

# Tactical Force Protection



Drones have become major force multipliers in the modern battlefield, changing the nature of warfare with armed drones capable of performing a wide range of mission types. Used extensively in military operations, small unmanned aircraft systems (UAS) and unmanned ground vehicles (UGV) have become powerful, efficient and lethal weapons.

The growing use and availability of dark drones with advanced technologies, low flight altitude, high speed, no RF signature and no-GPS navigation has become a major security threat, exposing frontline forces to both aerial and ground attack as part of offensive operations, and in their intelligence-gathering capabilities.

Using robotic solutions as part of a comprehensive system to counter threats and protect maneuvering forces against attack requires the capability to control and coordinate swarms of drones. The ability to deploy and manage heterogeneous autonomous systems to detect and recognize multiple threats while performing tactical mission is a critical element of operations in the complex multi-domain environment.

To increase survivability and operational efficiency for tactical forces and asset protection, sophisticated technologies are required in a comprehensive solution to optimize decision-making, command and control for human-machine teaming (HMT) operations with enhanced intelligence, surveillance and reconnaissance (ISR).

## The solution: Legion-X

The Legion-X robotic and autonomous system enables control and coordination of a networked group of heterogeneous autonomous systems that can act as a cohesive unit and individually, as part of an overall combat network system. Modular, flexible and scalable, the advanced control solution enables combat teams and expeditionary units to deploy, operate and manage connected human-machine formations, leveraging advanced technologies to gain a tactical advantage.

A comprehensive, all-in-one system for planning, operation and management of unmanned platforms, Legion-X meets the evolving challenges of force protection in the modern battlefield, with core capabilities that increase survivability and mission success.

# Tactical Force Protection



### Tactical force protection

Legion-X autonomous robotic solution for maneuvering force protection integrates swarms of UAS and UGV (blue drones) with advanced technologies to detect, recognize, track and intercept low flying aerial threats (dark drones) and ground threats (humans and vehicles). The system minimizes human engagement with a single point of mission control for multiple units of autonomous systems and enables mission flexibility.

### Multi-layered protection:

Legion-X enables automatic mission planning and execution in a sophisticated connected network with high tactical and operational mobility. Multiple layers of aerial protection integrate various products and technologies for diverse missions and threat environments, featuring a powerful, robust and resilient all-condition force protection solution.

The solution includes UAVs with radars and optical sensors, UGVs with radars and optical sensors and interceptors all integrated and operated by a mission planning engine and embedded decision management system for force protection and counter-drone missions.

as needed to ensure constant uninterrupted overwatch on the designated area of interest.

- Observer drones carry aerial radars
- Observer drones carry EP/IR for ATR
- UGVs carry ground radars and optical payloads
- Jammers and non-kinetic interception
- Kinetic and non-kinetic interception drones

### Kit Components:

**Radar observer:** UAVs with aerial radar - area of interest coverage, detects, classifies and tracks aerial objects.

**Optical observer:** UAVs with EO/IR - automatic target tracking (ATR) and area of interest observation, features a gimbaled low light camera.

**Ground observer:** ROOK high mobility, multi-purpose 6x6 unmanned ground vehicle (UGV) carries ground multipurpose radar and/or EO/IR and/or RWS.

**Legion-X AM-PM intuitive HMI:** Autonomous mission planning and execution, displays all system components including detections, map location, swarm status, mission status and control. Legion-X AM-PM allows a single user to plan and monitor the automatic execution of the force protection mission.

**Legion-X Comms:** Secure (AES 256) communication that allows BVLOS operation of the force protection swarm on the move.

**Interceptors:** Integrated with various 3rd party kinetic and non-kinetic interceptors.

### A kit to protect a tactical force in a 200m x 200m area includes:

- 4 UAVs with radars – 2x2 shifts to allow for hot-swap for maintaining constant operation
- 4 UAVS with EO/IR payload – 2x2 shifts to allow for hot-swap for maintaining constant operation
- 1 UGS with radar and EO/IR payload
- Legion-X Comms kit
- Legion-X AM-PM autonomous mission management application
- End user devices (2x tactical tablets)