**1 . Date: 26-04-2023Loitering Munition - Mini - Contract - AeroVironment from US to procure Switchblade 300 loitering missiles to France and allied nationsURL: https://www.armyrecognition.com/defense\_news\_april\_2023\_global\_security\_army\_industry/aerovironment\_from\_us\_to\_procure\_switchblade\_300\_loitering\_missile\_to\_france\_and\_allied\_nations.html**

April 26, 2023 – ARLINGTON, Va. – The American Company AeroVironment, Inc. has secured an additional $64.6 million in funding from the U.S. Army Tactical Aviation and Ground Munitions (TAGM) project office, bringing the total contract value for the procurement of Switchblade® 300 loitering missile systems to $231.3 million. This latest contract marks the first instance of foreign military sales of Switchblade 300 systems to France and another allied nation, further expanding the system's international presence. Follow Army Recognition on Google News at this link

AeroVironment, Stwichblade 300 loitering munition. (Picture source Army Recognition)

The U.S. Army Contracting Command at Redstone Arsenal will oversee the contract, with the delivery of the systems slated for completion by July 2024.

The Switchblade 300, a combat-proven loitering missile system, has been deployed by the U.S. Army for over a decade, currently providing real-time intelligence, surveillance, reconnaissance (ISR), and precision strike support in Ukraine. The U.S. government approved the use of Switchblade systems by Ukraine and other nations following the onset of the Russia-Ukraine war in 2022.

Brett Hush, AeroVironment's vice president and product line general manager for Tactical Missile Systems, emphasized the significance of the Switchblade 300 in Ukraine's armed forces, stating, "This new contract further demonstrates the global demand for production-ready, combat-proven Switchblade 300 missile systems. We're honored that Switchblade 300 continues to support the U.S. military and our allies."

The Switchblade 300 is a small, lightweight, and lethal loitering missile system developed by AeroVironment, Inc. Designed for use by the U.S. Army and its allies, the system has been deployed for over a decade, providing real-time intelligence, surveillance, and reconnaissance (ISR) capabilities, as well as precision strike support on the battlefield.

The Switchblade 300 is ideal for use against beyond-line-of-sight targets and is particularly well-suited for operations in complex and contested environments. It can be easily transported and rapidly deployed, offering a high level of flexibility to military forces. Equipped with a high-resolution camera, the system allows operators to identify and engage targets with extreme precision while minimizing collateral damage.

The next-generation Switchblade 300 Block 20 builds upon the battle-tested performance of its predecessor, the Switchblade 300. This advanced version introduces several improvements, including a high-resolution EO/IR panning camera suite for better target identification, extended endurance, and a user-friendly touchscreen Fire Control System (FCS) that simplifies mission training, planning, and execution.

The Switchblade 300 Block 2 boasts a range of 10 km, a 20-minute endurance, a flight cruise speed of 100 km/h, and can carry a payload of 1.8 kg. These enhancements make the Switchblade 300 Block 20 an even more effective and adaptable loitering missile system for military operations.

**3 . Date: 20-04-2023General - Iranian army units receive over 200 locally made drones including switchbladesURL: https://www.armyrecognition.com/defense\_news\_april\_2023\_global\_security\_army\_industry/iranian\_army\_units\_receive\_over\_200\_locally\_made\_drones\_including\_switchblades.html**

The Iranian Army on April 20 took delivery of more than 200 strategic drones manufactured by the Defense Ministry, Tasnim reports. In an event attended by Army Commander Major General Abdolrahim Mousavi, the strategic unmanned aerial vehicles, designed and manufactured by the Defense Ministry in cooperation with the Army, were delivered to various units of the Army in several parts of the country.. Follow Army Recognition on Google News at this link

The drones delivered to Iranian army units include various models such as Ababil-4, Ababil-5, Arash, Karrar jet, Shahrivar 10th, Akhgar, switchblade drone, Homa, as well as sea-based and VTOL drones (Picture source: Tasnim)

The drones delivered to Iranian army units include various models such as Ababil-4, Ababil-5, Arash, Karrar jet, Shahrivar 10th, Akhgar, switchblade drone, Homa, as well as sea-based and VTOL drones. The new drones, all of which have low radar cross-sections (RCS), are designed to carry out a broad range of missions, including reconnaissance, destruction (kamikaze/suicide), combat/strike, patrol operation, loitering, anti-radar operation, aerial interception, and action against mobile and fixed targets.

The propulsion, navigation and control systems of the new drones have been modified and they have been equipped with air-to-air and air-to-surface missiles, smart air-based standoff bombs, and electronic warfare systems, Tasnim reports. The new features have turned some drones into stealth aircraft with long ranges, that can carry out special operations.

In July 2022, the commander of Iran’s Army Ground Force unveiled plans for the establishment of five new military units operating with unmanned aerial vehicles. Pointing to the sophisticated UAVs that the Army’s “Drone Base 313” has taken possession of, including cruise drones and the Heidar drones, Brigadier General Kiomars Heidari said the Ground Force has submitted a proposal for the establishment of five drone units.

**4 . Date: 24-04-2023Loitering Munition - SMall - Contract - Solar Industries India to supply Nagastra-1 loitering munitions to Indian armyURL: https://www.armyrecognition.com/defense\_news\_april\_2023\_global\_security\_army\_industry/solar\_industries\_india\_to\_supply\_nagastra-1\_loitering\_munitions\_to\_indian\_army.html**

According to PSU Watch, Solar Industries India Ltd announced that Economic Explosives Ltd, a wholly-owned subsidiary of Solar Industries India, has bagged a Rs 212-crore contract from the Ministry of Defence. "Economic Explosives Ltd, a wholly-owned subsidiary of the company has signed a contract for the supply of ‘Nagastra-1’ loitering munitions with the Ministry of Defence". Follow Army Recognition on Google News at this link

Solar Industries' Nagastra-1 loitering munition (Picture source: ia Vayu Aerospace)

According to The Economic Times, Solar Industries Nagpur on Friday, April 21, said it has bagged an order to supply unmanned aerial vehicle (UAV) 'Nagastra' to the Indian Army, beating competitors from Israel and Poland. A Solar Industries official said with a government's initiative to bring Atmanirbharta into ammunition and defence systems, the first indigenous loiter munition, Nagastra-1, has been designed and developed by Economics Explosives Ltd (EEL), a 100 percent subsidiary of Solar Industries Nagpur, in association with Z-Motion, Bangalore.

The company said that Nagastra -1 having an indigenous content of more than 75 percent has many world-class features. A model of 'Nagastra -1' loitering munition was recently displayed in the Army Commanders conference held in New Delhi. Homegrown Solar Group is into manufacturing industrial explosives.

In Kamikaze mode, it can neutralise any hostile threat with GPS-enabled precision strike with an accuracy of 2 meters. The fixed wing electric UAV has an endurance of 60 minutes with a man-in-loop range of 15 km and an autonomous mode range of 30 km. In addition to day-night surveillance cameras the loiter munition is equipped with fragmenting warhead to defeat soft-skin targets. In case a target is not detected or if the mission is aborted, the loiter munition can be called back and made a soft landing with a parachute recovery mechanism enabling it to be reused multiple times.

**5 . Date: 07-04-2023Loitering Munition - Mini - Contract - United States delivers ALTIUS-600M loitering munitions to UkraineURL: https://www.armyrecognition.com/defense\_news\_april\_2023\_global\_security\_army\_industry/united\_states\_delivers\_altius-600m\_loitering\_munitions\_to\_ukraine.html**

According to a list of military equipment delivered to Ukraine published by the United States Department of Defense, updated on April 4, 2023, the Ukrainian armed forces have received the Altius-600M UAS loitering munition produced by the American company Anduril Industries. Follow Army Recognition on Google News at this link

In the video, the ALTIUS-600M loitering munition is seen hitting a container target. (Picture source Screen Shot video footage Anduril Industries)

On April 3, 2023, the American company Anduril Industries posted a video on its YouTube account showing the Altius-600 UAS loitering munition destroying a container target. This loitering munition is designed to accommodate multiple seeker and warhead options while doubling the loitering time and range of current market offerings.

The ALTIUS-600M is a cutting-edge loitering munition designed to offer superior capabilities compared to existing options in the market. With its flexible design, the ALTIUS-600M accommodates a variety of seeker and warhead options, effectively doubling the loitering time and range of its competitors. Combining best-in-class range, payload, and endurance, the ALTIUS-600M is poised to revolutionize modern warfare by providing versatile and efficient support to military operations.

The ALTIUS-600M stands out from its competitors by offering an impressive range of 440 km (276 miles) and a loitering endurance of over 4 hours. This extended range and loitering time provide military forces with the flexibility to conduct prolonged surveillance and reconnaissance missions or to engage targets over a wider operational area. The increased capabilities of the ALTIUS-600M ensure that it can respond effectively to emerging threats and support evolving mission objectives. The drone weighs up to 13.15 kg (27 lbs), making it a relatively lightweight and portable option for military forces.

The Altius-600 UAS loitering munition appears to have a streamlined and aerodynamic design. The fuselage is slender and elongated, while the wings are relatively short and have a slight dihedral angle. The V-tail configuration at the rear of the munition provides stability and control during flight.

The munition seems to have a pusher-propeller configuration, with the propeller located at the rear of the fuselage. This design choice likely helps reduce drag and improve efficiency. The airframe is predominantly white, which may aid in blending with the sky during daytime operations. Overall, the design suggests that this loitering munition prioritizes stealth, efficiency, and maneuverability in order to effectively engage its targets.

One of the key features of the ALTIUS-600M is its adaptable design, which allows for the integration of various seeker and warhead options. This versatility enables the munition to be customized for specific mission requirements, providing a tailored solution for diverse military operations. Whether it's precision targeting or widespread area damage, the ALTIUS-600M can be equipped with the necessary payloads to achieve mission success.

Another advantage of the ALTIUS-600M is its ability to launch from a variety of platforms and altitudes. This flexibility allows the loitering munition to be seamlessly integrated into existing military infrastructure, providing enhanced capabilities to any mothership.

**6 . Date: 03-04-2023Glider - Tactical - General - US 1st Special Forces Group (Airborne) tests GD-200 new prototype glider for speedy resupplyURL: https://www.armyrecognition.com/defense\_news\_april\_2023\_global\_security\_army\_industry/us\_1st\_special\_forces\_group\_airborne\_tests\_gd-200\_new\_prototype\_glider\_for\_speedy\_resupply.html**

In February 2023, the 1st Special Forces Group (Airborne) successfully tested a new unmanned aerial delivery platform: the GD-2000 glider (GD-200 stands for ‘glider disposable 2,000 lbs.’). This glider is an alternative to the current means of supply delivery into diverse environments. Implementation of the glider will result in enhanced capabilities of the Special Forces detachments deployed through varied, and often restrictive, terrain. Follow Army Recognition on Google News at this link

Yuma Proving Ground, Ariz. – Soldiers from 1st Special Forces Group (Airborne) recover the GD-2000 glider after its landing at Yuma Proving Grounds, Ariz. On February 13, 2023 (Picture source: U.S. Army)

The testing was funded through a $2.2 million award to Silent Arrow through the Pentagon’s Warfighter Lab Incentive Fund (WLIF) as the result of a partnership between the Pentagon-based J7 Joint Force Development Directorate, U.S. Indo-Pacific Command (INDOPACOM), and U.S. Special Operations Command (SOCOM) to develop “a series of advanced operational demonstrations and Concept of Operations (CONOPs) development activities,” as the company announced in February of last year, Jared Keller reports in Tanks & Purpose.

This success does not only lie with the operators on the ground but also with utilizing emerging technology. The GD-2000 is a glider platform — which, as a tandem-wing glider, flies on four seven-foot spring-launched wings that pop out of the fuselage — that Special Operation Forces innovators hope will revolutionize aerial delivery to Green Berets in the field. “It’s an autonomous aircraft that carries 1,500 pounds of payload,” said Chip Yates, CEO of Yates Electrospace, and the creator of the glider. “It flies for 15 minutes, flares and lands where you want it,” he continued.

Silent Arrow GD-2000 glider drone released (Picture source: Silent Arrow)

Traditional supply delivery systems can be more cumbersome and more detectable by the enemy when compared with the glider. It was birthed out of a request from the U.S. Marine Corps as an alternative to the Joint Precision Air Drop System (JPADS). JPADS tend to be both larger in size and have limited ability to maneuver through the air, making them less accurate, especially over long distances or in high-wind conditions. “What this glider does is give us a much greater [travel distance] and a much greater glide ratio into a target,” said a Special Forces detachment commander, whose team tested the glider. Billed as “the world’s most dependable standoff resupply platform” by Silent Arrow, the company indeed claims the GD-2000 can handily beat the delivery range of the U.S. military’s parachute-based Joint Precision Airdrop System (JPADS) at half the cost of the latter, operating “through contested spaces with GPS accuracy”, Jared Keller reports in Tanks & Purpose.

Silent Arrow GD-2000 glider drone (Picture source: Silent Arrow)

The GD-2000 is a small aircraft designed to land at a precise location while being released from a greater distance than traditional supply drops. The glider can travel up to 40 miles once released and is completely disposable once on the ground, allowing it to be left in denied or contested territory without compromising the security of the Soldiers receiving the supplies or the technologies or techniques employed by the U.S. military.

“If we are able to get [the glider] up to 40,000 feet we’re looking at [travel distances] in excess of 25 to 30 miles. That’s a pretty unique capability and not matched by anything we currently have,” the commander said. This would also allow for aerial delivery to remote islands that require a greater level of precision to reliably reach their destination. The involvement of INDOPACOM in the WILF contract reveals the Pentagon’s intentions regarding Silent Arrow’s disposable resupply drones. With some modifications, the designer of the glider claims it can also land and be recovered in a maritime environment, further enhancing resupply capabilities to the sort of small islands often found in the Indo-Pacific, where the Pentagon is increasingly focused on preparing for a future conflict with China.

During the testing, the GD-2000 carried a 1,000-pound payload and was airdropped from a C-27J Spartan plane. During several drops, the glider landed within 30 meters of its intended target at Yuma Proving Grounds, Arizona. The hull of the aircraft was still intact and protected the cargo inside.

A Silent Arrow GD-2000 glider is released from a C-27J airplane at Yuma Proving Grounds on February 13, 2023 (Picture source: U.S. Army)

**7 . Date: 12-04-2024Armed ISR / ISTAR - HALE - Partnership - Boeing and Lockheed Martin collaborate on an armed variant of the MQ-25 tanker droneURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/boeing\_and\_lockheed\_martin\_collaborate\_on\_an\_armed\_variant\_of\_the\_mq-25\_tanker\_drone.html**

As reported by Aviation Week on April 9, 2024, Boeing unveiled a model of an armed variant of the MQ-25 Stingray tanker drone at the Sea Air Space Exposition 2024. This version of the carrier-based tanker drone is equipped with two Lockheed Martin AGM-158C Long Range Anti-Surface Missiles (LRASMs), illustrating the potential expansion of the drone's mission profile beyond aerial refueling as the US Navy is reevaluating the potential roles for the MQ-25 drone. Follow Army Recognition on Google News at this link

This version of the carrier-based tanker drone is equipped with two Lockheed Martin AGM-158C Long Range Anti-Surface Missiles (LRASMs). (Picture source: Aviation Week)

According to Rear Admiral Stephen Tedford, the Navy’s program executive for unmanned systems and weapons, the US Navy is assessing the feasibility of incorporating autonomous combat drones on aircraft carriers. Speaking at the Sea Air Space 2024, Tedford stated that these drones would need to be cost-effective, with a price cap of approximately $15 million each.

These drones, referred to as Collaborative Combat Aircraft (CCA), are designed with a notably short operational lifespan, anticipated to only last a few hundred flight hours. Tedford described their use as follows: “I want something that’s going to fly for a couple hundred hours. The last hour it’s either a target or a weapon... But I’m not going to sustain them for 30 years.” Essentially, these drones will conduct several surveillance and strike missions before their final deployment, where they might serve as kamikaze drones or targets in training exercises.

This initiative marks a departure from earlier approaches, notably after the cancellation of the Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) program in 2016, which was initially focused on developing a multi-role combat drone and ultimately led to the conceptualization of the MQ-25. However, the program was restructured into the Carrier-Based Aerial Refuel System (CBARS), which redefined the MQ-25's role to primarily focus on aerial refueling. Since then, the MQ-25 program has encountered delays and cost overruns: initially expected to achieve initial operational capability in 2024, this milestone has now been postponed to 2026.

The US Navy is now initiating studies to determine the necessary payloads, sensors, and mission systems for these UCLASS-inspired drones, aiming to complement the capabilities of current manned fighters like the F/A-18E/F Super Hornet and the F-35 Joint Strike Fighter. Furthermore, the Navy is monitoring related programs and technological advancements, including the Royal Australian Air Force’s MQ-28 Ghost Bat program and the U.S. Air Force's developments in artificial intelligence. With this approach, the UCLASS-inspired drones are expected to be integrated into the US Navy's service in the latter half of this decade, with an emphasis on modular and adaptable design to avoid limitations imposed by proprietary technologies, but also to ensure compatibility and flexibility in operations and upgrades.

Concurrently, the US Navy continues to prioritize the MQ-25 tanker drone, a project led by Boeing that aims to achieve operational capability by 2026. (Picture source: Boeing)

Concurrently, the Navy continues to prioritize the MQ-25 tanker drone, a project led by Boeing, which is on track for its inaugural flight next year and aims to achieve operational capability by 2026. Despite the difficulties associated with integrating new technologies with existing tactical and logistical requirements, the potential for the MQ-25 to undertake kinetic roles has remained under consideration. Prior to Boeing's selection for the MQ-25 contract, Lockheed Martin proposed a version of the drone capable of strike missions, indicating ongoing interest in leveraging the platform for expanded military applications.

At the Sea Air Space Exposition 2024, the display of the MQ-25 equipped with Long-Range Anti-Surface Missiles (LRASMs) highlighted the drone's potential capability for engaging in anti-ship and surface strike missions. The LRASM is designed for operations in contested environments, equipped with an advanced guidance system that includes GPS-assisted inertial navigation and a terminal-phase passive imaging infrared sensor. This missile is part of the Navy’s current arsenal, deployable from F/A-18E/F Super Hornets and with plans for future integration onto other platforms such as the P-8A Poseidon and F-35 Joint Strike Fighters.

The MQ-25's design incorporates features intended to enhance its survivability and versatility, derived from its initial development as a combat drone. These characteristics are essential for operations in regions where threats to carrier groups include advanced anti-access/area-denial (A2/AD) systems. The drone's considerable fuel capacity enables it to operate at extended ranges, potentially deploying missiles like the LRASM from distances that reduce the risk to the carrier group.

The MQ-25 Stingray is an unmanned aerial refueling aircraft designed by Boeing for the U.S. Navy. As a carrier-based drone, it facilitates aerial refueling, thereby extending the operational capabilities of combat aircraft such as the F/A-18 Super Hornet, EA-18G Growler, and F-35C fighters. The aircraft is powered by a Rolls-Royce AE 3007N turbofan engine and designed with features like a stealthy fuselage and a V-tail to improve its survivability. The MQ-25 can carry 15,000 pounds of fuel over 500 nautical miles and can be integrated with US carrier operations without major changes to existing procedures.

Looking ahead, the MQ-25 is expected to not only enhance the operational effectiveness of carrier air wings by assuming aerial refueling duties from F/A-18s but also potentially to serve as a platform for advanced surveillance, reconnaissance, and strike missions. This evolution is in line with the Navy's strategic goals of increasing the unmanned capabilities of its air wings to 60 percent by 2040, indicating a significant shift in US naval aviation tactics and strategy.

**8 . Date: 09-04-2024Armed ISR / ISTAR - MALE - General - Burkina Faso unveils new Turkish Akinci dronesURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/burkina\_faso\_unveils\_new\_turkish\_akinci\_drones.html**

Burkina Faso unveiled its new long-range combat drone, Akinci, on April 8, 2024, marking a significant development in its efforts to enhance defense capabilities against regional terrorist and insurgent groups. The two Akinci drones, presented to the military during a ceremony presided over by the head of the junta, Captain Ibrahim Traoré, are part of a larger set of Turkish armaments acquired by Burkina Faso, which also includes five Bayraktar TB2 drones and a variety of guided and unguided munitions. Follow Army Recognition on Google News at this link

Akinci drones have been observed equipped with various munitions, including MAM-L and MAM-T missiles, as well as GPS and laser-guided bombs (Picture source: Presidency of Faso)

The introduction of Akinci drones underscores Burkina Faso's increasing reliance on Turkish military products, indicating a shift towards new defense suppliers and partners. This trend suggests a growing prominence of Africa as a potentially lucrative market for Turkish defense companies, with exports of defense and aerospace products to the continent steadily rising. Manufactured by the Turkish defense company Baykar, the Bayraktar Akinci, or "Raider" in Turkish, is a high-altitude, long-endurance unmanned combat aerial vehicle (UCAV). With a maximum takeoff weight exceeding 5.5 tons and a payload of over 1,350 kg, the Akinci is equipped with powerful turboprop engines and an extensive array of electronic and communication systems. The Bayraktar TB2 is a tactical combat drone manufactured by Baykar Defense. With a wingspan of 12 meters and a payload of 150 kg, it is equipped with cameras and sensors for surveillance, reconnaissance, and targeting operations. With a flight endurance of over 24 hours and the capability to carry air-to-ground missiles, the TB2 is effective for border surveillance, counterterrorism efforts, and domestic security operations. Akinci drones have been observed equipped with various munitions, including MAM-L and MAM-T missiles, as well as GPS and laser-guided bombs. This diverse arsenal indicates Burkina Faso's intent to arm itself against a range of potential threats, including Islamist terrorist groups operating in the region. The presentation of Akinci drones was overseen by interim Burkinabe leader Ibrahim Traoré, who came to power following a coup in 2022. Traoré, known for his outspoken opposition to French influence in the region, likely sees this partnership with Turkey as an opportunity to diversify Burkina Faso's alliances and sources of armament. While Burkina Faso hopes that Akinci drones will provide a strategic advantage in its fight against Islamist militants, the integration of these new equipment into ongoing security operations in the region remains to be seen. The increasing presence of Turkish military products in Africa, along with the expansion of defense and aerospace exports to the continent, signifies a significant shift in geopolitical and commercial dynamics in the region.

**9 . Date: 10-04-2024Armed ISR / ISTAR - MALE - General - PlatformChina unveils its new CH-3D Unmanned Combat Aerial VehicleURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/china\_unveils\_its\_new\_ch-3d\_unmanned\_combat\_aerial\_vehicle.html**

The CH-3D Unmanned Combat Aerial Vehicle (UCAV) has made its first public appearance, signaling a significant advancement in drone technology and positioning itself as a strong contender in the global defense market. This new model, an evolution from the earlier CH-3A, incorporates several critical upgrades aimed at enhancing its operational capabilities and performance. Follow Army Recognition on Google News at this link

first pictures of new CH-3D UAV (Picture source X/@nuwangzi )

For now, no concrete information has been shared publicly. All the information provided in this article is based on research and estimations derived from photos and snippets of information found on social media platforms.

China develops the CH-3D UCAV. China Aerospace Science and Technology Corporation (CASC), a state-owned aerospace and defense company, is known to be involved in the development and production of unmanned aerial vehicles, including the CH series of drones The CH-3D is equipped with SATCOM antennas, allowing for improved communication capabilities, especially in remote operations where traditional line-of-sight communications are untenable. This upgrade ensures that the CH-3D can be operated over vast distances.

For the first time in the CH-3 series, the CH-3D is of HALE nature (High Altitude, Long Endurance) and, like the American Global Hawk drones, features retractable landing gear, making it more aerodynamic and extending its flight time as TB2, RQ-9 UAV the CH-3D is able o carry and deliver weaponry with high precision.

Another notable improvement in the CH-3D model is the replacement of fiberglass with advanced composite materials. This change not only reduces the overall weight of the UCAV but also increases its durability and stealth capabilities, making it harder for enemy radars to detect.

The enhancements extend to its surveillance and targeting systems as well. The CH-3D features upgraded electro-optics that provide clearer images and more accurate targeting information, which are crucial for intelligence, surveillance, and reconnaissance (ISR) missions. Additionally, the new engine modifications have improved the drone's fuel efficiency and thrust-to-weight ratio, allowing for longer missions and greater payload capacity.

In conclusion, the CH-3D UCAV represents a significant leap forward from its predecessor, the CH-3A, regarding technological advancements and operational capabilities. When compared to the Turkish TB2, a well-established competitor in the market, the CH-3D stands out with its superior communication systems and material enhancements. The TB2 has been renowned for its effective operational track record and cost-efficiency, which has made it a popular choice among several nations. However, the CH-3D's latest improvements in stealth, endurance, and payload capacity position it as a formidable rival in the increasingly competitive global UCAV market. As nations look to bolster their defense capabilities with cutting-edge technology, the CH-3D is poised to become a key player in the international arena.

The CH-3D drone positions itself as a direct competitor to the Turkish TB2 drone; however, the difference will come down to pricing. The Turkish TB2 is generally recognized for its cost-effectiveness, a significant factor contributing to its widespread adoption by various countries. Its price is estimated to range between $1-2 million per unit, depending on the configuration and quantity purchased. In contrast, the CH-3D, boasting advanced features such as SATCOM capabilities, composite materials, and enhanced electro-optics, is likely to be positioned at a higher price point to reflect these technological advancements. Although specific pricing details for the CH-3D have not been publicly disclosed, it can be anticipated that the unit cost would surpass that of the TB2, targeting a market segment that prioritizes advanced capabilities over cost.

**10 . Date: 08-04-2024Cargo - MALE - General - PlatformChina unveils new locally-made HH-100 cargo droneURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/china\_unveils\_new\_locally-made\_hh-100\_cargo\_drone.html**

China has unveiled an innovation in the field of cargo drones, the HH-100, developed by Xi'an Aircraft Industry (a subsidiary of the Aviation Industry Corporation of China (AVIC)). On April 3rd, the drone underwent taxiing and pre-takeoff maneuvers. The HH-100 successfully passed these tests, demonstrating stable performance and precise autonomous taxiing control, and is now cleared for its maiden flight. This opens up new possibilities for cargo delivery. Follow Army Recognition on Google News at this link

HH-100 during tests on the taxiway (Picture source X/@louischeung\_hk)

With a robust design that supports a maximum takeoff weight of 2,000 kilograms and a payload capacity of 700 kilograms, this homegrown innovation is poised to significantly enhance the speed and efficiency of delivering essential supplies in crisis zones.

The HH-100's operational capabilities allow it to travel up to 520 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 next test is scheduled to be conducted in May 2024, with service commencing in the fall of 2024. We have discussed solutions 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.

**11 . Date: 08-04-2024Armed ISR / ISTAR - MALE - Contract - Colombia officializes acquisition of six Atlante II drone systemsURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/colombia\_officializes\_acquisition\_of\_six\_atlante\_ii\_drone\_systems.html**

In February 2024, Colombia formalized the purchase of six complete systems of the Atlante II drone, a project developed in collaboration with Spain. Valued at 300 million dollars, the contract includes 16 drones and six command centers. The drone, known as SIRTAP in Spain and Atlante II in Colombia, was initially named the Spanish Unmanned Long Range Tactical Aircraft before development began. Follow Army Recognition on Google News at this link

Airbus ATLANTE II (or SIRTAP) drone (Picture source: Airbus)

The Atlante II (or SIRTAP) drones, measuring 7.3 meters in length and 11 meters in width, have a maximum takeoff weight of 750 kilograms. They are designed for long-distance surveillance and reconnaissance missions, capable of flying for over 20 hours or covering 2,000 kilometers. These capabilities make them suitable for continuous operations, day and night, in challenging environments.

Each Atlante II system consists of three drones and a ground control station, which are used to manage operations and receive images and signals. This compact format allows two systems to be transported in a C-295 aircraft, facilitating rapid deployment on improvised runways.

The first delivery of these systems to Colombia is scheduled for 2027, with completion expected by 2030. This substantial investment in the Atlante II drone system illustrates Colombia's commitment to modernizing its defense capabilities and integrating advanced technologies into its military strategies.

In February 2019, the Ministries of Defense of Colombia and Spain signed a Memorandum of Understanding (MOU) to proceed with the joint project for developing, designing, and producing high-performance tactical UAV systems under the program name SIRTAP.

The goal of the Atlante II (or SIRTAP) program is to introduce a new drone system that can enter service with the Armed Forces of Colombia and Spain in 2023, based on the ATLANTE UAV, designed in Spain by ADS, which is tailored to meet the operational needs of the Colombian and Spanish Armed Forces in terms of performance and tactical use.

On November 29, 2023, Spain also confirmed the acquisition of nine complete systems and two simulators for a total of 500 million euros. Each system includes three drones and a ground control station, producing 27 aircraft and nine command centers for the control and reception of images and signals.

The first flight of the SIRTAP is planned for 2025, with the first delivery expected in 2027. The program aims to complete all deliveries by 2030, thereby equipping the Spanish and Colombian armed forces with a state-of-the-art aerial surveillance and combat tool. This Spanish-Colombian collaboration not only underscores both nations' commitment to defense innovation but also highlights the growing importance of drones in modern military strategy.

The goal of the Atlante II (or SIRTAP) program is to introduce a new drone system that can enter service with the Armed Forces of Colombia and Spain in 2023, based on the ATLANTE UAV, designed in Spain by ADS, which is tailored to meet the operational needs of the Colombian and Spanish Armed Forces in terms of performance and tactical use.

**13 . Date: 22-04-2024Market - German Quantum-Systems Expands Drone Production with Second Plant in UkraineURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/german\_quantum-systems\_expands\_drone\_production\_with\_second\_plant\_in\_ukraine.html**

On 18 April 2024, German drone manufacturer Quantum-Systems announced the opening of a second drone production plant in Ukraine. This plant will have a capacity of up to 1,000 drones a year, including the production of spare parts. The manufacturer will invest up to €6 million in drone production over two years. The German Vice-Chancellor and Federal Minister for Economic Affairs and Climate Protection, Robert Habeck, inaugurated the plant in the presence of the Ukrainian Minister for Strategic Industry, Alexander Kamyshin. German company Quantum Systems is building its second defense plant in Ukraine. Follow Army Recognition on Google News at this link

The Scorpion forms one-half of a versatile 2-in-1 system, sharing the main fuselage, ground controller, data link, sensors, and AI capabilities (Picture source: Quantum Systems)

The company is strengthening this commitment with the creation of this new production unit in Ukraine. In addition, it supports the Ukrainian armed forces with the delivery of its reconnaissance drones and operates a local service, support, training, and logistics center with 25 Ukrainian employees. They train drone pilots and implement technological advances in reconnaissance systems directly on-site. Quantum Systems Vector reconnaissance drones have been in use in Ukraine since May 2022. To date, 212 systems have been made available through the German Enabling Initiative. By the end of the year, a total of 500 Quantum Systems reconnaissance drones should have been delivered to Ukraine.

Based in Munich, Quantum-Systems GmbH specializes in the development and manufacture of UAVs for civilian and military use. Founded in response to the growing demand for accurate and reliable aerial surveillance solutions, Quantum-Systems has distinguished itself through its innovations in the autonomous drone sector. Among its flagship products, the Vector UAV and the Scorpion UAV stand out for their advanced capabilities. The Vector UAV is a reconnaissance UAV (Unmanned Aerial Vehicle) designed to offer maximum flexibility and high precision in difficult conditions. This UAV is capable of flying for up to 120 minutes continuously, covering a large surveillance area with a single mission. It is equipped with multispectral camera technology that captures high-quality images even in low-light conditions, making the Vector particularly suitable for military surveillance and disaster management operations. Quantum-Systems drones are renowned for their robustness and ability to operate in a variety of environments, making them valuable tools for both civilian applications and supporting military operations. With the opening of new production facilities in Ukraine, Quantum-Systems aims to strengthen its presence on the international market while contributing to security and surveillance in conflict zones. Since the start of the conflict in Ukraine, the establishment of military equipment manufacturing plants on Ukrainian territory has taken on major strategic importance. This initiative responds to an urgent need to strengthen the national defense capability in the face of continuing aggression. By locating the production of military equipment such as drones, munitions, and other defense materials, Ukraine is reducing its dependence on foreign supplies, which is crucial in a context where logistical routes can be compromised or targeted by hostile action. In addition, these facilities contribute to the local economy by creating jobs and developing technological skills among the civilian population. This increased autonomy in the production of defense equipment not only enables a more rapid response to military threats but also greater control over the quality and availability of equipment essential to the country's survival in wartime.

**15 . Date: 19-04-2024Market - Israel's BlueBird to Establish Drone Manufacturing in MoroccoURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/israel\_s\_bluebird\_to\_establish\_drone\_manufacturing\_in\_morocco.html**

Israel and Morocco are expanding their defense cooperation with the opening of a new drone production facility by BlueBird Aero Systems in Morocco. Ronen Nadir, CEO of BlueBird Aero Systems, confirmed to the Spanish media Zona Militar on April 13, 2024, that the local production site, which has already been established, is expected to start operations soon. Follow Army Recognition on Google News at this link

In September 2022, the Moroccan Army purchased from BlueBird Aero Systems dozens of systems of WanderB-VTOL and ThunderB-VTOL (Picture source: BlueBird Aero Systems )

This development marks the latest in a series of enhanced collaborations between the two nations following the resumption of diplomatic relations under the US-brokered Abraham Accords in 2020. Even before these agreements, Israel and Morocco maintained undisclosed special defense relations. The Abraham Accords, signed in September 2020, are a series of agreements that normalized diplomatic relations between Israel and several Arab countries, including the United Arab Emirates, Bahrain, Sudan, and Morocco. They aim to promote peace and economic cooperation in the Middle East by establishing open relationships and bilateral agreements in various areas such as trade, security, and technology. In February of last year, Rabat and Tel Aviv concluded a $500 million deal to supply the kingdom with the Barak MX air and missile defense system manufactured by Israel Aerospace Industries (IAI). In 2021, Morocco also acquired the Skylock Dome anti-drone system from Israel, thereby enhancing its defensive capabilities with cutting-edge technology. According to the Stockholm International Peace Research Institute (SIPRI), Israel is among the top three largest arms exporters to Morocco, accounting for 11% of the North African country's arms imports. Morocco's commitment to the defense industry is also evident in its allocation of $12.88 billion (approximately MAD 124.7 billion) to this sector this year, as part of the military cooperation agreement signed with Israel in 2021, which includes the development of Morocco's military industry with Israeli expertise. BlueBird Aero Systems is an Israeli company that specializes in the design, development, and production of unmanned aerial systems, also known as drones. BlueBird's products encompass a wide range of drones designed for various intelligence, surveillance, target acquisition, and reconnaissance (ISTAR) missions. Among its flagship products are the SpyLite, ThunderB, and WanderB, each tailored to specific operational environments and requirements. For example, the SpyLite is known for providing high-quality intelligence in challenging weather conditions, while the ThunderB can conduct extended missions thanks to its exceptional endurance. In addition to drones, BlueBird also develops loitering munitions, such as the SpyX. The SpyX is a smart munition designed for precision strikes with an operational range of 50 km and a mission time of 1.5 hours. Equipped with a stabilized dual-sensor payload and an advanced video tracker, the SpyX enables autonomous and precise electro-optical guided attacks on targets. This system can be equipped with various payloads, tailored to the desired effect on the target, from anti-personnel to anti-vehicle or anti-tank warheads.

**16 . Date: 04-04-2024ISR / ISTAR - Small - General - PlatformKalashnikov group reveils details about new targeting and reconnaisance SKAT 350m UAVURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/kalashnikov\_group\_reveils\_details\_about\_new\_targeting\_and\_reconnaisance\_skat\_350m\_uav.html**

During the Expotechnostrazh the exhibition of advanced technologies for ensuring the security of the people, society, and the state, that took place in Saint Petersburg from April 3 to 5, the Russian group Kalashnikov presented the new SKAT 350 drone. The SKAT 350, touted as the flagship of intelligence units, had the privilege of being tested under real conditions, providing Russia with a deep intelligence capability by ground units and adding this dimension to the Russian armed forces. Previously complemented by the Supercam 350, which was limited by its image quality and weather-related flight difficulties. Follow Army Recognition on Google News at this link

SKAT 350m illustration picture (Picture source Kalashnikov group )

The SKAT 350 M UAV is mass-produced by the Concern. The result of a major upgrade of the well-known Supercam 350 UAV, it is designed for aerial surveillance and detection in optical and infrared ranges. After studying the experience of operating this UAV, Kalashnikov experts managed to enhance the product's aerodynamic properties and improve its ground control system.

The design of the drone's wings and control surfaces has undergone significant updates to enhance their mechanical strength and reliability, resulting in an overall improvement in performance. These advancements facilitate easier operation and training due to the automation of numerous system features, including the implementation of PVD ( plan view display) automatic operation mode and a new controller that optimizes battery efficiency.

The SKAT 350 M now boasts advanced payload capabilities, incorporating several technical enhancements to boost the performance of its daytime and thermal imaging cameras. A sophisticated module, equipped with refined algorithms, aids operators in accurately identifying and consistently tracking targets, underscoring the practical effectiveness of these improvements and bolstering the SKAT 350 M's appeal in the market.

Featuring a wingspan of 3.2 meters and a maximum payload of 15 kilograms, the drone can remain airborne for up to 4 hours, operating at altitudes between 300 and 2000 meters. Its cruising speed of 120 km/h poses a challenge for interception by light weapons. The SKAT 350 M is designed for deep reconnaissance missions, capable of transmitting video streams over distances up to 100 km. Highlighted in Kalashnikov's presentation, one of its standout features is the rapid deployment capability of its launch and catapult system within 15 minutes, mirroring recovery methods employed by Shahid/Geran drones via parachute. Currently operational in Ukraine, the SKAT 350 M drone has undergone rigorous testing and is now an integral part of Russian intelligence units, designated for target acquisition for FPV drone strikes and artillery coordination.

ancement in military operations. Its primary purpose is to gather real-time intelligence on enemy positions, movements, and fortifications, which is crucial for the precision and efficacy of artillery strikes. By providing high-resolution imagery and accurate target coordinates, the drone significantly reduces the time needed to engage targets, thereby increasing the responsiveness and adaptability of artillery units on the battlefield.

**17 . Date: 17-04-2024ISR / ISTAR - Mini - Contract - Netherlands teams up with Denmark and Germany to supply RQ-35 Heidrun UAVs to UkraineURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/netherlands\_teams\_up\_with\_denmark\_and\_germany\_to\_supply\_rq-35\_heidrun\_uavs\_to\_ukraine.html**

On April 15, 2024, the Netherlands, in collaboration with Denmark and Germany, announced plans to order RQ-35 Heidrun UAVs worth €200 million for delivery to Ukraine. This decision comes after an extraordinary meeting of the Drone Coalition, which includes Great Britain, Latvia, Denmark, Estonia, Lithuania, Canada, the Netherlands, Germany, and Sweden. Follow Army Recognition on Google News at this link

Equipped with a triple-lens camera system, the Heidrun can transmit live video feed over distances exceeding 30 kilometers, providing real-time situational awareness. (Picture source: Sky-Watch)

During the meeting, Canada announced it would begin transferring 450 SkyRanger air defense systems to Ukraine starting this summer. Additionally, Lithuania committed €3 million for the production of FPV drones for Ukraine, and Germany will transfer 211 Vector reconnaissance drones. These discussions and decisions underscored the coalition's strategic coordination to respond to the urgent Ukrainian need for resources to counter Russian attacks, as emphasized by Ukraine's Deputy Minister of Defense, Kateryna Chernogorenko, and Latvian Defense Minister Andris Spruds.

The recent decision to purchase RQ-35 reconnaissance UAVs further solidifies the support for Ukraine from the Netherlands, bringing their total support to €3 billion for next year. In March 2024, Defense Minister Kajsa Ollongren, following a meeting of the Contact Group on Defense of Ukraine, said that the Netherlands would purchase aviation weapons for F-16 fighter jets, which would soon be transferred to Ukraine. Additionally, in April 2024, Dutch Prime Minister Mark Rutte announced that the country would provide an additional €1 billion in military aid to Ukraine, along with €400 million for the country's reconstruction efforts.

The imminent arrival of RQ-35 drones is bound to meet the expectations of Ukrainian soldiers, as previous reports from the Ukrainian Army highlighted the effectiveness of the RQ-35 Heidrun in combat situations. Manufactured by the Danish company Sky-Watch, these UAVs offer advanced capabilities suitable for intelligence, surveillance, and reconnaissance (ISR) missions. Furthermore, Sky-Watch engineers have incorporated technical improvements into the UAV based on operational experiences in Ukraine, enhancing its resistance to electronic warfare and ability to navigate in GNSS-denied airspace.

The RQ-35 Heidrun is a fixed-wing mini Unmanned Aerial System (UAS) primarily designed for low-altitude video surveillance and reconnaissance tasks. Equipped with a triple-lens camera system, including visible and thermal imaging capabilities, the Heidrun can transmit live video feed over distances exceeding 30 kilometers, providing real-time situational awareness. It offers a flight time of up to 100 minutes, a maximum wind tolerance of 12 meters per second, and a service ceiling of 5,200 meters above sea level. The camera payload platform features stabilized gimbals, offering optical zoom ranging from 20x to 40x and additional digital zoom options. Additionally, the radio frequency transmission, which operates within the 2.2 to 2.5 GHz spectrum, ensures secure data transmission.

**18 . Date: 18-04-2024Loitering Munition - Mini - General - PlatformNew Turkish Kemankes 2 Loitering Munition Successfully Conducts Initial Launch TestURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/new\_turkish\_kemankes\_2\_loitering\_munition\_successfully\_conducts\_initial\_launch\_test.html**

On April 16, 2024, the Turkish drone manufacturer Baykar announced the the initiation of testing for its latest development, the Kemankes 2 loitering munition. This new model follows the original Kemankes, which was showcased last year when launched from a TB2 UAV. The Kemankes 2, an advanced version, is jet-powered and features improvements such as artificial intelligence and enhanced operational capabilities. Follow Army Recognition on Google News at this link

The video released by Baykar included a rapid acceleration launch of the Kemankes 2 loitering munition (Picture source: Baykar Technologies)

Recent tests, which included a rapid acceleration launch, were showcased through a video released by Baykar, providing a preview of its design and functionalities. The missile appears larger than its predecessor and incorporates components similar to those of the KaGeM-V3, a joint project with Pakistan. Designed for deep-strike missions targeting high-priority objectives, the missile is equipped with a jet engine that enables rapid deployment over distances exceeding 200 kilometers and a flight duration of approximately one hour.

Baykar has also integrated an AI-supported optical guidance system that allows the Kemankes 2 to operate with high precision even in adverse weather conditions. This system is complemented by anti-jamming technology, which protects the missile from electronic interference, enhancing its effectiveness in various operational environments. The missile’s capability to transmit data and images to ground control stations adds a layer of operational transparency and command efficiency.

The first version in this series, the Kemankes 1, was introduced at TEKNOFEST 2023, and its testing was successfully carried out in June 2023 from a Bayraktar TB2 UAV. This development underscores Baykar’s commitment to indigenous and original military technology, significantly contributing to its standing in the defense market.

Baykar, a leading exporter of unmanned aerial vehicles, has notably secured a large portion of its revenue from international markets. According to the Turkish Exporters Assembly, Baykar has led the defense and aerospace sector in exports in recent years, with a significant percentage of its contracts coming from abroad. This export success emphasizes Baykar’s dominance in the global UAV market, with the company managing a major share of Turkey’s sector exports in 2023 alone.

With ongoing advancements and the successful integration of AI and other technologies into its products, Baykar is poised to further influence the dynamics of modern warfare, equipping militaries with sophisticated tools designed to enhance their operational capabilities.

**19 . Date: 08-04-2024Armed ISR / ISTAR - MALE - Contract - Spain Unveils SIRTAP Its New Locally Made Unmanned Aerial VehicleURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/spain\_unveils\_sirtap\_its\_new\_locally\_made\_unmanned\_aerial\_vehicle.html**

The Spanish Ministry of Defense unveiled the SIRTAP (High-Performance Tactical RPAS System) via its X account, ready to become the first fully domestically developed military aeronautic system since the CASA C-295. This information was revealed on April 6, 2024. Follow Army Recognition on Google News at this link

Spain unveiled the SIRTAP (High-Performance Tactical RPAS System). (Picture source: Spanish MoD)

This initiative marks a significant milestone as it represents the first unmanned aerial system of Class II/III designed, developed, and produced locally to serve in the Spanish Armed Forces. The system includes a fixed-wing aircraft for flight operations and a ground segment for command and control, both currently under development. The Spanish Council of Ministers approved the acquisition in July, and on November 29, 2023, the Ministry of Defense and Airbus Defence and Space (Airbus DS), the primary contractor, signed the manufacturing contract for nine complete systems.

Each system consists of three unmanned aircraft and a ground control station, totaling 27 aircraft and nine control centers. The initial contract is valued at 500 million euros and includes two simulators for crew training. A distinctive aspect of SIRTAP compared to other domestically produced military aeronautic systems is its complete development within Spain, promising to be a showcase of national technological capabilities, according to Airbus. This system is considered a technological milestone that will strengthen Spanish national sovereignty.

Additionally, SIRTAP is designed to integrate with other "systems of systems" and operate in conjunction with other platforms. It will provide essential expertise and capabilities to the national industry as part of the European Future Combat Air System (NGWS/FCAS) program, specifically in the sector of remote carriers. It will incorporate technological advancements related to navigation, autonomous flight, modular avionics with the latest generation processors, communication systems, ground control stations, carbon fiber components, and new electrical systems.

As the main contractor, Airbus DS is responsible for integrating all aircraft and ground stations, overseeing and managing the systems, subsystems, and equipment from a supply chain of 68 national suppliers. According to the Staff Requirements, SIRTAP will be developed for ISTAR missions—intelligence, surveillance, target acquisition, and reconnaissance. All aircraft will be manufactured and assembled at Airbus DS facilities in Spain, including prototypes, with the first flight scheduled for 2025. The complete system is planned for delivery to the Directorate General of Armament and Material (DGAM) starting in 2027, with progressive deliveries until 2030.

Airbus's industrial plan, approved by the DGAM, anticipates a 70% national participation rate, aiming to maximize domestic contributions. SIRTAP will complement the Eurodrone—a high-autonomy system currently being developed by Germany, Spain, France, and Italy—to support and enhance the national capability for a complete aeronautic system lifecycle, from design to in-service support.

Further advancements are underway, including a second advanced configuration featuring national systems and equipment, focusing on improving electronic warfare components in line with technological evolution.

SIRTAP is designed to bolster the tactical capabilities of the Spanish Army and Air and Space Forces by conducting advanced surveillance and reconnaissance missions under the most demanding conditions, day and night, on land and at sea. The UAV is engineered to operate in extreme climates, take off from short, unpaved runways, and be disassembled for transport in the cargo hold of a C-295 tactical transport aircraft of the Spanish Air and Space Forces. It represents a versatile system that will initially be certified to operate in segregated airspace, adaptable to a wide range of tasks in any weather condition.

**20 . Date: 16-04-2024Armed ISR / ISTAR - MALE - General - Engine / PowersourceSuccessful Initial Engine Tests for French AAROK MALE Drone Developed by Turgis & GaillardURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/successful\_initial\_engine\_tests\_for\_french\_aarok\_male\_drone\_developed\_by\_turgis\_gaillard.html**

According to a statement released on April 15, 2024, on Turgis Gaillard's LinkedIn account, the company developing the AAROK MALE (Medium-Altitude Long-Endurance) military drone announced the successful initial power-on and engine tests of its AAROK drone. These first tests proceeded without any issues, promising rapid commissioning. Follow Army Recognition on Google News at this link

AAROK UAV presentation at Bourget Airshow. (Picture source: AAROK.fr)

The AAROK drone was first presented at the Paris Air Show in June 2023. This Medium Altitude Long Endurance (MALE) drone was designed to perform missions in three main areas: surveillance and control of Exclusive Economic Zones, particularly in the Indo-Pacific region; Contribution to operational superiority (intelligence, reconnaissance, and support missions for high-intensity strikes even in contested areas); Communication hub: flying long durations at high altitude for low cost. AAROK represents a pragmatic and resilient infrastructure that facilitates battlefield digitization and the execution of joint operations (multi-domain or M2MC).

This important technical step was closely followed by a series of successes. On April 10, the drone's engine was activated for the first time, followed by initial stability and flight control tests. All these phases were executed nominally, in line with the development teams' expectations.

The AAROK, birthed from the innovative minds of French defense contractor Turgis & Gaillard, is a 5.4-ton behemoth. Possessing a 72-foot wingspan, it carries roughly 3,300 pounds of munitions, while the drone itself makes up the remaining weight. But its mammoth stature isn't its only impressive feature.

Armed with a Pratt & Whitney Canada PT6 turboprop engine, delivering a robust 1,200 hp, the AAROK is built to conquer any terrain. Be it rough grounds or an aircraft carrier, this beast of a drone, complete with sturdy landing gear, can take flight with ease. Once airborne, remote operators command the drone via its satcom datalink. Its marathon-like endurance allows for 24 hours of continuous operation, a critical feature for long surveillance or combat missions.

With its powerful offensive and reconnaissance capabilities, the AAROK is a formidable asset on the battlefield. Equipped with optronic sensors, radar, and SIGINT sensors, it efficiently scans for enemy activity and strategic points. It's ready to release a payload of air-to-ground and precision-guided munitions in combat.

The French contractor sees the AAROK as a maritime surveillance tool and a battlefield communications node. Turgis & Gaillard envisions it as a “key asset for operational dominance” for unmanned strikes. Additionally, the company emphasized the drone's ease of assembly. The AAROK utilizes off-the-shelf components housed within a robust yet straightforward fuselage, streamlining production while keeping development costs and labor in check.

The success of these milestones underscores the steady progress of the AAROK program and reinforces confidence in its ability to meet operational requirements and future challenges. The next phases of development will be eagerly anticipated, as France continues to establish itself as a leader in the field of combat drones and high technology weaponry.

**22 . Date: 06-04-2024Armed ISR / ISTAR - Small - General - PlatformUkraine launches serial production of new locally-made Backfire K1 Bomber DroneURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/ukraine\_launches\_serial\_production\_of\_new\_locally-made\_backfire\_k1\_bomber\_drone.html**

Despite the ongoing conflict, Ukraine's defense industry has made significant strides in military innovation, particularly in unmanned systems. On April 5, 2024, a groundbreaking announcement was made through social media channels about the beginning of serial production for the new, indigenously developed Backfire K1 bomber drone, marking a leap in aerial combat technology. Follow Army Recognition on Google News at this link

The new Ukrainian-made Backfire K1 is used as bomber drone carrying two 9N235 (9H235) fragmentation cassettes from the Smerch 9H235 MLRS Multiple Launch Rocket System. (Picture source Video footage social network)

The Backfire K1, designed akin to a small conventional aircraft, features a front-mounted engine and a distinctive V-tail configuration. Its main fuselage is engineered to carry a substantial explosive payload, introducing a new level of strategic capability. The drone is launched via catapult, with a parachute system for recovery, emphasizing its operational versatility.

One of the most remarkable aspects of the Backfire K1 is its autonomy. The drone navigates pre-set routes without the need for continuous communication with its operators, effectively evading electronic detection and making it a ghost to electronic intelligence efforts. This autonomy is further complemented by its resistance to electronic warfare; without a conventional control channel to jam and equipped with a securely designed GPS antenna, the Backfire K1 maintains its course unfazed by countermeasures.

Precision is at the heart of the Backfire K1's design. It utilizes an advanced ballistic calculator to determine the optimal release point for its munitions, taking into account the drone's position and velocity to strike targets with unprecedented accuracy. Already deployed at the frontline, the drone has demonstrated its effectiveness against a variety of targets, including personnel, artillery positions, and structures, showcasing its strategic value on the battlefield.

The technical specifications of the Backfire K1 reveal a drone designed for operational efficiency and tactical flexibility. With a combat range of up to 55 km and capable of carrying payloads up to 6 kg, the drone operates autonomously over missions. It is powered by an electric engine, reaches a maximum altitude of 1000 m, and operates most effectively at a working altitude of 300 m. The bombing is conducted at altitudes ranging from 50-200 m, ensuring precision strikes at a cruising speed of 84 km/h.

The Backfire K1 is able to carry two 9N235 (9H235) fragmentation cassettes from the Smerch 9H235 MLRS (Multiple Launch Rocket System), known for its high-explosive fragmentation capability, designed to maximize anti-personnel effectiveness. The submunition features a nose point-detonating fuze and a self-destruct mechanism, enhancing safety and minimizing unexploded ordnance.

Ukraine's introduction of the Backfire K1 drone underscores the country's resilience and innovative spirit amidst adversity. This advancement not only enhances its defensive capabilities but also represents a significant contribution to unmanned aerial combat technology, setting new standards for autonomy, resistance to electronic warfare, and precision in military operations.

**23 . Date: 17-04-2024Loitering Munition - Small - General - PlatformUkraine unveils new kamikaze drone with a design similar to Russian LancetURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/ukraine\_unveils\_new\_kamikaze\_drone\_with\_a\_design\_similar\_to\_russian\_lancet.html**

On April 15, 2024, during Defense Industry Workers' Day, a new drone model was unveiled in the presence of President Volodymyr Zelensky, as reported by Militarnyi. The drone, whose name remains confidential, is designed to target both ground and aerial targets at operational and tactical distances exceeding 100 kilometers, serving as an analog to the Russian Lancet drone. Follow Army Recognition on Google News at this link

An unidentified drone with an X-shaped fuselage in April 2024 (Picture source: Militarnyi)

The drone is already operational on the front lines against Russian forces and has proven its effectiveness by successfully destroying a Russian anti-aircraft missile system. This new weapon is considered an efficient means of neutralizing ground and air targets due to its speed and substantial payload.

The drone features an X-shaped fuselage that enhances its maneuverability, allowing it to hit both mobile and stationary targets along various trajectories. It is powered by an electric motor and launched using a catapult, which simplifies its deployment. Depending on the mission, it can be equipped with a warhead weighing up to 3 kilograms, available in fragmentation, thermobaric, or armor-piercing versions. The latter can penetrate up to 40 mm of armor, inflicting significant damage.

The new Ukrainian loitering munition is armed with an explosive warhead that can be used to destroy fortifications or combat armored vehicles. Its detonation is triggered either by collision or when proximate to an object, via a signal from the operator's remote control. This technology is capable of destroying the fuselage of enemy aircraft, effectively downing them.

The primary targets of this drone are vehicles moving at speeds under 130 km/h, including Russian drones such as the Orlan-10 and Zala Lancet. Theoretically, it could also engage helicopters following opposing trajectories.

This system is supported by a repeater drone that works in tandem with the barrage munition to locate and track targets, prepare strikes, and assess the outcomes. Thanks to the repeater, long-distance communication is enhanced, allowing the operator to maintain control and video transmission unaffected by the "radio horizon."

This unmanned system also incorporates an "industrial vision" system that enables automatic detection and targeting of objects, even in environments with strong electronic warfare interference. These innovations are actively being used in the field, demonstrating their effectiveness in real combat situations.

Although the cost of this advanced system has not been officially disclosed, it is indicated to be comparable to that of other operational and tactical drones used by Ukraine. In August 2023, the Ukrainian defense-industrial complex announced the development of a new Perun loitering munition, also similar to the Russian Lancet.

**24 . Date: 16-04-2024Armed ISR / ISTAR - MALE - Contract - US Air Force Awards Contract to General Atomics to Modernise MQ-9A Reaper UAVsURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/us\_air\_force\_awards\_contract\_to\_general\_atomics\_to\_modernise\_mq-9a\_reaper\_uavs.html**

The US Air Force (USAF) has entered into a substantial $174 million contract with General Atomics to modernize four of its Reaper drones. This endeavor, slated for completion by early 2029, is supported by a foreign military sales (FMS) agreement with the Royal Netherlands Air Force. Follow Army Recognition on Google News at this link

An MQ-9 Reaper aircrew flies a training mission over the Nevada Test and Training Range. (Picture source: US DoD)

The modernization initiative encompasses not only the four MQ-9A Reaper drones but also includes enhancements to two ground control stations, provision of support equipment, spare parts, and upgrade kits. General Atomics Aeronautical Systems has been tasked with executing this contract, operating from its Poway site in California. The project's deadline is set for January 15, 2029, under the supervision of the Air Force Life Cycle Management Center based at Wright-Patterson Air Force Base (AFB) in Ohio, responsible for managing the lifespan of USAF assets.

It is noteworthy that a significant portion of the contract's value, amounting to $85,048,549, is attributed to an FMS contract with the Netherlands. This contribution represents approximately half of the total contract value. The Royal Netherlands Air Force has recently intensified its commitment to acquiring Reaper drones, doubling its initial order from four to eight in August 2023. With its first MQ-9A Block 5 drone and ground control station received in 2022, the RNLAF anticipates the arrival of four additional Reapers starting in 2026. A recent agreement with General Atomics aims to enhance the capabilities of its drone fleet, incorporating features such as extended fuel tanks, electronic support measures, and maritime radars.

The MQ-9A Reaper, manufactured by General Atomics Aeronautical Systems, is a combat drone currently in service. It made its maiden flight on February 2, 2001, and was commissioned on May 1, 2007. This crewless drone is piloted by two ground controllers.

Powered by a Honeywell TPE-331-10T turboprop engine, the Reaper boasts impressive dimensions, with a wingspan of 20 meters, a length of 11 meters, and a height of 3.56 meters. Its wing area is 11.5 square meters. The empty weight of the aircraft is 2,220 kg, with a maximum takeoff weight of 4,540 kg.

In terms of performance, the MQ-9A Reaper can reach a maximum speed of 480 km/h and a stall speed of 100 km/h. Its operational ceiling is 15,200 meters, and it can cover a range of 1,850 km. Its wing loading is 44.57 kg/m² when empty and 88.746 kg/m2 at takeoff.

Regarding armament, the Reaper can be equipped with 4 or 8 AGM-114 Hellfire air-to-ground missiles, as well as 2 AIM-92 Stinger air-to-air missiles and 2 GBU-12 Paveway II bombs, mounted on external hardpoints.

However, with an estimated acquisition cost of $30 million per drone, in addition to maintenance and operational expenses, losses can be financially significant. The US encountered a total of three drone losses last year, and another drone was shot down in February over Yemen. Beyond the USAF, several international military allies, including France, Italy, Japan, and the UK, operate the MQ-9, with over 350 units built since its induction into service in 2007. The drone has been extensively deployed in conflict zones, including Afghanistan, Iraq, Syria, and Yemen.

**25 . Date: 04-04-2024Armed ISR / ISTAR - HALE - General - US Converts F-16 Fighter into Unmanned Aircraft with Latest ModificationsURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/us\_converts\_f-16\_fighter\_into\_unmanned\_aircraft\_with\_latest\_modifications.html**

On April 1, 2024, the 96th and 53rd Wings at Eglin Air Force Base welcomed the first batch of three F-16 Fighting Falcons, paving the way for their participation in the innovative Viper Experimentation and Next-gen Operations Model - Autonomy Flying Testbed (VENOM-AFT) initiative. This program aims, among other things, to accelerate the evaluation of unmanned flight software for the F-16s. Follow Army Recognition on Google News at this link

The VENOM-AFT is designed and funded to accelerate the testing of autonomy software on crewed and uncrewed aircraft. (Picture source: US DoD)

VENOM-AFT is a strategic program, supported by significant investment, aimed at speeding up the assessment of autonomous flight software across both manned and unmanned aircraft. This initiative builds upon the existing foundations of autonomy and artificial intelligence research at Eglin Air Force Base, enhancing the collaborative combat aircraft initiative and providing essential insights to developers working on autonomous technologies.

The next phase involves adapting these F-16s into experimental platforms to facilitate the rapid evaluation of autonomous flight functionalities.

Major Ross Elder, the VENOM development test lead, emphasized the importance of the program in advancing aerial combat technologies. He highlighted its potential to introduce groundbreaking autonomous capabilities for both existing and future aircraft, steering the future of aviation toward unprecedented horizons.

The testing process for the VENOM initiative will follow established procedures for F-16 and F-15 evaluations at Eglin, involving both the 40th Flight Test Squadron and the 85th Test and Evaluation Squadron in developmental and operational assessments.

Lieutenant Colonel Jeremy Castor, in charge of operational testing for VENOM, pointed out the benefits of conducting both types of tests in close proximity, such as improved collaboration and streamlined exchange of insights and experiences. Throughout these trials, pilots will oversee the autonomous systems from the cockpit to ensure that the aircraft meets its testing objectives and that all flight and mission protocols are adhered to.

Lieutenant Colonel Joe Gagnon, commander of the 85th TES, clarified the ongoing role of pilots in these tests, emphasizing the continuous involvement of a human element to supervise and control autonomous operations, thus maintaining a "human-in-the-loop" approach. Feedback from operators during and after flights will be crucial for refining the autonomous systems, ensuring they make sound decisions throughout the mission.

The F-16 Fighting Falcon, a masterpiece originally from General Dynamics and now produced by Lockheed Martin, is a multi-role aircraft that has been in service since its first flight on February 2, 1974, and its commissioning on August 17, 1978. To date, more than 4,588 units have been built, attesting to its popularity and efficiency. The cost of an F-16A is around 20 million dollars.

At the heart of this aircraft is a Pratt & Whitney F100-PW-229 turbofan engine, delivering a thrust of 79 kN without afterburner and up to 130 kN with. With a wingspan of 9.8 meters, a length of 14.8 meters, and a height of 4.8 meters, the F-16 has a wing area of 27.87 m². Its weight ranges from 8,272 kg empty to a maximum of 16,900 kg, depending on the armament and fuel carried. These characteristics enable it to reach a maximum speed of 2,173 km/h (Mach 2.04), with an operational ceiling of 15,200 meters and a range of 550 km.

In terms of armament, the F-16 is equipped with an internal M61A1 Vulcan 20 mm cannon and can carry various air-to-air and air-to-ground missiles, including the AIM-7 Sparrow, Sidewinder, and anti-radar HARM missiles, as well as guided and unguided bombs. Its thrust-to-weight ratio of 0.90 and wing loading of 431 kg/m² provide excellent performance in air combat and ground attack.

Its proliferation and the quantity produced make it an excellent choice for automation. The advancements made in this area by the United States could interest a large number of countries around the world, including Ukraine, which is set to receive a certain quantity of these aircraft.

The ultimate goal of the VENOM initiative is to propel the Air Force's knowledge and capabilities in autonomous technology and weaponry forward, as emphasized by Gagnon, who focused on the objective of achieving rapid deployment and operational readiness of these technologies in a safe manner.

**26 . Date: 19-04-2024Loitering Munition - Mini - Contract - US Purchases Switchblade 300 Loitering Munition for Marine CorpsURL: https://www.armyrecognition.com/defense\_news\_april\_2024\_global\_security\_army\_industry/us\_purchases\_switchblade\_300\_loitering\_munition\_for\_marine\_corps.html**

According to a press release, dated April 18, 2024, AeroVironment announced that its Switchblade 300 Block 20 loitering munition system will equip the Marine Corps with an internal capability for tactical-level anti-armor and anti-personnel precision strikes. The contract begins with an initial order of $8.9 million and could reach up to $249 million in total value. Follow Army Recognition on Google News at this link

The Switchblade 300 is a miniature loitering munition designed by AeroVironment. (Picture source: AeroVironment)

The United States Marine Corps has chosen AeroVironment's Switchblade 300 for its Organic Precision Fires-Light (OPF-L) initiative. This selection initiates the first phase of the OPF-L program.

The Switchblade 300 is a loitering missile, designed and manufactured by AeroVironment in the United States. Launched in 2011, it is currently used by the US Army, the US Marine Corps, and the Armed Forces of Ukraine. This weapon system has been deployed in several conflicts, including the war in Afghanistan, the American-led intervention in Iraq, and the 2022 Russian invasion of Ukraine.

This missile, weighing 2.5 kg with a length of 49.5 cm and a diameter of 76 mm, is capable of flying at an altitude of less than 150 meters. It can reach a cruising speed of 101 km/h and accelerate up to 160 km/h. Its operational range is 10 km or 15 minutes of flight, allowing it to strike targets beyond direct line of sight.

The Switchblade 300 is launched from a portable tube, but can also be deployed using multipacks or various vehicles. Its autonomous guidance system, complemented by manual control, allows for high precision, which is crucial to minimize collateral damage and enhance the effectiveness of strikes. The unit cost of this munition for fiscal year 2023 was $52,914, underscoring its strategic role and widespread adoption among the armed forces using it.

Brett Hush, Senior Vice President of LMS at AV, stated, "AV provides a battle-ready, proven system specifically tailored to the requirements of the OPF-L. Our established manufacturing capability, combined with exceptional training and support, prepares Marine Infantry for various combat scenarios."

The Switchblade 300 has been a critical asset for urgent operational needs on the battlefield since 2012. The upgraded Block 20 version builds on continuous use experiences and lessons from recent conflicts, such as those in Ukraine. Enhancements include an explosively formed penetrator warhead for better armor penetration, increased attack angles, extended battery life, and improved flight endurance and radio link range.

Hush added, "With over 6,000 units tested, produced, and deployed, AeroVironment is ready to deliver advanced organic precision fire solutions to the USMC, ensuring the reliability and sustainability that have been the hallmarks of the Switchblade program."

**27 . Date: 09-08-2023ISR / ISTAR - N/A - Contract - Dhaksha Unmanned Systems to supply 200 logistic quadcopter drones to Indian ArmyURL: https://www.armyrecognition.com/defense\_news\_august\_2023\_global\_security\_army\_industry/dhaksha\_unmanned\_systems\_to\_supply\_200\_logistic\_quadcopter\_drones\_to\_indian\_army.html**

Besides the order involving the supply of 200 medium-altitude logistics quadcopter drones and accessories to the Indian Army, the Coromandel International subsidiary has won a 400-drone contract from IFFCO, N. Ravi Kumar reports in thehindu.com. Follow Army Recognition on Google News at this link

Dhaksha Unmanned Systems DH-HM (Hybrid Multi-rotor), possibly the or one of the logistic drones purchased by the Indian army (Picture source: Dhaksha Unmanned Systems)

Fertiliser maker Coromandel International’s subsidiary Dhaksha Unmanned Systems, which manufactures drones, has won an order to supply 200 medium-altitude logistics drones and accessories to the Indian Army. The exact model of quadcopter is not specified in the information. The firm manufactures DH-Agrigator, DH-HM (Hybrid Multi-rotor), DH-Quad, DH-VTHT, DH-Microquad and DH-Nanoquad. It also produces DQ-Heli and fixed-wing DH-Mapper.

Coromandel possesses a majority share of 51% in the drone manufacturing company. According to Arun Alagappan, the Executive Vice Chairman of Coromandel International, the defense contract serves as a validation of Dhaksha's technological prowess and its potential to tap into opportunities within the field of unmanned aerial systems. This development also facilitates the entry of both Coromandel and the Murugappa Group into the realm of supplying to the Indian defense sector.

Situated in Chennai, Dhaksha has established a technology partnership with Anna University and stands as the sole entity in the nation to have obtained type certificates from the DGCA for three drone models, spanning the medium and small categories. These drone models are tailored for applications in agriculture and surveillance.

**28 . Date: 28-12-2023ISR / ISTAR - Mini - General - PlatformBritish Army Tests Sentinel UAS as Potential New Unmanned Aerial System EquipmentURL: https://www.armyrecognition.com/defense\_news\_december\_2023\_global\_security\_army\_industry/british\_army\_tests\_sentinel\_uas\_as\_potential\_new\_unmanned\_aerial\_system\_equipment.html**

In November 2023, the British Army tested the Sentinel, a state-of-the-art helicopter-designed unmanned aerial system (UAS), during the Army Warfare Experiment Exercise Blunting Strike held at the Copehill Down training facility. This exercise marks a significant step in military collaboration and technological advancement. Follow Army Recognition on Google News at this link

British army tested the Sentinel helicopter-design UAS Unmanned Aerial system during the Army Warfare Experiment Exercise Blunting Strike in November 2023. (Picture source British MoD)

Exercise Blunting Strike, a key component of the Army Warfare Experiment (AWE), saw the deployment of the British Army Experimentation and Trials group to the Copehill Down facility. This exercise was not just a showcase of emerging technologies but also a testament to international military cooperation. Soldiers from the United States, France, Italy, Germany, and Spain joined their British counterparts, demonstrating a unified approach to understanding and integrating new equipment.

The exercise's focus was not only on equipment testing but also on fostering collaboration between the Army and industry partners. These partners played a crucial role, working alongside troops to refine and understand the practical applications and limitations of the equipment. This synergy is part of the British Army's broader initiative, Future Soldier, aimed at accelerating transformation through effective engagement with the industry and harnessing emerging technologies for future capability development.

Among the various equipment tested, the Sentinel UAS stood out. This small unmanned rotorcraft, designed for long-range operations in diverse conditions, including hostile terrains and maritime environments, showcases advanced technological features. With a 2.2m airframe and 2m rotors, the Sentinel is equipped with a multi-fuel 70cc engine, capable of using JP8, JP5, or Jet A1 fuel. It boasts an impressive endurance of up to 8 hours and a payload capacity of 6kg. The Sentinel's technical prowess is further highlighted by its on-board generator, triple failure redundant autopilot system, and comprehensive communication links, including ADS-B transceiver and satellite communications.

The mobile ground control system, operable from a laptop, and its compliance with STANAG 4609 for video, make the Sentinel a highly adaptable and efficient tool for modern warfare. This exercise at Salisbury Plain not only demonstrates the British Army's commitment to innovation but also sets a precedent for international military cooperation in developing future defense capabilities.

**31 . Date: 29-12-2023Loitering Munition - Mini - General - PlatformUkraine Launches Massive Production of UJ-26 Beaver Kamikaze Drones for Deep Strikes Inside RussiaURL: https://www.armyrecognition.com/defense\_news\_december\_2023\_global\_security\_army\_industry/ukraine\_launches\_massive\_production\_of\_uj-26\_beaver\_kamikaze\_drones\_for\_deep\_strikes\_inside\_russia.html**

Recent reports from Ukrainian media outlets reveal a significant upsurge in the nation's defense manufacturing capabilities. In just a few months, Ukraine has managed to triple its production of indigenous defense products. A notable achievement in this expansion is the large-scale production of the new UJ-26 Beaver, a long-range loitering munition also known as a kamikaze drone, designed to target key locations deep within Russian territory. Demonstrating remarkable growth in its drone technology sector, Ukraine has increased its drone production by a staggering 100 times in 2023 compared to the previous year. Follow Army Recognition on Google News at this link

The Ukrainian-made UJ-26 Beaver loitering munition can reach a target at a maximum range of 1,000 km. (Picture source Social Network)

Leading the surge in production is the UJ-26 Beaver, a long-range loitering munition, also known as a kamikaze drone. This latest addition to the Ukrainian arsenal is capable of striking targets deep within Russian territory. Remarkably, the production of these drones in 2023 has surged by a hundredfold compared to the previous year, marking a significant escalation in Ukraine's defensive capabilities.

The Ukrainian defense industry's expansion is evident in the number of companies involved in unmanned systems manufacturing. Currently, around 200 companies are engaged in this sector, with 50 of them already authorized to supply their products to the military. This marks a significant increase from the previous year, with twelve times more enterprises contributing to the defense effort.

Recent attacks on Moscow, including strikes on the IQ-quarter high-rise buildings and possibly even the Kremlin, have been attributed to the use of the Beaver drone. These incidents, occurring in July and August 2023, have highlighted the drone's operational effectiveness and strategic impact.

The Beaver is distinct in its design and capabilities. Produced by UkrJet, a private Ukrainian company, it features a unique canard aerodynamic configuration with smaller front wings, enabling effective altitude changes and evasion of air defense systems. Costing over $100,000 each, these drones are a significant investment in Ukraine's defense strategy.

With a wingspan of about 2.5 meters, a speed of 150 to 200 km/h, and a range of 800 to 1,000 km, the Beaver is equipped to carry a 20 kg warhead. Its design, resembling a 'duck' with its engine or propeller at the rear, makes it a distinctive presence in the skies.

The technology underpinning the Ukrainian Beaver drones shows striking similarities to the Shahed series of UAVs developed by Iran. This parallel in technological design reflects in their operational capabilities, although each series has its unique specifications. The Shahed drones, notably the smaller Shahed-131 and the larger Shahed-136, are designed for different operational ranges and payload capacities. The Shahed-131 can transport 15 kilograms of explosives over a range of 900 kilometers, while the Shahed-136 is capable of flying up to 2,000 kilometers with a 40-50 kilogram warhead. The Ukrainian Beaver drones, while sharing a technological lineage with the Shahed series, have been adapted and modified to meet specific operational requirements.

Main technical specifications of the Ukrainian-made UJ-26 Beaver Kamikaze drone. (Picture source Telegram RYBAR)

**32 . Date: 19-12-2023Loitering Munition - Small - General - PlatformUkrainian company Terminal Autonomy launches mass production of long-range AQ 400 Scythe kamikaze dronesURL: https://www.armyrecognition.com/defense\_news\_december\_2023\_global\_security\_army\_industry/ukrainian\_company\_terminal\_autonomy\_launches\_mass\_production\_of\_long-range\_aq\_400\_scythe\_kamikaze\_drones.html**

On December 16, 2023, Terminal Autonomy, previously known as One Way Aerospace, announced the completion of preparations necessary for producing the AQ 400 Scythe, a long-range unmanned aerial system. The company initially has a monthly production capacity of 100 units, to increase to 500 units monthly. This development marks a strategic turning point for the Armed Forces of Ukraine. Follow Army Recognition on Google News at this link

Ukrainian Company Terminal Autonomy's AQ 400 Scythe Kamikaze drone. (Picture source: Terminal Autonomy)

The AQ 400 Scythe is designed for launch from short runways or catapults, with a range of 750 km. It can carry a payload ranging from 32 to 70 kg. The production of these kamikaze drones is part of a strategy for technological autonomy, with a large portion of components sourced from Ukraine, despite some procurements from Germany and the United Kingdom.

The deployment of the AQ 400 Scythe drones represents a significant advantage for Ukraine in the ongoing conflict. Their ability to perform long-range precision strikes gives the Ukrainian forces a new strategic dimension, allowing them to effectively target enemy positions and infrastructure while remaining out of reach. This increase in production also symbolizes a step towards greater military and technological independence for Ukraine.

The AQ 400 Scythe stands out for its impressive range of 750 km and its capacity to carry variable payloads. It can be equipped with munitions up to 70 kg, although this reduces its range. Its design allows for rapid assembly and mass production, making these drones both economically viable and tactically effective. Their ability to be launched from various sites, including catapults, makes them versatile and suitable for different combat scenarios.

Terminal Autonomy also produces smaller drones, such as the AQV 120 Scalpel and the AQ 100 Bayonet, the latter carrying a 3 kg military payload. These developments reflect Ukraine's focus on innovation in the drone field.

**33 . Date: 28-02-2023Loitering Munition - Small - Contract - IDEX 2023: EDGE Halcon signs contract with UAE armed forces to deliver HUNTER loitering munitionsURL: https://www.armyrecognition.com/defense\_news\_february\_2023\_global\_security\_army\_industry/idex\_2023\_edge\_halcon\_signs\_contract\_with\_uae\_armed\_forces\_to\_deliver\_hunter\_loitering\_munitions.html**

During IDEX 2023, an international defense exhibition in Abu Dhabi, UAE, EDGE Defense Group entity, HALCON, a regional leader in the design and production of guided weapons systems and beyond signed a deal worth $300 million to deliver HUNTER 2-S (swarming), HUNTER 5 and HUNTER 10 loitering munitions to the UAE Armed Forces.

At IDEX 2023, Halcon displayed Hunter 2-S loitering munitions launcher station (Picture source Army Recognition)

HALCON’s HUNTER family of fixed-wing loitering munitions are designed for intelligence, surveillance and reconnaissance (ISR) and aerial strike missions. The HUNTER 2-S is an autonomous unmanned aerial vehicle (UAV) that features advanced artificial intelligence (AI) to perform coordinated missions in a swarm. Furthermore, the HUNTER 2-S, 5 and 10 are transported in vehicle-mounted containers. The deal will mark a significant milestone for EDGE, as it includes the first UAE-made defense solution to integrate advanced AI.

Saeed Al Mansoori, Senior Vice President of ADVANCED CONCEPTS, said: “We are elated to be delivering platforms that harness the latest technology. The cutting-edge AI of the HUNTER 2-S and autonomous capabilities of the HUNTER 5 and 10 will be a powerful force multiplier for the UAE Armed Forces, providing close aerial support and aerial strike capabilities.”

He added: “The HUNTER series exemplifies our commitment to developing leading-edge solutions that align with the governments ‘Industry 4.0’ and ‘Make it in the Emirates’ initiatives. As we continue on our innovation journey, we look forward to producing advanced technology solutions that will shape the future.”

ADVANCED CONCEPTS is a new business unit within EDGE which is dedicated to the design and deployment of advanced, innovative technologies. Complementing existing EDGE capabilities in developing, producing, and commercialising new products, ADVANCED CONCEPTS focuses on accelerating the rapid development of critical innovation projects from concept definition and technical feasibility stage (TRL6+) to detailed engineering design, before handing these projects back to EDGE’s large portfolio of companies for industrialisation and commercialisation.

**34 . Date: 24-02-2023Armed ISR / ISTAR - MALE - Partnership - IDEX 2023: Milkor UAE and Republikorp sign agreement for UCAV collaboration in IndonesiaURL: https://www.armyrecognition.com/defense\_news\_february\_2023\_global\_security\_army\_industry/idex\_2023\_milkor\_uae\_and\_republikorp\_sign\_agreement\_for\_ucav\_collaboration\_in\_indonesia.html**

Abu Dhabi-based Milkor UAE signed an agreement with Indonesian Republikorp for the research, development and manufacturing of the Milkor UCAV in Indonesia. Follow Army Recognition on Google News at this link

The Milkor UCAV is a male Unmanned aerial vehicle with an MTOW of 1,300 kg capable of reaching altitudes of 30,000ft with a range of 2,000km using SATCOM communication (Picture source: Army Recognition)

The agreement entails the setting up of manufacturing facilities and the transfer of technology to Indonesia. The companies say that the first aircraft will be flying in Indonesia in 2024 and will form part of the indigenisation program as set forth by the Indonesian Ministry of Defense.

“We are excited to see our relationship grow within the Aerospace market, the cooperation between Milkor and Republikorp will solidify our commitment towards advancing defence capabilities in both the UAE and Indonesia” said Julian Coetzee CEO of Milkor UAE.

The Milkor UCAV is a male Unmanned aerial vehicle with an MTOW of 1,300 kg capable of reaching altitudes of 30,000ft with a range of 2,000km using SATCOM communication. The platform is weaponisable with multiple munition options.

The agreement entails the setting up of manufacturing facilities and the transfer of technology to Indonesia (Picture source: Milkor)

**35 . Date: 04-02-2024Cargo - Tactical - General - PlatformBAE Systems unveils T-650 heavy lift UAV for rescue operations at WDS 2024URL: https://www.armyrecognition.com/defense\_news\_february\_2024\_global\_security\_army\_industry/bae\_systems\_unveils\_t-650\_heavy\_lift\_uav\_for\_rescue\_operations\_at\_wds\_2024.html**

BAE Systems has unveiled the T-650, an all-electric "heavy lift" Unmanned Air System (UAS), marking a breakthrough in rescue technology. This development represents a turning point in how casualties could be recovered and transported from the battlefield, providing a rapid and cost-effective response capability. Follow Army Recognition on Google News at this link

The T-650 is designed as a multi-role vehicle, capable of being reconfigured with mission-specific equipment such as a Sting Ray Lightweight Torpedo, guided missiles, or a CASEVAC Pod. (Picture source: Army Recognition)

The T-650 is designed as a multi-role vehicle, capable of being reconfigured with mission-specific equipment such as a Sting Ray Lightweight Torpedo, guided missiles, or a CASEVAC Pod. This configuration, in particular, caught our attention as it was presented during WDS 2024, showcasing BAE Systems' UAV in its capacity for medical evacuation.

This flexibility underscores the vision of BAE Systems and the Malloy Aeronautics team, now a wholly-owned subsidiary, to create a concept vehicle that can quickly adapt from one mission to another.

With a maximum payload of 300 kg, the T-650 stands out for its ability to support a diverse range of missions. Capable of reaching a top speed of 140 km/h, its range varies from 80 km without load to 30 km with maximum payload. This capability opens the door to disruptive mission types, including ship-to-ship and ship-to-shore logistics, support for land and maritime military operations, and, of course, battlefield casualty evacuation.

The T-650 concept is based on an open system architecture, allowing for integrating third-party systems and a pathway for upgrades to new mission and payload capabilities. This approach aims to provide the versatility and utility necessary to perform multiple roles economically and sustainably, offering an alternative to traditional delivery systems.

The potential applications for the T-650 are vast, ranging from logistics activities, CASEVAC, anti-submarine warfare, maritime mine countermeasures, maritime search and rescue, surveillance and monitoring, to close air support. The development of the T-650 is progressing rapidly, with active trials on the test platform, the T-600, already demonstrating its capabilities during a major NATO exercise in Portugal in September 2023.

With the rise of anti-drone systems, there are legitimate questions about the viability of using a UAV for casualty evacuation. However, the T-650 remains an exciting innovation, especially for its multiple other configurations.

Following the acquisition of Malloy Aeronautics by BAE Systems in January 2024, work on the T-650 continues as planned, promising to expand the application of this electric vehicle in the military domain and beyond, including in civil and commercial use cases such as humanitarian and logistics support. This development emphasizes BAE Systems' commitment to innovation in the defense and security sector, offering advanced solutions that meet the modern challenges of the battlefield and beyond.

**36 . Date: 19-02-2024Loitering Munition - Small - General - PlatformChina Unveils ASN-301 Loitering Munition Similar to Iranian Shahed-136 and Israeli HarpyURL: https://www.armyrecognition.com/defense\_news\_february\_2024\_global\_security\_army\_industry/china\_unveils\_asn-301\_loitering\_munition\_similar\_to\_iranian\_shahed-136\_and\_israeli\_harpy.html**

At the World Defense Show 2024, held in Riyadh, Saudi Arabia from February 4 to 8 2024, China introduced its latest addition to the realm of aerial warfare technology: the ASN-301 loitering munition. Follow Army Recognition on Google News at this link

The new Chinese ASN-301 loitering munition was unveiled at World Defense Show 2024 in Riyadh, Saudi Arabia. (Picture source Army Recognition Group)

The ASN-301, also referred to as an Unmanned Aerial Vehicle (UAV), is notably reminiscent of the Israel Aerospace Industries (IAI) Harpy system, which was acquired by China in the 1990s. Further comparisons have been drawn to the Iranian Shahed-136, hinting at a shared lineage in design and capabilities. These observations have sparked discussions on the origins of the technology and its implications for global military balance.

Designed as a delta-wing aircraft equipped with a pusher propeller, the ASN-301's architecture mirrors that of the Harpy. Its primary function is to penetrate adversary airspace, loitering until a radar signal is detected. Upon detection, the ASN-301 homes in on the target and executes a precision strike. This capability positions the ASN-301 as a potent tool for neutralizing radar-based defense systems.

Despite its similarities to the Harpy, the ASN-301 boasts distinct specifications. Weighing 135 kg, it is slightly more compact in length at 2.5 meters compared to the Harpy's 2.7 meters. However, it offers an enhanced top speed of 220 km/h against the Harpy's 180 km/h, although it has a reduced operational range of 288 km, compared to the Harpy's 500 km. The ASN-301's endurance is capped at four hours.

Technical insights into the ASN-301 reveal its sophisticated targeting capabilities, with a focus on radar frequencies ranging from 2 to 16 GHz. Its radar homing device can identify targets within a 25 km radius, and the system is programmed to engage up to eight pre-determined radar sites. The munition's warhead, packed with 7,000 fragments, is triggered by a proximity laser fuse, ensuring a lethal radius of 20 meters.

The unveiling of the ASN-301 comes at a time when the development and deployment of loitering munitions have become a focal point in modern warfare strategies worldwide. These systems, often termed as "suicide drones," offer a unique blend of the capabilities found in both traditional missiles and unmanned aerial vehicles. They are designed to linger in an area of interest until a target is located, at which point they can strike with precision.

Globally, the evolution of loitering munitions reflects a shift towards asymmetric warfare tactics, where non-traditional battle methods are leveraged to counter well-entrenched defenses. Countries such as the United States, Israel, Turkey, and Iran have been at the forefront of this technology's development, each producing various systems tailored to specific operational requirements.

For instance, Israel's pioneering work with the Harpy system has influenced numerous defense technology programs worldwide. Similarly, the United States has developed multiple loitering munition systems aimed at enhancing situational awareness and strike capabilities for ground forces. Turkey's Bayraktar TB2 and Kargu drones have seen significant use in various conflicts, showcasing the effectiveness of such systems in modern combat scenarios.

The proliferation of loitering munitions highlights a crucial aspect of contemporary military strategy: the increasing reliance on autonomous and semi-autonomous systems. These technologies offer the promise of reducing risk to human operators while increasing the precision and effectiveness of military operations. However, they also pose ethical and strategic challenges, particularly regarding rules of engagement and the potential for escalation in conflicts.

The unveiling of the ASN-301 at the World Defense Show 2024 not only showcases China's advancing military technology but also underscores the dynamic and evolving nature of global military capabilities. As countries continue to innovate and adapt their military technologies, the implications for international security and defense diplomacy remain a topic of keen interest and debate, reflecting the complex interplay between technological advancement and strategic military objectives.

Defense News February 2024

**37 . Date: 26-02-2024ISR / ISTAR - Small - Contract - High Eye to supply Airboxer VTOL UAVs to Netherlands Ministry of DefenceURL: https://www.armyrecognition.com/defense\_news\_february\_2024\_global\_security\_army\_industry/high\_eye\_to\_supply\_airboxer\_vtol\_uavs\_to\_netherlands\_ministry\_of\_defence.html**

High Eye on 26th February 2024 announced it has emerged victorious in an international open tender issued by the Dutch Ministry of Defence, making a significant milestone in the company's journey of innovation and growth. Follow Army Recognition on Google News at this link

The comprehensive program encompasses the integration of the Airboxer VTOL UAV along with its ground control system, training modules, maintenance packages, operational training, and cutting-edge EO/IR camera payloads (Picture source: High Eye)

This tender victory signifies not only a great achievement by High Eye but also a testament to the quality and capability of its Airboxer. As part of a comprehensive program spanning more than two years, the company will diligently work to integrate the Airboxer seamlessly into all aspects of the Netherlands Ministry of Defence's operations, both in Europe and abroad.

The comprehensive program encompasses the integration of the Airboxer VTOL UAV along with its ground control system, training modules, maintenance packages, operational training, and cutting-edge EO/IR camera payloads. The first complete Airboxer System will be delivered this year.

In response to this achievement, High Eye’s CEO, Mr. Joost, expressed his sentiments: "We are pleased to win this tender and honoured to integrate our Airboxer in the operations of the Netherlands Ministry of Defence. This partnership signifies not only a significant milestone for High Eye but also a testament to our commitment for years to deliver top-notch UAV solutions for defence and security applications."

Looking ahead, High Eye will continue to strengthen its partnership with the Ministry of Defence of The Netherlands and explore new horizons in defence and civilian UAV missions.

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**39 . Date: 06-02-2024Armed ISR / ISTAR - Small - General - PlatformStrengthening China's drone capabilities with Loong 5 UAV at WDS 2024URL: https://www.armyrecognition.com/defense\_news\_february\_2024\_global\_security\_army\_industry/strengthening\_china\_s\_drone\_capabilities\_with\_loong\_5\_uav\_at\_wds\_2024.html**

LOONGUAV, a Chinese company, is showcasing its Loong 5 UAV as a medium-sized drone with a notable payload capacity and extended flight duration, marking its place in the contemporary landscape of unmanned aerial vehicles. This drone's design and operational use reflect the broader trend of increasing drone utilization in conflict scenarios, transitioning from reconnaissance to offensive roles. Follow Army Recognition on Google News at this link

The Loong 5 UAV displayed by LOONGUAV at WDS 2024 (Picture source: Army Recognition)

The Loong 5, characterized by its dual-tail design, is engineered for enhanced stability and efficiency in flight. It supports a maximum payload of 20 kg and can fly for up to 180 minutes, leveraging two independent power systems during cruise flight for increased reliability. The drone measures 2580 mm in length with a wingspan of 4800 mm, and an empty weight of 20 kg, reaching a maximum takeoff weight of 55 kg. Flight performance metrics include a cruising speed of 26 m/s, a maximum horizontal speed of 40 m/s, and ascent and descent speeds of 3 m/s and 2.5 m/s, respectively. It can operate at altitudes up to 4500 m and has a transmission range of 80 km, thanks to a comprehensive GNSS system that includes GPS, GLONASS, BeiDou, and Galileo. Designed to withstand challenging conditions, the Loong 5 has a wind resistance of level 7 and an IP54 protection rating, suitable for temperatures ranging from -20 to 60°C. The drone is packaged in two separate boxes for the fuselage and tail, weighing 92 kg and 39 kg, respectively, to ensure safe transportation. The Loong 5's advanced features, such as quick disassembly, various target positioning methods, and vertical takeoff and landing (VTOL) capabilities, underscore its adaptability. Drones like the Loong 5 have evolved significantly over recent decades, initially used for reconnaissance and surveillance due to their ability to deliver real-time intelligence without risking pilot lives. Over time, their role has expanded to offensive operations, including target designation, electronic jamming, and direct strikes, facilitated by the integration of weapon systems. Drones have become a preferred tool in modern warfare for their ability to operate in hostile environments, precision, reduced risk to human forces, cost-effectiveness, and operational flexibility, capable of executing a wide range of missions from stealth surveillance to preemptive strikes on strategic enemy targets.

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**40 . Date: 06-02-2024ISR / ISTAR - Small - General - PlatformWDS 2024: British company Callen-Lenz showcases Koios UAV for ISR operationsURL: https://www.armyrecognition.com/defense\_news\_february\_2024\_global\_security\_army\_industry/wds\_2024\_british\_company\_callen-lenz\_showcases\_koios\_uav\_for\_isr\_operations.html**

Callen-Lenz, a UK-based company, is showcasing its Koios UAV at the World Defense Show 2024 (WDS 2024) in Saudi Arabia. The Koios UAV is known for its Intelligence, Surveillance, and Reconnaissance (ISR) capabilities while maintaining a VTOL tactical footprint. Designed and manufactured in the United Kingdom, this medium-sized Vertical Take-Off and Landing (VTOL) platform has a proven operational track record in both civil and defense markets worldwide. Follow Army Recognition on Google News at this link

Designed and manufactured in the United Kingdom, the Koios Vertical Take-Off and Landing (VTOL) UAV has a proven operational track record in both civil and defense markets. (Picture source: Army Recognition)

One of the Koios' key features is its Vertical Take-Off and Landing (VTOL) capability, making it suitable for operations in confined spaces or without traditional runways. With a maximum takeoff weight (MTOW) of 35 kg, this UAV can carry a payload and fuel load of 7 kg, making it adaptable for various missions. It is payload-agnostic, allowing it to be equipped with a standard EO/IR turret or customized with customer-specified payloads. This includes electro-optical and infrared systems, GPS jamming systems, communication interception systems, satellite phone locators, radio rebroadcasters, and multi-spectral cameras.

In terms of performance, the Koios offers an endurance of 6 to 10 hours depending on the mission configuration, a cruise speed of 50 knots, a 4-meter wingspan coupled with a length of 2.4 m, and a multi-fuel 35cc 4-stroke engine capable of running on a wide range of fuels, including Jet A1 and gasoline. The integration of electric motors for vertical lift and internal fuel tanks within wet wings maximizes available space for additional components, enhancing its operational flexibility.

This UAV can be rapidly deployed or disassembled and transported in two packing boxes due to its removable wings and tail. Once unpacked, it can undergo pre-flight checks and be launched in under 10 minutes, making it a versatile asset for time-sensitive missions.

Operational applications for the Koios are diverse and include intelligence, surveillance, and reconnaissance (ISR), convoy protection, early intelligence and warning, crewed-uncrewed teaming (CUC-T), border protection, infrastructure and pipeline monitoring, mapping, wildfire monitoring, and search and rescue missions.

To enhance its mission capabilities, Callen-Lenz equips its UAV with the SC3 mission management system. The SC3 enables the aircraft to execute missions autonomously, reducing pilot workload significantly. Mission planning becomes user-friendly through a point-and-click interface, making Koios suitable for various scenarios.

It's worth noting that SC3 is developed by SkyCircuits, a wholly-owned subsidiary of Callen-Lenz specializing in avionics systems, autopilots, and mission management systems for uncrewed aviation. SC3 is the latest product in their lineup, designed in-house to offer maximum capability with minimal pilot workload. It supports a wide range of uncrewed aircraft, including an automotive-grade lock-step processor and auxiliary processing for mission control, navigation, payload management, and third-party applications.

The SC3 system's autopilot solutions cater to multiple aircraft types, including multirotor, rotary wing, fixed-wing, hybrid fixed-wing, and hybrid tilt-wing operations. It can be used in various mission profiles, from standalone missions to crewed/uncrewed teaming, swarm capability, and ultra-long-range operations. For example, in September 2020, Callen-Lenz and Leonardo completed a demonstration of Crewed-Uncrewed Teaming (CUC-T) between a Callen-Lenz Fregata UAV and a crewed Leonardo AW159 Wildcat helicopter.

The Koios UAV is payload-agnostic, allowing it to be equipped with a standard EO/IR turret or customized with customer-specified payloads. (Picture source: Army Recognition)

**41 . Date: 09-02-2024Armed ISR / ISTAR - Small - General - PlatformWDS 2024: PSDSARC showcases Shaheen SH-01 vertical takeoff and landing droneURL: https://www.armyrecognition.com/defense\_news\_february\_2024\_global\_security\_army\_industry/wds\_2024\_psdsarc\_showcases\_shaheen\_sh-01\_vertical\_takeoff\_and\_landing\_drone.html**

At the 2024 World Defense Show, the Prince Sultan Advanced Technology Research Institute (PSDSARC) from Saudi Arabia made a significant impact by showcasing the Shaheen SH-01, a Vertical Takeoff and Landing (VTOL) Unmanned Aerial System (UAS). Designed to meet surveillance, reconnaissance, and transport requirements, the Shaheen SH-01 stands out for its ability to operate from both land and ships, thus eliminating the need for a runway. Follow Army Recognition on Google News at this link

The Shaheen SH-01 by the Prince Sultan Advanced Technology Research Institute at WDS 2024 (Picture source: Army Recognition)

Constructed from a lightweight carbon composite structure, the Shaheen SH-01 is equipped with four electric motors and rotating wings, enhancing its efficiency and allowing for wing orientation adjustments to optimize flight. To ease transportation, its wings and tail can be detached. This drone can reach a maximum altitude of 3,000 meters and has a maximum flight endurance of 3 hours, thanks to its hybrid power system. The Shaheen SH-01 features a stabilized EO/IR day/night vision system capable of scanning and tracking objects, and communicates via an S/C Band (Omni) data link with a maximum range of 50 km. Its navigation and flight control are managed by a redundant navigation and flight control computer, providing GPS/INS-based navigation with air-data assist and a flight director (Airspeed, Altitude, Heading). With a wingspan of 3 meters, a maximum takeoff weight of 40 kg, and a payload capacity of 4 kg, the Shaheen SH-01 offers a versatile solution for missions requiring speed and powerful flight performance. Its eight electric motors ensure high performance, while its variety of payloads, including high-resolution cameras and electronic warfare equipment, underline its operational flexibility. The development of the Shaheen SH-01 drone by Saudi Arabia is part of a broader strategy to enhance its military production capabilities. In this context, the kingdom has engaged in international collaborations, notably with China for the development of ballistic missiles, and with Turkey, through a recent contract for drone acquisitions. These efforts reflect Saudi Arabia's ambition to diversify its strategic partnerships and develop its own defense and production capabilities. This initiative is also part of a wider effort to counterbalance Iran's regional influence in this field.

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**42 . Date: 08-02-2024Loitering Munition - General - WDS 2024: Turkish company Firestar Systems showcases Hellhawk family of loitering munitionsURL: https://www.armyrecognition.com/defense\_news\_february\_2024\_global\_security\_army\_industry/wds\_2024\_turkish\_company\_firestar\_systems\_showcases\_hellhawk\_family\_of\_loitering\_munitions.html**

At the World Defense Show 2024 (WDS 2024) in Saudi Arabia, the Turkish defense company Firestar Systems, established through a joint venture between Hydra Technologies and various Turkish industrial partners, showcased its Hellhawk family of unmanned aerial systems (UAS). This series, comprising loitering munitions and attack UAS, offers different specifications tailored to various mission requirements. Follow Army Recognition on Google News at this link

The Hellhawk family includes several models, with some that can carry a warhead of up to 30kg and have a maximum operational range of 500km. (Picture source: Army Recognition)

The Hellhawk family includes several models, each with specific capabilities. The most advanced model in this lineup can carry a warhead of up to 30kg and has a maximum operational range of 500km, designed for fire-and-forget missions over long distances. This feature allows for the engagement of targets without further input from the operator after launch.

The Hellhawk AM1 model is equipped to handle a maximum payload of 20kg and can reach a distance of up to 350km. It has a maximum speed of 90 knots and can remain airborne for 2.5 hours. This model is launched via catapult and controlled through a ruggedized tablet, which acts as the ground data terminal (GDT). It does not include a camera, and its command and control system is designed for single-use, fire-and-forget operations, emphasizing its role against infrastructure targets.

Expanding on the capabilities of the AM1, the Hellhawk AM2 increases the payload capacity to 30kg and the range to 500km, with a maximum speed of 140 knots. Similar to the AM1 in terms of endurance, launch mechanism, and propulsion, the AM2 also features a fire-and-forget system without camera integration, aiming to enhance its operational range and payload for more demanding missions.

The Hellhawk AM3 variant introduces a SATCOM module for in-flight adjustments to the route and target, providing operators with the ability to modify mission parameters dynamically. This capability is in addition to the standard fire-and-forget and autopilot modes, aiming to offer greater flexibility during operations.

In the Hellhawk-LM AM4-D model, an electro-optical (EO) camera on a stabilized gimbal is included, providing real-time video feed for day operations. This variant supports various flight modes, including loitering and attack, and is equipped with a 25kg warhead. It features a secure datalink for command and control, protected by military-grade encryption, targeting infrastructure, anti-armor, and missions requiring increased lethality.

The Hellhawk-LM AM4-DN is designed for comprehensive mission profiles, capable of day and night operations with a dual (EO/IR) gimbal system and a 25kg warhead. This model shares similar performance characteristics with the AM4-D, including speed, endurance, and launch methods, but extends operational capabilities to night missions.

**43 . Date: 12-01-2023ISR / ISTAR - Mini - Contract - Elbit Systems UK to deliver Magni-X UAS to British ArmyURL: https://www.armyrecognition.com/defense\_news\_january\_2023\_global\_security\_army\_industry/elbit\_systems\_uk\_to\_deliver\_magni-x\_uas\_to\_british\_army.html**

Elbit Systems UK has been awarded a contract to provide Magni-X micro-Uncrewed Aerial Systems (micro-UAS) to the UK Ministry of Defence (MOD). The contract has been awarded by Defence Equipment & Support’s Future Capability Group as part of the British Army’s Human Machine Teaming framework, and the proven micro-UAS will be delivered to specialist army units for service by mid-2023. Follow Army Recognition on Google News at this link

The Magni-X is a 2kg, packable and easily portable mUAS system, which is capable of autonomous flight and can be integrated with Elbit's Legion-X System to give it swarming capabilities, acting as a force multiplier for soldiers on the ground (Picture source: Elbit Systems UK)

Magni-X is a proven military-grade Vertical Take-Off and Landing (VTOL) micro-UAS from a family of quadcopter platforms already in service with armed forces across the globe. As part of the contract, Elbit Systems UK will deliver the service-ready Magni-X systems to the British Army with a contracted option to deliver many further systems. The Magni-X that will be delivered will carry a variety of payloads, including Electro-Optical and Infrared gimballed cameras, giving the users extensive long-range reconnaissance capabilities.

The Magni-X is a 2kg, packable and easily portable mUAS system, which is capable of autonomous flight and can be integrated with Elbit's Legion-X System to give it swarming capabilities, acting as a force multiplier for soldiers on the ground.

Featuring a low radar and acoustic signature, Magni-X is a proven and in-service backpack-portable micro-UAS designed to enhance Short Range Reconnaissance and support combat and intelligence operations for up to 60 minutes at a time.

Martin Fausset, CEO of Elbit Systems UK, said: “This contract represents another milestone in Elbit Systems UK’s delivery of advanced UAS systems to the UK Armed Forces. The unique capabilities of these systems demonstrate our commitment to being at the forefront of technological advances to support the integration of Robotics and Autonomous Systems to enhance the British Army’s capabilities.”

**44 . Date: 04-01-2023Loitering Munition - Market - Russia used about 660 Iranian made Shahed drones and expects new batch of up to 300 unitsURL: https://www.armyrecognition.com/defense\_news\_january\_2023\_global\_security\_army\_industry/russia\_used\_about\_660\_iranian\_made\_shahed\_drones\_and\_expects\_new\_batch\_of\_up\_to\_300\_units.html**

According to Ukrinform, the Russian Federation used about 660 Iranian-made Shahed UAVs out of the 1,750 units provided for by the contract with Iran. Currently, the Russian Federation is expecting a new batch of 250-300 drones. Follow Army Recognition on Google News at this link

A massive Iranian-made suicide drone attack is aimed at breaking through the Ukrainian air defense network (Picture source: Iranian MoD)

Vadym Skibitsky, a representative of the Main Directorate of Intelligence of the Ministry of Defense of Ukraine, told RBC-Ukraine news agency in an interview that "The Russians really have problems with their arsenal, including drones. To date, they have used approximately 660 Shahed drones. The contract provides for 1,750 units. It takes time to deliver and prepare them. They [Russians] have used a large amount in recent days, and these reserves need to be replenished. According to our data, they will now get another shipment. We will clarify the quantity. As a rule, before that, 250-300 pieces were brought in a batch. Let's see how it will be this time,"

He noted that a massive drone attack is aimed at breaking through the Ukrainian air defense system and hitting targets. Launching a small group – 5-10 units – will not produce such an effect. Skibitsky added that the Russians are using different altitudes and different directions to bypass air defense systems, as well as changing drone launch areas.

The HESA Shahed 136, or Geran-2 in Russian service, is an Iranian loitering munition in the form of an autonomous pusher-prop drone. It is designed and manufactured by Shahed Aviation Industries. The munition is designed to attack ground targets from a distance, fired in multiples from a launch rack (in batches of five upwards) to overwhelm air defenses by consuming their resources during the attack. The first public footage of the drone were released in December 2021.

The nose section contains a warhead estimated to weigh 30–50 kg (66–110 lb). The munition is 3.5 meters (11 ft) long with a wingspan of 2.5 meters (8.2 ft), flies at over 185 km/h (115 mph), and weighs about 200 kg (440 lb). The range has been estimated as between 1,800 and 2,500 km (1,100 and 1,600 miles) usable in a pre-programmed direct-attack munition mode (somewhat like a long-range cruise missile), and also a long-duration loitering munition mode limited by a radio signal range of about 150 kilometers (93 miles) in receiving new GNSS target location instructions.

The Shahed 136 is used in three models in the Iranian armed forces: anti-personnel and armored vehicle, anti-fortification, and radar seeker. The U.S. Army unclassified worldwide equipment guide states that the Shahed 136 design also supports an aerial reconnaissance option. It is visually similar to the smaller Shahed 131, differing mainly by its wingtip stabilizers extending up and down rather than only upon the Shahed 131 that has a simple inertial navigation system (INS) and a GPS with some electronic warfare protection, which the Shahed 136 may also have.

In Ukraine, Russia has used loitering munitions bearing the name Geran-2, which are considered by Ukraine and its Western allies to be redesignated Iranian-made Shahed-136 drones. In the months prior to the confirmation of their use, US intelligence sources and Ukrainian officials claimed that Iran had supplied Russia with several hundred drones including Shahed-136s, although Iran repeatedly rejected the claims that it had sent drones for use in Ukraine, saying it is neutral in the war. However, on 2 September 2022 the Commander of the IRGC General Hossein Salami said at a Tehran arms show that "some major world powers" had purchased Iranian military equipment and his men were "training them to employ the gear". Russia stated it uses unmanned aerial vehicles (UAVs) of domestic manufacture. This may reflect domestic production of these drones within Russia. On 21 November 2022, a British government minister stated that the number of Shahed-136 loitering munitions used in Ukraine was estimated to be in the low hundreds.

**46 . Date: 30-01-2024Armed ISR / ISTAR - HALE - General - PlatformImminent start of mass production of Russian drone S-70 Okhotnik-B in 2024URL: https://www.armyrecognition.com/defense\_news\_january\_2024\_global\_security\_army\_industry/imminent\_start\_of\_mass\_production\_of\_russian\_drone\_s-70\_okhotnik-b\_in\_2024.html**

Mass production of the Russian combat drone S-70 Okhotnik-B is set to begin soon, marking a significant milestone in the development of this aircraft designed by Sukhoi. The initial ground tests took place in the autumn of 2018, followed by its maiden flight in August of the following year, alongside the Su-57 Felon combat aircraft. These events were confirmed through photographs released by the Russian Ministry of Defense. According to some reports, deliveries of the first models are expected to commence in 2024. Follow Army Recognition on Google News at this link

Russian combat drone S-70 Okhotnik-B (Picture source: Russian media)

The Russian government had expressed its intention to swiftly deploy the S-70, with plans to begin deliveries in 2024. This timeline was confirmed by Russian Defense Minister Sergei Shoigu in August 2021. However, substantial improvements have been made to the S-70 since these initial announcements, primarily focusing on enhancing its stealth capabilities. The twin-engine Saturn AL-31 turbojet has been modified to reduce infrared signature and radar cross-section.

While there were reports in 2022 suggesting possible use of the S-70 in Ukraine, its official deployment within the Russian Aerospace Forces (VKS) has not yet occurred. Nevertheless, Sergei Semka, the vice-governor of Novosibirsk Oblast, recently announced that serial production of the S-70 will commence in the second half of 2024, implying potential operational deployment before 2025.

However, questions remain regarding the specific role of the S-70 and the number of units to be delivered to the Russian forces. It could serve as a "loyal wingman" for the Su-57 Felon or be employed for strikes in contested environments. Officials have described the S-70 as an unprecedented heavy attack drone capable of intercepting enemy aircraft at long ranges. Its actual usage is yet to be seen.

The S-70 is an unmanned Russian combat. It boasts an impressive wingspan of 20 meters, allowing it to effectively operate in various scenarios. While data on its empty weight varies, it typically falls between 10,000 and 20,000 kg, making it a substantial aircraft. Its maximum takeoff weight is 25,000 kg, enabling it to carry a significant payload.

The S-70 is powered by a derivative of the Saturn AL-41FM1 engine, without afterburner or thrust vectoring. It can achieve a maximum speed of 1,000 km/h, roughly equivalent to 620 mph or 540 knots. However, its true strength lies in its remarkable range, extending up to 6,000 km, approximately 3,700 miles or 3,200 nautical miles. This extended range positions it as a key player in long-distance operations.

Regarding its armament capacity, the S-70 features two internal weapons bays capable of carrying up to 2,000 kg of guided and unguided munitions. This versatility in armament makes it a potentially formidable asset for strike and target suppression missions.

**47 . Date: 25-01-2024Armed ISR / ISTAR - General - PlatformIranian Army incorporates wide range of new home-grown dronesURL: https://www.armyrecognition.com/defense\_news\_january\_2024\_global\_security\_army\_industry/iranian\_army\_incorporates\_wide\_range\_of\_new\_home-grown\_drones.html**

On January 23, in a ceremony attended by the Iranian Defense Minister and the Chief Commander of the Iranian Army, the Tehran Times reported that a variety of strategic combat, reconnaissance, and radar drones were officially integrated into Iran's Armed Forces. Follow Army Recognition on Google News at this link

These drones encompass Ababil-4 and Ababil-5, designed for a wide range of missions, including reconnaissance, surveillance, electronic warfare, signal gathering, and combat (Picture source: Tehran Times)

These drones encompass Ababil-4 and Ababil-5, designed for a wide range of missions, including reconnaissance, surveillance, electronic warfare, signal gathering, and combat. The integration also includes Arash and Bavar drones, equipped with capabilities for destructive, long-range, and point-strike missions, as well as Jet Karrar drones tailored for target, combat, and aerial tracking missions.

During the ceremony, Iranian Defense Minister Brigadier General Mohammad Reza Ashtiani emphasized the significance of strengthening the nation's defense. Chief Commander of the Iranian Army Major General Abdolrahim Mousavi also addressed the audience, emphasizing the unique combat capabilities introduced to the Armed Forces through domestically produced drones. He stressed the importance of relying on internal capabilities and the expertise of young Iranian scientists in designing and deploying these drones.

Major General Mousavi recognized the undeniable effectiveness of drones in various domains, including identification, combat, destruction, electronic warfare, and radar surveillance across land, air, and sea environments. He underscored the global significance of drones in augmenting combat power and highlighted the substantial progress made in drone development and deployment by the Iranian army in recent years, with hundreds of diverse drones contributing to their capabilities.

**48 . Date: 27-01-2024Armed ISR / ISTAR - Small - General - ArmamentRussia Unveils Drone Capable of Firing 9K111 Fagot Anti-Tank Missile in Flight ModeURL: https://www.armyrecognition.com/defense\_news\_january\_2024\_global\_security\_army\_industry/russia\_unveils\_drone\_capable\_of\_firing\_9k111\_fagot\_anti-tank\_missile\_in\_flight\_mode.html**

In a significant advancement in military technology, Russia has reportedly developed a new type of drone capable of carrying and autonomously operating the 9K111 Fagot wire-guided anti-tank missile system, capable of firing a 9M111 missile (NATO reporting name AT-4 Spigot). This development was revealed in a video published on Telegram, a popular messaging platform. Follow Army Recognition on Google News at this link

Russia has conducted a test fire of 9K111 anti-tank guided missile from a quadcopter drone. (Picture source Video Footage Telegram)

The drone, which represents a major step forward in unmanned warfare, is said to be capable of operating in a fully autonomous flight mode. This capability allows it to engage targets without direct human control, a feature that could significantly alter the dynamics of ground warfare.

The 9K111 Fagot system, which the drone is designed to carry, is a well-known anti-tank missile system that has been in use for decades. The integration of this system with a drone opens up new tactical possibilities, allowing for remote and precise targeting of armored vehicles or fortifications from the air.

Military analysts are closely watching this development, as it could have far-reaching implications for modern warfare. The ability of a drone to autonomously fire an anti-tank missile raises questions about the future of unmanned combat and the potential for increased automation on the battlefield.

While details about the drone's operational range, payload capacity, and deployment timeline remain unclear, the video demonstrates a significant technological achievement by Russia in the realm of unmanned systems and missile technology.

As tensions continue to rise in various global hotspots, the introduction of such advanced military technology could shift the balance of power and prompt other nations to accelerate their own developments in unmanned warfare. International observers and defense experts will undoubtedly keep a close watch on the implications of this groundbreaking technology.

The 9K111 Fagot, known in NATO terminology as the AT-4 Spigot, is a Soviet-era anti-tank missile system first introduced in the 1970s. Designed primarily to destroy tanks and other armored vehicles, the system has been widely used by various military forces around the world. The 9K111 Fagot operates on a wire-guidance system, where the operator controls the missile in flight through a thin wire that unspools from the missile to the launch unit. This allows the operator to make real-time adjustments during the missile's flight, enhancing accuracy against moving targets. The system typically includes a launch tube, a tripod, and the missile itself, which is known for its distinctive conical shape.

The 9M111 missile, the primary ammunition of the Fagot system, is characterized by its high penetration capability, effective against most types of armored vehicles. With a range of approximately 2,500 meters, it allows the engagement of targets at a considerable distance, providing safety to the operator from retaliatory fire. The missile uses a shaped charge warhead, effective at penetrating thick armor by focusing the explosive energy into a small area. Over the years, the 9K111 Fagot has been upgraded and exported, seeing action in various conflicts worldwide. Its continued use and effectiveness, despite its age, testify to its robust design and adaptability in diverse combat scenarios.

The 9K111 Fagot is a Russian-made semi-automatic command-to-line-of-sight (SACLOS) wire-guided anti-tank missile system. (Picture source Wikimedia)

**49 . Date: 02-01-2023Loitering Munition - Mini - General - PlatformRussian Zala Aero Unveils Izdeliye 55 Kamikaze Drone Invulnerable to Electronic Warfare SystemsURL: https://www.armyrecognition.com/defense\_news\_january\_2024\_global\_security\_army\_industry/russian\_zala\_aero\_unveils\_izdeliye\_55\_kamikaze\_drone\_invulnerable\_to\_electronic\_warfare\_systems.html**

On January 2, 2024, the Russian-based ZALA Group unveiled their latest development, the "Izdeliye 55" loitering munition or kamikaze drone for deployment in Ukraine. This new drone is an addition to the renowned Lancet family, notable for its distinctive X-wing aerodynamic design. Follow Army Recognition on Google News at this link

The new Russian-made Izdeliye 55 Kamikaze Drone or Loitering Munition Claimed to Be Invulnerable to Electronic Warfare Systems. (Picture source Zala Aero)

Designed for short-range operations, "Izdeliye 55" is set to bolster the capabilities of Russian forces currently deployed in Ukraine. This kamikaze drone, characterized by its four powerful engines, represents a notable evolution in ZALA's line of unmanned systems. Unlike its predecessors, "Izdeliye 55" offers a unique blend of operational simplicity and enhanced safety for its operators.

The drone's operational features are highly advanced, boasting Full HD real-time video feed up to the moment of impact, and allowing operators to choose the most effective angle of approach to the target. Remarkably, the drone is launched from a specialized container, eliminating the need for additional launch equipment. This feature significantly enhances the drone's deployment efficiency in combat scenarios.

One of the most touted attributes of the "Izdeliye 55" is its purported immunity to enemy electronic warfare systems. This capability, if proven effective, could provide a significant tactical advantage in electronic warfare-dominated environments.

The development of "Izdeliye 55" is not just a technological leap but also a result of extensive field experience. The Lancet, which has been actively used in the Ukrainian conflict since its onset, has undergone several modifications leading to the "Izdeliye 53" version. This iteration is capable of autonomous target identification and engagement, showcasing the rapid advancements in drone technology by ZALA.

ZALA's team of engineers and developers emphasize that the unique technical solutions incorporated into "Izdeliye 55" set it apart from other drones in its class, especially regarding its resilience to electronic countermeasures.

As the "Izdeliye 55" prepares to enter service with the Russian Armed Forces, its impact on the dynamics of the Ukrainian battlefield is anticipated to be significant. This development highlights the continuous evolution of unmanned systems in modern warfare, with implications for both military strategy and international security considerations.

**50 . Date: 18-01-2024ISR / ISTAR - Mini - General - PlatformSkydio unveils revolutionary AI-base X10D drone boosting multiple-task autonomyURL: https://www.armyrecognition.com/defense\_news\_january\_2024\_global\_security\_army\_industry/skydio\_unveils\_revolutionary\_ai-base\_x10d\_drone\_boosting\_multiple-task\_autonomy.html**

Skydio X10D is a revolutionary intelligent drone designed to provide powerful and timely information for a variety of applications in the defense and security sector. This advanced UAS (Unmanned Aircraft System) is equipped with state-of-the-art sensors and cutting-edge AI technology. Follow Army Recognition on Google News at this link

The Skydio X10D excels in mission-essential tasks. It can identify points of interest with Crosshair Coordinates (Picture source: Skydio)

One of the standout features of the Skydio X10D is its impressive sensor array. This drone packs more megapixels and better optics than any other drone of its size, ensuring that you have access to high-resolution visual and radiometric thermal cameras. These sensors provide precise and accurate information, giving you a significant decision-making advantage.

The Skydio X10D is the first small UAS to integrate a FLIR Boson+ sensor, setting new standards for thermal imaging quality. With resolutions of 640x512 and exceptional sensitivity down to <=30 mK, this drone offers unparalleled thermal imaging capabilities, making it ideal for various surveillance and reconnaissance tasks.

What sets the Skydio X10D apart is its onboard AI. This AI system reduces the cognitive load on operators, enabling faster decision-making. The drone can recognize its surroundings, automate data capture, and continuously improve its performance over time.

Furthermore, the X10D's computing power is unmatched, ensuring real-time decision support. Its six custom-designed navigation lenses provide 360-degree visibility, eliminating blind spots and allowing you to operate confidently in any environment. With advanced AI flight assistance and obstacle avoidance, this drone minimizes the training hours required for operators compared to traditional drones.

The Skydio X10D excels in mission-essential tasks. It can identify points of interest with Crosshair Coordinates, track individuals with Subject Tracking, and provide mobile overwatch with Scout. Additionally, it efficiently generates 2D maps and 3D models in real-time, all without the need for extra systems.

With a maximum flight speed of 45mph and a rapid deployment time of less than 40 seconds, the Skydio X10D is ready to respond swiftly to critical situations. Moreover, it holds an IP55 certification, making it dust and water-resistant, ensuring its reliability in various environmental conditions.

The Skydio X10D is equipped with state-of-the-art sensors and cutting-edge AI technology (Picture source: Skydio)

Once folded, the Skydio X10D is very easy to carry (Picture source: Skydio)

**51 . Date: 09-01-2024Armed ISR / ISTAR - Small - General - ArmamentTurkish Songar drone enhanced with RDS40 MGL six-barrel rotary grenade launcherURL: https://www.armyrecognition.com/defense\_news\_january\_2024\_global\_security\_army\_industry/turkish\_songar\_drone\_enhanced\_with\_rds40\_mgl\_six-barrel\_rotary\_grenade\_launcher.html**

Asisguard and Repkon Savunma Sistemleri, two Turkish defense companies, have successfully collaborated to equip the Songar drone, an armed UAV (Unmanned Aerial Vehicle), with a 40 mm rotary grenade launcher. This achievement marks a step in the field of remote weapon systems and promises to greatly enhance the capabilities of security forces. Follow Army Recognition on Google News at this link

Songar, developed by Asisguard, underwent intensive integration efforts with Repkon's RDS40-MGL, a six-barrel rotary grenade launcher (Picture source: Asisguard)

SONGAR, developed by Asisguard, underwent intensive integration efforts with Repkon's RDS40-MGL, a six-barrel rotary grenade launcher. This integration was tested in field deployment, where the drone demonstrated precise and effective firing capabilities.

Barış Düzgün, CEO of Asisguard, emphasized his company's commitment to enhancing Songar's capabilities. "Following its deployment with security forces, we have dedicated ourselves to expanding its arsenal by integrating various types of ammunition and payloads," said Düzgün. He also mentioned the development of a two-axis gimbal for night operations, a direct response to user demands from the field.

On his part, Uğur Cem Gürpınar, Director of Business Development and Corporate Communication at Repkon, highlighted the innovation behind the RDS40-MGL grenade launcher. Known for being the lightest in its category, this grenade launcher is made of steel using the flowforming method, a technique that ensures increased accuracy due to internal rifling in the barrels.

Gürpınar also pointed out that the 40 mm automatic grenade launcher and the six-barrel rotary grenade launcher are expected to be visible on numerous air, land, and sea platforms, both domestically and internationally, throughout 2024.

The RDS40-MGL is a six-round 40 mm grenade launcher manufactured by Repkon Defence, a division of the Turkish company Repkon. According to the manufacturer, the grenade launcher is 1.5 kg lighter than similar models in its category, and its service life is also extended.

The distinctive feature of this grenade launcher is its capability to use reduced ballistics ammunition of 40×46 mm caliber, standard for infantry weapons, as well as 40×53 mm caliber medium ballistics grenades used in fixed grenade launchers.

The RDS40-MGL is equipped with multiple Picatinny rails for mounting optical sights, enabling more precise targeting, although it comes with a mechanical sight as standard.

This 5.4 kg grenade launcher can accurately fire up to 400 meters with 40×46 mm caliber ammunition and up to 800 meters with 40×53 mm caliber ammunition.

Both calibers are standard for NATO countries and have been distributed in the Ukrainian army since 2022. Among the grenade varieties are fragmentation and shaped charge ammunition. The latter can penetrate up to 70 mm of armor, depending on the model.

For reference, on July 23, 2023, a Turkish-made RDS40-MGL 40 mm multiple grenade launcher was spotted in service with the Ukrainian military. Up to that point, neither party had mentioned the transfer of these weapons by Turkey. Thus, it would not be surprising to see the Songar drone equipped with the RDS40-MGL grenade launcher deployed in Ukraine soon.

This innovation represents not only a major technological advancement for Turkey in the field of defense but also raises important questions about the use and regulation of autonomous weapons in future conflicts. As the world watches closely, the implications of these technological developments will continue to be a topic of intense debate in defense and international security circles.

Turkish RDS40 Multiple Grenade Launcher (Picture source: Twitter account of War Noir)

**53 . Date: 25-01-2024Armed ISR / ISTAR - Small - General - PlatformUMEX 2024: UAE company Wedrones launches its new F100 Karma DroneURL: https://www.armyrecognition.com/defense\_news\_january\_2024\_global\_security\_army\_industry/umex\_2024\_uae\_company\_wedrones\_launches\_its\_new\_f100\_karma\_drone.html**

The ongoing UMEX 2024, renowned for its focus on unmanned systems, is hosting Wedrones this year, an emerging company based in the United Arab Emirates. The event, with Army Recognition as the official media partner, has been chosen by Wedrones to showcase its innovation in the UAV sector: the F100 Karma. Follow Army Recognition on Google News at this link

UAE company Wedrones presents new F100 Karma Drone at UMEX 2024 (Picture source: Army Recognition)

This new Unmanned Aerial Vehicle is designed with a specific focus on reusability, targeting Class I and II UAVs, which weigh up to 150 kg. In a discussion with Janes on January 22, a representative from Wedrones highlighted the progress made in the development of the device, particularly regarding aerodynamic simulations and the construction of the first fuselage.

The F100 Karma stands out with its compact structure and aerodynamic design, featuring a low fixed wing with upturned wingtips. The fuselage, incorporating various equipment such as avionics, a multisensor payload, a powerplant, and a dorsal air intake, supports the UAV's versatile mission. Propulsion is provided by a two-blade propeller in a pusher configuration, mounted on the rear section of the fuselage, and the UAV is also equipped with an inverted V-tail.

In terms of operational capabilities, the Karma is distinguished by its ability to reach interception speeds of up to 250 km/h and to operate at altitudes of up to five kilometers. Its advanced detection system allows it to locate and identify threats within a three-kilometer radius. The drone offers operational flexibility thanks to the possibility of autonomous operation or direct control, thus enhancing its adaptability to various defense scenarios.

The Karma can operate alone or in a swarm with other similar drones, enabling it to carry out complex missions. Equipped with a proprietary autopilot and navigation system, as well as a fire control system, the Karma represents a significant advancement in UAV technology.

With local manufacturing in the UAE and its economic efficiency compared to existing anti-drone systems, the F100 Karma positions itself as a major innovation in the field of aerial defense, reflecting the continuous evolution of technology in modern conflicts.

**55 . Date: 20-07-2023Loitering Munition - Mini - Contract - Hungary Awards Major Contract to Rheinmetall and UVision for Hero Loitering MunitionsURL: https://www.armyrecognition.com/defense\_news\_july\_2023\_global\_security\_army\_industry/hungary\_awards\_major\_contract\_to\_rheinmetall\_and\_uvision\_for\_hero\_loitering\_munitions.html**

On July 20, 2023, Rheinmetall AG announced that it has secured a major contract from Hungary for the Hero Loitering Munitions. The contract is valued at several hundred million euros, and delivery is scheduled to take place between 2024 and 2025. Follow Army Recognition on Google News at this link

Hero Loitering munition from UVision and Rheinmetall (Picture source: Army Recognition )

The Hero Loitering Munitions are part of a family of widely-used effectors manufactured and marketed by Rheinmetall in Europe under a cooperative agreement with UVision Air Ltd. The strategic partnership between Rheinmetall and UVision was established in October 2021 to meet the significantly increased demand for precision-guided munitions. At Eurosatory, the two companies were highlighting possibilities for integrating Hero LM systems into manned and unmanned vehicles.

These weapon systems possess autonomous target engagement capabilities, including reconnaissance and surveillance. They can locate, track, and engage emerging enemy targets with low signatures beyond the line of sight.

The Hero Loitering Munitions systems hover over the target area, locating and tracking enemies and analyzing potential targets. They assist in selecting high-value targets and determine the appropriate timing, direction, and angle of attack before executing a precise strike. The standardized design of the Hero Loitering Munition systems allows them to be operated from the same ground terminal for control and data transmission.

All Hero systems are designed to operate in complex battlefield conditions, including environments without GPS reception or jammed radio connections.

This recently secured contract by Rheinmetall and UVision further underscores the increasing importance of such munitions on modern battlefields. The delivery, amounting to several hundred million euros, also demonstrates Hungary's commitment to following the trend of employing loitering munitions that have proven their effectiveness in conflicts such as the war in Ukraine.

**56 . Date: 17-07-2023Loitering Munition - Partnership - Israel Aerospace Industries signs cooperation agreement with MBDA Germany to market loitering munitionsURL: https://www.armyrecognition.com/defense\_news\_july\_2023\_global\_security\_army\_industry/israel\_aerospace\_industries\_signs\_cooperation\_agreement\_with\_mbda\_germany\_to\_market\_loitering\_munitions.html**

Eyal Boguslavsky reports in israeldefense.co.il that Israel Aerospace Industries (IAI) and MBDA Germany have signed a cooperation agreement for the production, integration, sales, and marketing of IAI's loitering ammunition systems in Germany. Follow Army Recognition on Google News at this link

Mini-Harop loitering munition (Picture source: IAI)

MBDA is a leader in Germany in developing, producing, and maintaining guided missiles, air defense systems, and effective systems. Four decades ago, IAI was the first company in the world to develop loitering ammunition. The current IAI loitering munition portfolio includes the Harop, Harpy, Mini-Harpy, and Rotem systems. Together with MBDA Germany, IAI offers this loitering ammunition portfolio to the German Armed Forces to close capability gaps in the Air Force, Navy and Army.

Thomas Gottschild, Managing Director of MBDA Germany, said: “We already announced our partnership with IAI in 2021 and are now pleased to continue the strategic partnership with this agreement. The Ukraine war and the Azerbaijan-Armenia conflict have shown the importance of drones in combat missions. Our companies have agreed to cooperate in the preparation, production, marketing, and implementation of all necessary work related to loitering ammunition for the benefit of our German customer, the German Army.” Boaz Levy, IAI's CEO, said: “IAI is proud to work with MBDA Germany in the field of loitering ammunition. This agreement allows us to combine the strengths of both companies. IAI is a global pioneer in the development of the operational concept for loitering ammunition systems. Loitering ammunition has since evolved into a family of unique and accurate weapon systems. These systems have contributed to the operational successes of the armed forces worldwide and represent central and decisive components for future deployment scenarios.”

The IAI Harop is a loitering munition developed by the MBT division of Israel Aerospace Industries. Loitering munitions are designed to loiter above the battlefield and attack targets by crashing into them and exploding. The IAI Harop has a loiter (flying) time of 6 hours and a range of 1,000 km both ways. It is a larger version of the IAI Harpy and is launched from ground or sea-based canisters, but can be adapted for air launch. The Harop uses a man-in-the-loop mode, being controlled by a remote operator. The Harop operator can select static or moving targets detected by the aircraft's electro-optical sensor.

IAI developed a smaller version of the Harop for smaller applications called Mini-Harop or Green Dragon. The smaller Harop is one-fifth the size and has a lighter 3–4 kg (6.6–8.8 lb) warhead. It has a shorter endurance of 2–3 hours and is used tactically against time-critical targets or ones that hide and re-appear.

The IAI Harpy loitering munition is designed to attack radar systems and is optimized for the suppression of enemy air defenses (SEAD) role. It carries a high explosive warhead. The Harpy has been sold to several foreign nations, including South Korea, Turkey, India, and China.

The Rotem Aerial Vehicle (AV) is a tactical, loitering munition based on a light multi-rotor platform that delivers excellent capabilities against low signature enemy systems in complex environments. This lightweight and compact AV can be assembled in seconds and operated by a single soldier. The AV is capable of lethal precision strikes on stationary and mobile targets with abort/safe capability and is recoverable. Rotem is an extremely versatile platform. It can perform squad-level ISR and attack missions with minimal planning and operational focus from the operator. The backpacked system is a tactical kit of two AVs with all peripherals to allow an operational unit to use it organically as a part of their standard gear. The exceptional capability to hover allows the VTOL platform to see targets and engage within seconds, which makes the Rotem a game-changer for its operators.

**57 . Date: 17-07-2023Armed ISR / ISTAR - MALE - Contract - Kosovo's military forces receive Bayraktar TB-2 drones from TürkiyeURL: https://www.armyrecognition.com/defense\_news\_july\_2023\_global\_security\_army\_industry/kosovo\_s\_military\_forces\_receives\_bayraktar\_tb-2\_drones\_from\_turkiye.html**

On July 16, 2023, Albin Kurti, the Prime Minister of Kosovo, announced on Facebook that the nation's military capabilities have been notably augmented with the addition of Bayraktar TB-2 drones, procured from Turkey. According to Kurti, the government, in a span of two years, has increased the number of soldiers by over 80% and more than doubled the budget for the military. The enhancements to the national defense system render Kosovo even more secure than before, and the country takes pride in this accomplishment. Follow Army Recognition on Google News at this link

Kosovo military forces take delivery of Bayraktar TB-2 drones from Türkiye. (Picture source Facebook Albin Kurti)

The Prime Minister shared this significant update during a meeting with Lieutenant General Bashkim Jashari, the Commander of the Kosovo Security Force, and Defence Minister Armend Mehaj. Both officials commended the officers who have successfully completed their training in drone operations.

The Bayraktar TB-2, an advanced unmanned aerial vehicle, is the newest addition to Kosovo's growing arsenal. This reflects the government's dedication to modernizing the nation's defense capabilities. Having been proven effective in numerous operational theaters around the world, these drones significantly boost Kosovo's military strength.

The last two years have seen Kosovo make substantial investments in its military. The surge in the number of soldiers by more than 80% showcases a significant expansion of the country's defense forces. Additionally, the military budget has seen an increase of over 100%, supplying crucial funding for training, equipment, and operational readiness.

The officials did not miss the opportunity to express their pride in the country's progress. As stated by them, "Kosovo is now even more secure, and as always, proudly so!" The successful completion of drone operation training by several military officers was also highlighted, signifying the nation's progress in employing advanced technology for bolstering national security.

The enhancement of Kosovo's military capabilities is part of its ongoing efforts to ensure national security and resilience. As the country continues to invest in and upgrade its military, its ability to safeguard its sovereignty and maintain peace is significantly boosted.

The Bayraktar TB-2 is a medium altitude long endurance (MALE) unmanned aerial vehicle (UAV) manufactured by Turkey's Baykar Makina. First introduced in 2014, this sophisticated drone system has gained recognition due to its combat effectiveness, ability to perform reconnaissance, and capability to carry multiple types of payload. Equipped with a variety of sensors including EO/IR cameras, laser designator, and a synthetic aperture radar, the TB-2 is capable of day and night operations and can execute both surveillance and strike missions. The drone has a maximum payload capacity of 55 kg which includes MAM (Mini Smart Munition) precision-guided munitions.

The TB-2 has been widely used by Turkey and exported to several other countries, contributing significantly to its defense industry. The drone has played critical roles in several military operations including Syria, Libya, and the Nagorno-Karabakh conflict, where it proved pivotal in providing Turkey and its allies with advanced ISR (Intelligence, Surveillance, and Reconnaissance) capabilities and precision strikes. It is operated via a ground control station that uses satellite communications to control the UAV, receive real-time intelligence, and command strike operations. The drone can stay aloft for up to 24 hours, providing persistent surveillance or strike capabilities for a range of missions.

The Bayraktar TB-2 is a medium altitude long endurance (MALE) unmanned aerial vehicle (UAV) manufactured by Turkey's Baykar Makina. (Picture source Facebook Albin Kurti)

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**58 . Date: 14-07-2023ISR / ISTAR - Micro - Contract - Norway Provides 1000 Black Hornet Reconnaissance Drones to Ukrainian ArmyURL: https://www.armyrecognition.com/defense\_news\_july\_2023\_global\_security\_army\_industry/norway\_provides\_1000\_black\_hornet\_reconnaissance\_drones\_to\_ukrainian\_army.html**

Norwegian Defense Minister Bjørn Arild Gram made an announcement on July 12th regarding Norway's plan to provide Ukraine with a significant military support package. The package includes a notable addition of 1,000 Black Hornet reconnaissance drones, along with two NASAMS air defense systems and the necessary spare parts. This article will focus specifically on the provision of reconnaissance drones, while a separate article will cover the NASAMS component of the comprehensive Norwegian package. You can discover the article on the NASAMS part of the package by clicking "Here". Follow Army Recognition on Google News at this link

The Black Hornet features a rotor diameter of 123 mm and a length of 168 mm. It weighs no more than 33 gr. and offers the best in class audio and visual detection signature.(Picture source DVIDS )

On July 12th, Norwegian Defense Minister Bjørn Arild Gram announced that Norway plans to provide Ukraine with a new significant military support package. This package includes a notable addition of 1,000 Black Hornet reconnaissance drones.

The Black Hornet is a tactical reconnaissance micro-drone developed by Teledyne FLIR. It is used by non-specialized soldiers to obtain immediate and discreet situational awareness through its advanced electro-optical and infrared vision technology.

This drone bridges the gap between aerial and ground sensors, providing users with the same situational understanding as larger UAVs, as well as unmanned ground vehicle threat detection capabilities. With its extremely lightweight design, sound discretion, and flight duration of up to 25 minutes, the Black Hornet transmits live high-definition videos and images to the operator. It is primarily used for target reconnaissance and identification, providing valuable assistance to soldiers on the battlefield.

This micro-drone has been widely adopted by several allied countries, including the United States, France, and the United Kingdom, due to its versatility and effectiveness. In support of Ukraine's fight against the Russian invasion, Norway and the UK had already decided to donate an initial shipment of Black Hornets, as reported by Army Recognition on August 24, 2023.

The cost of this initial delivery, estimated at approximately 90 million Norwegian kroner ($9.3 million), was funded by the British-led fund, to which Norway contributed 400 million Norwegian kroner ($41.3 million). The package included Black Hornet units, spare parts, transportation, and training necessary for the Ukrainian forces to use these drones.

The Black Hornet was chosen due to its ease of use, robustness, difficulty to be detected, and its ability to operate effectively in urban environments. This investment in reconnaissance drones will enhance Ukraine's capabilities to monitor and identify threats, thereby contributing to its defense operations. The Black Hornet has received excellent feedback from Ukrainian soldiers.

Since the beginning of the war in Ukraine, there has been an explosion in the use of drones in the conflict. The parties involved quickly realized the potential of drones for intelligence, surveillance, and even attack purposes. Armed groups and military forces are employing a variety of drones, ranging from small quadcopters to larger drones equipped with advanced capabilities.

These drones provide a crucial tactical advantage by offering real-time aerial views of the situation on the ground, enabling better operational planning, detection of enemy movements, and target identification. However, this proliferation of drones in the Ukrainian conflict also presents challenges in terms of air defense and security, necessitating appropriate countermeasures to address this emerging threat.

**61 . Date: 07-06-2023ISR / ISTAR - Mini - Contract - Belarus army to get more Russian Supercam S150 and S350 UAVsURL: https://www.armyrecognition.com/defense\_news\_june\_2023\_global\_security\_army\_industry/belarus\_army\_to\_get\_more\_russian\_supercam\_s150\_and\_s350\_uavs.html**

According to mil.in.ua website, the Belarusian military will be armed with additional Russian Supecam UAVs. The estimated purchase price is 3,132,702 Belarusian rubles ($1,068,962). The Supercams must be delivered by January 31, 2024. The Russian military is already using its Supercam drones against Ukraine. Follow Army Recognition on Google News at this link

Russian-made Supercam drones like this one are already in service with the Belarusian army (Picture source: motolko.help via mil.in.ua)

The army of Belarus wants to receive an unmanned aerial vehicle (UAV) of the Supercam C350 and C150 type. The manufacturer of drones is the Russian group of companies "Unmanned Systems". According to the auction documents, Belarus plans to buy a complete set (with a set of spare parts, necessary software and supporting equipment).

The drones are purchased to be operated by the 927th Center for Training and Application of Unmanned Aerial Systems (military unit 97085) which was established in 2010. Initially,, the main task of the center was the preparation for combat use of anti-tank guns by conducting research in the field of tactics, as well as training specialists in the use of anti-tank guns.

Belarus president Lukashenko inspects a Russian Supercam drone already in service with the Belarusian army (picture source: Ministry of Defense of Belarus)

Technical data

Supercam S150: 2 hours flight time. The communication range of the control channel is up to 50 km, video signal transmission is up to 25 km via a digital broadband-protected video channel. Supercam S350: 4.5 hours flight time. The transmission of information at up to 100 km around provides enough opportunities for using UAVs in surveillance and reconnaissance missions.

**62 . Date: 23-06-2023Armed ISR / ISTAR - HALE - General - PlatformFirst flight test of new Turkish ANKA-3 MALE UAV drone Imminent!URL: https://www.armyrecognition.com/defense\_news\_june\_2023\_global\_security\_army\_industry/first\_flight\_test\_of\_new\_turkish\_anka-3\_male\_uav\_drone\_imminent.html**

During the Paris Air Show 2023, the Army Recognition Group gathered valuable information regarding the upcoming developments in the Turkish aerospace industry. In a significant revelation, a representative from the Turkish Aerospace Industries (TAI) disclosed that they are preparing to conduct the first flight test of their cutting-edge unmanned aerial vehicle (UAV), the ANKA-3 MİUS (Medium Altitude Long Endurance Unmanned Aerial Vehicle System), in just two weeks. Follow Army Recognition on Google News at this link

Scale model of the Anka-3 MALE UAV at Paris Air Show 2023. (Picture source Army Recognition)

The ANKA-3 MİUS drone represents the latest advancement in Turkey's UAV technology and is expected to play a pivotal role in various military operations. Developed by TAI, this combat drone boasts a delta-wing design, which offers exceptional aerodynamic performance and flight stability.

The forthcoming flight test will serve as a crucial milestone in evaluating the ANKA-3 MİUS's capabilities, ensuring its readiness for deployment in real-world scenarios. This trial run will allow engineers and technicians to assess its flight characteristics, propulsion systems, sensor capabilities, and overall performance under realistic conditions.

With its medium altitude and long endurance capabilities, the ANKA-3 MİUS is anticipated to fulfill a wide range of military requirements, including reconnaissance missions, surveillance operations, and combat engagements. Equipped with advanced technologies and an efficient jet-powered engine, this UAV demonstrates Turkey's dedication to enhancing its defense capabilities.

As the test date approaches, anticipation builds among defense enthusiasts, military experts, and industry observers eager to witness the ANKA-3 MİUS in action. The outcome of this flight test will provide valuable insights into the drone's potential and may influence future military strategies and investment decisions.

The Turkish Aerospace Industries, known for its expertise in developing cutting-edge aircraft and defense systems, remains committed to pushing the boundaries of innovation. The ANKA-3 MİUS represents another significant milestone in their pursuit of technological excellence, further solidifying Turkey's position as a key player in the global aerospace industry.

The successful execution of the first flight test will mark a remarkable achievement for TAI, bolstering its reputation as a leading manufacturer of unmanned aerial vehicles. Moreover, it will showcase Turkey's determination to strengthen its defense industry and reinforce its self-reliance in meeting national security requirements.

As the aviation community eagerly awaits the upcoming fly test, all eyes will be on the ANKA-3 MİUS, poised to take flight and demonstrate its remarkable capabilities.

The ANKA-3 MİUS (Medium Altitude Long Endurance Unmanned Aerial Vehicle System) represents the latest advancement in unmanned aerial vehicle (UAV) technology developed by Turkish Aerospace Industries (TAI). It shares its avionics architecture and Ground Control Station (GCS) with the ANKA and ANKA II UAVs.

One of the notable features of the ANKA-3 MİUS is its low radar visibility, providing stealth characteristics that enhance its ability to operate undetected. It also possesses high-speed transit capability, allowing it to swiftly maneuver through various operational environments.

The drone exhibits a high payload capacity, capable of carrying up to 1,200 kg (2,646 lbs) of equipment, weapons, or surveillance systems. This substantial payload capability enables it to fulfill a wide range of mission requirements.

The ANKA-3 MİUS is equipped with line-of-sight and beyond line-of-sight (LOS/BLOS) communication capabilities, which are achieved through satellite control. This feature ensures reliable and efficient communication between the drone and its ground-based operators, even when operating over long distances.

In terms of specifications, the ANKA-3 MİUS has a maximum takeoff weight of 6,500 kg (14,330 lbs). It boasts a service ceiling of 40,000 ft (12,192 m), allowing it to operate at high altitudes for extended periods. The drone has an impressive endurance of 10 hours at 30,000 ft (9,144 m) and 30 knots (34.5 mph).

When it comes to speed, the ANKA-3 MİUS has a cruise speed of 250 knots (287 mph) or 0.42 Mach at 30,000 ft (9,144 m). It can reach a maximum speed of 425 knots (489 mph) or 0.7 Mach at the same altitude.

**63 . Date: 01-06-2023ISR / ISTAR - Mini - Contract - Germany increasing its military support for Ukraine with drones and wide range of weapon systemsURL: https://www.armyrecognition.com/defense\_news\_june\_2023\_global\_security\_army\_industry/germany\_increasing\_its\_military\_support\_for\_ukraine\_with\_drones\_and\_wide\_range\_of\_weapon\_systems.html**

Germany provides support for Ukraine by supplying equipment and weapons that come from supplies of the Federal Arms Forces and from deliveries from industry financed by the Federal Government’s funds for security capacity building. Among the weapon systems are 54 more Vector reconnaissance drones. Follow Army Recognition on Google News at this link

The latest military assistance package from Germany to Ukraine includes 54 more Vector surveillance drones (Picture source: Quantum Systems)

The list detailed hereunder provides an overview of military assistance provided by the Federal Republic of Germany to Ukraine. It includes deliveries from the Federal Armed Forces, from industry and assistance measures together with partners, which have, inter alia, been financed from Federal Government funds for security capacity building.

Funding for the security capacity building initiative amounts to 5.4 billion Euros for 2023 (after 2 billion Euros for 2022) and additional authorizations to enter commitments in the following years amount to 10.5 billion Euros. These funds are to be used primarily for military assistance to Ukraine. At the same time, they will be used for re-filling Federal Armed Forces stocks for items delivered to Ukraine as well as for Germany’s contributions to the European Peace Facility (EPF), from which costs incurred from providing military assistance to Ukraine can be reimbursed to EU member states.

Delivered military support to Ukraine:

Armored fighting vehicles

ammunition for LEOPARD 1\* 18 Leopard 2A6 main battle tanks with ammunition (German share in joint project with further Leopard 2 operators) 40 infantry fighting vehicles Marder 1A3 with ammunition (from Bundeswehr and industry stocks\*) 50 Dingo 2 MRAP vehicles 54 M113 armored personnel carriers each with 2 MG\* (systems of Denmark, upgrades financed by Germany) 118 MG3 machine guns for Leopard 2 tanks, Marder IFV and Dachs armored engineer vehicles (Leopard 1 tank chassis) Spare parts for Leopard 2 and Marder

Air defense

1 air surveillance radar TRML-4D\* 2 air defense system Iris-T SLM\* Iris-T SLM missiles\* PATRIOT air defense system with missiles 34 Gepard self-propelled anti-aircraft guns with circa 6.000 rounds of ammunition\* 53,000 rounds for self-propelled anti-aircraft guns 4,000 rounds of practice ammunition for self-propelled anti-aircraft guns 500 Stinger Man-Portable Air Defense Systems 2,700 Strela Man-Portable Air Defense Systems

Artillery

5 multiple rocket launchers MARS II with ammunition (German share in a joint project with USA and Great Britain) Ammunition for multiple rocket launchers MARS II 14 self-propelled howitzers Panzerhaubitze 2000 (German share in a joint project with the Netherlands) 23,500 projectiles of 155mm caliber 155mm precision-guided ammunition\* 20 rocket launchers 70mm on pick-up trucks with rockets\* Counter-battery radar system COBRA\*

Military engineering capabilities

8 bridge-laying tanks Beaver\* 11 mobile and protected mine-clearing systems\* 15 armored recovery vehicles Bergepanzer 2\* 4 armored engineer vehicles Dachs\* 2 armored recovery vehicles Bergepanzer 3 2 mine clearing tanks WISENT 1\* 3 mobile, remote controlled and protected mine clearing systems\* 17 heavy and medium bridge systems\* 6 palettes of material for explosive ordnance disposal

Protective and Special Equipment

54 Vector reconnaissance drones \* 40 frequency range extensions for anti-drone devices\* 130 border protection vehicles\* 1 communications electronic scanner/jammer systems\* 32 reconnaissance drones\* 42 mobile antenna mast systems\* 90 drone detection systems\* 40 laser target designators\* 55 anti-drone sensors and jammers\* 10 unmanned surface vessels\* 10 anti-drone guns\* 28,000 combat helmets 125 binoculars 600 safety glasses 1 radio frequency system 3,000 field telephones with 5.000 cable reels and carrying straps 353 night vision goggles\* 12 electronic anti-drone devices\* 165 field glasses\* 38 laser range finders\* 6 mobile decontamination vehicles HEP 70 including decontamination material 10 HMMWV (Humvees) (8x ground radar capability, 2x jamming/anti-drone capability)\* 7 radio jammers\* 8 mobile ground surveillance radars and thermal imaging cameras\* 1 high frequency unit with equipment\*

Logistics

19 truck tractor trains 8x8 HX81 and 14 semi-trailers\* (before: 17) 14 tracked, remote-controlled THeMIS UGVs\* (before: 7) 4 load-handling trucks 8x6 with 20 roll-off containers\* 288 vehicles (trucks, minibusses, all-terrain vehicles) 179 pick-up trucks\* 92 Mercedes Zetros trucks\* 12 Oshkosh Defense M1070 tank transporter tractors\* 26 load-handling trucks 15t\* 12 heavy-duty trailer trucks and 4 semi-trailers\* 35 load-handling 8x8 trucks 30 protected vehicles\* 10 roll-off containers

Combat readiness and survivability

83,520 rounds ammunition 40mm\* 160,000 first aid kits\* 103.000 tourniquets 500 SFP9 pistols \* 2 hangar tents\* 8 lift trucks\* 295 generators 10 winter camouflage nets 168 mobile heating systems\* 36 ambulances\* 36.400 wool blankets 14,000 sleeping bags Mi-24 helicopter spare parts\* Spare parts for M2 heavy machine gun 200 tents 116.000 winter jackets 80.000 winter trousers 240.000 winter hats 405,000 pre-packaged military Meals Ready 67 fridges for medical material\* 3,000 Panzerfaust 3 anti-tank weapons with 900 firing devices 14,900 anti-tank mines (9,300\* from industry stocks) 22 million rounds of ammunition for firearms 50 Bunkerfaust with 15 firing devices 100 MG3 machine guns with 500 spare barrels and breechblocks 100,000 hand grenades 5,300 explosive charges 100,000 m detonating cords and 100.000 detonators 350,000 detonators 100 auto-injector devices 15 palettes of military clothing 1,200 hospital beds 18 palettes of medical material, 60 surgical lights Protective clothing, surgical masks 1 field hospital (project jointly financed with Estonia)\* Medical material (inter alia backpacks, compression bandages) Diesel and gasoline\* 10 tons of AdBlue\* 500 medical gauzes\* MiG-29 spare parts\* 7,944 man-portable anti-tank weapons RGW 90 Matador\*

Military support to Ukraine in planning / in execution

(Due to security concerns, the Federal Government abstains from providing details on transportation modalities and dates until after the handover)

Armored fighting vehicles

64 tracked all-terrain vehicles Bandvagn 206 (BV206)\* 66 Armoured Personnel Carriers (APC)\* 110 Leopard 1 main battle tanks\* (project jointly financed with Denmark) 20 Marder 1A3 infantry fighting vehicles\* Ammunition for Leopard 1 tank\* Ammunition for Marder IFV\*

Air defense

6 IRIS-T SLM air defense systems\* Iris-T SLM missiles\* 12 launchers Iris-T SLS\* Iris-T SLS missiles (from Bundeswehr and industry stocks\*) 7 air surveillance radars TRML-4D\* 18 Gepard self-propelled anti-aircraft guns\* 300.000 rounds of Gepard ammunition

Artillery

26,350 projectiles 155mm\* 18 wheeled self-propelled howitzers RCH 155\* 16 Zuzana 2 self-propelled howitzers\* (project jointly financed with Denmark and Norway)

Military Engineering Capabilities

5 bridges for Beaver bridge-laying tanks \* 18 bridge-laying tanks Beaver\* 3 mobile and protected mine clearing systems\* 40 mine clearing tanks Wisent 1\* 1 Dachs armored engineer vehicles\* 3 heavy and medium bridge systems\*

Protective and special equipment

71 Vector reconnaissance drones \* 121 reconnaissance drones\* 10 unmanned surface vessels\* 40 ground surveillance radars\* 3 drone sensors\* 1 Satcom surveillance system\* 2,000 portable light systems\* 8 mobile antenna mast systems\* 5 mobile reconnaissance systems (on vehicles) \* 370 border protection vehicles\* Vehicle decontamination system 11 communications electronic scanner/jammer systems\*

Logistics

12 Oshkosh Defense M1070 tank transporter tractors\* 30 tank trucks (water/fuel)\* 78 truck tractor trains and 86 semi-trailers\* 3 load-handling trucks 8x6 with 8 roll-off containers\* 71 Rheinmetall MAN HX81 heavy-duty truck tractors and 76 semi-trailers\* 2 tractors and 4 trailers\* 10 protected vehicles\* 108 Mercedes Zetros trucks\*

Combat Readiness and Survivability

13 ambulances\* Continuing deliveries of medical material\* 100 MG5 machine guns\* 100 GMG grenade launchers\* 11,000 group module rations 40,000 first aid kits\* 17 mobile heating systems\* 132,480 40mm rounds for grenade launchers\* Field hospital (role 2)\* 5,032 man-portable anti-tank weapons\*

\* Deliveries from industry stocks financed by German funds for security capacity building. Some of the deliveries require upgrades or productions is ongoing; also training measures take place.

Defense News June 2023

**64 . Date: 07-06-2023Loitering Munition - Mini - General - PlatformGreek Company SAS Technology successfully conducts first flight test of AHX-1X loitering munitionURL: https://www.armyrecognition.com/defense\_news\_june\_2023\_global\_security\_army\_industry/greek\_company\_sas\_technology\_successfully\_conducts\_first\_flight\_test\_of\_ahx-1x\_loitering\_munition.html**

In a significant development for the Greek defense industry, S.A.S. Technology recently conducted the inaugural flight test of their highly anticipated AIHMI AHX-1X SOLM (Stand Off Loitering Munition). The successful test took place a few weeks after the technology's presentation at DEFEA 2023, a renowned defense exhibition that was held in Athens, Greece. Follow Army Recognition on Google News at this link

The SARISA SRS-1A drone successfully launches the AHX-1X Stand Off Loitering Munition during its inaugural flight test. (Picture source S.A.S. Technology)

The flight test was carried out by the SARISA SRS-1A drone, showcasing the versatility and advanced capabilities of the AHX-1X. During the test, the AHX-1X was equipped with a dummy warhead provided by Thales, further validating its potential as a potent munition system.

The AHX-1X, designed by S.A.S. Technology, boasts an impressive operational range. When launched from a small drone like the SARISA, it can cover distances of over 30 kilometers, making it a formidable weapon in various scenarios. Moreover, when deployed from a MALE (Medium Altitude Long Endurance) drone or a helicopter, the AHX-1X showcases an approximate range of over 100 kilometers, enhancing its versatility and strategic reach.

The successful flight test marks a significant milestone for S.A.S. Technology and underscores the company's commitment to advancing Greece's defense capabilities. The AIHMI AHX-1X SOLM holds great potential in bolstering the country's military strength and providing an effective deterrent against potential threats.

The Greek defense industry and global military community eagerly await further developments and subsequent trials of the AHX-1X Stand Off Loitering Munition, which promises to revolutionize modern warfare and contribute to Greece's defense readiness in the coming years.

**65 . Date: 01-06-2023ISR / ISTAR - Small - General - IDET 2023: Hydra Technologies from Czech Republic displays unmanned aerial solutionsURL: https://www.armyrecognition.com/defense\_news\_june\_2023\_global\_security\_army\_industry/idet\_2023\_hydra\_technologies\_from\_czech\_republic\_displays\_unmanned\_aerial\_solutions.html**

Hydra Technologies, in collaboration with the Czech industry leader STV Group A.S., unveiled an array of cutting-edge unmanned aerial solutions at the prestigious International Defence and Security Technologies Fair (IDET) held in the Czech Republic. With a rich legacy of over 15 years of experience in serving the military and intelligence communities, Hydra Technologies has firmly established itself as a pioneering provider of unmanned aerial systems (UAS). Follow Army Recognition on Google News at this link

S45 Baalam UAV (Picture source: Hydra Technologies)

Driven by a steadfast commitment to serving the global community, Hydra Technologies strives to develop and deliver unparalleled aerial solutions that can seamlessly adapt to a wide range of defence and security scenarios. Their track record speaks volumes, with their systems boasting the highest reliability and usability margins in the market, making them the ideal choice for penetrating the Central European region.

At IDET 2023, Hydra Technologies showcased a series of UAS innovations. Among the highlights were the M40 BlueFish attack UAS, capable of an impressive 500 km range, and the compact yet powerful Huul-1 and Huul-2 loitering munition solutions. These versatile systems demonstrated exceptional effectiveness in both ground-to-ground and air-to-ground operations, reaffirming Hydra's pivotal role in advancing defence technology.

With aspirations to expand its presence globally, Hydra Technologies leveraged the platform provided by IDET to showcase its unwavering commitment to innovation. By developing superior and practical UAS solutions that cater to diverse applications, Hydra Technologies upholds the highest industry standards and solidifies its position as a trailblazer in the field.

Defense News June 2023

**66 . Date: 29-06-2023General - Iran inaugurates first strategic UAV base reinforcing military capabilitiesURL: https://www.armyrecognition.com/defense\_news\_june\_2023\_global\_security\_army\_industry/iran\_inaugurates\_first\_strategic\_uav\_base\_reinforcing\_military\_capabilities.html**

In a military meeting held on June 23, 2023, Habibollah Sayyari, the Iranian Army Coordinator, expressed his satisfaction with the inauguration of the first strategic UAV base, as reported by the Tehran Times. The event marks a step in Iran's drone program and underscores the country's commitment to strengthening its defense capabilities. Follow Army Recognition on Google News at this link

Iran has developed a wide range of military drones. (Picture source Wikimedia)

The newly inaugurated Unmanned Aerial Vehicle (UAV) base enhances Iran's capacity for surveillance and intelligence gathering. With the deployment of advanced drones, Iran aims to reinforce its strategic position in the region and bolster its defense capabilities.

Iran's drone program has made remarkable progress, resulting in the production of a diverse range of advanced drones. These unmanned aerial vehicles are utilized for various purposes, including surveillance, reconnaissance, and combat missions. Notably, Iran has developed a range of suicide drones with high accuracy and the ability to fly at low altitudes to evade radar detection.

The combat drone lineup of Iran includes over a dozen models equipped to engage ground, sea, and air adversaries before safely returning to base. Models such as the Shahed-149 have a range of 2,000 kilometers (1,240 miles) and can carry substantial munitions or electronic equipment.

Iran's drone capabilities extend to surveillance missions as well. These drones serve functions such as capturing photographs, recording videos, and marking targets for other aircraft. The country also operates smaller surveillance-only drones with limited range and endurance.

It is important to acknowledge that Iran's drone program has benefited from reverse engineering captured U.S. and Israeli drones, such as the Predator, Reaper, Sentinel, ScanEagle 5, and Hermes. By replicating the designs and importing certain U.S.-made parts, Iran has improved its less-advanced drones, including the Shahed-136.

In a notable development, the Shahed-136 has found usage in Ukraine, as reported by Army Recognition Group on May 4. The combined utilization of Russian Lancet drones and Iranian Shahed-136 drones by the Russian armed forces in Ukraine has intensified ground-based kamikaze strikes, posing significant challenges for Ukrainian defenses and escalating regional tensions.

Shahed-136

The Shahed-136 boasts impressive features in terms of design, flight capabilities, and combat use. With its delta-wing shape and stabilizing rudders, it measures 3.5m in length, has a wingspan of 2.5m, and weighs around 200kg.

Powered by a MADO MD-550 piston engine generating 50 horsepower, the drone can reach a maximum speed of 185km/h and has an estimated range of 1,000 to 2,500km, flying at altitudes ranging from 60 to 4,000 meters. Its payload includes a high explosive fragmentation warhead of 30-50kg, optics for precision attacks, and the option to equip photo equipment for capturing images and videos.

The Shahed-136 serves various combat purposes, such as anti-personnel and armored vehicle missions, anti-fortification operations, and radar seeker functions. It can be launched in salvo mode, forming a swarm of drones that can be programmed to carry out surveillance or attack tasks.

Additionally, it can be employed as a pre-programmed direct-attack munition or as a loitering munition with a radio signal range of approximately 150km, receiving new target location instructions via GNSS.

Iran has also showcased its drone capabilities through various operations, including strikes on Saudi oilfields, targeting dissident groups in neighboring countries, and providing support to proxy militias. The country has also exported drone technology to neighboring nations, expanding its influence in the region.

The establishment of a strategic UAV base in Iran reflects the country's attempts to enhance its defense capabilities and expand its presence in the region. The deployment of advanced drone technology signifies Iran's commitment to keeping pace with evolving security trends. While the establishment of the base raises important considerations for regional stability, it is an indication of Iran's pursuit of strategic interests .

**67 . Date: 20-06-2023Armed ISR / ISTAR - Small - General - PlatformIranian IRGC successfully tests Arbaeen new multipurpose quadcopter droneURL: https://www.armyrecognition.com/defense\_news\_june\_2023\_global\_security\_army\_industry/iranian\_irgc\_successfully\_tests\_arbaeen\_new\_multipurpose\_quadcopter\_drone.html**

According to a tweet posted by the Iranian news agency IRNA on June 12, the Iranian Islamic Revolutionary Guard Corps (IRGC) Ground Forces released video footage of a new multi-purpose quadcopter being tested. The new multi-purpose unmanned aerial vehicle called “Arbaeen” was seen in the video taking off vertically with a payload and then successfully hitting a target shortly after takeoff. Follow Army Recognition on Google News at this link

With a payload capacity of 7 kilograms (15.4 pounds), the drone can drop bombs from an altitude of 500 meters (1,640 feet) above the ground (Picture source: TASNIM Military)

According to Iran's Tasnim news agency, experts from the IRGC's Research and Self-Sufficiency Jihad Organization have successfully designed, developed, and manufactured a new multirotor bomber drone under the "Arbaeen" project. With a payload capacity of 7 kilograms (15.4 pounds), the drone can drop bombs from an altitude of 500 meters (1,640 feet) above the ground. Additionally, it features vertical take-off and landing (VTOL) capabilities and can simultaneously carry and launch 10 small missiles for engaging multiple targets.

Initially introduced in the Iran Aviation Industries Organization's UAV catalog for export, the Arbaeen quadcopter was advertised last year as a 21 kg drone suitable for intelligence gathering, surveillance, reconnaissance, day and night cargo transportation, and unloading. The catalog mentioned its approximate flight duration of one hour, an operational range of 10 kilometers, and maximum cruising speed of 45 km/h.

Recent news reveal that the Arbaeen project has been transferred from the Iran Aviation Industries Organization to the IRGC's Self-Sufficiency Jihad Organization, accompanied by changes in its intended purpose and technical specifications. The reasons behind the project's transfer from the Iranian state-owned Iran Aviation Industries Organization to the IRGC's Self-Sufficiency Jihad Organization remain undisclosed. Consequently, it is highly probable that the Arbaeen drones, like other IRGC drones, will be supplied to Shiite groups in the Middle East. Notably, small quadcopters of this type, which have gained popularity during the Ukraine-Russian war, have recently been utilized by terrorist organizations in the Middle East for drug trafficking and offensive operations.

Initially introduced in the Iran Aviation Industries Organization's UAV catalog for export, the Arbaeen quadcopter was advertised last year as a 21 kg drone suitable for intelligence gathering, surveillance, reconnaissance, day and night cargo transportation, and unloading (Picture source: TASNIM Military)

Defense News June 2023

**68 . Date: 21-06-2023Loitering Munition - Mini - General - PlatformParis Air Show 2023: Israeli company BlueBird Aero Systems unveils SpyX loitering munition mini-UAV platformURL: https://www.armyrecognition.com/defense\_news\_june\_2023\_global\_security\_army\_industry/paris\_air\_show\_2023\_israeli\_company\_bluebird\_aero\_systems\_unveils\_spyx\_loitering\_munition\_mini-uav\_platform.html**

BlueBird Aero Systems, a subsidiary of Israel Aerospace Industries (IAI) Group, has unveiled its latest innovation: the SpyX Loitering Munition UAV platform, which ushers in a new era of precision and efficiency on the battlefield.. Follow Army Recognition on Google News at this link

SpyX, designed by BlueBird Aero Systems, is a compact and expendable electric mini-UAV specifically created for loitering and strike missions (Picture source: BlueBird Aro Systems)

SpyX, designed by BlueBird Aero Systems, is a compact and expendable electric mini-UAV specifically created for loitering and strike missions. Its primary objective is to empower tactical teams with the ability to detect, confirm, and engage targets at ranges of up to 50 kilometers. To enhance its target detection capabilities, the SpyX features a revolutionary belly-mounted dual-sensor stabilized payload and advanced video tracker. This integration enables autonomous and accurate electro-optical guided attacks on designated targets. Furthermore, the SpyX's effectiveness is maximized by the option to load a 2.5-kg warhead, such as combined anti-personnel, anti-vehicle, or anti-tank warheads, just before launch, tailored to achieve the desired effect-on-target.

CEO of BlueBird Aero Systems, Ronen Nadir, described the SpyX as a game-changer in military UAV platforms. The system combines innovative technology with exceptional versatility and cost-effectiveness, ultimately enhancing situational awareness, precision, and effective strikes. Additionally, its integration with BlueBird's VTOL ISR UAS (Vertical Takeoff and Landing Intelligence, Surveillance, and Reconnaissance Unmanned Aircraft Systems) establishes tactical battlefield superiority. BlueBird Aero Systems remains committed to delivering state-of-the-art solutions that meet the evolving needs of military operations.

Key Features and Benefits of the SpyX include: \* Operational Range: Impressive range of up to 50 kilometers. \* Endurance: 1.5 hours of mission time for persistent surveillance and timely engagement. \* Versatile Warhead Options: Multiple warhead types are available for optimal effectiveness against different targets. \* Agility: Compact and agile platform weighing only 10 kilograms, facilitating rapid deployment and maneuverability. \* High Attack Speed: Attack speed of 250 kilometers per hour for efficient target engagement. \* Separate Warhead Storage: Unique design allowing for separate warhead storage, enhancing logistical capabilities.

The SpyX brings about a revolution in tactical military operations, offering an unparalleled advantage in various scenarios: • Precision Strikes: With a Circular Error Probable (CEP) of less than 1 meter, the SpyX ensures exceptional precision in targeting, minimizing risk to ground forces and reducing collateral damage. • Reconnaissance and Surveillance: Equipped with an advanced dual-sensor payload, the SpyX provides real-time enhanced situational awareness, enabling better target detection and informed decision-making in the field. BlueBird's open architecture design allows for joint reconnaissance and target detection efforts by integrating the SpyX with other BlueBird VTOL ISR UASs like the WanderB-VTOL and ThunderB-VTOL UAS. This collaborative approach maximizes operational efficiency by covering larger areas for extended periods using VTOL UAVs, facilitating comprehensive mission effectiveness. • Force Protection: The SpyX plays a vital role in safeguarding military personnel and critical infrastructure by efficiently identifying and neutralizing threats. With its versatile warhead options, the system allows for adaptable mission planning, enabling precise engagement of both armored targets and personnel or light vehicles.

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**71 . Date: 27-06-2023ISR / ISTAR - Small - Contract - US gives Taiwan twenty JUMP UAS to secure Taiwan StraitURL: https://www.armyrecognition.com/defense\_news\_june\_2023\_global\_security\_army\_industry/us\_gives\_taiwan\_twenty\_jump\_uas\_to\_secure\_taiwan\_strait.html**

In a press conference organized by the Democratic Progressive Party (DPP), Legislator Chuang Jui-hsiung announced that Taiwan has received a JUMP 20 UAS from the United States without expense, along with the essential training required for its operation. This development, as reported in an article by Taiwan News on June 26, 2023, showing the collaborative efforts between the two nations to reinforce regional security in the Taiwan Strait. Follow Army Recognition on Google News at this link

Aerovironment's JUMP 20 Unmanned Aircraft System at AUSA 2022. (Picture source: Aerovironment)

Taiwan acquired 4 MQ-9 SeaGuardian drones in May to monitor Beijing's increased military activities in the Taiwan Strait. The JUMP 20 drone, with its diverse capabilities and unique functions compared to larger UAVs, strengthens Taiwan's ability to effectively respond to evolving security challenges and maintain a strong defense posture in the region.

The Taiwan Strait, spanning approximately 180 kilometers (110 mi; 97 nmi), serves as a crucial link between the island of Taiwan and the Asian mainland. It plays a vital role in connecting the South China Sea with the East China Sea in the north, with its narrowest point measuring about 130 km (81 mi; 70 nmi) across.

However, the political characterization of the strait remains a contentious issue on the international stage. The People's Republic of China (PRC) claims complete sovereignty, jurisdiction, and sovereign rights over the Taiwan Strait, viewing it as an extension of its internal territorial waters rather than international waters. This perspective implies that foreign vessels navigating through the strait require approval from the Chinese government.

Various countries, including the United States, Australia, France, and Taiwan, strongly oppose this viewpoint and have expressed significant objections. This highlights the ongoing disagreements regarding the political and international status of the Taiwan Strait.

To acquire the JUMP 20 drone and the necessary training, the Coast Guard Administration (CGA) collaborated with the US military. This cooperative effort will significantly enhance Taiwan's maritime patrol capabilities, enabling effective addressing of various maritime issues such as smuggling, weapons proliferation, and illegal fishing.

The JUMP 20 VTOL UAV, an American drone, possesses the following specifications: a payload capacity of 30 lb (13.6 kg), an operating range of 185 km (115 mi), a flight duration of 9 to 14 hours, a maximum speed of 72 km/h, a flight ceiling of 4572 meters (17,000 ft), a wingspan of 18.8 ft (5.7 m), a length of 9.5 ft (2.9 m), and a maximum takeoff weight of 97.5 kg including fuel and payload.

The drone offers multiple payload options, including gyro-stabilized EO/IR imaging systems, communication intelligence (COMINT) capabilities, 3D mapping sensors, LiDAR, and synthetic aperture radar. It supports ISR operations, MUM-T interoperability, OSRVT downlink, and communication across various channels and bands.

Equipped with advanced imaging sensors like the ARCAM 45D and long-range EO/MWIR sensors, the JUMP 20 enables effective day and night operations. It incorporates onboard tracking and stabilization systems, facilitating real-time video processing for efficient data analysis and transmission. Additionally, the drone's compatibility with swappable imaging systems provides flexibility to adapt to different mission requirements.

Designed for runway-independent operations, the JUMP 20 can be made operational in under 60 minutes. Its common autopilot and ground control system architecture allow for customization and modularity, ensuring it meets specific operational needs.

Operated by two operators from a ground control station, the drone is powered by a MOGAS 190CC EFI four-stroke gasoline engine, complemented by four 190cc EFI electric motors for vertical takeoff and landing. Furthermore, it incorporates a battery-powered VTOL jump system, enhancing its overall performance.

**72 . Date: 09-03-2023ISR / ISTAR - N/A - General - PlatformElistair introduces Orion HL tethered drone designed for tactical communicationsURL: https://www.armyrecognition.com/defense\_news\_march\_2023\_global\_security\_army\_industry/elistair\_introduces\_orion\_hl\_tethered\_drone\_designed\_for\_tactical\_communications.html**

Elistair announces the launch of Orion Heavy Lift (HL) to support growing demand for variable height antennas from military, public safety and homeland security customers. As tactical communications evolve to match the rapidly changing needs of operators on the ground, tethered drones offer significant benefits when flexibility and mobility are critical. With the need for highly effective ground units to have increased mobility, tethered drones are enabling the establishment and extension of secured mobile networks, thanks to their rapid deployment time and persistence in the air. Follow Army Recognition on Google News at this link

Along with Elistair’s new Payload Development Kit, partners can now seamlessly integrate their payloads and sensors to widen the capabilities of the platform for the end-users (Picture source: Elistair)

Leveraging the original Orion platform used by military forces and security forces in over 30 countries for ISR missions, the Orion HL benefits from the same level of automation, ruggedization and safety architecture as its parent. Able to carry payloads of 4 kgs at 90 meters and 5 kgs at 50 meters height, for flight durations of 50 hours, Orion HL is deployable in minutes and easily transportable.

“We have put the Orion 2 tethered UAV system through several tests during the last year's experiment to test its limits. During these tests, the system has proven to be a flexible and reliable solution capable of handling the challenging operational environment and conditions above the Arctic Circle in Norway. The introduction of the Heavy Lift version also provides us with a very useful tool for lifting communication equipment to create temporary communication coverage in challenging areas of operation.” Experiment Manager “Tor” from the Norwegian Army Combined Arms Battle Laboratory.

Along with Elistair’s new Payload Development Kit, partners can now seamlessly integrate their payloads and sensors to widen the capabilities of the platform for the end-users. A beta-testing program with selected partners allowed the successful integration of a CORDIS Array II from Radionor, a 5G relay, and a SIGINT payload.

The first deliveries are planned for the end of May 2023.

Leveraging the original Orion platform used by military forces and security forces in over 30 countries for ISR missions, the Orion HL benefits from the same level of automation, ruggedization and safety architecture as its parent (Picture source: Elistair)

Defense News March 2023

**73 . Date: 03-03-2023Loitering Munition - Mini - General - PlatformIDEX 2023: ARQUIMEA from Spain unveils its Q-SLAM-40 loitering munitionURL: https://www.armyrecognition.com/defense\_news\_march\_2023\_global\_security\_army\_industry/idex\_2023\_arquimea\_from\_spain\_unveils\_its\_q-slam-40\_loitering\_munition.html**

The Spanish company ARQUIMEA, a technology company that operates globally in highly demanding defense sectors with more than 17 years of experience, unveils its complete loitering munition system Q-SLAM-40 at IDEX 2023, an international defense exhibition that was held in Abu Dhabi, United Arab Emirates.

The Spanish company ARQUIMEA unveils its Q-SLAM-40 at IDEX 2023, an international defense exhibition that was held in Abu Dhabi, United Arab Emirates. (Picture source Army Recognition)

Q-SLAM-40 is a loitering munition system that is designed to perform safe and efficient short-range missions. The loitering munition is fully designed and manufactured by the Spanish company ARQUIMEA offering a unique product made in Europe. The Q-SLAM-40 is a tactical loitering system designed to perform diverse types of short-range operations including protection safely and efficiently, surveillance, reconnaissance, target acquisition or damage assessment. The loitering system has been designed to tackle complex combat environments in special or conventional operations on the field or from fixed defensive positions. The Q-SLAM-40 system is a cost-effective, flexible, robust and durable system that can be easily carried by a team of two soldiers in lightweight backpacks. The system is deployed anywhere needed in less than 5 minutes, ensuring fast reaction time. The Q-SLAM-40 consists of two main elements with the tube launcher station and the drone. The tube-pneumatic launcher has a low thermal and acoustic signature, enabling several launches. The aerial platform airframe is made of a folding wing structure for quick and easy transportation and deployment. The loitering munition system can be used to perform different types of missions, from protection or surveillance to reconnaissance and target acquisition. The pilot can control the platform and abort the mission or redirect it safely if necessary. The Q-SLAM-40 is fully operable in a GPS-denied environment in piloted flight mode. Its small size and quiet electronic motor make it very difficult to detect, recognize and track even at close ranges. The system includes advanced airborne guidance, navigation systems, and payload control. It is a fully integrated system with high-speed, digital, encrypted, and bidirectional data links.

**74 . Date: 29-03-2023ISR / ISTAR - Small - General - PlatformSOFINS 2023: Survey Copter presents Capa-X new concept of modular and multi-mission UASURL: https://www.armyrecognition.com/defense\_news\_march\_2023\_global\_security\_army\_industry/sofins\_2023\_survey\_copter\_presents\_capa-x\_new\_concept\_of\_modular\_and\_multi-mission\_uas.html**

At the opening of SOFINS 2023, the Special Forces exhibition taking place near Bordeaux (France), Survey Copter, an Airbus subsidiary since 2011 and a pioneer in the design, production and operational support of light tactical Unmanned Aerial Systems (UAS), is presenting a new light tactical UAS: Capa-X. Follow Army Recognition on Google News at this link

The concept of Capa-X is to allow the drone's components to be modulated in order to adapt to all types of terrain and missions. Its propulsion can be configured as VTOL or HTOL, allowing vertical or conventional take-offs and landings (Picture source: Army Recognition)

The design of Capa-X light tactical UAS, imagined and produced by the Survey Copter teams, is based on a simple observation: public decision-makers, armies and para-public forces need a flexible drone system that can be easily adapted to their needs in terms of missions, configurations, airworthiness regulations and sovereignty. Capa-X meets these needs. It is a modular system, offering a wide range of configurations and, therefore, fulfilling a wide range of missions: intelligence, surveillance, reconnaissance, target detection and target tracking, target investigation, damage assessment, communication relay, cargo transport, search and rescue,...

The concept of Capa-X is to allow the drone's components to be modulated in order to adapt to all types of terrain and missions. Its propulsion can be configured as VTOL or HTOL, allowing vertical or conventional take-offs and landings, optimizing its logistical footprint and its performance. Two wing configurations (short and long) allow for missions requiring hovering at high cruising speeds or for increased flight autonomy. It is also equipped with a payload bay allowing it to integrate different sensors, making it possible for operators to use them simultaneously and address different types of missions. Its design is also based on the prospect of allowing it to navigate in all types of environments answering to different levels of safety: land, coastal, maritime, as close as possible to the front lines.

Survey Copter

Based in the Drôme department, Survey Copter is an expert in light tactical drones since 1996. The company became a subsidiary of Airbus Group in 2011 and offers a wide range of products perfectly adapted to ISR, protection, or surveillance missions, for military or civilian purposes. In the past, the company has twice been selected to equip the various French armed forces with drones: DRAC contract (Drones de Reconnaissance Au Contact) at the beginning of the 2000s for the French Land Army and, since 2020, for the French Navy, with the SMDM contract (Système de mini-drones de la Marine). Qualified and certified by the French MoD (Direction Générale de l'Armement - DGA) in July 2022, the SMDM system currently equips ships of the French Navy: High-Sea Patrollers, Ultra-Marine Patrollers... Its integration on Surveillance Frigates is ongoing and it could well equip other ships in the years to come. In operation with the French Navy, the system has been deployed on numerous occasions since then, notably in the Mediterranean and in the Gulf of Guinea.

The company draws on a wide range of skills such as the development of air platform systems, ground stations, and autopilots - via its subsidiary weControl, EO/IR payloads, has expertise in data transmission, encryption, RVT (Remote Video Terminal) and offers a range of services including spare parts, training and maintenance in operational condition. This know-how, demonstrated through the certification of its systems, enables Survey Copter to offer its customers safe and innovative UAS that meet their various needs and constraints.

Defense News March 2023

**75 . Date: 27-03-2024ISR / ISTAR - Small - General - Indonesia tests Spanish Alpha A900 helicopter UAV for artillery and coastal defenseURL: https://www.armyrecognition.com/defense\_news\_march\_2024\_global\_security\_army\_industry/indonesia\_tests\_spanish\_alpha\_a900\_helicopter\_uav\_for\_artillery\_and\_coastal\_defense.html**

On March 18, 2024, the Indonesian Government proceeded with trials of the Spanish Alpha A900 fuel-powered helicopter unmanned aerial vehicle (UAV) at Husein Sastranegara International Airport in West Java. The focus of these trials was to assess the UAV's performance in target detection and its potential role in supporting field artillery operations. Follow Army Recognition on Google News at this link

The Alpha A900 UAV is protected against electromagnetic interference and can operate in GPS-denied environments, while its control station ensures encrypted communications. (Picture source: Alpha)

These trials, which saw participation from the Chief of the Army Artillery Center, along with the Directors of Equipment, Training, and Material and Equipment, are part of an ongoing assessment regarding the potential use of the Alpha A900 UAVs by the Indonesian Coast Guard to monitor maritime sectors and identify anomalies within Indonesian territorial waters. This aligns with the UAV’s potential role in the Indonesian Medan Artillery System, enhancing target identification and location for forward observers.

The application of UAVs like the Alpha A900 by Indonesian maritime services, including the Indonesian Maritime Security Agency (BAKAMLA), reflects a shift towards using unmanned systems for maritime surveillance and interdiction tasks. This transition is viewed as an alternative to the more traditional, and often costlier, shipborne helicopter capabilities. The use of UAVs is expected to affect the allocation of maritime security resources and the operational engagement of Indonesian Navy vessels, particularly in relation to the nation's territorial waters and exclusive economic zones.

The integration of the Alpha A900 into the Indonesian military's resources is aimed at evaluating its comparative effectiveness and technical capabilities against existing UAVs previously developed by the Army Artillery Center's R&D division. This step is part of a broader effort to review and potentially upgrade the current artillery systems in line with modern operational requirements.

The A900, originating from the Spanish company Alpha Unmanned Systems and set to be assembled in Indonesia in partnership with local companies PT. Global Defense and PT. MS.Tech, is under scrutiny for several technical specifications that are deemed important for its intended operational role. It is equipped to handle operations in challenging maritime conditions, capable of performing automatic landings on moving vessels under sea states 4 or 5 of the Beaufort Scale and managing landings with up to 10º of pitch and roll. The UAV is designed with autorotation and flotation devices for emergency scenarios.

The A900 features protection against electromagnetic interference, an onboard generator supplying up to 150W for payloads, a laser altimeter, and navigation lights. Furthermore, it includes technology for operating in GPS-denied environments, while its control station ensures encrypted communications.

Regarding its capabilities, the A900 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. The UAV maintains a minimal logistical footprint and is equipped with four payload bays, each supporting a 4kg capacity. For safety and operational reliability, it features 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 varied missions, including Intelligence, Surveillance, Reconnaissance (ISR), border control, maritime security, search and rescue operations, infrastructure inspection, communications relays, and forward observation.

**76 . Date: 05-03-2024Armed ISR / ISTAR - MALE - General - PlatformIran unveils Shahed-149 Gaza combat drone for first time at DIMDEX 2024URL: https://www.armyrecognition.com/defense\_news\_march\_2024\_global\_security\_army\_industry/iran\_unveils\_shahed-149\_gaza\_combat\_drone\_for\_first\_time\_at\_dimdex\_2024.html**

At the DIMDEX 2024 expo, currently being held from March 4th to 6th, with Army Recognition as the official media partner, Iran marked a noticeable presence among defense exhibitors in the Middle East. With a substantial stand in Qatar, Iran showcased a wide array of armaments, including the Shahed-149 Gaza drone. This unmanned aerial vehicle, first unveiled in 2021, stands out among the innovations presented, highlighting Iran's technological advancement and armament production capability. Follow Army Recognition on Google News at this link

Iran Shahed-149 Gaza Unmanned Aerial Vehicle (Picture source: Army Recognition)

The Shahed 149 Gaza, an Iranian combat drone operated by the Iranian Revolutionary Guard, was officially introduced on May 21, 2021, and delivered to the Islamic Revolutionary Guard Corps Aerospace Force in 2022. Comparable in size and function to the American MQ-9 Reaper, this UAV is classified as a high-altitude, long-endurance vehicle, developed from the Shahed 129. It has a wingspan of 21 meters, a length of 10 meters, and a height of 4 meters. The basic UAV weight, with fuel tanks empty, is 1740 kg, with a takeoff weight of 3740 kg. Its maximum fuel capacity is 1500 kg, with a payload weight of 500 kg. The Gaza is powered by a turboprop engine with 750 horsepower, achieving a maximum speed of 350 km/h and a cruise speed of 215 km/h. It has a maximum flight endurance of 25 hours and can reach a height of 35,000 feet.

In terms of armament capabilities, the Shahed 149 Gaza can carry 13 bombs and up to 500 kg of electronic equipment, thanks to an internal atrium and a rotating arm release device.

The drone was first mentioned on Twitter by a defense reporter for Tasnim News on February 23, 2020. Its official unveiling occurred in May 2021, and it completed its flight tests in April 2022 before being accepted for service.

The Gaza drone's avionics suite includes electro-optical/infrared sensors, a day-vision camera with significant zoom capabilities, a thermal imager camera, a laser rangefinder, and environmental monitoring within a 500 km radius. It would have the capability to detect stealth aircraft up to a 500 km radius and would be equipped with a satellite communication antenna.

Iran has heavily invested in military research and development over the decades, with a particular focus on technologies such as drones to address shortcomings in its air force. This emphasis on drones has increased over time, particularly after the Iran-Iraq war in the 1980s, which highlighted the need to preserve limited human and material resources.

Another crucial factor is Iran's ability to leverage its expertise in reverse engineering. By studying and acquiring foreign drones, especially those captured or shot down, Iranian scientists and engineers have been able to develop their technology and produce domestic drones.

Moreover, Iran has successfully established strategic partnerships and smuggling networks to obtain parts and technologies necessary for drone production, bypassing international sanctions and enhancing its self-sufficiency in this field.

The effectiveness of these drones has been demonstrated not only in operations within Iran but also in Russia. They have been deployed in Russia and played a crucial role on the battlefield. This has not only allowed Iran to test its capabilities in a dynamic environment but also to showcase the effectiveness of its drones to potential partners.

Finally, drones have been used by Iran as a diplomatic tool to strengthen regional and international alliances, notably with Russia. This approach has enabled Iran to develop its relations with countries sharing similar security concerns and to explore new opportunities for drone exports.

**77 . Date: 28-03-2024Armed ISR / ISTAR - MALE - Requirement - Netherlands enhances MQ-9A Reaper fleet capabilities for NATO missionsURL: https://www.armyrecognition.com/defense\_news\_march\_2024\_global\_security\_army\_industry/netherlands\_enhances\_mq-9a\_reaper\_fleet\_capabilities\_for\_nato\_missions.html**

On March 26, 2024, the Royal Netherlands Air Force (RNLAF) initiated a collaboration with General Atomics Aeronautical Systems, Inc. (GA-ASI) to enhance the capabilities of its MQ-9A Remotely Piloted Aircraft fleet. This development follows the RNLAF's announcement last year to double its MQ-9A Reaper fleet from four to eight, underlining its commitment to enhance NATO missions across Europe. Follow Army Recognition on Google News at this link

Netherlands MQ-9A Reaper Unmanned Aircraft System (Picture source: Dutch MoD)

The RNLAF plans to upgrade its MQ-9A fleet with a series of comprehensive enhancements aimed at significantly extending its operational capabilities. These upgrades include the integration of maritime radars, a dedicated communications relay, long-range fuel tanks, advanced electronic support measures (ESM), and weaponry. The upgrade process is scheduled over the next three years, indicating a strategic phased improvement of the fleet.

Lieutenant Colonel Jan Ruedisueli, commander of the RNLAF's 306 Squadron, emphasized the strategic importance of these upgrades, stating, "With these enhancements, we will support NATO’s ISR (Intelligence, Surveillance, Reconnaissance) and maritime surveillance missions across Europe." This statement highlights the growing role of the MQ-9A in fulfilling NATO's operational requirements across a broad range of missions.

GA-ASI has been tasked with integrating the new payloads, which include a maritime radar already operational in various global contexts, ESM capabilities, weapons systems, and a communications relay specifically designed to ensure interoperability among all branches of the Netherlands Ministry of Defence.

Jaime Walters, GA-ASI's Vice President of International Strategic Development, expressed enthusiasm for the project, stating, "We are thrilled to continue upgrading and increasing the mission capabilities of the RNLAF's fleet of Reapers." Walters also pointed out the modular design of their aircraft platforms, which allows for rapid adaptations to meet a wide range of operational requirements.

The MQ-9A Block 5, known for its robust payload capacity of 3,850 pounds (1,746 kilograms), is capable of carrying external stores weighing up to 3,000 pounds (1,361 kilograms). It is renowned for its long-endurance surveillance capabilities, equipped with full-motion video, Synthetic Aperture Radar/Moving Target Indicator/Maritime Radar, and ESM. The MQ-9A Block 5 sets itself apart with an extremely reliable flight control system and a triple-redundant avionics system architecture, establishing a new reliability standard for unmanned aircraft comparable to manned aircraft.

**78 . Date: 13-03-2024Armed ISR / ISTAR - MALE - General - PlatformPakistan unveils new Shahpar II unmanned combat aerial vehicleURL: https://www.armyrecognition.com/defense\_news\_march\_2024\_global\_security\_army\_industry/pakistan\_unveils\_new\_shahpar\_ii\_unmanned\_combat\_aerial\_vehicle.html**

Pakistan's state-owned defense consortium, Global Industrial & Defence Solutions (GIDS), recently caught the international spotlight by unveiling the Shahpar II, its latest Unmanned Combat Aerial Vehicle (UCAV). During a compelling demonstration in Bahawalpur, Pakistan, this Medium-Altitude Long-Endurance (MALE) drone proved its capability to hit targets with high precision using its "Burq" air-to-ground guided missile, observed by senior military representatives from eleven allied countries. Follow Army Recognition on Google News at this link

Pakistan GIDS Shahpar II Unmanned Combat Aerial Vehicle (Picture source: GIDS)

GIDS positions the Shahpar II as a direct competitor to well-established UCAVs on the market, including Turkey's Bayraktar TB2 and China's CH-4, touting its superiority in terms of performance and cost-effectiveness. This claim raises questions about the specifics of this superiority. A technical comparison between the Shahpar II and its rivals reveals several aspects to consider.

The Shahpar II, measuring 8 meters in length and having a wingspan of 9.45 meters, accommodates internal payloads up to 53 kilograms and external payloads reaching 190 kilograms. It achieves a maximum speed of 120 knots (approximately 200 km/h), and notably, it boasts a service ceiling of 23,000 feet (7,010 meters) for surveillance tasks and 21,000 feet (6,400 meters) when equipped for combat. These capabilities render the Shahpar II a highly versatile tool across various operational scenarios.

The drone's maximum flight endurance is listed at 14 hours, which is shorter than the Bayraktar TB2's 27 hours and considerably less than the CH-4's potential 30 to 40 hours. Nonetheless, its capacity to engage targets up to 1000 kilometers away is commendable, though the CH-4 can extend this reach with versions capable of surpassing 1500 kilometers.

In altitude performance, the Shahpar II operates effectively at a service ceiling adjusted to 23,000 feet for surveillance and 21,000 feet when armed, which is competitive with its peers, offering enhanced mission flexibility.

Despite the Shahpar II not featuring the highest flight endurance compared to the Bayraktar TB2 and the CH-4, its arsenal and targeting features are robust, with future enhancements such as the Barq-2 missile and a laser-guided bomb on the horizon, indicating its continuous improvement trajectory.

Perhaps the Shahpar II's major strength lies in its sensor suite, notably the EO/IR Zumr-II sensor, promising advanced reconnaissance and targeting capabilities. Without direct analysis, it remains difficult to precisely measure its technological edge over the TB2 and CH-4, but the investment in such technology indicates GIDS's ambitious direction.

Ultimately, although the Shahpar II may exhibit certain limitations in direct comparison with the Bayraktar TB2 and the CH-4, its potential for development, precision capabilities, and cost-performance efficiency make it a serious contender on the international military drone market. Pakistan's initiative to promote the Shahpar II reflects its aspiration to position itself as an innovative and competitive player in the field of defense technology, underscoring its commitment to continuous improvement and adaptability of its military capabilities in the modern era.

**80 . Date: 15-03-2024ISR / ISTAR - Small - Contract - Turkish Defense Ministry purchases locally-made Havelsan Baha UAVsURL: https://www.armyrecognition.com/defense\_news\_march\_2024\_global\_security\_army\_industry/turkish\_defense\_ministry\_purchases\_locally-made\_havelsan\_baha\_uavs.html**

On March 7, 2024, the Turkish Ministry of Defense announced the acquisition of an unspecified number of Havelsan Baha Unmanned Aerial Vehicles (UAVs) for its Land Forces Command. This development was disclosed during their Weekly Press Information Meeting, which addresses the Turkish Armed Forces' current activities and advancements. Follow Army Recognition on Google News at this link

One of the notable features of the Baha UAV is its fixed-wing structure, designed to perform vertical takeoffs and landings, a departure from more traditional UAV designs. (Picture source: Havelsan)

The Baha UAVs, developed by the defense company Havelsan, are part of the Sub-Cloud UAV series, aimed at enhancing intelligence, surveillance, and reconnaissance (ISR) operations. The integration of these UAVs into the military's resources follows their initial reveal at Turkey's Anatolian Eagle 2021 Exercise and subsequent field trials that led to design adjustments in 2022. These adjustments targeted the UAVs' size, weight, and payload capacity based on operational feedback.

One of the notable features of the Baha UAV is its fixed-wing structure, designed to perform vertical takeoffs and landings, a departure from more traditional UAV designs. This capability is supported by a hybrid power system, which incorporates a petrol engine for cruising and electric motors for vertical movements.

The Baha UAVs are designed to operate at altitudes reaching 15,000 feet and have a maximum range of 80 kilometers. Their endurance varies based on the mode of engine operation, and they come with a payload capacity of 5 kg, allowing for different types of mission-specific equipment to be fitted.

Havelsan aims to enable the Baha UAVs to operate autonomously and in coordination with other unmanned systems, forming what is referred to as a "digital unit." This concept envisions a centralized control mechanism via a single ground control station, which would manage synchronized operations and communications among various unmanned vehicles. In line with this vision, Havelsan is testing autonomous capabilities and integration strategies for UAVs and unmanned ground vehicles, focusing on potential swarm operations.

**81 . Date: 15-03-2024Armed ISR / ISTAR - HALE - General - PlatformUAE's Edge Group Conducts First Test Flight of the Locally-Made JENIAH Jet-Powered DroneURL: https://www.armyrecognition.com/defense\_news\_march\_2024\_global\_security\_army\_industry/uae\_s\_edge\_group\_conducts\_first\_test\_flight\_of\_the\_locally-made\_jeniah\_jet-powered\_drone.html**

On March 15, 2024, the Edge Group marked a significant advancement in defense technology by completing the inaugural test flight of JENIAH, an unmanned combat aerial vehicle (UAV), at its comprehensive testing facility, X RANGE, in Abu Dhabi. This event underscored the UAV's sophisticated autonomous functionalities, as it achieved a remarkable velocity of 1,050 km/h during the test. Notably, JENIAH distinguishes itself as the first UAV to be equipped with a jet engine, signaling a breakthrough in aerial combat capabilities. This development positions the Edge Group at the forefront of innovative unmanned air systems, enhancing the potential for advanced operational strategies in modern warfare. Follow Army Recognition on Google News at this link

Edge Group JENIAH Unmanned Aerial Vehicle (Picture source: Army Recognition)

The JENIAH project, developed by Edge Group over three years, showcases the company's dedication to innovation in unmanned air systems and precision technology. This initiative has successfully secured several international contracts, highlighting Edge Group's globally recognized advanced capabilities and technological prowess. Powered by an undisclosed jet engine, JENIAH boasts a top speed exceeding 1,000 km/h and maintains a cruise speed at Mach 0.8, though its autonomy levels remain unspecified.

Engineered for covert operations, JENIAH is capable of performing solo or in group formations to fulfill a range of mission types, such as offensive strikes, surveillance, and providing ground support in territories heavily guarded by the enemy. This venture emphasizes the strategic value of anti-access and area denial (A2/AD) systems in controlling the contemporary battlefield's operational domain, effectively addressing the challenges posed by the swiftly changing dynamics of future warfare scenarios.

Equipped with artificial intelligence for decision-making, the specific role of this AI, whether in navigation, assault missions, or both, remains to be detailed. However, the integration of artificial intelligence aims to enhance the efficiency and precision of the missions assigned to this UAV.

JENIAH stands out with a maximum munition payload of 480 kg, a top speed of over 1,000 km/h, and a low observable design. Its ability to reach cruising speeds above 0.7 Mach at an altitude of 25,000 feet opens new possibilities for engaging strategic targets.

The ADASI Jeniah Collaborative Combat Aerial Vehicle marks a turning point in defense technology, providing a powerful platform for both land and maritime operations. With this conclusive first test flight, JENIAH positions itself as a strategic asset for armed forces, redefining combat approaches with its speed, stealth, and autonomous operational capabilities.

**83 . Date: 13-03-2024Armed ISR / ISTAR - MALE - Contract - US Bolsters Taiwan's Defense with Four MQ-9B SkyGuardian Drones Contract Amid Rising China TensionsURL: https://www.armyrecognition.com/defense\_news\_march\_2024\_global\_security\_army\_industry/us\_bolsters\_taiwan\_s\_defense\_with\_four\_mq-9b\_skyguardian\_drones\_contract\_amid\_rising\_china\_tensions.html**

The U.S. Department of Defense announced on March 12, 2024, a substantial contract awarding American Company General Atomics Aeronautical Systems Inc., based in Poway, California, up to $250,063,810 for the procurement of MQ-9B SkyGuardian unmanned air vehicles (UAVs) for Taiwan. This significant investment in Taiwan's defense capabilities comes at a time of heightened tensions in the Asia-Pacific region, particularly in relation to the increasingly assertive stance of China towards Taiwan. Follow Army Recognition on Google News at this link

An MQ-9B SkyGuardian taxis on the Grand Sky Air Park flight line on July 10, 2018, at Grand Forks Air Force Base, North Dakota. (Picture source U.S. DoD)

Under the terms of this contract, American Company General Atomics will supply the Taiwan military with four MQ-9B SkyGuardian drones, two certifiable ground control stations, alongside necessary spares and support equipment.

The MQ-9B SkyGuardian represents the cutting edge in UAV technology. Building on the legacy of the MQ-9 Reaper, the SkyGuardian boasts enhanced features such as extended flight endurance of over 40 hours, advanced all-weather capabilities enabled by its de-icing systems, and a robust suite of surveillance and reconnaissance sensors. These advancements make the MQ-9B an invaluable asset for intelligence, surveillance, and reconnaissance (ISR) missions, enabling continuous monitoring of vast areas and providing critical data for decision-making processes.

The procurement of four MQ-9B SkyGuardian drones, along with two certifiable ground control stations, spares, and support equipment, is a clear indication of Taiwan's resolve to strengthen its defense infrastructure. This UAV system will significantly enhance Taiwan's capabilities to conduct ISR missions, offering a comprehensive overview of potential threats and enabling a swift, informed response to any incursion. In the context of increasing pressure from China, which views Taiwan as a breakaway province and has not ruled out the use of force to achieve reunification, the SkyGuardian drones provide Taiwan with a heightened level of security and situational awareness.

The importance of such advanced weapons systems cannot be overstated in the current geopolitical climate. The ability to conduct prolonged surveillance and gather detailed intelligence is crucial for maintaining a stance of deterrence and ensuring national security. The MQ-9B SkyGuardian's capabilities align perfectly with Taiwan's needs to monitor its airspace and maritime approaches, areas where Chinese military activity has intensified.

Furthermore, the contract, expected to be fulfilled by August 11, 2027, not only underscores the United States' commitment to Taiwan's defense but also reflects the strategic importance of UAV technology in modern military doctrine. As tensions continue to rise in the Asia-Pacific region, the deployment of such advanced systems by Taiwan is a significant step towards maintaining peace and stability in the face of evolving threats.

This move also demonstrates the growing recognition of unmanned systems in enhancing defense capabilities, offering economies of scale in terms of cost, risk, and human life. As Taiwan integrates these advanced UAVs into its military operations, it solidifies its defense posture, ensuring that it remains well-prepared to address any challenges that may arise amidst the complex dynamics of international relations in the region.

Defense News March 2024

**84 . Date: 10-05-2023ISR / ISTAR - Small - General - PlatformDEFEA 2023: Hellenic Aerospace Industry unveils Archytas local-made latest autonomous aerial vehicleURL: https://www.armyrecognition.com/defense\_news\_may\_2023\_global\_security\_army\_industry/defea\_2023\_hellenic\_aerospace\_industry\_unveils\_archytas\_local-made\_latest\_autonomous\_aerial\_vehicle.html**

The Hellenic Aerospace Industry has unveiled its new Archytas UAV (Unmanned Aerial Vehicle) for the first time to the public at DEFEA 2023, a defense exhibition held in Athens. The Archytas drone was financed and supervised by the Greek Ministry of Finance, with the cooperation of several universities, and is aimed at the design and industrial production of autonomous aerial vehicles. Follow Army Recognition on Google News at this link

Hellenic Aerospace Industry displays Archytas UAV Unmanned Aerial Vehicle at DEFEA 2023 defense exhibition in Athens, Greece. (Picture source Army Recognition)

The Archytas drone is a fixed-wing, lift-and-cruise VTOL UAV that is designed for versatile operations, including surveillance, observation, and reconnaissance missions. The drone comes with different types of payload that can be adapted to the end user's needs, making it a valuable tool for both the military and civil protection agencies.

The drone is lightweight, with detachable wings, and is officially certified for airworthiness. It can be easily deployed from any terrain and can operate from isolated areas or ship decks. The drone also features a state-of-the-art mission gimbal Full HD camera, with a laser range finder, automatic object tracking, and embedded scene steering software.

The Archytas UAV has an encrypted datalink with embedded frequency hopping capability, ensuring that the drone's data is secure at all times. Depending on the selected payload, the drone can cover up to 300 kilometers at a cruise speed of 120 km/h and can fly for four consecutive hours. While the drone is designed to operate without armament, users can modify it to carry light weaponry up to a maximum of 14 kilograms.

The drone's vertical-takeoff-and-landing capability is provided by four electric propellers on the longitudinal beam, which links the wings to the negative-V tail. The system is further integrated with four struts to maximize flight durability by generating minimal drag. This allows the drone to reach very remote locations while also enabling it to land on the decks of large vessels without needing a runway.

The first preproduction system is expected to be integrated and manufactured by December 2023, with a first flight scheduled for March 2024. The Hellenic Armed Forces will be the first customers of the Archytas UAV, followed by other Greek civil protection agencies. The Archytas drone is a significant addition to Greece's defense capabilities, and its versatile design and capabilities make it a valuable asset for a variety of missions.

**85 . Date: 10-05-2023Loitering Munition - Mini - General - PlatformDEFEA 2023: Intracom Defense unveils ATTALUS New Era in anti-tank loitering munitionsURL: https://www.armyrecognition.com/defense\_news\_may\_2023\_global\_security\_army\_industry/defea\_2023\_intracom\_defense\_unveils\_attalus\_new\_era\_in\_anti-tank\_loitering\_munitions.html**

Intracom Defense company from Greece unveils its new anti-tank loitering munitions system called "ATTALUS" at DEFEA 2023, International Defense Exhibition that takes place in Athens, Greece. It is designed to conduct reconnaissance, surveillance, and target acquisition missions. Follow Army Recognition on Google News at this link

Greek company Intracom Defense unveils its new Attalus anti-tank loitering munition at DEFEA 2023, a defense exhibition in Athens, Greece. (Picture source Army Recognition)

The Greek company Intracom Defense is a highly acclaimed Defense Systems Company in Greece with an outstanding record of participation in domestic programs and exports to quality-driven international customers. The company utilizes high-end technologies in the design and development of advanced products in the areas of Missile Electronics, Tactical IP Communications, C4I Systems, Surveillance, Hybrid Electric Power Systems, and Unmanned Systems.

The ATTALUS loitering munition has a fixed-wing configuration, with the wings and tail section folding for storage. It features a compact design with a high degree of modularity, allowing for easy transportation and operation in various environments. The airframe of the ATTALUS is made of lightweight composite materials, which contributes to its low weight and high payload capacity.

The loitering munition is powered by an electric motor and features an endurance of up to 42 minutes, enabling it to cover a wide area during its mission. The engine is mounted at the rear of the fuselage and is propelled by a two-bladed propeller.

The Attalus anti-tank loitering munition is a state-of-the-art weapon system designed for high-precision, long-range operations against armored targets. With a length of 1.6 meters and a wingspan of 2.3 meters, the Attalus exhibits a compact and highly aerodynamic design, allowing for ease of transport and deployment in various combat situations.

Weighing in at 13.6 kg (maximum takeoff weight), the Attalus is a lightweight system that packs a potent punch. Its heart is an electric engine, which provides it with an impressive cruise speed of 85 km/h. This speed, coupled with its operational range of 50 km, ensures that the Attalus can rapidly and effectively engage targets, reducing the window of opportunity for enemy countermeasures.

One of the most noteworthy aspects of the Attalus is its ability to accelerate up to 280 km/h when on the final attack run. This high impact speed, combined with its 1.25 kg High-Explosive Anti-Tank (HEAT) warhead, allows it to penetrate up to 400 mm of Rolled Homogeneous Armor (RHA), a performance indicator that stands on par with many larger and heavier munitions.

The Attalus is equipped with a sophisticated Electro-Optical/Infrared (EO/IR) gimbal sensor, ensuring reliable target acquisition in a wide range of environmental conditions, including day/night and adverse weather scenarios. This, combined with its GNSS (Global Navigation Satellite System) & INS (Inertial Navigation System), allows for precise navigation and target engagement.

Communications capabilities are also robust, with the Attalus capable of maintaining a secure data link up to 50 km, matching its operational range. This ensures real-time information sharing and command and control, essential for modern network-centric warfare. The service ceiling of the Attalus is 1,500 meters, providing ample altitude for over-the-horizon operations and increased survivability against ground-based air defenses.

In conclusion, the Attalus anti-tank loitering munition is a compact, versatile, and powerful weapon system. Its advanced sensor suite, long-range capabilities, high impact speed, and potent warhead make it a formidable tool against armored targets. This, combined with its lightweight and compact dimensions, make the Attalus a valuable addition to any modern battlefield.

**86 . Date: 10-05-2023Market - DEFEA 2023: UMS Skeldar and Aeroservices expanding UAS partnership for Hellenic Armed ForcesURL: https://www.armyrecognition.com/defense\_news\_may\_2023\_global\_security\_army\_industry/defea\_2023\_ums\_skeldar\_and\_aeroservices\_expanding\_uas\_partnership\_for\_hellenic\_armed\_forces.html**

Aeroservices SA is now an officially appointed Service, Training & Integration Center for UMS Skeldar’s Unmanned Aircraft Systems (UAS), further enhancing the companies’ ability to meet ever-evolving customer requirements. Aeroservices and UMS Skeldar are jointly displaying the Skeldar V-200 at the DEFEA 2023 defense exhibition. Follow Army Recognition on Google News at this link

The Skeldar V-200 has been developed by UMS Skeldar, a joint venture between Saab and UMS Aero Group (Picture source: Army Recognition)

Aeroservices will provide comprehensive support, training, and integration services for the Hellenic Armed Forces, using UMS Skeldar’s UAS and related technologies as part of this partnership. The goal is to equip the Hellenic Armed Forces with the latest unmanned aircraft technology and capabilities to enhance operational readiness and effectiveness.

“We are delighted to have Aeroservices as our trusted partner in Greece,” said Richard Hjelmberg, UMS Skeldar’s Vice President of Business Development. .”Their expertise in servicing and integrating our UAS will help ensure that the Hellenic Armed Forces are equipped with the latest technology and have the necessary training to operate these systems effectively. A local partner like Aeroservices with long expertise will further boost our leading position as the preferred NATO VTOL UAS supplier”.

UMS Skeldar is the choice for Rotary UAS for defense applications and has proven its wide range of capabilities in real-life operational scenarios. Its wide range of applications and the possibility to integrate the latest generations of mission-specific payloads like naval patrol radars or anti-submarine warfare (ASW) systems combined with the Skeldar V-200’s fully-developed ship automatic take-off and landing are attributes that enable it to meet the strict demands of modern Navy s requirements. Its Detect and Avoid Programme (DAA), unique in the Skeldar V-200’s sector, will contribute to enabling future use cases for land operations.

“Our partnership will allow Aeroservices to provide our customers with the best UAS tactical solutions to meet the operational requirements of customers and ensures their success. We are honored to have been appointed by UMS Skeldar as their service, training, and integration provider in Greece”, said Dimitrios Dafnis, CEO of Aeroservices SA. ”Our latest partnership represents a significant step in the ongoing efforts of UMS Skeldar and Aeroservices Greece to expand their presence and capabilities in the region. Both companies are committed to delivering innovative solutions and exceptional local customer service”.

“Our partnership will allow Aeroservices to provide our customers with the best UAS tactical solutions to meet the operational requirements of customers and ensures their success. We are honored to have been appointed by UMS Skeldar as their service, training, and integration provider in Greece”, said Dimitrios Dafnis, CEO of Aeroservices SA (Picture source: UMS Skeldar)

Aeroservices SA is a Greek company that provides comprehensive aviation services, including aircraft maintenance, repair, and overhaul (MRO), aircraft management, airworthiness management, and technical support services. With a specialization in helicopters and rotary-wing aircraft, Aeroservices SA offers a wide range of solutions to meet the needs of its customers in the private and public sectors. The company is committed to delivering high-quality services and support to its customers and is focused on expanding its capabilities and presence in the aviation industry.

UMS Skeldar is a VTOL UAS manufacturer uniquely offering a two Unmanned Aircraft (UA) portfolio to meet the needs of a range of military, civil, and commercial applications. From surveillance and reconnaissance to search and rescue, UMS Skeldar’s UASs offer reliable and practical solutions to meet the most demanding maritime or overland operational requirements. With a focus on innovation, reliability, and quality, UMS Skeldar is committed to delivering advanced technology and exceptional service to its customers worldwide.

The Skeldar V-200 has been developed by UMS Skeldar, a joint venture between Saab and UMS Aero Group. The drone has a length of 4.5 meters, a wingspan of 5.4 meters, and a maximum takeoff weight of 235 kg. It is powered by a rotary engine and has a maximum speed of 130 km/h. The UAV can fly at an altitude of up to 3,500 meters and has an endurance of up to 5 hours, depending on the mission and payload.

The Skeldar V-200 is equipped with a range of sensors and payloads, including electro-optical and infrared cameras, synthetic aperture radar, and electronic warfare systems. It can be operated from both land and naval platforms, and can be launched and recovered using a variety of methods, including a standard NATO landing grid, a shipborne landing and recovery system, and a net recovery system.

Defense News May 2023

**87 . Date: 21-05-2023Loitering Munition - Mini - General - PlatformFEINDEF 2023: Spanish Company ARQUIMEA's Q-SLAM-40 loitering munition ready for productionURL: https://www.armyrecognition.com/defense\_news\_may\_2023\_global\_security\_army\_industry/feindef\_2023\_spanish\_company\_arquimea\_s\_q-slam-40\_loitering\_munition\_ready\_for\_production.html**

The Q-SLAM-40 loitering munition, designed and developed by the Spanish Company ARQUIMEA, is now ready for production. During FEINDEF 2023, a defense exhibition held in Madrid, Spain, the Spanish company displayed its new loitering munition as well as other defense products including TECHFIRE, a firing control system for mortars and artillery, BC-LITE, a ballistic calculator for mortars, eCOMPASS digital goniometer that improves accuracy and reduces aiming time to 50 seconds, mCOUNTER mortar firing counter, to improve maintenance and safety, and SHEPHERD-MIL ADVANCED, the surveillance drone shaped like a bird of prey. Follow Army Recognition on Google News at this link

The Q-SLAM-40 loitering munition consists of three main components: the portable pneumatic tube launcher, the aerial platform drone, and the ground control system which includes an antenna and a rugged tablet. (Picture source Army Recognition)

The Q-SLAM-40 loitering munition, also known as a suicide drone or kamikaze drone, is a weapon system category in which the munition loiters around the target area for some time, searches for targets, and attacks once a target is located. These devices are designed to strike at a moment's notice, and they can also be recalled if the target disappears or if the mission is aborted.

Q-SLAM-40 is a tactical loitering system designed to perform diverse types of short-range operations, including protection, surveillance, reconnaissance, target acquisition, or damage assessment, safely and efficiently. The loitering system has been designed to tackle complex combat environments in special or conventional operations on the field or from fixed defensive positions.

The Q-SLAM-40 loitering system can be used to perform different types of operations, from protection and surveillance to reconnaissance and target acquisition. The pilot can control the platform and abort the mission or redirect it safely if necessary.

The Q-SLAM-40 loitering munition consists of three main components: the portable pneumatic tube launcher, the aerial platform drone, and the ground control system which includes an antenna and a rugged tablet. The whole system weighs 28 kg and is carried by a two-man team. One of them carries two munitions while the second carries the launcher, the antenna, and the radio link, and the tablet-based ground control station. The loitering munition of the Q-SLAM-40 is launched with the help of a pneumatic launcher tube, which offers the power to launch the drone. The launcher tube can be used to launch several drones. A single compressed air bottle can be used to launch three drones. The pneumatic launcher tube has a low thermal and acoustic signature, enabling multiple launches.

Close view of the Q-SLAM-40 loitering munition drone. (Picture source Army Recognition)

The Q-SLAM-40 loitering munition drone operates electrically, driven by a two-blade propeller located at the rear end of the fuselage. Its airframe, the aerial platform, has a design featuring foldable wings for effortless transportation and swift deployment. There are two wings positioned at the top front and another pair at the rear bottom of the fuselage. The drone's nose can accommodate various types of warheads.

Equipped with a Sony IMX290LQR-C camera, the Q-SLAM-40 drone provides High Definition video output, and an InfraRed camera can be fitted upon request. The optronic sensor not only ensures the operator can positively identify targets before an attack but also permits remote operation of the system in scenarios where GNSS (Global Navigation Satellite System) is inaccessible. This is achievable due to the two-way high-speed data link functioning in the 2.4 GHz band, with standard navigation relying on GNSS signals.

The Q-SLAM-40 loitering munition drone is operated thanks to the use of a rugged tablet. (Picture source Army Recognition)

Thanks to the ground control system, the operator controls the system and can safely abort the mission if necessary. The operator can view real-time video through the ground control station and can input the data of the target before take-off or change it by visual detection during the flight, ensuring full mission control.

In terms of technical features, the Q-SLAM-40 loitering munition has flight endurance from 12 to 15 minutes with a range from 6 to 15 km. It can fly at speeds from 72 to 90 km/h with a diving phase speed of 126 km/h. It can be operated at an altitude of up to 2,000 m and from 20 to 200 m during the attack phase.

**88 . Date: 25-11-2023ISR / ISTAR - Tactical - Contract - Luxembourg delivers to Ukraine six Czech-made Primoco One 150 dronesURL: https://www.armyrecognition.com/defense\_news\_november\_2022\_global\_security\_army\_industry/luxembourg\_delivers\_to\_ukraine\_six\_czech-made\_primoco\_one\_150\_drones.html**

According to information obtained by Army Recognition from the Luxembourg Ministry of Defense, six Czech-made Primoco One 150 UAVs (Unmanned Aerial Vehicles) were delivered to Ukraine by Luxembourg. These drones were purchased by Luxembourg as part of military aid to the Ukrainian armed forces following the invasion of the country by Russian troops. Follow Army Recognition on Google News at this link

Primoco One 150 drone at IDET defense exhibition in Czech Republic, May 2019. (Picture source Army Recognition)

Citing open source information, Luxembourg has already delivered to Ukraine military equipment and combat vehicles including HUMVEE tactical vehicles, NLAW guided missiles, night vision systems, military tents, generators as well as ammunition including 122mm rockets for BM-21 MLRS (Multiple Launch Rocket System), RPG-7 rockets, and 12.7mm rounds.

The Primoco One 150 is a medium-sized UAV (Unmanned Aerial Vehicle) developed and manufactured by the Czech company Primoco UAV. The drone is designed to perform surveillance and reconnaissance missions. The drone successfully conducted its first flying test for military applications in September 2020.

Citing information from Army-Technology website, the Primoco One 150 UAV can be equipped with military communication systems and an electro-optical reconnaissance system. It features a radio station from L3Harris and ANW2C datalinks from Persistent Systems. It also features a gimbal-mounted Epsilon 180 full HD electro-optical (EO)/middle wavelength infrared (MWIR) observation unit, SD thermal imaging channel in the MWIR band, and a laser rangefinder.

The Primoco One 150 features tail booms and wings mounted on the upper part of the fuselage. The drone is based on a fully composite airframe and has fixed tricycle-type landing gear. It has a length of 3.65 m, a wingspan of 4.85 m, and a height of 1.25 m. The maximum take-off weight (MTOW) of the UAV is 150 kg and the maximum payload capacity is up to 30 kg.

The Primoco One 150 is powered by a 340 four-stroke, four-cylinder, fuel injection piston engine with two propellers located at the rear of the fuselage. It has a flight time of up to 15 hours, a range from the ground station of up to 200 km, and an overall distance covered of up to 2,000 km.

The Primoco One 150 is operated by remote control during each phase of flight, but additionally, the integrated auto-pilot system means that it is capable of fully automatic take-off and landing, and fully autonomous flight plan execution. Its short runway length of 300 meters provides customers with the capability to execute aerial missions from remote locations and limited airport facilities.

**89 . Date: 27-12-2023Loitering Munition - General - SoftwareRussian forces in Ukraine use drone with Artificial Intelligence technology to detect high-value targetsURL: https://www.armyrecognition.com/defense\_news\_november\_2022\_global\_security\_army\_industry/russian\_forces\_in\_ukraine\_use\_drone\_with\_artificial\_intelligence\_technology\_to\_detect\_high-value\_targets.html**

Russian armed forces deployed in Ukraine use drones with onboard Artificial Intelligence (AI) systems able to detect and identify high-value targets and more particularly the military equipment delivered by the United States and the allied countries. Follow Army Recognition on Google News at this link

A Russian-made Zala Aero KUB-BLA was shot down in Ukraine. (Picture source Twitter account Rob Lee)

Citing information published by the Russian defense company ZALA Aero which is part of the Kalashnikov Group unveiled in August 2019, the latest technologies of Intelligence Artificial (IA) able to detect and identify modern military equipment are integrated into drones.

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems which are able to process large quantities of information that humans can't manage.

Many foreign military forces have developed artificial intelligence (AI) algorithms to spot hidden targets using reconnaissance pictures. The biggest issue in using this technology is learning, which requires a large amount of digital data to increase the quality of information.

The AI system integrated into Russian drones uses modular cameras to detect and identify military objects by class and type in real time. The AI technology increases the area covered during a single flight by 60 times and improves the drone’s real-time lethality and autonomy. The collected data are immediately transferred to the operator on the ground.

According to pictures released on the Internet and Social Networks, Russian armed forces have used Kub loitering munition to conduct reconnaissance and attack missions against Ukrainian armed forces.

Citing information from the Russian press agency TASS, since September 2022, the Russian army has begun to actively use unmanned aerial vehicles from ZALA Aero. in the war in Ukraine, Russia’s kamikaze drones KUB and Lancet are widely used in combat operations in Ukraine, and have successfully demonstrated their properties in combat conditions. These types of drones were mainly used to destroy land targets.

The Lancet UAV is equipped with several types of guidance systems: coordinate optoelectronic and combined. The drone has a television communication channel that transmits an image of the target, which allows getting a confirmation the target has been hit. The drone is capable of destroying targets at a range of up to 40 km. Its maximum takeoff weight is 12 kg.

The KUB-BLA is a loitering munition that was unveiled in February 2019 during IDEX, a defense exhibition in the United Arab Emirates. The drone can be fitted with different types of payloads weighing 3 kg that could include cameras or an explosive warhead.

The KUB-BLA is electrically powered by a single motor. It can reach a maximum flight speed of 130 km/h. The drone has a flight endurance of 30 minutes and can hit targets at a range of up to 40 km.

**90 . Date: 20-11-2023General - French Defense project ASSYDUS aims to saturate enemy radars with swarms of dronesURL: https://www.armyrecognition.com/defense\_news\_november\_2023\_global\_security\_army\_industry/french\_defense\_project\_assydus\_aims\_to\_saturate\_enemy\_radars\_with\_swarms\_of\_drones.html**

It is probably easier to saturate an enemy's air defense with a swarm of drones than to deceive it, as the concept of Radar Cross Section (RCS) comes into play, according to Laurent Lagneau in Opex360. Hence, the ongoing work under the auspices of the Defense Innovation Agency (AID) as part of the ASSYDUS project (Autonomous System for Decoying Using UAV Swarms), in collaboration with Thales DMS France SAS and the Bordeaux Laboratory for Computer Science Research. Follow Army Recognition on Google News at this link

One of the applications of ASSYDUS would be to send the drones separately toward an air defense system and then gather them into a swarm to obtain the radar cross-sectional area of a fighter-bomber (Picture source: Army Recognition)

The principle, approved by operational experts, is to ensure that drones operating in a swarm can position themselves to achieve a radar cross-sectional area equivalent to that of an aircraft or combat drone in order to deceive the radar of an enemy air defense system. While the capabilities of a single drone may be limited in terms of payload weight, dimensions, etc., the use of multiple collaborative drones forming a swarm extends the airborne capabilities of the system, while being perceived as a single entity (such as an aircraft) by the radar operator.

Studies conducted so far have used autonomous multi-rotor drones. Their initial results are promising since the teams involved in this project have managed to achieve the desired radar cross-sectional area and model this area using a swarm following the types of drones it consists of and their positions, Laurent Lagneau reports.

One of the applications of ASSYDUS would be to send the drones separately toward an air defense system and then gather them into a swarm to obtain the radar cross-sectional area of a fighter-bomber.

This project is reminiscent of an experiment conducted in 2020 by the Rapid Capabilities Office of the Royal Air Force. This experiment involved flying a swarm of drones, some of which were equipped with a BriteCloud electronic warfare module to deceive and saturate radars representative of an enemy air defense system. The BriteCloud system is a digital radio frequency memory (DRFM) device that records radio-electric signals in order to modify and retransmit them to distort the data received by a radar.

Defense News November 2023

**91 . Date: 22-11-2023Loitering Munition - Small - General - PlatformIran officially unveils new jet-powered Shahed-238 droneURL: https://www.armyrecognition.com/defense\_news\_november\_2023\_global\_security\_army\_industry/iran\_officially\_unveils\_new\_jet-powered\_shahed-238\_drone.html**

Iran's Ashura University of Aerospace Sciences and Technologies has publicly introduced its new jet-powered strike drone, the Shahed-238. Images of the new drone were released by official Iranian media on November 20, 2023. Follow Army Recognition on Google News at this link

The exhibition featured a jet-powered modification of the Shahed-136, named Shahed-238, available in three versions with different guidance system (Picture source: video footage from Iranian Media)

The unveiling took place during the visit of the country's Supreme Leader, Ayatollah Khamenei, to the university in Tehran, where the latest aerospace achievements of the Islamic Revolutionary Guard Corps were revealed.

The exhibition featured a jet-powered modification of the Shahed-136, named Shahed-238, available in three versions with different guidance systems. In addition to the standard model with an autonomous guidance system based on inertial navigation and GPS signals (middle version), variants with infrared/optical and presumably radar guidance systems were also displayed.

The version with the infrared/optical guidance system is designed to strike heat-contrast targets, especially crucial military equipment in the enemy's rear.

The drone with its radar guidance head could serve as an analogy to anti-radar missiles that target emissions from search radars. This capability might be effective in neutralizing and breaching enemy air defense systems.

The fuselages of all three drones are unusually black for Iranian UAVs, suggesting the use of radar-absorbing materials, although there is no official confirmation yet. It's noteworthy that these drones have undergone design modifications compared to the recently displayed prototype, in which the optical station was mounted under the fuselage at the front.

However, the technical specifications of the Shahed-238 remain unknown. Its jet engine is expected to provide high speed but at the cost of a reduced flight range. During the prototype demonstration, a launch from a moving vehicle was shown. However, like its predecessor, the Shahed-136, the drone is expected to retain the capability of being launched from a stationary platform using a solid-fuel booster.

The earlier prototype with an optical guidance station was manually operated by a controller, limiting its range and requiring relay stations near the target. However, the newly presented versions of the drones, with their guidance heads, appear to be capable of autonomously navigating to their targets.

**94 . Date: 16-11-2023Armed ISR / ISTAR - Small - General - PlatformMilipol 2023: Polish Maddos company displays innovative VTOL Quadcopter UAVURL: https://www.armyrecognition.com/defense\_news\_november\_2023\_global\_security\_army\_industry/milipol\_2023\_polish\_maddos\_company\_displays\_innovative\_vtol\_quadcopter\_uav.html**

At the Milipol 2023 defense exhibition in Paris, the Polish Maddos company, a highly versatile and powerful Vertical Take-Off and Landing (VTOL) quadcopter drone, was showcased, drawing significant attention from both military and civilian sectors. This ready-to-fly platform is designed to execute a variety of automatic or manual missions, making it a standout in both its design and capabilities. Follow Army Recognition on Google News at this link

Maddos UAV is equipped with navigation payloads like LIDAR for autonomous takeoff and landing, GNSS-aided INS for navigation in GPS-denied areas, and an ADS-B module for real-time airspace monitoring. (Picture source: Army Recognition)

The Maddos UAV's VTOL configuration allows it to take off and land almost anywhere, even in strong wind conditions, eliminating the need for a runway. This feature significantly enhances its operational flexibility, especially in challenging terrains or emergency situations. The drone's carbon fiber construction not only ensures durability but also keeps it light, aiding in its agility and performance.

One of the most notable features of the Maddos UAV is its high payload and fuselage capacity, which can carry up to 25kg. This allows the UAV to be equipped with multiple advanced on-board sensors, making it ideal for a wide range of applications including surveillance, border control, search and rescue, agriculture, public safety, and firefighting.

The drone offers up to 10 hours of flight time, ensuring extended operations for missions like reconnaissance, intelligence gathering, and law enforcement activities. Its modular design facilitates fast field assembly, crucial for operations requiring quick deployment.

In terms of communication and navigation, the Maddos UAV is equipped with a long-range data link of over 150 km Line of Sight (LOS), advanced autopilot features with triple redundancy and a custom user interface. The onboard black box ensures reliable operation and data recording. The UAV operates on a mesh network and features encrypted communication links (AES-128/ AES-256), ensuring secure and uninterrupted operations.

The Maddos UAV series includes different models like the 350e and 600h, each designed to cater to specific operational needs. The 350e, with a wingspan of 3.5m, offers up to 3 hours of endurance, while the 600h, with a 6m wingspan, can fly for over 10 hours. Both models are equipped with advanced gimbal cameras featuring EO + IR integrated sensors, object detection and tracking, and on-board recording capabilities.

Additionally, the Maddos UAV is equipped with navigation payloads like LIDAR for autonomous takeoff and landing, GNSS-aided INS for navigation in GPS-denied areas, and an ADS-B module for real-time airspace monitoring. The robust ground control station features sun-readable touch screens, an antenna tracker, and remote video terminals, ensuring efficient and effective mission control.

With its advanced features and versatile capabilities, the Maddos UAV is set to become a crucial asset in a variety of fields, offering a new level of efficiency and effectiveness in UAV operations.

**95 . Date: 20-11-2023Loitering Munition - Small - General - PlatformRussia Introduces Izdeliye-53 Z-53 Kamikaze Drone with Automatic Guidance SystemURL: https://www.armyrecognition.com/defense\_news\_november\_2023\_global\_security\_army\_industry/russia\_introduces\_izdeliye-53\_z-53\_kamikaze\_drones\_with\_automatic\_guidance\_system.html**

In a significant development in military drone technology, Russian forces have reportedly started deploying a new version of the “Lancet” kamikaze drone, known as the “Izdeliye-53 or Z-53” According to Russian sources, the use of these advanced drones commenced in October 21, 2023. Follow Army Recognition on Google News at this link

The design of the Z-53 is similar to the Lancet kamikaze drone but fitted with an automatic guidance system. (Picture source Aeroscan)

The “Izdeliye-53” or “Z-53” is distinguished by its automatic guidance system, which is capable of autonomously identifying and distinguishing between different types of targets, potentially increasing the accuracy and success rates of strikes.

The introduction of the Izdeliye-53 or Z-53 drone represents a notable advancement in unmanned aerial warfare. This drone is equipped with a sophisticated guidance system that allows it to autonomously select and engage targets, a feature that marks a significant step forward from earlier models. While the full capabilities of the drone are not yet publicly known, the reported ability to autonomously identify targets suggests a high level of technological sophistication.

The Izdeliye-53/Z-53 was unveiled at the Army-2023 defense exhibition near Moscow in August 2023. A promotional video released by the manufacturer highlights the drone's unique geometric design, featuring four large wings mounted at 45-degree angles on the front, a departure from the traditional X configuration. These wings unfold during launch, and notably, the drone lacks rear stabilizer winglets. Propelled by a rear-facing propeller, the Izdeliye-53 is equipped with a prominent, downward-facing camera that plays a crucial role in environmental mapping and target acquisition.

With a payload capacity of up to five kilograms, the Z-53 is engineered to operate in swarms, communicating and coordinating among themselves to locate and designate various ground targets. These targets range from enemy anti-aircraft and rocket artillery positions to armored units. This represents a significant advancement from the current-generation Lancet drones.

In terms of deployment, the Z-53 drones differ markedly from their predecessors. Instead of being launched from specialized pneumatic rails, they are released from compact, ground-based tubes, akin to mortar systems. This design allows for ease of transport and deployment, as the drones can be carried either in their tube launchers or in 2x2 battery formations using light vehicles. The multifunctional transport tubes serve not only for storage and transportation but also as the launch mechanism for the UAVs, eliminating the need for field assembly.

As of now, the deployment of the “Izdeliye-53” drones is not widespread. Russian sources indicate that the current use is primarily for testing purposes, particularly for assessing their effectiveness in mass synchronized swarm strikes. This strategy could potentially allow for overwhelming air defenses through sheer numbers and coordinated attacks.

Furthermore, the Institute for the Study of War (ISW) reported on October 24 that Russian forces allegedly used another new drone, the “Italmas” (also known as “Izdeliye-54”), during a strike in Kyiv Oblast. This suggests a broader strategy of integrating more advanced unmanned systems into Russian military operations.

The ISW has also assessed that the Russian command might be banking on the use of a large number of strike drones to overpower Ukrainian air defenses. However, there are concerns about the effectiveness of these drones against critical military targets, given their relatively small payload capacity, reportedly between three and five kilograms.

This development in drone warfare indicates a shift in military tactics, with a growing reliance on unmanned systems for precision strikes. The effectiveness of these new drones, particularly in terms of their impact on the ongoing conflict and their ability to challenge existing defense systems, remains to be seen.

Defense News November 2023

**98 . Date: 06-10-2023Armed ISR / ISTAR - N/A - General - PlatformChina showcases new military UAVs at 2023 Drone Industry Development Conference in MianyangURL: https://www.armyrecognition.com/defense\_news\_october\_2023\_global\_security\_army\_industry/china\_showcases\_new\_military\_uavs\_at\_2023\_drone\_industry\_development\_conference\_in\_mianyang.html**

On October 4, 2023, the Drone Industry Development Conference took place in Mianyang, Sichuan, a city known as China's "City of Technology." The event attracted nearly 100 domestic companies specializing in drone research, development, and production. These companies showcased over 300 drone exhibits with applications across various sectors, including meteorological monitoring, geological exploration, and the military. Follow Army Recognition on Google News at this link

Drone Industry Development Conference took place in Mianyang, Sichuan, a city known as China's "City of Technology." Top: Twin-Tail Scorpion; Middle: Storm 4; Bottom: CW-15 (Picture source: China Social Media)

One of the key trends observed at the conference was the shift towards precision and lightweight design in military drones. Carbon fiber and other lightweight materials are increasingly being used to enhance portability.

Among the drones introduced was the "Twin-Tail Scorpion," a drone with a height of 3.1 meters and a wingspan of 20 meters. This drone can stay airborne for over 35 hours and comes equipped with two airborne base stations to provide reliable and comprehensive network services on the ground. Notably, this drone was deployed during the 2022 Luding earthquake rescue operation, where it accumulated 32 hours of flight in the three days following the quake, ensuring vital network communication for disaster relief efforts.

Another drone presented was the "Storm 4," which incorporates the country's top-flight control law design technology to enhance its flight stability. This drone is capable of executing dangerous tasks in scenarios like maritime monitoring and electronic pod hanging flights.

Additionally, the CW-15 drone was showcased, featuring a fully independent navigation, obstacle avoidance, and emergency handling system. This drone's autonomous control enables faster and more stable flights, even under challenging conditions like low temperatures, high altitudes, and stormy weather.

**99 . Date: 31-10-2023Loitering Munition - Mini - General - PlatformIran tests Sina loitering munition copy of American-made Switchblade 300URL: https://www.armyrecognition.com/defense\_news\_october\_2023\_global\_security\_army\_industry/iran\_tests\_sina\_loitering\_munition\_copy\_of\_american-made\_switchblade\_300.html**

According to information released by the Tasnim News Agency on October 28, 2023, the Iranian Army Ground Force successfully executed a series of precision strikes using indigenously developed Sina and Fateh loitering munitions during the Eqtedar (Power) 1402 war game. The Sina appears to be a copy of the American-made Switchblade 300. Follow Army Recognition on Google News at this link

Iranian army conducts its first launch tests with Sina loitering munition during a military exercise. (Picture source FARNEWS)

The war game, which involved complex maneuvers and strategic operations, was particularly notable for the effective deployment of Sina and Fateh, two types of Iranian-made loitering munitions, also known colloquially as suicide or exploding drones. These advanced weapons systems demonstrated their efficacy by accurately destroying both fixed and moving ground targets within a range of 10 kilometers.

The Sina and Fateh munitions represent a significant leap in Iran's military technology. Equipped with warheads ranging from 300 to 1,000 grams, these drones are capable of loitering passively in the air for durations of 10 to 15 minutes. This feature allows them to survey a specific area meticulously before identifying and striking various targets, including enemy gatherings, with remarkable precision during ground combat scenarios.

The design of the Iranian-made Sina loitering munition appears to be very similar to the American-made Switchblade 300, which is equipped with small wings located at the front and rear bottom parts of the main fuselage. During the launch phase from the tube-launcher, the wings are deployed and the munition is propelled by an electric motor mounted at the rear of the fuselage.

The range of the 'Sina' loitering suicide missile is 5 km, and its flight duration is 8 minutes. This missile can target gatherings of enemy infantry units and vehicles. It is powered by an electric motor, and its warhead type is EFP (Explosively Formed Penetrator) shrapnel, which can be guided both manually and automatically.

The successful deployment of these homegrown weapons during the Eqtedar 1402 exercise sends a strong message about Iran's growing self-reliance in defense technology. The ability to develop and effectively utilize such advanced systems indicates a significant enhancement in the country's strategic and tactical capabilities.

As the Iranian Army continues to refine and expand its arsenal with domestically produced weapons, the Eqtedar 1402 war game stands as a testament to the nation's determination to fortify its defense mechanisms. This development is likely to have considerable implications for regional security dynamics and Iran's role as a key military player in the Middle East.

Iranian-made Sina loitering munition. (Picture source Internet)

American-made Switchblade 300 loitering munition. (Picture source Army Recognition)

Defense News November 2023

**102 . Date: 11-09-2023Cargo - Requirement - Australian army to get various logistical drones for supply missionsURL: https://www.armyrecognition.com/defense\_news\_september\_2023\_global\_security\_army\_industry/australian\_army\_to\_get\_various\_logistical\_drones\_for\_supply\_missions.html**

The arrival of your next batch of ammunition or rations via drones may become a reality in as little as a couple of years, following the awarding of innovation contracts aimed at developing uncrewed aerial systems for tactical logistics. These contracts were granted in August, after companies successfully presented their concepts at Army Innovation Day 2022. Follow Army Recognition on Google News at this link

The Sky Ranger R70 unmanned aerial system operating at RAAF Base Darwin, NT, in 2022 (Picture source: Australian MoD/Leading Aircraftman Sam Price)

In the medium-lift category, Jabriu Aircraft emerged as the chosen candidate with its coaxial quadcopter. This innovative quadcopter aims to transport a 50kg payload within an Army trunk. The design employs two large coaxial rotors for lift, complemented by four smaller rotors on the sides to maneuver the craft—all powered by a four-cylinder petrol engine. Jabriu's Executive Director, Michael Halloran, explained that the quadcopter is designed to grasp the trunk's handles, carry it up to 150km, and then deposit it. However, it offers flexibility to trade payload for extended range: "If we want to cover more distance, we can simply carry less payload and more fuel." The goal is for the design to be cost-effective enough for mass production and capable of autonomously flying between waypoints set by an operator. Proof of concept flights have been conducted, and a full-scale prototype is expected to take flight by the end of the following year.

In the heavy lift category, Geodrones presented a hybrid-powered coaxial design for development. With an estimated weight of approximately 3 tonnes and the ability to lift up to 1,000kg, this design aims to facilitate the movement of heavy loads between units or from ship to shore. The concept design has recently been completed, and a demonstration with the Army is anticipated in about 18 months. The craft is equipped with a radial engine for a range of 300km, but it can switch to electric propulsion for silent descent. Glenn Alcock, CEO of Geodrones, explained, "That allows us to glide quietly during descent, turning off the engines and relying on electrical power."

Crystalaid, also selected for the heavy lift category, is developing an eight-rotor, turbine-powered UAV with a planned lift capacity of over 800kg. Crystalaid Director Ross McKinnon highlighted the redundancy in the craft's systems, which allows it to continue flying even after losing certain components, including rotors. Some rotors provide lift, while others control direction, ensuring the craft maintains a level orientation during movement, unlike traditional helicopter designs. "When transporting casualties or containers, maintaining a stable position is crucial," said Mr. McKinnon. A smaller demonstration model is expected within 15 months, and there is consideration of making the craft fully autonomous. The goal is to enhance logistics capability while maintaining the same number of personnel, allowing warfighters to request container deliveries from any mobile device in communication-challenging environments.

Over the next two years, the Australian Army will collaborate with each of these companies to advance logistic UAS technologies, enabling the delivery of combat supplies to soldiers operating in restricted or high-risk environments. Crystalaid and Jabiru are set to demonstrate their technology to Defense in late 2024, while Geodrones will present its capabilities in early 2025.

Defense News September 2023

**103 . Date: 22-09-2023Cargo - MALE - General - PlatformAvidrone introduces 740T UAV for automated heavy cargo deliveryURL: https://www.armyrecognition.com/defense\_news\_september\_2023\_global\_security\_army\_industry/avidrone\_introduces\_740t\_uav\_for\_automated\_heavy\_cargo\_delivery.html**

Avidrone Aerospace, a Canadian company, has recently unveiled a new fleet of unmanned aerial vehicles (UAVs) designed to offer advanced capabilities in automated long-range flight and heavy lifting. These UAVs are equipped with features such as heavy lift capabilities, autonomous flight systems, proprietary autopilot technology, and advanced VTOL (Vertical Take-Off and Landing) capabilities. Avidrone aims to provide innovative solutions for industrial and defense-related missions, including automated cargo transport and critical supply deliveries to remote and time-sensitive locations. Follow Army Recognition on Google News at this link

The 740T has a maximum payload capacity of 227 kg for a range of 724 km (Picture source: Avidrone Aerospace)

For over a decade, Avidrone Aerospace has been involved in supplying unmanned aircraft to governments, defense organizations, and commercial entities. The company specializes in cargo delivery technologies and sensor payloads, aiming to deliver cost-effective solutions globally. With a team of aviation experts and technology innovators, Avidrone develops and manufactures a wide range of automated unmanned aircraft systems, catering to various needs from small UAVs to rotorcraft weighing over 1,000 pounds, emphasizing airframe design and flight control software.

A notable feature of Avidrone's new UAV fleet is the tandem rotor configuration, which enhances stability and efficiency. This design allows these UAVs to carry advanced payload capacities, perform vertical take-offs and landings, and achieve high-speed cruising. Avidrone has also introduced the Avidrone Remote Drop System, which enables fully automatic package delivery and includes an airdrop parachute cargo system for mission versatility.

Avidrone's proprietary autopilot system is highly configurable, making it suitable for applications requiring automated cargo delivery, long-range cruise flights, and precision surveillance missions. Designed for non-aviation operators, the flight control system ensures safe and secure coordinated flights, even beyond visual line of sight (BVLOS) operations.

The G4 Autopilot, featuring a secure proprietary operating system, multi-user and multi-vehicle control capabilities, and fluid flight path dynamics, is designed to facilitate BVLOS operations for a variety of missions.

One of Avidrone's flagship offerings is the 740T Long-Range Autonomous Cargo Delivery UAV, powered by a heavy fuel turbine engine. This UAV boasts an impressive maximum range of 724 km, a maximum cargo payload of 227 kg, and fully automated pilotless control, making it suitable for point-to-point flights and achieving significant cost savings compared to manned helicopter operations. Its modular cargo bay and automated payload release further enhance its adaptability.

The development timeline of the 740T includes key milestones, from its initial concept in 2018 to successful prototype manufacturing in 2019, followed by fully automated flights in 2020. The year 2021 marked the evolution of the 740T, with the launch of a second-generation project building on past successes. In 2022, the advanced design stage focused on innovative aerospace design, leading up to its official launch and pre-orders in 2023. The subsequent years, 2024 and 2025, will involve manufacturing and aircraft launch, including initial production, certification flights, and entry into service.

The specifications and capacities of the 740T drone are impressive, featuring a maximum payload capacity of 227 kg, a range exceeding 724 km, endurance of over 4.5 hours, and a top speed of 185 km/h. It has a gross weight of 600 kg and weighs 314 kg when unloaded. The propulsion system is certified for various fuel types, including heavy fuel, diesel, Jet A, JP5, and JP8 fuels, with a fuel capacity of 364 liters. The drone's dimensions include a length of 7.4 m and rotor diameters of 4.4 m. It can operate at altitudes of up to 5,500 m and is fully unmanned with autonomous navigation capabilities.

Avidrone places a strong emphasis on data security, employing encrypted, proprietary, and failsafe systems. It can operate in temperatures ranging from -30°C to +50°C and is equipped with safety features such as autorotation, a ballistic parachute, alternative landing zones, and geo-fencing. Furthermore, it is easily transportable via ground transportable trailers, trucks, or sea containers, enhancing its mobility and versatility.

With payload examples ranging from custom waterproof containers to steel drums, drill rods, fire hoses, evacuation stretchers with a wounded person, wooden pallets, portable jerricans of water, and portable generators, the Avidrone 740T has the potential to bring about significant changes in cargo transportation and delivery for both industrial and defense sectors.

**104 . Date: 13-09-2023ISR / ISTAR - Small - General - PlatformDSEI 2023: Rheinmetall Unveils LUNA NG Drone with VTOL CapabilitiesURL: https://www.armyrecognition.com/defense\_news\_september\_2023\_global\_security\_army\_industry/dsei\_2023\_rheinmetall\_unveils\_luna\_ng\_drone\_with\_vtol\_capabilities.html**

At the DSEI 2023 International Defense Exhibition in London, German Company Rheinmetall unveils its latest tactical drone, the LUNA NG (Next Generation). This event, held from 12 to 15 September 2023, marked the UK debut of the LUNA NG in its Combat Drone configuration, emphasizing its potential for future target engagement. The drone's upcoming vertical take-off and landing (VTOL) feature was also highlighted. Follow Army Recognition on Google News at this link

German Company Rheinmetall unveils its new Luna NG Next Generation UAS Unmanned Aerial System. (Picture source Army Recognition)

The recent conflict in Ukraine underscores the significance of real-time reconnaissance data for operational forces. LUNA NG is primarily designed as a long-range tactical reconnaissance drone, offering immediate data for target identification and battle damage evaluation. This system blends battlefield expertise with cutting-edge technology.

Mounted on a Rheinmetall HX truck, the LUNA NG boasts impressive mobility. This drone can stay airborne for 12 hours and has a digital communication range of up to 150 km. With a satellite communication option, its datalink range becomes limitless. The drone can also function as a ComRelay station for tactical communication networks. Its versatility is evident in its ability to carry payloads over 30kg, making it one of the most adaptable systems in its category, suitable for diverse missions.

A displayed VTOL kit at Rheinmetall's stand reveals LUNA NG's potential to further minimize its operational footprint. The drone also serves as the foundational platform for the Rheinmetall Combat Drone, capable of target engagement with a variety of ammunition options.

In August 2023, the LUNA NG drone achieved a significant milestone, with plans for deployment in Ukraine soon. Set for delivery in 2023, the LUNA NG units for Ukraine are part of a comprehensive military aid package from the German government, initiated in July 2023. This order solidifies Rheinmetall's position in the UAV sector and aligns with the company's digital transformation goals. The LUNA NG enhances the sensor-to-shooter chain's efficiency as an advanced sensor component for networked operations. Germany is also adopting the LUNA NG as its primary tactical reconnaissance drone.

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**106 . Date: 28-09-2023ISR / ISTAR - Mini - Contract - German Special Forces to get 14 Quantum Systems Vector reconnaissance dronesURL: https://www.armyrecognition.com/defense\_news\_september\_2023\_global\_security\_army\_industry/german\_special\_forces\_to\_get\_14\_quantum\_systems\_vector\_reconnaissance\_drones.html**

German drone manufacturer Quantum-Systems GmbH from Munich wins the FALKE tender from the German Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw)., The company, manufacturer of dual-use reconnaissance drones that use multi-sensor technology to collect data for government agencies and commercial users, on September 26 signed a framework agreement with the BAAINBw for the delivery of Vector reconnaissance drones. The delivery of 14 unmanned aerial systems will begin at the end of 2024. Follow Army Recognition on Google News at this link

Vector enables precise reconnaissance over a range of up to 30 km with a flight duration of up to three hours (Picture source: Quantum Systems)

In November 2022, the German Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw) published the project under the name "Framework contract for the procurement of remotely piloted reconnaissance systems, airborne, short-range" - "FALKE" for short. The complex performance specifications of the competitive award procedure placed numerous requirements on the future supplier of unmanned systems. Quantum Systems successfully submitted a bid and was able to conclude the framework agreement with the BAAINBw on September 26, 2023.

The delivery of the first 14 systems is scheduled to begin in the fourth quarter of 2024. In the future, the Bundeswehr will thus have a system for precise reconnaissance that can be deployed quickly and independently.

Requirements for availability, innovation capability and precise reconnaissance met

The vertical take-off and landing capable drone type Vector provides the German Army's special forces with a market-available tactical reconnaissance system optimized for their range of operations and meeting requirements in terms of range, flight time and sensor capability. Vector enables precise reconnaissance over a range of up to 30 km with a flight duration of up to three hours. The integrated 'Raptor' combi-sensor is equipped with an optical and infrared camera, enabling day and night operations in all climates and under challenging environmental conditions.

Sven Kruck, CSO, Quantum Systems: ‘’For Quantum Systems, winning the FALKE tender is more than just equipping the German Special Forces Command with drones. The Vector system was designed and developed for the required operational purposes, which demand high mobility and long flight times. The equipment of our own armed forces is also an essential strategic and also a great emotional milestone for Quantum Systems. In sum, we are very pleased to equip the German Armed Forces with our drones with immediate effect. We are certain that this step will enable us to make an important contribution to the Bundeswehr and another to the security of Europe’’.

Quantum Systems, manufacturer of dual-use reconnaissance drones that use multi-sensor technology to collect data for government agencies and commercial users, on September 26 signed a framework agreement with the BAAINBw for the delivery of Vector reconnaissance drones intended for the German Special Forces (Picture source: Quantum Systems)

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**109 . Date: 06-09-2023ISR / ISTAR - Small - General - PlatformMSPO 2023: Peravia introduces innovative 4U and 6U Spectre eVTOL dronesURL: https://www.armyrecognition.com/defense\_news\_september\_2023\_global\_security\_army\_industry/mspo\_2023\_peravia\_introduces\_innovative\_4u\_and\_6u\_spectre\_evtol\_drones.html**

Peravia Personal Aviation, a Polish aerospace company, is unveiling two notable innovations in the Electric Vertical Takeoff and Landing (eVTOL) sector - the Peravia 6U Spectre and 4U Spectre drones. Peravia's approach differs from conventional VTOL systems that rely on tilt rotors or wings. Their design emphasizes simplicity, lightweight construction, efficiency, and safety. These vehicles can perform vertical takeoffs and transition seamlessly to horizontal flight without complex mechanisms or moving parts, thanks to the GB – Self Vectoring Thruster. This solution offers versatility for various aircraft types. Follow Army Recognition on Google News at this link

The new Peravia 4U Spectre eVTOL (Picture source: Army Recognition)

Peravia asserts that there's no need for tilt wings or rotors, as their Gravity Beyond propulsion system offers an alternative. Safety remains a core aspect of their design, with a distributed propulsion system ensuring redundancy in case of engine failure. The propulsion units at the heart of Peravia's innovation consist of two fans powered by electric motors, controlled through a proprietary algorithm. This technology enables thrust in various directions within the vertical plane, achieving high efficiency, particularly in hover mode.

Peravia's innovations have implications for various sectors. These include more rapid response times for rescue vehicles and the potential for high-speed medical supply transport using drones.

The Peravia 6U Spectre and the Peravia 4U Spectre each come with their own set of specifications. The 6U Spectre, with 6 drive units of different diameters fitted into the flying wing, has dimensions of 1676mm in length, 2900mm in wingspan, and a total height of 346mm. Its fuselage height is 270mm, and it can achieve a maximum takeoff weight (MTOW) of 57 kg. The upward thrust it generates is 970 N, allowing it to reach velocities exceeding 200 km/h, and it has a payload capacity of 22 kg.

On the other hand, the Peravia 4U Spectre offers similar features but in a more compact form. With 4 drive units of different diameters fitted into the flying wing, it has dimensions of 1564mm in length, 2700mm in wingspan, and a total height of 336mm. The fuselage height is 219mm, and its MTOW is 32 kg. It generates an upward thrust of 486 N and can also reach velocities over 200 km/h, with a payload capacity of 8 kg. These specifications are tailored to specific use cases, providing versatility in a more compact design.

Fixed-wing hybrid VTOL drones offer a range of features that make them suitable for diverse applications. One of their notable features is the ability to transition between vertical takeoff and landing (VTOL) and hover modes, providing versatility in deployment, especially in urban environments. This capability simplifies access to confined spaces and contributes to their adaptability.

These drones also excel in extended flight endurance due to their fixed-wing design. This allows them to cover longer distances and remain operational for extended periods, which can enhance efficiency for tasks requiring extensive coverage or monitoring. Additionally, fixed-wing hybrid VTOL drones are known for their capacity to operate at higher speeds, facilitating quick traversal of large areas. This speed advantage proves beneficial in applications where rapid data acquisition or response times are essential, such as surveillance or emergency response.

Furthermore, these drones have an enhanced payload capacity, thanks to their fixed-wing structure. This feature allows them to carry heavier sensors, cameras, or equipment, making them suitable for tasks requiring advanced imaging or data collection capabilities. In terms of applications, fixed-wing hybrid VTOL drones find utility across various sectors. They are commonly used in aerial mapping for generating detailed maps and topographical data due to their extended endurance and coverage capabilities. They also play a crucial role in utility inspection by efficiently examining power lines, pipelines, and other critical infrastructure.

Surveillance applications benefit from these drones' ability to respond quickly to security incidents and provide real-time monitoring over large areas. In agriculture, they contribute to crop monitoring, precision farming, and pesticide application, which can enhance agricultural practices and yields. Additionally, fixed-wing hybrid VTOL drones are valuable in search and rescue operations, thanks to their speed and endurance, which allow for more effective coverage of extensive search areas and improved location capabilities for missing persons or disaster survivors.

**110 . Date: 06-09-2023ISR / ISTAR - Mini - General - PlatformMSPO 2023: Polaris introduces advanced UAV with thermal AI for extended flight capabilitiesURL: https://www.armyrecognition.com/defense\_news\_september\_2023\_global\_security\_army\_industry/mspo\_2023\_polaris\_introduces\_advanced\_uav\_with\_thermal\_ai\_for\_extended\_flight\_capabilities.html**

At the MSPO 2023 International Defence Industry Exhibition, Polaris unveils, an unmanned aerial vehicle (UAV) designed for long-term, quiet operations. The aircraft is not only smaller and lighter but also more cost-effective than existing solutions. It comes with a range of features that make it highly versatile, including the ability to carry various payloads and a unique "Thermal AI" algorithm for extended flight time. Follow Army Recognition on Google News at this link

Polaris UAV lands on its back at a 45-degree angle using flaps and reverse thrust. (Picture source: Army Recognition )

Polaris UAV is constructed from carbon-glass composite materials, making it both lightweight and durable. It's powered by a silent electric motor with a folding propeller, allowing for discreet operations. With a wingspan of 2.2 meters and a maximum takeoff weight of just 4.5 kg, the UAV can easily fit into a small backpack weighing between 8-14 kg.

One of the standout features of Polaris is its proprietary "Thermal AI" algorithm. This technology enables the UAV to locate and utilize thermal updrafts, thereby increasing its engine-free flight time. With this algorithm, Polaris can achieve a flight time of up to four hours.

The UAV has a speed range of 45-110 km/h and can operate at a maximum altitude of 4,000 meters above sea level. It's designed to function in a wide temperature range, from -20 to +50 degrees Celsius, making it adaptable to various operational environments.

Polaris can be prepared for flight in just five minutes and is hand-launched at a 45-degree angle, eliminating the need for any ground infrastructure. Its navigation system includes GPS+INS, with additional anti-jamming systems or the option for missions without GPS.

The UAV can carry a variety of payloads, including electro-optical/infrared (EO/IR) sensors, mapping cameras, communication relays, and radio-electronic warfare (SIGINT) equipment. The EO/IR payload features a daytime camera with 40X zoom and a thermal camera with a resolution of 640x480. Additional payload features include object tracking, recognition, target geolocation, and "fly by camera" capabilities.

Polaris employs a unique landing approach to protect its valuable payload. The aircraft lands on its back at a 45-degree angle using flaps and reverse thrust. This inverted belly landing technique allows for a 10-50 glide slope.

**112 . Date: 21-09-2023Loitering Munition - Small - General - PlatformRussian company Aeroscan unveils Product 54 Italmas long-range loitering munitionURL: https://www.armyrecognition.com/defense\_news\_september\_2023\_global\_security\_army\_industry/russian\_company\_aeroscan\_unveils\_product\_54\_italmas\_long-range\_loitering\_munition.html**

A development by Aeroscan has given rise to a long-range loitering munition referred to as the "Italmas," often colloquially known as Product 54. Alexander Rogatkin's report, featured on the Rossiya 1 TV channel, delved into the significance of this weaponry. Follow Army Recognition on Google News at this link

Italmas long-range loitering munition (Picture source: Aeroscan)

The standout feature of the latest Italmas drone is its long range, surpassing 200 kilometers. This remarkable capability owes itself to the incorporation of an internal combustion engine into its design. Furthermore, the utilization of internal combustion engines by the developers has enabled an increase in the warhead's payload capacity. This confers a substantial advantage to the Italmas drone, even when compared to the highly regarded Lancet kamikaze drone, which has already demonstrated its prowess in Ukraine.

What sets the Italmas apart is its versatility, capable of targeting not only cannon and rocket artillery but also enemy personnel over great distances. Equipped with a cumulative warhead, this drone can effectively engage enemy armored vehicles and a wide array of targets, including HIMARS rocket launchers.

Aeroscan, situated in Izhevsk, specializes in the research and production of unmanned vehicles, with the distinction of being the parent company of the ZALA Aero Group.

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**113 . Date: 13-09-2023Partnership - Thales and Schiebel expand strategic partnership to promote Camcopter UAS globallyURL: https://www.armyrecognition.com/defense\_news\_september\_2023\_global\_security\_army\_industry/thales\_and\_schiebel\_expand\_strategic\_partnership\_to\_promote\_camcopter\_uas\_globally.html**

By combining Thales' expertise in advanced technology solutions, sensors and system integration with Schiebel's extensive experience in designing, developing and delivering high-performance RWUAS, this collaboration focuses on unlocking new frontiers around the world in uncrewed aerial operations. Through cooperation, both companies aim to leverage their respective complementary strengths to drive innovation, expand market reach, and meet the evolving needs of customers worldwide. Follow Army Recognition on Google News at this link

The Camcopter S-100 and S-300 systems represent the pinnacle of unmanned/uncrewed aerial reconnaissance and surveillance systems, embodying state-of-the-art technologies and unmatched reliability (Picture source: Schiebel)

The Camcopter S-100 and S-300 systems represent the pinnacle of unmanned/uncrewed aerial reconnaissance and surveillance systems, embodying state-of-the-art technologies and unmatched reliability. With Thales and Schiebel working in tandem, customers can expect a seamless integration of these exceptional systems, enabling enhanced capabilities for defence, security, and civilian/commercial applications.

"We are thrilled to embark on this strategic partnership with Schiebel," stated Herve Hamy, Vice President of ISR Business Line at Thales: "Together, on a case-by-case basis, we will harness our collective expertise to deliver cutting-edge solutions that will undoubtedly redefine the RWUAS landscape."

"Schiebel is excited about the opportunities this collaboration brings," commented Hans Georg Schiebel, Chairman of the Schiebel Group. "Combining forces where appropriate with Thales will further strengthen our offerings and provide our customers with even more advanced, robust and reliable solutions."

Both companies remain committed to driving innovation, ensuring compliance with the highest industry standards, and adhering to ethical practices. This collaboration reflects their shared dedication to advancing the UAS industry's growth and fostering increased safety and efficiency in airborne operations.

Thales and Schiebel were awarded a contract by the UK Ministry of Defence this year to deliver a game-changing rotary wing Uncrewed Air System to provide a protective ‘eye in the sky’ capability for Royal Navy warships on deployed operations.

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**115 . Date: 29-04-2024Loitering Munition - Small - General - PlatformFrench Company EOS Technologie Launches New Veloce 330 Loitering MunitionURL: https://www.armyrecognition.com/news/army-news/2024/french-company-eos-technologie-launches-new-veloce-330-loitering-munition**

On April 2024, EOS Technologie, based in Mérignac, France, unveiled a new loitering munition named "Veloce 330." According to the company, this jet-powered munition has successfully completed its third phase of flight tests, reaching speeds over 400 km/h, and covering 50 km in just 16 minutes using only half of its fuel tank. Follow Army Recognition on Google News at this link

Rare picture of EOS Technologie Veloce 330 Loitering Munition (Picture source: EOS Technologie)

This revelation comes as part of the development projects for remote-controlled munitions initiated in May 2022 by the General Directorate for Armament (DGA) and the Defense Innovation Agency (AID). The projects, named Colibri and Larinae, aim to develop munitions capable of neutralizing armored targets at various distances.

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.

This development marks a significant step for the French defense industry, demonstrating a commitment to innovative and autonomous solutions in the field of remote-controlled munitions.