NORSEMAN
DEFENSE TECHNOLOGIES

Edge for Autonomous Vehicles and Unmanned Systems

AI models running on embedded edge platforms inside autonomous vehicles enable real-time perception, navigation, and decision-making — independent of remote command or GPS reliance.

Use Case

An unmanned ground vehicle (UGV) navigates complex terrain during a reconnaissance mission. Identifying obstacles, determines optimal routes, and avoids threats without constant operator control or GPS.

> **Split-Second Decision-Making –** Processes inputs in milliseconds to avoid collisions or threats.

> **Increased Autonomy –** Enables vehicles to operate without external control in denied environments.

> **Failsafe Operation Without GPS –** Continues mission execution even if navigation aids are disrupted.

> **Enhanced Mission Safety –** Reduces operator exposure and improves task success in high-risk zones.

> **Modular & Scalable –** Works across UGVs, UAVs, surface vessels, and logistics robots.

Intro to Edge Computing

In today's fast-evolving landscape, the need for real-time data processing and actionable insights at the edge has become a critical priority for mission-critical operations. Odin's Edge, powered by Norseman Defense Technologies, is designed to address these demands by delivering scalable, high-performance computing solutions in ruggedized, portable environments. This solution brings unparalleled flexibility, enabling data-driven decisions at the tactical edge while ensuring robust security and seamless scalability.

Core Capabilities:

> **Multi-Sensor Fusion Engine –** Combines LIDAR, radar, visual, and inertial inputs.

> **Real-Time SLAM and Obstacle Avoidance –** Enables live terrain mapping and safe route planning.

> **Embedded AI Inferencing Modules –** GPUs or FPGAs optimized for size, weight, and power (SWaP).

> **Autonomy Stack Integration –** Compatible with PX4, ROS2, and custom control algorithms.

> **Secure and Hardened Edge Compute –** Shock-resistant and thermally stable platforms for hostile terrain.