

► DIVISION WEAPON AND AMMUNITION

NEW AT EUROSATORY 2022

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Rapid precision strikes on demand: Rheinmetall and UVision present Loitering Munition as a combat force multiplier for the tactical level

Loitering Munition – remotely controlled airborne precision-strike munitions – combines the operational advantages of drones and guided missiles. The systems provide front-line forces with a combination of advanced intelligence gathering and target acquisition capabilities along with extended range firepower, which until now could only be achieved by complex coordination between several units and echelons. In October 2021, Rheinmetall and its partner UVision Air Ltd. have agreed on a cooperation to market UVision's HERO loitering ammunition family in Europe. At Eurosatory 2022, both companies will present the integration of different HERO Loitering Munition (LM) systems in manned and unmanned vehicles. For example, Rheinmetall's Mission Master XT robotic vehicle will be on display as a fire support vehicle with HERO 120 LM. Likewise, the new KF51 combat vehicle will be equipped with an LM Mission Pod for launching HERO 120s in addition to its main armament, the 130mm smoothbore gun.

Combat power multiplier

The term loitering munition is derived from the munition's ability to remain undetected in the airspace above the target area for an extended period of time and to strike when the right moment arrives. Forces in a number of partner countries in Europe and NATO are already using them, and others are currently exploring ways to introduce this new generation of remotely controlled munitions into their arsenal. Versatile and easy to operate, Loitering Munitions can be used in national and allied defence as well as in low-intensity conflicts or peace stabilisation operations. LM offers the military user considerable cost advantages over guided missiles with comparable effectiveness and at the same time the ability to conduct reconnaissance and track the target in the military operation from the air over a longer period of time. An important tactical advantage of the field-proven UVision HERO systems lies in their high precision strike capabilities and thus a minimal risk of collateral damage.



UVision's HERO product family of Loitering Munition

UVision offers several high-precision loitering munition models with its HERO product family, which differ in terms of possible ranges, flight times (short, medium, high) and payload (weight of active charge) – required for a variety of targets. Lighter models are man-portable and specially designed to be carried as highly effective precision munition by infantry forces.

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► Key facts

- Strategic Partnership between Rheinmetall and UVision in the field of Loitering Munition
- Initially sales cooperation, later joint development activities
- Goal: Establishment of a joint venture
- Growth market: Demand in a wide range of countries
- High-tech from UVision: products already introduced to armed forces

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A Loitering Munition system comprises – comparable to a guided missile system – a single or multi-canister launcher, a loitering munition (or a number of LM's if the latter), communication and the ground control module for the operator. The Loitering Munitions themselves are remote-controlled small air vehicles, each of which can attack ground targets – even beyond the line of sight.

All models are equipped with high-resolution electro-optical sensors and infrared cameras that - enable the operator to locate, monitor and ultimately engage even time-critical low-signature targets. In this way, enemy targets can be located, tracked and verified to deliver precise strikes. The HERO system can abort an attack in mid-air, return to flight mode and then resume the attack or reassign targets, giving operators great tactical flexibility on the modern battlefield.

The unique design of the HERO series makes it possible to conduct precision attacks in urban areas or remote locations while avoiding collateral damage, while adhering to strict rules of engagement. If an attack is aborted, the systems can be recalled and another target selected or retrieved for future use via an on-board recovery system. Continuous monitoring in accordance with the "human in the loop" principle enables calculated and pinpoint attacks that are precisely tailored to the timing and conditions of the constantly changing situation. The constant recording of the operation on the ground station provides proof of compliance with the strict rules of engagement.

HERO ammunition is already in use in a number of customer countries. Most recently, in the summer of 2021, the US Marine Corps decided to equip operational vehicles with HERO 120 LM systems.

Strategic step

In October 2021, Rheinmetall and the Israeli company UVision Air Ltd. have agreed a strategic partnership in the field of loitering munition. In this partnership, Rheinmetall and UVision are jointly addressing the rapidly growing market segment of remote-controlled precision ammunition. The focus of this partnership agreement is the HERO family of loitering munitions, which comprises several models. In the first phase of the cooperation, Rheinmetall will market the UVision products in Europe. As a second stage joint development activities are planned. Rheinmetall thus completes its extensive product range of military combat and training ammunition in the caliber spectrum from 20mm to 155mm with a new, state-of-the-art type of ammunition.

Rheinmetall and UVision complement each other with their competencies and capabilities. UVision contributes a highly developed and marketable technological solution that has proven itself in armed forces. In addition, Rheinmetall has the necessary industrial base for the production of larger quantities as well as the corresponding marketing potential in Germany and Europe. At the same time, Rheinmetall has suitable vehicle platforms in its portfolio - both manned and unmanned - which could be used as carriers for the launcher system. With its broad range of expertise not only in active charges and propulsion systems, but also in launchers, sensors and encryption technology, Rheinmetall has a number of technologies in-house that are of high value for loitering ammunition.

In addition, Rheinmetall has the capability to carry out the necessary qualification of new loitering ammunition products in accordance with common NATO standards in order to make them usable for the armed forces of the various countries in Europe.