advantage over smugglers and other adversaries. “This is just the start, as we continue to unlock the game-changing capability with every flight,” said Stephens.

In addition to its surveillance capabilities, Peregrine has been instrumental in supporting board and search operations. During its operational debut, the drone assisted Royal Marines aboard HMS Lancaster in locating and boarding suspect dhows, leading to the successful seizure of drugs and contraband.

Peregrine's deployment also highlights HMS Lancaster’s role as the first ship in the Indian Ocean to be equipped with a new counter-drone system. This system is especially significant in light of the recent surge in drone attacks by Houthi rebels in the Red Sea and Gulf of Aden region over the past 18 months.

HMS Lancaster, which embarked on a three-year-long security mission in the Gulf in 2022, has undergone extensive maintenance and upgrades during its deployment. The ship's weapon systems and sensors were enhanced, and one of its diesel generators was replaced, requiring structural modifications to the frigate.

This successful deployment of Peregrine marks a significant milestone for the Royal Navy, as it continues to integrate cutting-edge unmanned systems into its maritime operations.

**262 . Date: 02-05-2025General - Exclusive: Iran to Begin Sea Trials of Second Oil Tanker Converted into Combat Drone Launch ShipURL: https://armyrecognition.com/news/navy-news/2025/exclusive-iran-to-begin-sea-trials-of-second-oil-tanker-converted-into-combat-drone-launch-ship**

According to information released on Mehdi H.'s X (formerly Twitter) account on April 30, 2025, Iran is preparing to launch sea trials of its newest forward base drone-launcher ship, IRIS Kurdestan (442), signaling another strategic milestone in the evolution of its naval forces. Like its predecessor, the IRIS Makran (441), the Kurdestan is a converted crude oil tanker—originally known as Tabukan (IMO: 8917467)—which has undergone an extensive transformation to support expeditionary naval operations. The conversion has been carried out by the Iran Shipbuilding & Offshore Industries Complex Co. (ISOICO), a major naval industrial entity located near Bandar Abbas. This move reflects a deliberate shift in Iranian maritime doctrine, focused on asymmetric capabilities and strategic power projection. Follow Army Recognition on Google News at this link

IRIS Kurdestan (442) seen ahead of its maiden sea trials—converted from a crude oil tanker into a forward base ship capable of launching combat drones and supporting long-range naval missions. (Picture source: Mehdi H. X account)

The vessel, built in 1992, measures approximately 183 meters in length with a beam of 32.23 meters. It had an original gross tonnage of 29,506 and a deadweight tonnage of 45,425. Before being acquired by Iran, the ship operated under the flag of Togo. The technical specifications highlight the ship's capability to be repurposed into a sizable floating base: its substantial tonnage and length provide ample space for equipment, personnel, and operational modules. Its wide beam offers inherent stability, a crucial attribute for UAV operations and helicopter landings at sea.

The transformation of Tabukan into IRIS Kurdestan involves significant structural modifications to support its new role as a forward base ship. Most visibly, the upper deck has been redesigned to incorporate a large helipad, suitable for helicopter and UAV operations. This addition aligns with Iran’s broader strategy of enhancing its naval reach through the adaptation of civilian maritime infrastructure into military platforms. The deck has also been cleared and potentially reinforced to accommodate modular mission containers, logistics support systems, and mobile command-and-control facilities.

The internal reconfiguration of the vessel is believed to include maintenance workshops, accommodations for a large crew, storage for fuel and ordnance, and facilities for launching and recovering unmanned aerial systems. While not designed for direct combat, Kurdestan will serve as a mobile logistics and support hub, extending the Iranian Navy’s operational radius into distant maritime zones without the need for shore-based resupply.

This approach mirrors the earlier conversion of the IRIS Makran, which has already demonstrated the value of such platforms by serving as a mobile sea base capable of supporting a broad spectrum of operations including UAV missions and special forces deployments. These converted vessels enable Iran to exert sustained naval presence and influence in areas of strategic interest such as the North Indian Ocean, the Bab el-Mandeb Strait, and the Red Sea.

Iran’s motivation for developing forward base ships like the Kurdestan stems from the structural limitations of its conventional naval force. Without aircraft carriers or a fleet of modern blue-water warships, Tehran has focused on innovative, cost-effective solutions. Repurposing large commercial tankers into multi-role naval platforms allows Iran to circumvent technological and economic barriers while still achieving strategic depth and reach.

From a geopolitical and military perspective, the commissioning of the Kurdestan introduces a new dimension of complexity for regional and international naval forces, particularly the United States and its allies. These vessels act as force multipliers, enabling the deployment of ISR assets, electronic warfare tools, special operations forces, and asymmetric attack systems such as UAVs and loitering munitions. Their hybrid civilian-military nature also presents a legal and tactical challenge—blurring the lines of engagement in crowded maritime corridors.

Emerging threats to the U.S. and allied forces stem directly from this growing Iranian naval capability. These forward base ships pose strategic challenges in several ways. First, their ability to operate in international waters near key chokepoints—such as the Strait of Hormuz, the Bab el-Mandeb, or even the Red Sea—creates a persistent presence that can be leveraged for power projection or disruption of commercial traffic. Their unclear status—neither purely military nor commercial—makes them harder to classify and track under international maritime law.

Second, they significantly bolster Iran’s asymmetric warfare toolkit. From these platforms, Iran can deploy UAV swarms, launch electronic warfare attacks, or support hybrid operations using proxy naval units like Houthi maritime forces. These capabilities can directly threaten U.S. and allied surface ships, commercial shipping routes, and even critical undersea infrastructure. With the proliferation of loitering munitions and long-endurance UAVs, these sea bases could stage persistent surveillance and precision attacks against targets of opportunity.

Finally, these vessels can serve as intelligence hubs—relaying targeting data, monitoring maritime traffic, and jamming communications or GPS signals. In contested maritime environments, the presence of Kurdestan and ships like it will force U.S. and allied navies to maintain higher levels of readiness and response flexibility. The sea trials and eventual operational deployment of this ship will be closely monitored by regional actors and NATO maritime commands, as it may represent a shift in Iran’s capacity to contest and disrupt Western naval superiority in increasingly wider maritime domains.

The addition of the Kurdestan reinforces Iran’s commitment to maritime expansion and highlights its ability to innovate under sanctions and resource constraints. While these converted tankers lack the firepower of modern warships, they are strategic assets capable of reshaping regional maritime dynamics. For Western forces, adapting to this threat will require enhanced surveillance, flexible deterrent options, and stronger maritime partnerships across the Gulf and Indian Ocean region. The sea trials of IRIS Kurdestan may prove to be a pivotal development in assessing Iran’s future naval posture.

**263 . Date: 27-02-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - General Atomics Expands MQ-9B SeaGuardian's Role in Anti-Submarine WarfareURL: https://armyrecognition.com/news/navy-news/2025/general-atomics-expands-mq-9b-seaguardians-role-in-anti-submarine-warfare**

General Atomics Aeronautical Systems, Inc. (GA-ASI) has successfully expanded the capabilities of its MQ-9B SeaGuardian unmanned aerial system (UAS) with the introduction of the aircraft's first-ever Anti-Submarine Warfare (ASW) capability. In a groundbreaking demonstration conducted from January 20-30, 2025, the MQ-9B SeaGuardian, operated by GA-ASI, successfully deployed and tested advanced anti-submarine sensors via multiple pre-production Sonobuoy Dispensing System (SDS) pods. This new feature adds a significant dimension to the SeaGuardian’s already impressive suite of maritime surveillance capabilities.

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General Atomics has successfully expanded the capabilities of its MQ-9B SeaGuardian with the introduction of the aircraft's first-ever Anti-Submarine Warfare capability. (Picture source: General Atomics)

Previously recognized for its ability to track submerged targets, the SeaGuardian took its capabilities to the next level with the integration of GA-ASI's newly designed SDS pods. These pods were used to deploy multiple sonobuoys, enabling the system to conduct onboard processing of thermal-depth and acoustic data. The SeaGuardian’s ability to detect, track, and analyze underwater targets was significantly enhanced through the use of a combination of advanced sonobuoys, including the Directional Frequency Analysis and Recording (DIFAR), the Directional Command Activated Sonobuoy System (DICASS), and Bathythermograph sonobuoys.

The demonstration proved the SeaGuardian's potential to perform comprehensive and persistent anti-submarine warfare operations. It not only detected and tracked underwater targets with great precision but also collected valuable acoustic intelligence, critical for naval defense operations.

"This demonstration represents a significant milestone in the evolution of unmanned systems," said David R. Alexander, President of GA-ASI. "We have successfully shown that the MQ-9B SeaGuardian can perform end-to-end persistent ASW operations, an achievement that highlights the future of unmanned aircraft in anti-submarine warfare. The success of this demonstration lays the groundwork for further enhancing the SeaGuardian’s ASW capabilities, and we look forward to continued collaboration with the U.S. Navy as they develop distributed maritime operations in the undersea domain."

The integration of the SDS pods is part of GA-ASI's ongoing effort to enhance the operational flexibility of the MQ-9B SeaGuardian. As part of the development, GA-ASI carried out the precise deployment of multiple DIFAR and DICASS test sonobuoys, refining the system’s ability to correlate ejection speed with stress and strain data. This process has been instrumental in creating a high-fidelity launch model, helping to improve the accuracy and reliability of future deployments.

The Naval Air Warfare Center Aircraft Division (NAWCAD) AIRWorks played an essential role in the testing and development process. AIRWorks has been an active partner in numerous anti-submarine warfare demonstrations, including its support during the Rim of the Pacific (RIMPAC) exercise in July 2024. This partnership ensures that the SeaGuardian’s ASW capabilities meet the emerging needs of warfighters.

As interest in unmanned aerial systems continues to grow, particularly within maritime operations, the MQ-9B SeaGuardian is expected to see an increase in demand from a variety of customers. One of the key advantages of the SeaGuardian is its ability to perform high-end maritime surveillance and ASW operations at a significantly lower cost compared to traditional manned maritime platforms. This makes it an attractive solution for naval forces looking to increase operational efficiency and reduce costs, all while maintaining cutting-edge capabilities.

With its expanded role in anti-submarine warfare, the MQ-9B SeaGuardian is poised to become an integral component of future maritime defense strategies. The success of the recent test flight and the growing interest in the SeaGuardian underscore the increasing value of unmanned systems in modern naval operations, providing a new frontier for surveillance and defense in the undersea domain.

As GA-ASI continues to innovate and collaborate with key defense partners like the U.S. Navy, the SeaGuardian’s role in reshaping the landscape of anti-submarine warfare seems assured, marking a new chapter in the use of unmanned systems for military operations.

**264 . Date: 14-04-2025Fixed Wing - ISR / ISTAR - Small - Contract - Italian Navy to equip FREMM-class frigates with US-made ScanEagle UAVs to enhance intelligence mission capabilitieURL: https://armyrecognition.com/news/navy-news/2025/italian-navy-to-order-new-us-made-mq-27-scaneagle-surveillance-drones-for-fremm-class-frigates**

On April 1, 2025, the Italian Ministry of Defense authorized a new contractual action to acquire an additional U.S.-made MQ-27 ScanEagle unmanned aerial system (UAS) for integration aboard two FREMM-class naval units. This acquisition falls under the operational requirement defined by the Italian Navy in 2022 to enhance Intelligence, Surveillance, and Reconnaissance (ISR) capabilities through the deployment of light and tactical-class shipborne UAS. It also represents a continuation of the initial ScanEagle integration program, which began with a U.S. Purchase Order (No. 2565 and amendments) that is still in execution. Follow Army Recognition on Google News at this link

The Boeing Insitu MQ-27 ScanEagle was developed from the Insitu SeaScan, a commercial unmanned aerial vehicle (UAV) originally designed to assist fishermen in tracking tuna and collecting weather data. (Picture source: Boeing)

The mandate issued by the Italian Navy to the Directorate for Aeronautical Armaments and Airworthiness (DAAA) aims to complete and expand the initial acquisition by providing additional systems and associated materials. This includes progressing with the installation and integration of the MQ-27 ScanEagle UAS aboard FREMM-class vessels while ensuring operational continuity. The initial procurement took place on September 18, 2013, when Insitu, a subsidiary of Boeing, announced a contract with the Italian Navy for the delivery of two complete ScanEagle systems and related training services. Each system includes four UAVs, a ground control station, a remote video terminal, and launch and recovery equipment. The ScanEagle was one of several unmanned systems introduced into the Italian Navy's inventory following initiatives such as Operazione Mare Nostrum, during which it operated alongside other UAVs like the Camcopter S-100.

The revised program reduces the number of ships to be equipped from three to two and modifies the sensor configuration. Specifically, it increases the number of aircraft with Electro-Optical (EO) sensors and removes the previously planned integration of the ViDAR sensor. The spare parts package will be aligned with expected flight hours, and additional training modules will be included, covering both basic operator instruction and instructor-level qualification. Italy became the sixth ScanEagle customer in Europe, and this drone is already used in ISR roles, benefiting from a cruise speed of 140 km/h and a 20-hour endurance. The UAV does not require a runway, as it uses a pneumatic catapult launcher compatible with naval vessels.

Previous electromagnetic compatibility and integration studies led by the Italian Navy have identified optimized installation configurations aboard the FREMM class, enabling safe and functional operation of the system. Based on these findings, the Italian Navy concluded that acquiring the same ScanEagle system remains the only viable option to ensure operational and logistical continuity without requiring new sets of launch and recovery equipment for each ship. This ensures additional surveillance capability for FREMM-class vessels.

For example, on November 13, 2024, the Italian Navy frigate Luigi Rizzo completed the acceptance trials for the ScanEagle in the Tyrrhenian Sea. Prior to testing, the vessel underwent modifications at the La Spezia Military Arsenal to integrate the UAV system. During sea trials, personnel established the Navy’s first Remotely Piloted Aircraft Section (SEZAPRM) aboard a ship, training alongside the crew and supported by Insitu engineers. The tests assessed command and control functions, launch and recovery operations, and onboard procedural integration in accordance with the Navy’s technical requirements. These activities involved coordination among the Rizzo crew, UAV unit personnel from the Naval Squadron Air Force Command, and representatives from the manufacturer.

The Italian Navy concluded that acquiring the same ScanEagle system remains the only viable option to ensure operational and logistical continuity without requiring new sets of launch and recovery equipment for each ship. (Picture source: Marina Militare)

The contractor selected by Italy for this new agreement is Insitu Inc., the U.S.-based developer and manufacturer of the ScanEagle system. Insitu also serves as the system’s designated entity for maintaining airworthiness, based on the restricted military type certificate No. 131-A issued by the Italian DAAA on August 3, 2023. The ScanEagle system is already integrated and operational aboard several FREMM vessels under the earlier acquisition. It comprises permanently installed components (ground control station and antennas) and transferable elements (launcher, recovery system, and aerial vehicles), allowing redeployment between ships undergoing maintenance and those ready for operational deployment.

The total estimated cost of the acquisition is €19,500,000. Of this amount, €19,305,426.59 is allocated to the Purchase Order, which corresponds to $20,077,643.65 using a conservative exchange rate of 1.04. An additional €194,573.41 is allocated for technical function incentives under Article 45 of Legislative Decree 36/2023. These incentives include €155,658.73 for personnel (as defined in paragraph 3) and €38,914.68 for activities described in paragraph 5. The residual 20% of the contract amount not used for the core acquisition may be reallocated to unplanned requirements, such as repairs and spare parts, within the same contractual framework. The contract will be executed through a negotiated procedure without prior publication, identified as a Purchase Order type under the Foreign Military Sales (FMS) framework. It qualifies for exemption from several standard procurement publication requirements, as the materials are classified as military equipment.

The three-year financial schedule spans from 2025 to 2027. The payment forecast includes €13,422,170.64 in 2025, €4,922,170.64 in 2026, and €961,085.32 in 2027. The contract also provides for the issuance of a Risk Assessment Document (DUVRI), and its execution will be managed by the DAAA, with a 42-month duration starting from May 2025, pending final clearance from oversight bodies. The Italian Navy will assume custody of the delivered systems. The payment mechanism will be based on documentary credit, and a guarantee will be required. Responsibilities include the nomination of a Project Manager (head of the 4th Division) and a contract execution director, as required for contracts exceeding €500,000. Notifications related to the contract will be sent to the DAAA’s 9th Division and to the Italian Navy’s 6th Department.

The ScanEagle, a small, fixed-wing UAV used for surveillance and reconnaissance, offers an endurance of more than 20 hours, a maximum speed of 148 km/h, and a cruise speed of 111 km/h. (Picture source: Insitu)

The Boeing Insitu MQ-27 ScanEagle was developed from the Insitu SeaScan, a commercial unmanned aerial vehicle (UAV) originally designed to assist fishermen in tracking tuna and collecting weather data. Following a strategic alliance between Boeing and Insitu, the platform was adapted for military surveillance and reconnaissance. The ScanEagle conducted its first flight on June 20, 2002, and entered service with the U.S. Navy in 2005. It was deployed operationally starting in August 2004 during the Iraq War. Subsequent developments led to upgraded variants, including Block D with improved video systems and cameras, Block E with infrared capability (NightEagle), and ScanEagle 2, which introduced a heavy-fuel engine, new avionics, and a fully digital architecture. Over time, it was also used in various civilian and environmental missions and was among the first UAVs approved by the FAA for commercial use in U.S. airspace. A further evolution includes the ScanEagle 3, an ITAR-free variant.

The ScanEagle is a small, fixed-wing UAV with a wingspan of 3.11 meters and a length of up to 1.71 meters. It is launched using a pneumatic “SuperWedge” catapult and recovered via the “Skyhook” system, which uses a rope suspended from a pole and GPS coordination. The UAV is designed to operate without runways. Its flight endurance exceeds 20 hours, and a Block D variant once flew for 22 hours and 8 minutes. The ScanEagle uses stabilized electro-optical or infrared cameras mounted on inertial turrets. It has also been fitted with payloads such as the NanoSAR-A radar (3.5 lb) for synthetic aperture radar imaging. Additional systems, like the ViDAR optical detection system, have been tested for broad-area maritime surveillance. The UAV’s onboard electronics, cameras, and sensors have been periodically upgraded for specific mission sets, and the airframe supports the integration of varied sensor packages.

The ScanEagle has a maximum takeoff weight of 26.5 kg and is powered by a 1.5 hp two-stroke piston engine. It offers an endurance of more than 20 hours, a maximum speed of 148 km/h, and a cruise speed of 111 km/h. Its operational ceiling is 5,950 meters. The UAV carries visual, infrared, and thermal imaging systems. A complete ScanEagle system includes four air vehicles, a ground control station, a remote video terminal, and both launch and recovery systems. The cost of a full system was estimated at $3.2 million in 2006 and $3.5 million by 2013. Upgraded versions introduced Ethernet-based communications architecture, improved EMI shielding, and FLARES (Flying Launch and Recovery System) — a quadrotor UAV that can deploy and retrieve the ScanEagle without traditional launch or recovery equipment. The platform has been used in combat operations, oceanographic research, counter-piracy missions, and drug interdiction.

**265 . Date: 22-04-2025Fixed Wing - Target Drone - HALE - General - PlatformMQ25 Stingray First Carrier Based Refueling Drone Enters Production for US Navy and Attracts US Air ForceURL: https://armyrecognition.com/news/navy-news/2025/mq25-stingray-first-carrier-based-refueling-drone-enters-production-for-us-navy-and-attracts-us-air-force**

On April 17, 2025, the Congressional Research Service published a detailed brief on the MQ-25 Stingray program, marking a new and significant phase in the modernization of the U.S. Navy's carrier-based aviation capabilities. This document, submitted to the U.S. Congress, outlines the progress made in the program and provides a forward-looking assessment of what is expected to become the first carrier-based unmanned aerial refueling and ISR (intelligence, surveillance, reconnaissance) platform.

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Designed for seamless integration into evolving tactical architectures, the MQ-25 reflects a convergence of strategic needs between the Navy and Air Force. (Picture source: Boeing)

The MQ-25 Stingray is an unmanned aerial refueling aircraft developed by Boeing for the U.S. Navy, designed to extend the combat range of carrier-based aircraft such as the F/A-18 Super Hornet, EA-18G Growler, and F-35C Lightning II. With a fuel transfer capacity estimated at 15,000 pounds delivered at distances beyond 500 nautical miles from an aircraft carrier, the MQ-25 addresses a long-standing operational gap within U.S. Navy carrier air wings. Currently, F/A-18E/F Super Hornets must be diverted from combat roles to perform aerial refueling. By introducing an autonomous refueling drone, the Navy aims to optimize the combat availability of its manned assets while expanding the operational radius of the carrier air wing. In its Fiscal Year 2025 budget request, the U.S. Navy allocated $898 million to procure three initial aircraft and continue research, development, testing, and evaluation (RDT&E) efforts. The full program of record includes 76 aircraft—67 for operational deployment and nine for testing.

Boeing has applied its extensive experience in carrier aviation—spanning back over 90 years from the Douglas TBD Devastator to today’s F/A-18E/F—to the development of the MQ-25. In 2018, the company was awarded a contract to produce engineering development model (EDM) aircraft. The Boeing-owned T1 test asset, which first flew in 2019, accumulated approximately 125 flight hours and successfully conducted aerial refueling missions with three aircraft types: F/A-18, E-2D Hawkeye, and F-35C. In 2021, the T1 was integrated aboard the USS George H.W. Bush, demonstrating its deck handling capabilities. This early phase laid the groundwork for five EMD aircraft currently under production—alongside one static test unit—at Boeing’s facility in St. Louis, Missouri. The first flight of an EMD unit is scheduled for December 2025. To support scale-up, Boeing plans to relocate production to MidAmerica St. Louis Airport in Mascoutah, Illinois, by the end of 2025 as the program moves toward full-rate production.

At the Farnborough International Airshow in July 2024, Boeing confirmed that the Navy was preparing to issue a Request for Proposals (RFP) for the low-rate initial production (LRIP) phase in the second half of 2024, with a contract expected by mid-2025. In parallel, Boeing is investing in the development of a new ground control system and software architecture that would allow F/A-18 Super Hornets or E-2D Hawkeyes to remotely command the MQ-25 during its missions. This system is designed specifically to meet Navy integration requirements and to operate with next-generation control stations.

In a significant expansion of the program’s scope, Boeing also introduced a land-based variant of the MQ-25 at the Air & Space Forces Association’s Air Space & Cyber Conference on September 16, 2024. Known as the MQ-25 LBV (Land-Based Variant), this model was developed internally with input from the U.S. Air Force to support future refueling needs in contested environments. The LBV features a wingspan extended to 92 feet—compared to 75 feet on the carrier-based version—eliminating the need for folding mechanisms and increasing wing fuel storage by 40%. Digital modeling enabled Boeing to optimize the configuration, which now includes two 3,000-pound external pylons capable of carrying additional refueling equipment or mission payloads.

The MQ-25 LBV retains a hose-and-drogue refueling system and is intended to support Collaborative Combat Aircraft (CCA) as part of the Air Force’s broader Next-Generation Aerial Refueling System (NGAS) strategy. The variant may also be adapted for intelligence, surveillance, and reconnaissance (ISR), electronic warfare, and airborne early warning roles. An image presented during the 2024 conference depicted the LBV receiving fuel from a KC-46 tanker. Its design remains compatible with existing probe-equipped aircraft.

Together, the naval and land-based versions of the MQ-25 represent a cross-service enabler for distributed operations. Designed for seamless integration into evolving tactical architectures, the MQ-25 reflects a convergence of strategic needs between the Navy and Air Force. As other global military powers develop similar capabilities, the MQ-25 Stingray stands to become the first fully operational system of its kind—marking a pivotal shift in autonomous aerial refueling and multipurpose unmanned systems in 21st-century aerospace strategy.

**266 . Date: 26-02-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - Contract - Romania to receive twelve MQ-35A V-BAT drones from the US for intelligence gathering in the Black SeaURL: https://armyrecognition.com/news/navy-news/2025/romania-to-receive-twelve-mq-35a-v-bat-drones-from-the-us-for-intelligence-gathering-in-the-black-sea**

According to HotNews Romania on February 25, 2025, Romania is set to enhance its naval capabilities in the Black Sea through the acquisition of eight MQ-35A V-BAT drones. The Romanian Naval Forces will receive the first V-BAT drone system, consisting of four aircraft, as a donation from the United States through the Maritime Domain Awareness facility. This initial set, valued at approximately $18 million, is expected to be operational by the end of 2025. Following this donation, Romania plans to purchase two additional V-BAT systems, comprising eight drones, through a direct government-to-government agreement with the United States for approximately $30 million. Follow Army Recognition on Google News at this link

Romania is set to receive a total of twelve V-BAT drones with the first four donated by the US and eight more to be purchased through a government-to-government deal. (Picture source: US DoD)

The MQ-35A V-BAT drones, developed by the American company Shield AI, feature vertical take-off and landing (VTOL) capabilities, allowing them to launch and land vertically on ship decks without requiring an airfield or airstrip. This design is intended to enhance operational flexibility, particularly for naval operations. The drones are designed primarily for intelligence, surveillance, and reconnaissance (ISR) missions and can also be equipped with laser-guided munitions. The V-BAT's ducted-fan propulsion system increases thrust and safety by avoiding exposed rotors, allowing for use in confined or dynamic environments, including maritime scenarios.

The Romanian Ministry of Defense has identified two primary focus areas for 2025: acquisitions and modernization. Planned acquisitions include the continuation of the minehunter program, with the second Sandown-class ship expected from the UK in May 2025, as well as maritime patrol vessels, intervention ships, maritime tugs, man-portable air-defense systems (MANPAD), the V-BAT unmanned aerial system, radio stations, chemical, biological, radiological, and nuclear (CBRN) equipment, and multifunctional wheeled vehicle transport platforms. Modernization projects will target maritime dredgers, frigates, missile carriers, maritime support and intervention ships, and corvettes.

The V-BAT drones were previously utilized in Ukraine during late 2024 and early 2025, where they were reportedly effective against Russian electronic warfare measures. According to Brandon Tseng, president and co-founder of Shield AI, the drones were launched from approximately 40 kilometers behind the front lines, flew 100 kilometers into Russian-controlled territory, identified SA-11 surface-to-air missile systems, and provided targeting coordinates to a HIMARS airburst system. The operation resulted in the destruction of the missile systems, demonstrating the drones' capacity to gather targeting data and communicate with artillery units under conditions of advanced electronic warfare.

The MQ-35A V-BAT drone weighs 57 kg, including a payload capacity of up to 11.3 kg, and offers an air endurance of up to 10 hours. It operates within a radio range of 130 km and can achieve a flight ceiling of 6,100 meters. The drone can carry a variety of payloads, including electro-optical (EO) and mid-wave infrared (MWIR) cameras, automated information systems (AIS), and land/maritime wide-area search (WAS) AI-based technologies. It is powered by a 288cc two-stroke EFI engine and has a maximum airspeed of 157 km/h, with a cruise speed of 98 km/h. The required landing zone is 4 by 4 meters, and it can transition from hover to flight in under 15 seconds.

James Lithgow, director of Shield AI, mentioned at the Defense Tech Innovation Forum 2025 that discussions are underway to integrate laser-guided munitions developed in Ukraine with the V-BAT system. While specific Ukrainian partners were not disclosed, this integration would potentially expand the drone’s operational roles to include direct combat support. The V-BAT's modular architecture allows for the integration of a range of sensors and combat payloads, supporting mission-specific adaptability.

Shield AI has also stated that the V-BAT was selected over 13 competitors for the US Navy and SOCOM’s MTUAS Increment 2 Program of Record. The drone’s design facilitates take-off and landing on stationary and moving platforms, including in high winds and on crowded ship decks with landing zones as small as 3.6 by 3.6 meters. The aircraft is designed for expeditionary operations, requiring only two personnel for deployment and capable of being transported in the bed of a pickup truck or a UH-60 Blackhawk. It can be prepared for flight in under 20 minutes, making it suitable for dynamic operational environments.

The Romanian acquisition of V-BAT drones is part of a wider modernization initiative that also includes new minehunters, maritime patrol vessels, and multifunctional wheeled vehicles, as well as upgrades to frigates, missile carriers, and other naval assets. The Ministry of Defense's 2025 focus on the Naval Forces aims to increase operational readiness and maritime security in the Black Sea, a region with significant geopolitical tensions.

**267 . Date: 17-01-2025Hybrid Rotary / Fixed Wing - ISR / ISTAR - Small - General - PlatformSea-Capable UAVs Lead Iran’s Latest Military Drone DeploymentURL: https://armyrecognition.com/news/navy-news/2025/sea-capable-uavs-lead-irans-latest-military-drone-deployment**

According to information published by Tasnim on January 13, 2025, Iran has revealed a new capability in its unmanned aerial systems (UAS) program: drones capable of operating from the sea. This announcement, made during the delivery of 1,000 advanced drones to the Iranian Army, signals a strategic advancement in Iran's ability to conduct maritime surveillance, reconnaissance, and precision strikes. Follow Army Recognition on Google News at this link

Iranian Unmanned Aerial Vehicle. (Picture source: Tasnim)

The technical capability for drones to take off and land on water represents a significant advancement. Operating in maritime environments requires UAVs to withstand harsh conditions, including saltwater exposure, fluctuating humidity, and dynamic temperatures. This suggests Iranian engineers have achieved progress in material durability, likely employing advanced composites or coatings to enhance resistance to corrosion and environmental wear. Furthermore, the successful deployment of drones on the sea indicates the integration of sophisticated navigation and stabilization systems. These features ensure precise landings and takeoffs despite the unpredictable movements of water surfaces, a technical feat that reflects Iran's ambition to match global standards in UAV design.

The operational implications of this capability are vast. Naval-capable drones expand Iran’s surveillance envelope over critical maritime chokepoints such as the Strait of Hormuz, the Persian Gulf, and even more distant waters. Such UAVs can perform reconnaissance over extended periods, offering real-time intelligence to naval forces and enabling precision targeting of enemy assets. Their potential role in anti-access/area denial (A2/AD) strategies is significant, as they enhance situational awareness and provide an asymmetric response to adversaries relying on traditional naval power.

The announcement also places Iran’s drone program within the broader context of regional power projection. With operational ranges exceeding 2,000 kilometers, these UAVs are capable of reaching critical assets well beyond Iran's borders. This positions them as key tools for both reconnaissance and long-range strike missions. Their advanced stealth features make them harder to detect and counter, enhancing their survivability in contested environments. This technological leap underscores Iran’s commitment to developing systems capable of countering regional adversaries with more advanced air and naval forces.

Strategically, the delivery of 1,000 UAVs reflects Iran’s determination to field a numerically significant and technologically capable drone fleet. This sheer volume, combined with diverse mission profiles, allows for sustained operations across multiple theaters. The inclusion of first-person view (FPV) drones, as noted by the defense minister, also highlights Iran’s investment in high-speed, low-altitude systems designed for precision strikes and close-range reconnaissance. These systems add a layer of tactical flexibility, particularly in scenarios requiring rapid response or kamikaze-style attacks against high-value targets.

Iran’s latest UAV advancements indicate a long-term vision to reduce its reliance on traditional systems and establish dominance in the unmanned systems domain. These drones are not merely tools of defense but are also instruments of influence, designed to assert Iran’s strategic interests and counterbalance superior adversary capabilities. By focusing on the intersection of technology, strategy, and operational innovation, Iran is carving out a unique position in the global drone landscape.

**268 . Date: 29-01-2025Fixed Wing - Armed ISR / ISTAR - MALE - General - Spanish Navy’s Flagship to Operate SIRTAP Drone for Next-Gen Carrier-Based Drone MissionsURL: https://armyrecognition.com/news/navy-news/2025/spanish-navys-flagship-to-operate-sirtap-drone-for-next-gen-carrier-based-drone-missions**

According to information published by Airbus on January 28, 2025, Airbus and Navantia have launched an initiative to integrate the SIRTAP tactical unmanned aerial system (UAS) into the Juan Carlos I (L61) amphibious assault ship. This effort focuses on seamless integration with the ship’s combat systems, secure real-time data transmission, and safe launch and recovery procedures in maritime conditions. The initiative reflects a broader trend in modern naval warfare, where unmanned systems play an increasingly critical role in surveillance, reconnaissance, force projection, and operational flexibility. Follow Army Recognition on Google News at this link

The Spanish drone SIRTAP on the amphibious assault ship Juan Carlos I. (Picture source: Airbus Defence)

The core of the integration lies in linking SIRTAP with the SCOMBA combat management system, which acts as the command and control backbone of the ship. This requires adapting the UAV’s data transmission capabilities to work within the ship’s sensor fusion and fire control network, ensuring real-time situational awareness across all operational units. The challenge involves optimizing latency-free communication between the UAV and onboard operators, allowing for effective reconnaissance and target acquisition. This will demand a robust, encrypted data link capable of resisting electronic warfare threats, ensuring that adversaries cannot disrupt ISR operations through jamming, cyber intrusions, or signal spoofing.

Operating a fixed-wing UAV from a ship like the Juan Carlos I requires precise launch and recovery adaptations. The ship’s flight deck, originally designed for Harrier fighter jets and helicopters, lacks the catapult systems typically used for fixed-wing UAVs. Airbus and Navantia must either develop a dedicated net or arrestor-based recovery system or modify SIRTAP’s software for precision-assisted landings using optical, radar, and inertial navigation cues. Stability during takeoff and landing is further complicated by the ship’s movement, deck pitching, and unpredictable wind patterns, requiring advanced stabilization algorithms and real-time course corrections to ensure successful drone operations in varying sea states.

The flight control software and autonomous guidance system must be modified to integrate with the ship’s aviation coordination framework. This includes adapting the UAV’s autopilot to work with ship-based navigation radars and inertial stabilization systems, ensuring precise positioning even in rough seas. The ability to execute automated landings with AI-assisted adjustments for wind conditions, deck movement, and aircraft deconfliction is critical, especially when operating in a mixed-aircraft environment. With existing air operations including AV-8B Harrier II jets, NH90 helicopters, and SH-60 Seahawk helicopters, the introduction of a UAV requires new air traffic control protocols, ensuring that drone launch and recovery do not interfere with manned aircraft operations.

Expanding the ISR capabilities of Juan Carlos I, SIRTAP will provide beyond-line-of-sight reconnaissance, essential for anti-submarine warfare, maritime interdiction, amphibious assault coordination, and early warning threat detection. The UAV’s ability to track surface contacts, monitor littoral zones, and relay real-time intelligence to deployed forces significantly extends the ship’s operational reach, reducing reliance on traditional airborne surveillance assets. With its multi-sensor payload, including electro-optical, infrared, and maritime radar systems, SIRTAP can detect and track naval threats, identify irregular maritime activity, and provide force protection against asymmetric threats such as swarm drone attacks or small fast-attack craft.

The integration of an automated launch and recovery system (ALRS) will be essential for enabling repeatable, reliable UAV operations at sea. The lack of a dedicated runway means SIRTAP will require either a shipborne recovery system using arresting cables, nets, or a robotic arm-assisted capture mechanism, or modifications that allow short-roll landings on the deck with rapid retrieval. Launch operations must also account for deck stability, wave motion, and wind interference, requiring adaptive flight control settings based on real-time meteorological and ship movement data.

With increasing reliance on network-centric warfare, ensuring secure UAV communication and data sharing within the Spanish Navy’s fleet-wide tactical network is crucial. SIRTAP’s integration must support multi-platform interoperability, allowing data to be distributed not just to the Juan Carlos I but also to supporting assets such as frigates, offshore patrol vessels, and allied maritime task forces. To achieve this, Airbus and Navantia will likely implement tactical datalink protocols similar to NATO’s Link 16 or Link 22 standards, ensuring that ISR feeds can be shared with joint and coalition forces for enhanced situational awareness and coordinated mission execution.

The introduction of SIRTAP aboard Juan Carlos I represents a technological leap in Spanish naval doctrine, marking the first true integration of a tactical UAV into a Spanish Navy amphibious and power projection platform. Beyond its immediate ISR benefits, the program paves the way for future UAV deployments across Spain’s surface fleet, including potential applications aboard the F-110 frigates and BAM offshore patrol vessels. The knowledge gained from integrating a fixed-wing UAV into a naval aviation environment will inform future unmanned combat aerial vehicle (UCAV) programs, shaping the next generation of manned-unmanned teaming (MUM-T) concepts in Spanish maritime operations.