Boat Builder Opens up Capabilities Using Autonomous Technology

Sea Machines Robotics has announced a collaboration with TUCO Marine of Denmark to offer remote and autonomous control products as factory options in its line of ProZero workboats. The TUCO Marine Group manufactures a range of modern, efficient workboats at its Faaborg location in Denmark and is specialised in the production of carbon-fibre hulls.

Last week, TUCO Marine & Sea Machines successfully demonstrated the remote command capability of the Sea Machines 300 technology at Danish Maritime Authority's “Zooming into Marine Autonomy Conference” where they impressed attendees by giving live remote command of the water craft to Danish Minister of Industry Brian Mikkelsen.

TUCO CEO Jonas Pederson says that Sea Machines provides technology that enables new methods of optimised operation of the workboats. Immediate market opportunities for remote & autonomous operation are in offshore surveying, security, dredging and more.

Autonomous Command and Management System

The Sea Machines 300 is an industrial-grade autonomous command & dynamic vessel management system that readily interfaces with primary and auxiliary vessel systems. The system uses common modern navigation instruments for positioning and perception, including DGPS, AIS, Radar, and camera-based vision. All autonomy system components are mounted in a standardized stainless steel, IP67 electrical enclosure. Rack-mounted configurations are also available.

Supplied with a graphical user interface, branded TALOS, which enables real time local and remote vessel telemetry and data feed as well as navigation route planning. The system also comes with a remote control industrial joystick. In autonomy mode, the user can plan and execute tasks such as waypoint tracking, search or survey grids, or collaborative tracking of another vessel. The Sea Machines 300 includes a first generation of obstacle and collision avoidance algorithms which abides with IMO’s COLREGs and Rules of the Road for vessel interactions.

Surveying as Immediate Workboat Upgrade

The Sea Machines 300 provides a new realm of vessel operations, like allowing on-board crew to step away from the aspect of manual vessel control and give focus to other complex operations such as back-deck equipment & payload tasks. The system also unlocks the ability to operate a vessel in minimally-manned or unmanned configurations. An operator using Sea Machines technology can control a boat from a remote location with the visibility of vessel-borne video and radar feed and gives the ability to remotely control onboard payloads such as survey sonars, winches, cranes, and davits. The Sea Machines 300 provides an immediate upgrade to traditional workboat tasks such as bathymetric surveying, seismic support, spill operations, dredging, aquaculture, surveillance, area marking, and escort.

The Sea Machines 300 was announced in September 2017, and the company has plans for two more product releases within the next year.