



INTELLIGENT GROUND SYSTEMS



Near Autonomous Unmanned System (NAUS)

The TARDEC Intelligent Ground Systems NAUS team **MISSION** is to:

- Develop and demonstrate key robotics technologies.
- Reduce Future Combat Systems (Brigade Combat Team) risks through maneuver-based tactical behaviors.
- Increase future unmanned ground vehicle (UGV) performance during mixed manned ground vehicle (MGV)/UGV Platoon maneuvers.
- Identify technology barriers and develop effective solutions to improve the Current Force and realize the superior capability of the Future Force.
- Increase robot survivability through improved system self-security.

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



Applications

Maneuver-Based Tactical Behaviors

The NAUS program is developing tactical/mission behavior technologies to provide autonomous UGVs the capability to maneuver tactically in conjunction and in formation with manned systems.

The program is improving movement formations to enable relevant operational tempo by:

- Utilizing battle drills (action left/right) to facilitate appropriate reactions to a dynamic environment.
- Observing, assessing and breaking contact with enemy forces.
- Managing communication loss using "Beyond [Global Positioning System]" localization.

Surrogate UGV System Self-Security

The NAUS program is developing a platform self-security system that increases the UGV's situational awareness of personnel and vehicles in theater. The system self-security focus is to detect, track and respond (non-lethal threshold) to incoming dismounted threats approaching the UGV in an urban environment or perimeter security in an assembly area.

The platform self-security system will:

- Detect/track/classify threats.
- Recommend responses to Soldiers.
- Allow for users and autonomously initiated responses.
- Provide for threat pre-emption.
- Detect simultaneous threats.
- Supplement the radar detection system with a vision-based detection system.
- Consolidate multi-sensors tracks.