

# Situational Awareness for Modern Armored Fighting Vehicles

360° 3D Awareness. Real-Time Decisions. At the Vehicle Edge.

Today's armored fighting vehicles operate in environments with limited visibility, asymmetric ground threats, and an increasing presence of low-cost aerial systems. Crews are required to interpret multiple sensor feeds, manage blind spots, and make split-second decisions under extreme pressure.

Maris-Tech delivers a field-proven situational awareness solution purpose-built for manned and unmanned armored platforms. By fusing multiple sensors into a single, real-time operational picture and processing video intelligence directly at the vehicle edge, Maris enables faster understanding, reduced cognitive load, and improved operational response on the battlefield.

The solution is designed for seamless integration into modern AFV architectures, supporting both current platforms and next-generation vehicle designs.

## Solution Overview



## Solution Highlights

### Field-Proven at Operational Scale:

Maris' situational awareness solutions are deployed on over 1,000 operational platforms, including main battle tanks and D9 armored engineering vehicles, and are currently undergoing testing on next-generation APC platforms.

### Modular and Highly Configurable Architecture:

The system supports multiple configurable architectures that enable OEMs and operators to customize sensor layouts, processing capabilities, and outputs to specific missions and vehicle designs.

### Multi-Sensor Fusion at the Vehicle Edge:

Supports integration of up to 12 Day / Thermal / IR sensors, fused into a single, coherent situational awareness picture processed in real time at the vehicle edge.

### 360° and True 3D Situational Awareness:

Delivers full spherical coverage and three-dimensional spatial awareness, providing crews and commanders with an intuitive, vehicle-centric operational view.

### Ground and Aerial Threat Detection:

Enables real-time detection, classification, and tracking of ground-based threats and aerial threats, including drones, providing crews with earlier awareness and response time in complex environments.

### Weapon-System Integration:

Designed to integrate with onboard weapon and fire-control systems, supporting reduced sensor-to-shooter latency and improved operational responsiveness.

### AI Video Pipeline Technology:

Built on Maris' core, field-proven AI video pipeline at the edge, the technology delivers a complete solution for capturing, processing, analyzing, and distributing video intelligence in real time.





## Key Benefits

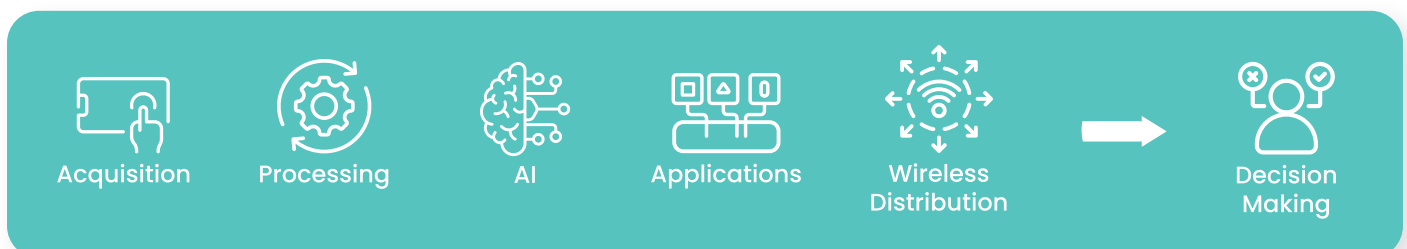
- Improved situational understanding through a single, fused operational picture
- Reduced crew cognitive load by eliminating fragmented sensor feeds
- Faster decision-making thanks to real-time, low-latency processing
- Enhanced survivability via expanded threat detection and awareness
- Improved maneuverability in urban and low-visibility environments
- Ease of integration through a modular, configurable architecture
- Future-ready and aligned with next-generation AFV requirements



## Key Features

- Integration of up to 12 synchronized Day, Thermal, and IR sensors
- Real-time video processing at the vehicle edge
- 360° coverage with true 3D spatial awareness
- AI-based detection, classification, and tracking of ground and aerial threats
- Multi-display support for driver, commander, and crew stations
- Low-latency video distribution across onboard systems
- Real-time recording and data capture to support deep learning and mission debriefing
- Modular, OEM-ready architecture for new and retrofit platforms
- Built-in wireless communications for connectivity to command and control systems
- Compact hardware designed for operation under shock, vibration, and harsh environmental conditions
- Intuitive, user-friendly interface

## Mastering the AI Video Pipeline at the Edge

The Maris Edge is a field-proven technology that delivers a complete solution for capturing, processing, analyzing, and distributing video intelligence in real time – at the tactical edge. The Maris Edge comprises the core engines behind mission-critical video systems, powering smarter decisions, faster response, and total situational awareness.



- **Acquisition:** Multi-sensor video and data capture (HD, thermal, infrared, RF)
  - **Processing:** Compression, encoding (H.264/H.265), and optimization under bandwidth constraints
  - **AI:** Onboard analytics for object detection, classification, tracking, and behavior inference
  - **Applications:** Dynamic user interfaces for situational awareness, threat alerts, and control
  - **Wireless distribution:** Secure, real-time streaming across narrowband or satellite networks
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## About Maris-Tech

Maris-Tech is a leading provider of edge AI video intelligence solutions for defense and security applications. Trusted by leading defense organizations, Maris focuses on delivering real-time situational awareness where it matters most -- at the tactical edge. We develop complete edge AI video solutions for mission-critical operations, deployed on UAVs, AFVs, tactical kits, and observation systems.

### Intelligence at the Edge Anywhere, Anytime, under Any Conditions

Situational Awareness

Intelligence Gathering

Drones

Surveillance

Terrain Dominance

Our comprehensive portfolio of video & AI-based edge computing solutions range from ruggedized, ready-to-deploy platforms to board-level components for OEM integration. All of our solutions can be tailored to your mission requirements, ensuring flexibility across land, air, sea, and space domains.

With a proven installed base and a technology foundation built for operational environments, Maris is a partner for armored vehicle manufacturers seeking to enhance crew effectiveness, survivability, and decision advantage.



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