Autonomous Maritime Seaway Navigation System

Enabling the Next-Generation Unmanned Sea Surface Vehicle (USSV)

FarCo Technologies, Inc.

Autonomous Vehicle Technologies

Sea, Air and Space

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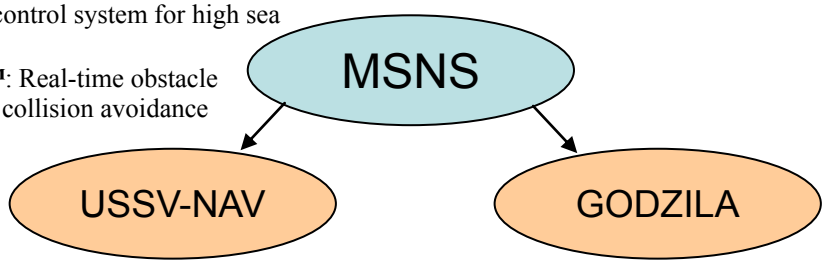
FarCo Technologies' Maritime Seaway Navigation System (MSNS™) offers a robust and high-performance solution for autonomous navigation and obstacle avoidance capable of operating in high sea states and cluttered environments.

MSNS includes two modules which can be deployed independently or in conjunction:

- **USSV-NAV™**: High-performance stabilization and tracking control system for high sea states
- **GODZILA™**: Real-time obstacle detection and collision avoidance algorithm



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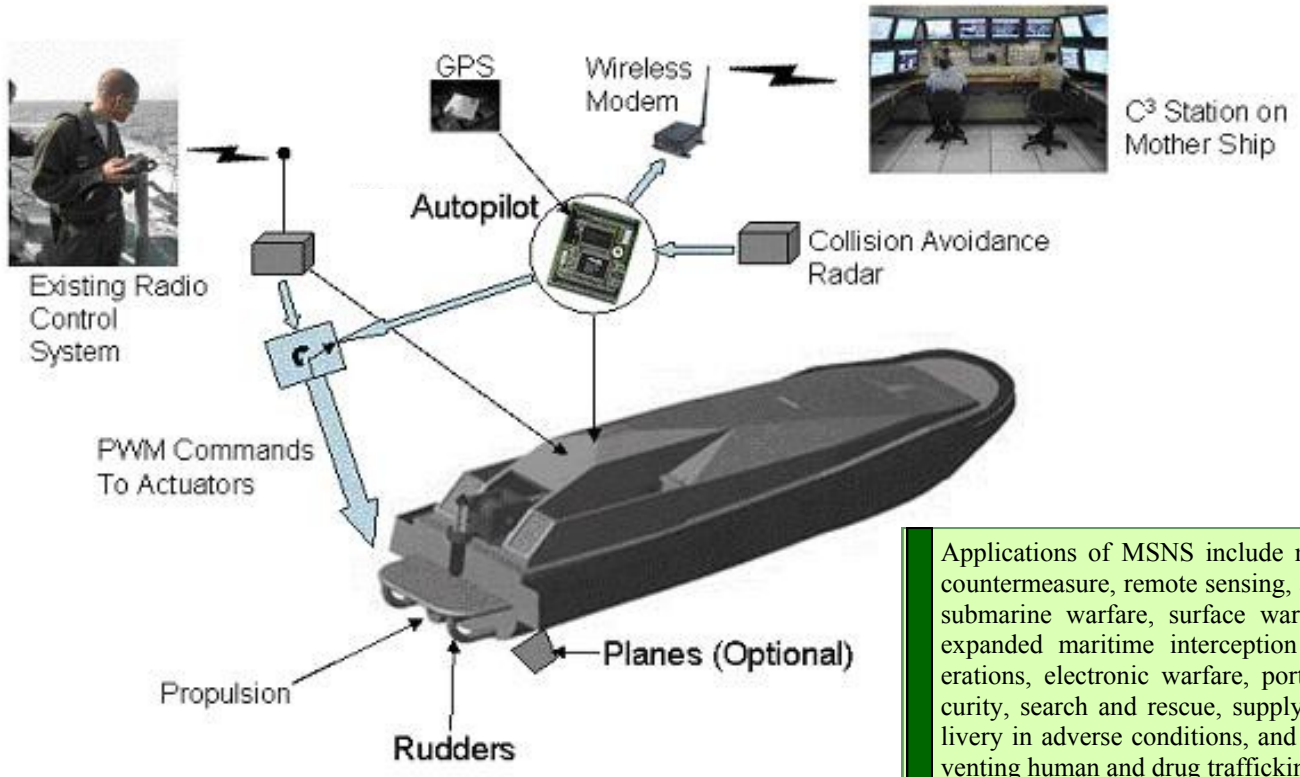
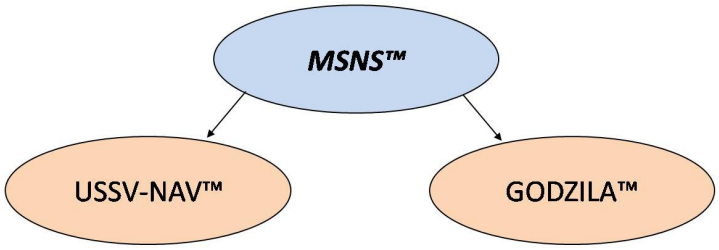


Applications of MSNS include mine countermeasure, remote sensing, anti-submarine warfare, surface warfare, expanded maritime interception operations, electronic warfare, port security, search and rescue, supply delivery in adverse conditions, and preventing human and drug trafficking.

USSV-NAV is a high-performance robust nonlinear control system which simultaneously addresses stabilization/tracking objectives and roll oscillation reduction (by a factor of two) in high sea states (sea state 4 and possibly 5). USSV-NAV provides enhanced mission capability in rough seas and facilitates applications requiring pointing such as sighting and weapon systems through reduced deck oscillations.

GODZILA is a low-resource path planning, obstacle detection, and collision avoidance algorithm based on scalar range measurements to obstacles attained through RADAR (or other sensors). GODZILA is a flexible collision avoidance system applicable to various types of unmanned vehicles. GODZILA enables USSV operation in littoral and cluttered environments such as ports and mine-infested areas.

Maritime Seaway Navigation System



Way Point Tracking and Deck Stabilization

Obstacle Avoidance System

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