

Defense System

Delivering Powerful Capabilities in a Closed-Hatch Cabin

Future battlefields will require sophisticated armored vehicles that deliver complete situational awareness, protect fighters, and provide an array of cutting-edge capabilities that ensure superiority.

RAFAEL's modular Suite for Future Armored Vehicles addresses these needs, enabling operators to manage all types of missions while remaining safely inside the cabin with closed hatch. The 2 operators can communicate freely with each other without helmets or special glasses.

Suitable for all types of armored vehicles, the Suitewhich has been proven in field tests - can be adapted to any weapon or protection system. System Components are modular and scalable, and can be integrated according to customer requirements

Benefits

- Enhances survivability with closed hatch & smaller crew
- Enables role switching between operators & system
- Delivers fully-augmented (AR), 360° Situational Awareness
- Provides autonomous mission support, including planning and execution
- Enables connectivity with network combat systems
- Modular and scalable according to customer requirements
- Autonomous features reduce crew's cognitive load









Modular Building Blocks

Based on 2 Building Blocks - Situational Awareness and Autonomous Mission Support - the Suite simultaneously acquires and neutralizes multiple targets with pinpoint accuracy and unmatched speed, empowering crews with greater lethality, survivability, and maneuverability.

Fully-Augmented Situational Awareness

Using RAFAEL's computer vision technologies, the situational awareness capabilities of any combat vehicle can be enhanced, using existing sensors and systems.

A unique algorithm combines input from multiple sensors to create the first-of-its-kind 'Transparent Cockpit', providing a 360° panoramic display of the entire battlefield surrounding the vehicle.

Autonomous Mission Support

Combat AI (Combat Artificial Intelligence) - the Suite's autonomous operating system acting as the '3rd operator' - enables a wide range of autonomous capabilities, while the 2 human operators can select the level of autonomy at any given time.

Mission Planning, including route selection, is based on input regarding enemy and friendly force positions, topography, and system recommendations. During Mission Execution, the system calculates the route multiple times per second and continuously recommends changes. It performs ongoing Autonomous Scanning of POIs and potential threats, and alerts the crew. Once a target has been identified by ATR, Weapon Recommendation is initiated, based on distance and impact implications.

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Main Capabilities

- Automatic Target Recognition (ATR) & classification
- Multiple target management with 2 operators using AI
- Augmented Reality (AR) symbols creating a common visual language, used on panoramic and personal screens
- Passive GPS-independent navigation
- 3D Modeling advances
- · Autonomous capabilities: Mission Planning, Mission Execution, Scanning, Weapon Recommendation

Open Architecture and Modularity

Based on open architecture, the Suite is suitable for any armored vehicle - and can be integrated with any weapon station, APS, sensor, or effector. It can be purchased as a complete system - or as separate components that can be integrated as needed.

Training

The embedded simulator/trainer enables mission planning using a simulation of the anticipated environment. Any vehicle can be used for training, thus saving time and logistics costs, and allowing multi-echelon training or mission rehearsal at any time and any location.

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