

# CAPABILITY DESCRIPTION

# 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.



# MODULAR COMBAT SUPPORT VEHICLE

## TECHNICAL SPECIFICATIONS

Parameter	MLAS 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	12,000 kg/ 2.700 kg, 2.000 kg (STANAG 2, 3)
GVW/ Payload: MINK3	20,000 kg/ 9.000 kg, 8.000 kg (STANAG 2, 3)
Alternator	24 V/ 360 A Standard: 1 <sup>st</sup> belt: Alternator, Engine, water pump 2 <sup>nd</sup> belt: AC system and auxiliary equipment
Batteries	x 2 at the front, inside engine compartment x 2 in the v-hull compartment (option)

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

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## TECHNICAL SPECIFICATIONS

### PERFORMANCE MLAS STANDARD

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



GRADEABILITY = 60%



TRENCH = 850 mm\*



SIDE SLOPE = 35%

\*Limited to tire manufacturer specifications

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## STANDARD AND OPTIONAL EQUIPMENTS

STANDARD EQUIPMENT	OPTIONAL EQUIPMENT	
<ul style="list-style-type: none"> <li>▪ CAN Bus Electrical System</li> <li>▪ Forward and Rear View Cameras</li> <li>▪ Air Conditioning Unit, tropical or extreme desert options</li> <li>▪ Central Tire Inflation System (CTIS)</li> <li>▪ Run-flat inserts in all tires</li> <li>▪ Anti-Locking Brake System (ABS)</li> <li>▪ Central Main Switch</li> <li>▪ Battery protection system</li> <li>▪ Mine blast certified seats</li> <li>▪ Multipoint seat belts</li> <li>▪ Towing Eyes</li> <li>▪ Black out lighting</li> <li>▪ Engine fire suppression system</li> </ul>	<ul style="list-style-type: none"> <li>▪ Customer equipment integration</li> <li>▪ Self Recovery Winch</li> <li>▪ NBC overpressure filtration system</li> <li>▪ Sniper detection system</li> <li>▪ Fire suppression system underbody</li> <li>▪ Smoke grenade launchers</li> <li>▪ Weapon mount*</li> <li>▪ Turret options</li> <li>▪ Strobe lights</li> <li>▪ IED Jamming systems</li> <li>▪ Night Vision System</li> <li>▪ Fit for radio and navigation system</li> </ul>	<ul style="list-style-type: none"> <li>▪ PA /Intercom system</li> <li>▪ Converter 24V to 220-230V</li> <li>▪ Window wire mesh protection</li> <li>▪ Antenna mounts</li> <li>▪ Rifle holders</li> <li>▪ Wire cutters</li> <li>▪ Camera recording system with DVR</li> <li>▪ FLIR and thermal vision systems</li> </ul>

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### Capability Overview

The MINK Light Artillery System (MLAS) 105mm self-propelled howitzer (SPH) is designed to provide highly mobile, rapid-response fire support for light infantry, airborne, or rapid-deployment forces. By mounting a 105mm weapon on the MINK chassis, it enables "shoot-and-scoot" capabilities that increase survivability against drones and counter-battery fire, while offering higher rates of fire than heavier systems.



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### Mission Role

MLAS supports the following operational roles:

#### a. Primary Mission Roles

- Rapid Close Fire Support: Delivering immediate indirect fire support to frontline infantry units, particularly in scenarios where heavy artillery (155mm) is too slow to deploy or too cumbersome to maneuver.
- "Shoot and Scoot" Operations: Utilizing high mobility to quickly move, fire, and relocate before enemy counter-battery fire can respond.
- Direct Fire Support: Engaging armored vehicles, reinforced structures, or bunkers directly, particularly in urban or mountainous terrain.
- Airborne & Rapid Reaction Deployment: Designed for, or capable of, transport via helicopters or airplanes, making them ideal for air assault, rapid reaction forces, and airmobile operations.
- 360-Degree Defense: Frequently capable of firing in any direction (360-degree traversal), allowing them to defend isolated firebases from attacks from any direction.

#### b. Key Tactical Applications

- Rapid Deployment/Force Projection: They allow light forces to have significant artillery support without relying on heavy transportation.
- Close Proximity Firing: Because of the smaller projectile size, 105mm systems can safely provide close-in fire support, even when friendly and enemy forces are in close proximity.
- High Rate of Fire: Capable of firing at a higher rate (approx. 10–12 rounds per minute) than heavier howitzers, suitable for suppressing enemy troop concentrations.
- Supporting Independent Operations: Ideal for smaller brigade-level combat teams operating in dispersed locations.

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## CAPABILITY DESCRIPTION

### Key Performance Characteristics

- a. Firepower and Accuracy
  - Rate of Fire: High, typically 10–12 rounds per minute (maximum) and 3–4 rounds per minute (sustained).
  - Range: With conventional ammunition up to 15km, extending up to 30km with rocket-assisted projectiles (RAP) or extended-range munitions.
  - Fire Control System (FCS): Modern digital FCS, GPS/INS navigation, and on-board communication systems allow for rapid aiming and firing, eliminating the need for surveyed, pre-set locations.
  - Field of Fire: Often designed for 360-degree or high-arc, wide-angle traverse to engage targets in mountainous or complex terrain.
  - Ammunition Versatility: Capable of firing standard NATO 105mm rounds, including HE (High Explosive), HEAT (High-Explosive Anti-Tank), Smoke, and Illumination.

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## CAPABILITY DESCRIPTION

### Key Performance Characteristics

#### b. Mobility and Tactical Deployment

- "Shoot-and-Scoot" Capability: Ability to stop, fire, and move within 30–60 seconds, which is crucial for surviving counter-battery fire.
- Weight: Extremely low for an armored vehicle, under 10 tonnes to allow for rapid transport.
- Air Transportability: Designed for transport by aircraft (A400M, C130, C17) or sling-load by medium-lift helicopters (e.g., CH-47 Chinook).
- Crew: Optimized for small teams, typically 2 – 3 personnel.

#### c. System Design and Survivability

- Soft Recoil Technology: Essential for lighter chassis; it reduces the shock on the vehicle carriage, allowing 105mm guns to be mounted MINK 2 or MINK 3.
- Protection: Offers limited, optimized armor to protect the crew against shrapnel and small-arms fire, keeping the vehicle light.
- Autonomous Operation: Capable of independent action without needing a heavy logistics tail or a large number of crew members.

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### Engagement Modes

MLAS offers flexible engagement options:

a. Indirect Fire (Primary Mode):

- Area Suppression & Support: Used to neutralize or suppress enemy ground forces, infantry, and light armor, typically operating within a 10–15 km range.
- Rapid Fire Support: Capable of high rates of fire, with some systems able to deliver up to 10–12 rounds per minute in emergencies (burst) and 3–4 rounds per minute sustained.
- Precision Strikes: Modern systems use digital fire control and GPS to deliver precision-guided munitions.

b. Shoot and Scout:

- Direct Engagement: Similar to a tank or anti-tank gun, the SPH can engage visible targets directly, which is useful for destroying bunkers, buildings, or enemy vehicles at shorter ranges, typically with high-explosive (HE) or high-explosive anti-tank (HEAT) rounds.
- Close-Range Defense: Used if the vehicle is surprised or to support frontline infantry at close quarters.
- Shoot and Scoot:
- Rapid Dislocation: The primary defensive tactic. The system can stop, fire, and move to a new position in under 90 seconds to avoid enemy counter-battery detection and response.

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### Platforms and Integration

MLAS 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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### Operational Advantages

- **Shoot-and-Scoot Capability (Mobility):** The primary defense is speed in moving to a new firing position immediately after firing to avoid detection and counter-battery fire.
- **Rapid Emplacement/Displacement:** Modern 105mm SPGs can fire within 30 seconds of arrival and displace in similar timeframes.
- **Soft Recoil Technology:** Using technology like that in the MINK system, the recoil force is reduced by up to 50%, allowing smaller, lighter vehicles (like MINK) to carry a 105mm gun without sacrificing platform stability.
- **Ballistic and Fragment Protection:** While not intended to engage in direct tank-on-tank combat, modern armored SPGs offer protection against small arms fire, shell fragments, and potentially, 14.5 mm or 30 mm rounds depending on the armor package.
- **Reduced Crew Size:** Automated systems reduce the necessary crew to as few as 2 people, minimizing casualties in case of a hit.
- **Advanced Fire Control Systems:** Integrated GPS, inertial navigation, and ballistic computers ensure high-precision, first-round accuracy, allowing for effective engagement before being targeted.

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### Summary Statement

The MLAS modern 105mm self-propelled howitzer (SPH) is a highly mobile, lightweight artillery system designed for rapid deployment, high-tempo "shoot-and-scoot" operations, and direct support of light infantry or airborne forces. Unlike heavier, traditional 155mm systems, these vehicles prioritize agility, air-transportability, and speed, making them ideal for rapid reaction roles in diverse terrains.



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