

New High-speed USV Opens Way for Marine Survey Workflows



Marine survey systems, services and solutions specialist Subsea Europe Services has opened the rental book on its next-generation Uncrewed Surface Vehicle (USV) for marine data acquisition to IHO S-44 standards today. Ready for surveying this summer, the Mantis T12 USV, also called the Autonomous Surveyor, has already been put through its paces with two days of intensive

demonstrations at the German Hydrographic Society (DHG) organized Hydrographentag 2022 conference in Bremerhaven earlier this month.

Built by Florida-based USV manufacturer MARTAC Systems, with deep integration of the Subsea Europe Services integrated Hydroacoustic Survey System (iHSS), the Mantis T12 is a lightweight, fast and agile vehicle, able to be deployed from any vessel with even the smallest deck crane. The Mantis T12's performance optimizes marine data acquisition and enables pro-active, value-centric hydrographic survey business models.

IHO S-44 Standard Survey Grade

At 3.6 metres long, with a draft of just 17.8cm and a clean, powerful all-electric motor and propulsion system, the Mantis T12 performance specs easily meet the ability to conduct hydrographic surveys to S-44 exclusive order standards, even under the harshest conditions and strong currents. In comparison to the process of mobilizing a crewed and expert staffed survey vessel (which may not always be ready to go), the speed and operational flexibility of the Mantis T12 can significantly reduce the costs of marine data acquisition and allow for higher utilization.

"We are confident that our new turnkey survey solution will deliver immediate, tangible time and cost savings but looking further ahead, we believe that the application of fast, flexible autonomous vehicles will lower the cost per data package to where we can conduct surveys without a client commission, and that has the potential to transform how end users look at buying and applying marine data," explains Sören Themann, CEO, Subsea Europe Services.

Autonomy Upgrades and New Hydroacoustic Technologies

The performance of the Mantis T12 platform is possible due to technologies and experience gained by MARTAC Systems in creating unmanned patrol and anti-submarine vessels for defence and government clients. Subsea Europe Services expects the solution to enable significant reductions in Operations & Maintenance (O&M) costs for offshore oil & gas fields and wind farms, at first due to its ease of deployment and transit speeds.

Autonomy upgrades and new hydroacoustic technologies will unlock a new phase of efficiencies over the next few years. Forthcoming multibeam systems will allow high-precision data to be collected at speeds in the region of 16 knots while advances in AI will allow the Mantis T12 to adjust its own survey plan according to the real-time data it receives from the hydroacoustic and positioning systems.

Hydrographic USV Swarms

The cost per data package can be reduced further still when using a 'swarm' of Mantis T12 USVs. MARTAC has already successfully demonstrated hydrographic USV swarms in multiple exercises, showing that synchronized unmanned platforms can survey an area of the seafloor many times faster than a single manned platform.

"Speed is a key factor in optimizing marine surveys and providing more value to the end customer," said Daniel Esser, managing director of Nicola Offshore, which will be one of the first survey companies to augment its provision of survey services with the Mantis T12.

"As an offshore specialist with our own high-speed survey vessels, we are very keen to see how this new USV can help us deliver more value for our clients and potentially offer new ways to work, which could make it optimal to adopt lower-cost, more accessible marine data-

as-a-service models in the future,” Daniel Esser added.



Mantas T12 USV is also known as the Autonomous Surveyor.

<https://www.hydro-international.com/content/news/new-high-speed-usv-opens-way-for-marine-survey-workflows>
