Powerful, modular and combat-ready, the Modular Advanced Armed Robotic System (MAARS®) from QinetiQ North America is an unmanned ground vehicle (UGV) designed expressly for reconnaissance, surveillance, and target acquisition (RSTA) missions to increase the security of personnel manning forward locations. MAARS can be positioned in remote areas where personnel are currently unable to monitor their security, and can also carry either a direct or indirect fire weapon system.

QinetiQ developed the MAARS UGV through contracts with various agencies in the Department of Defense, including U.S. SOCOM, as well as significant company internal investment. Using U.S. SOCOM and U.S. Army lessons learned from the preceding development, testing and combat fielding of the weaponized SWORDS system, MAARS was freshly created from the ground up to meet U.S. SOCOM requirements. MAARS’ purpose-built system possesses advanced computing power, self-protection features, mobility, modularity, communications, sensor payloads, safety features, power management, maintainability, and force application capabilities.

Agile and combat-ready, MAARS is a technological breakthrough, taking its place on the frontline to keep warfighters at a safe distance from enemy fire while effectively executing their security missions. MAARS enables the remote emplacement of RSTA sensors into critical locations up to several kilometers away from the friendly unit, providing early warning while enabling immediate response if required. Remotely controlled by an operator equipped with a lightweight, wearable, control unit, MAARS features multiple on-board day and night cameras, motion detectors, an acoustic microphone, a hostile fire detection system, and a loud speaker system with siren to provide optimum situational awareness and alarm.
Advanced processing capabilities and an easy-to-use wearable control system make MAARS simple to operate and powerful. MAARS can even provide multiple options for the escalation of force when required by the Rules of Engagement (ROE), from non-lethal lasers dazzlers and audio deterrents, to less-than-lethal grenades, to lethal fires from the grenade launcher or the medium machine gun. MAARS is also extremely safe and tamper proof as it can be operated only when receiving properly coded instructions from its operator.

Rugged and robust, MAARS offers unmatched modularity combined with the unique ability to remotely position advanced sensors and force application tools to greatly enhance the security of forward bases and outposts:

- Advanced tele-operated remote weapons platform, providing Reconnaissance, Surveillance, and Target Acquisition (RSTA), non-lethal, less-lethal, and lethal effects
- Warfighter-in-the-loop, commanding all actions at all times
- Provides remote options to commanders for reconnaissance, assaults, ambushes, hostage rescue, forced entry, booby-trapped areas, detainee riots, site security, improvised explosive device detection and defeat, forward operating base entry points
- Operating weight: up to 350 lbs when all sensors, weapons, and ammunition are carried
- Easy-to-learn wearable control system
- Operating Range well over 1 kilometer from operator
- Turret-mounted sensors and optional weapons
- Unibody frame with easy battery and electronics accessibility
- Large payload bay for additional capabilities
- High torque motors for faster cross country ground speeds and improved braking
- Batteries last 3-12 hours based upon mission activities, with integrated sleep mode to save battery power lasting up to a week
- Redundant safety features and diagnostics

Multiple options for the escalation of force when required by the ROE:

**Non-Lethal**
- Audio deterrent (operator’s voice through on-board loudspeakers)
- Pre-recorded messages
- Siren
- Eye-safe lasers to disorient and confuse

**Less-Lethal**
40mm Grenade Launcher with the following grenade capabilities:
- 40mm Sponge
- 40mm Buckshot
- 40mm Tear gas

**Lethal**
40mm Grenade Launcher with the following grenade capabilities:
- 40mm High Explosive (HE)
- 40mm High Explosive Dual Purpose (HEDP)
- 40mm Airburst HE
- M240B Medium Machine Gun with: 450 rounds, 7.62mm ball

- 40mm Smoke
- 40mm Star clusters
- 40mm Illumination

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