

Robotic & Autonomous Systems

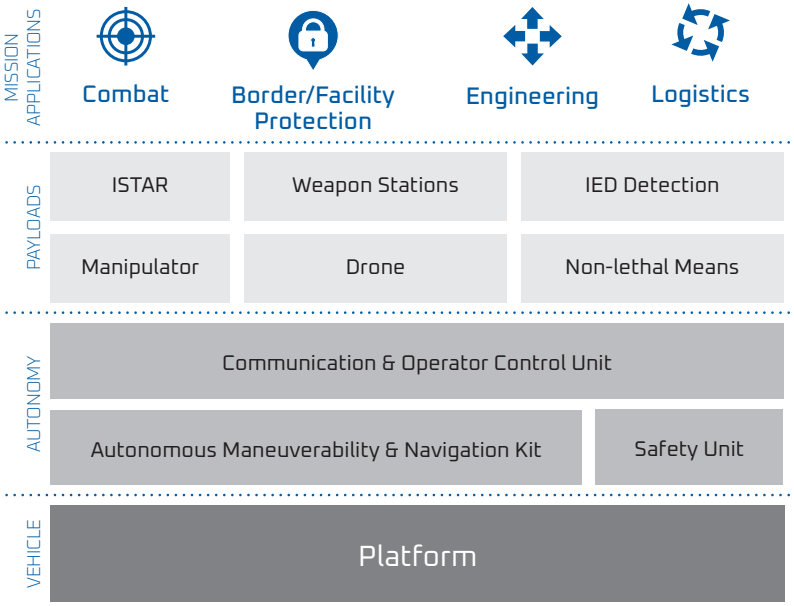
Solutions for Land Warfare

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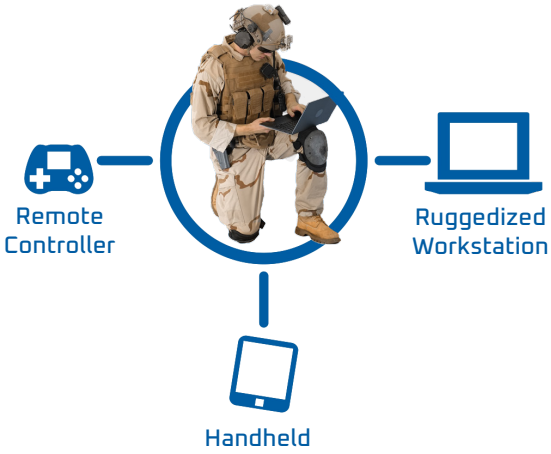
GENERAL

IAI ELTA's Robotic & Autonomous Systems offer an array of off-road, robotic and autonomous solutions for military (land warfare), paramilitary, national security forces and commercial markets. The solutions apply Manned Unmanned Teaming (MUM-T) to enhance ground force's maneuverability, survivability, and lethality. IAI ELTA provides end-to-end solutions for a variety of missions/applications, based on open layered architecture and using a unique and state-of-the-art Autonomous Maneuverability and Navigation Kit. The solutions are implemented on a variety of platforms and can be integrated with different mission-payloads according to the mission requirements. IAI ELTA's Autonomous Maneuverability and Navigation Kit is platform agnostic, supports different levels of autonomy and can be installed on small to large wheeled/truck vehicles, and preserves the platform's dual use as a manned/unmanned vehicle.

IAI ELTA's solutions incorporate safety features enabling the autonomous system to operate amongst maneuvering forces.



RAS Layered Architecture



Operator Control Unit (OCU)

AUTONOMOUS NAVIGATION AND MANEUVERABILITY KIT

- **Low level control:** Basic platform functions, i.e. steering wheel, acceleration, brake, hand-brake, ignition, etc.
- **Operator Control Unit (OCU):** System is managed remotely via hand-remote control, rugged video handheld or by an operator station
- **Navigation & Localization:** Accurate and sustained navigation (GPS and non-GPS conditions) and multi-sensor integration
- **Perception & 3D Mapping:** Providing real time 3D terrain and obstacles map, data analysis and obstacles detection
- **Motion Planning:** Real time path planning, obstacle avoidance, mission constrains i.e. maximum speed, corridors etc.
- **Decision Support:** Autonomous decision-making support thereby reducing operator load
- **Training:** Built-in trainer capabilities of mission life cycle

Robotic & Autonomous Solutions

ELTA offers a wide range of Robotic & Autonomous Systems (RAS) supporting different levels of autonomy in accordance with the operational mission.

COMBAT SYSTEMS



REX (ELA-6601)

Unmanned Infantry Combat

Multimission system providing direct support to maneuvering infantry units.

Can perform a variety of tasks: tactical logistic support, tactical ISR, operating lethal weapons through target acquisition, evacuating wounded soldiers. The Rex includes "follow-me" driving mode adapted for infantry forces.



RoBattle (ELA-6681)

Autonomous Combat System

High maneuverability capabilities in tough terrain teaming with combat maneuvering units.

Autonomously performs Advance Guard, ambushes, acts as a decoy, convoy & force protection, combat Intelligence, Surveillance, Target Acquisition & Reconnaissance (ISTAR), and advance attack capabilities.

BORDER & CRITICAL FACILITY PROTECTION SYSTEMS



Guardium (ELA-6621)

Autonomous Border Protection System

Autonomously performs reconnaissance and surveillance of borders and critical facilities. Hosts lethal and ISR payloads (radars, SIGINT, EO/IR) detecting in real-time intrusions and threats, and performs target acquisition for mitigation. ELTA offers turnkey solutions for border and critical facilities protection programs which the Guardium is the autonomous ground element.

COMBAT ENGINEERING SYSTEMS



RobARC (ELA-6631)

Autonomous IED & Route Clearance System

An integrated multi-payload (passive and active IED detection sensors, RCWS, manipulator etc.) system that autonomously detects IEDs and performs route clearance. Provides effective detection of both surface and underground explosive devices at stand-off ranges. Upon detection, the operator can choose to remove, neutralize or bypass the threat.



RobDozer (ELA-6641)

Autonomous Combat Engineering System

Used for breaching tasks; clears paths through tough terrains and removes obstacles. Additional manipulators can be installed to enhance various engineering missions: defense, barrier, dugout and embankment.

LOGISTIC CONVOYS SYSTEMS



RoboCon (ELA-6611)

Autonomous Logistic Support System

A solution for autonomous logistic convoys with advanced wireless "follow me" capabilities supporting a variety of leading vehicles and logistic platforms (manned or unmanned) according to operational needs.

Preserves the platform's dual use as an unmanned/manned platform.

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