MINK MODULAR COMBAT SUPPORT VEHICLE

GERMANTEC
CERTIFIED IN GERMANY

CAPABILITY DESCRIPTION

MINK LOITERING MUNITION SYSTEM // MLMS

MODULAR COMBAT SUPPORT VEHICLE

DESIGN AND SAFETY

PROTECTION LEVELS

- Protected passenger monocoque cell
- Ballistic protection on passenger cabin is STANAG level 2 as standard with STANAG level 3 optionally available.
- The blast frame and cabin floor act as a blast attenuating double skin, energy absorbing mechanism and provides exceptional safety characteristics for the occupants of the vehicle.

Mine & IED protection up to STANAG levels 3A & 3B

Protected engine compartment

- Radiator grill and engine compartment sides protected to STANAG level 2.
- Bonnet protected to STANAG level 2 at 45 degrees angle of incidence.

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TECHNICAL SPECIFICATIONS

Parameter	MLMS Specification
Engine	6.7 l Cummins / 300 hp/ 223 kW 6.8 l MAN (OPTION) 340 hp/ 253 kW
Torque	1100Nm/ 1200NMm @1200 - 1800rpm
Transmission	Allison 6-speed Automatic
Engine Idle	750 - 850 rpm
Range	700 km
GVW/ Payload: MINK2 GVW/ Payload: MINK3	12,000 kg/ 2.700 kg, 2.000 kg (STANAG 2, 3) 20,000 kg/ 9.000 kg, 8.000 kg (STANAG 2, 3)
Alternator	24 V/ 360 A Standard: 1st belt: Alternator, Engine, water pump 2nd belt: AC system and auxiliary equipment
Batteries	x 2 at the front, inside engine compartment x 2 in the v-hull compartment (option)

Parameter	MLMS Specification
Dimensions (LWH): MINK2 Dimensions (LWH): MINK3	6.120 x 2.370 x 2.640 mm 7.000 x 2.370 x 2.640 mm
Track Width/ Axle	1.908 mm/ 4x4 independet front/ rear
Wheel Base: MINK2 Wheel Base: MINK3	3.600 mm 3.830 mm
Ground Clearance	484 mm
Angle of approach/ departure	40 degrees
Obstacle Crossing	484 mm
Crew Capacity: MINK2 Crew Capacity: MINK3	6-8 10-12
Protection Level	STANAG 4569 3A/3B

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TECHNICAL SPECIFICATIONS

PERFORMANCE
MLMS STANDARD

Range	700km
Maximum Speed on Road	120km/h*

*Limited to tire manufacturer specifications

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STANDARD AND OPTIONAL EQUIPMENT

Standard Equipment	Optional Equipment	
▪ CAN Bus Electrical System	▪ Customer equipment integration	▪ PA /Intercom system
▪ Forward and Rear View Cameras	▪ Self Recovery Winch	▪ Converter 24V to 220-230V
▪ Air Conditioning Unit, tropical or extreme desert options	▪ NBC overpressure filtration system	▪ Window wire mesh protection
▪ Central Tire Inflation System (CTIS)	▪ Sniper detection system	▪ Antenna mounts
▪ Run-flat inserts in all tires	▪ Fire suppression system underbody	▪ Rifle holders
▪ Anti-Locking Brake System (ABS)	▪ Smoke grenade launchers	▪ Wire cutters
▪ Central Main Switch	▪ Weapon mount*	▪ Camera recording system with DVR
▪ Battery protection system	▪ Turret options	▪ FLIR and thermal vision systems
▪ Mine blast certified seats	▪ Strobe lights	
▪ Multipoint seat belts	▪ IED Jamming systems	
▪ Towing Eyes	▪ Night Vision System	
▪ Black out lighting	▪ Fit for radio and navigation system	
▪ Engine fire suppression system		

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Capability Overview

The MINK Loitering Munition System is a long-range, precision-guided UAV-System designed to engage high-value and time-sensitive targets beyond the operator's direct line of sight. The system provides land forces with an organic deep-strike capability, enabling accurate fires while maintaining platform survivability and tactical standoff.

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Mission Role

MLMS supports the following operational roles:

- Precision Strike on Dynamic Targets: They are optimized for detecting and destroying time-sensitive, elusive, or moving targets, such as air defense systems, radar, or armored vehicles, which often emerge for only short periods.
- Persistent ISR & Tactical Reconnaissance: These systems can linger in the air to provide continuous, real-time intelligence over an area before selecting the optimal moment to attack.
- Force Multiplication for Small Units: Loitering munitions provide infantry and special forces with organic, long-range fire support without needing to call in heavy artillery or air support.
- Suppression/Destruction of Enemy Air Defenses: They can be used to locate and neutralize enemy radar and air defense systems from a safe, standoff distance.
- Reduced Collateral Damage: Due to their capability for human-in-the-loop control, operators can abort or redirect an attack at the last second, enhancing precision compared to conventional unguided or pre-programmed weapons.
- Asymmetric Warfare and Urban Combat: Their low signature and high accuracy make them ideal for navigating complex, urban environments and operating in GPS-denied or heavily contested electronic warfare environments.

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CAPABILITY DESCRIPTION

Key Performance Characteristics

- Operational Endurance & Range: Loitering munitions can hover over a target area for extended periods, typically 30 to 45 minutes for tactical systems. Ranges vary from tactical (10-50 km) to long-range strategic systems capable of traveling hundreds of kilometers.
- Target Acquisition & Engagement: These systems use Electro-Optical/Infrared (EO/IR) cameras to identify targets in real-time. They can engage moving or static targets with high precision (often sub-1 meter accuracy).
- Strike Flexibility: A major advantage is the ability to "abort and re-engage" or return to base if the target is not verified or the mission is cancelled.
- Guidance & Navigation: System operates with GNSS-guided navigation but are designed to function in contested, GPS-jammed environments using advanced, resilient inertial navigation. Terminal guidance is typically handled by optical sensors.
- Speed & Mobility: Tactical munitions launch at lower speeds but achieve high-speed attack dives. They are designed for portability and quick, on the MINK canister-based, deployment.
- Payload & Warhead: Warhead sizes range from small (3 kg) for anti-personnel to larger (50+ kg) for anti-armor, with modular designs available.
- Swarming & Autonomy: Modern systems are increasingly capable of autonomous, AI-driven, and swarm operations, where multiple munitions coordinate to overwhelm defenses.

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CAPABILITY DESCRIPTION

Engagement Modes

- Manual/Human-in-the-Loop Operation with direct control, target selection and Aborting/Re-engaging.
- Semi-Autonomous/Loitering Mode with target search, automated tracking and surprise attacks capability.
- Fully Autonomous Operation including AI-Enabled Attack, Salvo/Swarm Attacks and Anti-Radiation/SEAD.
- Special Operational Modes as of Precision Attack Adjustment, Recovery Mode and GPS-Denied Navigation.

Warhead Options

- High-Explosive Anti-Tank (HEAT/Anti-Armor)
- High-Explosive Fragmentation (HE/Frag)
- Thermobaric
- Combined Effects: Modular warheads
- Anti-Radiation (AR)

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Platforms and Integration

MLMS is platform-agnostic and can be integrated into:

- MINK2 4x4 Combat Cabin in STANAG 2 or STANAG 3
- MINK3 6x6 Combat Cabin in STANAG 2 or STANAG 3

The system is designed for rapid integration into NATO-standard vehicle architectures and battle management systems.

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Survivability and Force Protection

- Beyond-line-of-sight engagement reduces exposure of launch platforms.
- Remote operation allows launch from concealed or protected positions.
- Networked targeting enables third-party target designation.
- These features significantly enhance force survivability in high-threat environments.

Interoperability and Networking

- Compatible with NATO C2 and ISR networks.
- Supports joint and combined operations.
- Enables sensor-to-shooter connectivity across domains.

The MINK Loitering Ammunition Carrier System is interoperable within NATO C2 and ISR architectures and contributes to distributed, multi-domain operations by extending stand-off engagement ranges while reducing risk to friendly forces.

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Operational Advantages

- "Search-then-Strike" Capability: Unlike traditional missiles that require precise pre-launch targeting, LMs can be launched into an area to search, identify, and engage targets only when they are confirmed.
- Persistent Surveillance and Reconnaissance (ISR): LMs provide high-quality, real-time video intelligence, allowing operators to monitor a, "transparent" battlefield, track targets, and assess battle damage.
- High Precision and Low Collateral Damage: Due to man-in-the-loop control, LMs can deliver surgical strikes on specific targets (e.g., in urban environments) while minimizing civilian or friendly casualties.
- Abort and Reuse Capability: If a target is not found or the situation changes, many LMs can be aborted, recalled, and recovered for future use.
- Beyond-Line-of-Sight (BLOS) Engagement: LMs enable ground forces to strike targets hidden behind cover or over the horizon.
- Portability and Rapid Deployment: Small, man-portable systems can be deployed in minutes by infantry, granting them organic, high-end, long-range fire support without waiting for air or artillery support.
- Versatility across Domains: These systems are effective in land, sea, and air, with applications including anti-armor, counterinsurgency, and suppression of enemy air defenses (SEAD).
- Cost-Effectiveness: Compared to traditional guided missiles, LMs are often cheaper and more accessible, making them suitable for massed, "swarm" attacks to overwhelm defenses.
- Low Signature: Their small size, low noise, and minimal visual/thermal signature make them ideal for surprise attacks and difficult to detect by enemy radar.

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Summary Statement

MLMS is an advanced, cost-effective, and precise system, that combines reconnaissance and strike capabilities by hovering over targets before attacking. It is rapidly transforming modern warfare, with European NATO nations, particularly Germany, accelerating procurement to modernize capabilities based on lessons from the Ukraine conflict.

The MINK Loitering Munition System provides the capability to deploy, command, and support loitering munition systems from a mobile ground platform in support of joint and combined operations. The system enables persistent surveillance, target acquisition, and precision engagement of targets beyond the line of sight.

PARTNERSHIP & CONTACT
SECTOR FOCUSED SOLUTIONS

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Our platforms support European defense autonomy and NATO interoperability, contributing directly to national security and industrial strength. Designed for seamless integration with allied forces, GermanTec vehicles align with EU strategic goals and compliance requirements.

→ Request a strategic briefing

GermanTec Automotive vehicles deliver modular, mission-flexible mobility and certified crew protection for peacekeeping, tactical, and border security operations. Our designs prioritize survivability and adaptability in demanding operational environments.

→ Schedule a demo ride

Open system architecture and standardized interfaces enable collaboration on next-generation vehicle systems. GermanTec Automotive is committed to co-development with European suppliers and supports local production networks.

→ Explore partnership opportunities

EMPOWERING MISSION SUCCESS THROUGH CERTIFIED GERMAN ENGINEERING

ISO 9001:2015
ISO 14001:2015
ISO 45001:2018
ISO 3834-2:2005

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