

# Zero USV to launch high-endurance, open-ocean autonomous vessel fleet



Autonomous vessel experts and artificial intelligence (AI) pioneers behind the first full-size unmanned research vessel to conduct scientific experiments while autonomously navigating the Atlantic Ocean have announced their plans to launch “the world’s first fully autonomous uncrewed surface vessel (USV) fleet for long-term lease or charter”.

The owners behind the company, Zero USV, a collaboration between the founders of Marine AI and MSubs, aim to have the first vessels fully tested and available by September 2024. With a twin-electric drive for optimum redundancy and a hybrid powertrain for resilience and efficiency, coupled with Marine AI’s GuardianAI autonomy software stack, Oceanus12 is a 12-metre, fully autonomous ‘turnkey’ package ready to sail.

## Over-the-horizon autonomous operations

The company’s founder, Matthew Ratsey, points out that the Oceanus12 is designed from the ground up specifically for over-the-horizon autonomous operations and will allow increased efficiency while offering payload flexibility and reducing risk and human error, especially in harsh or hard-to-reach environments. It utilizes a suite of world-class marine sensors, including the internationally reputed W-band Navtech radar, which forms a key part of a combination of sensor data streams feeding into Marine AI’s GuardianAI autonomy software for real-time processing and analysis, and ultimately COLREG-compliant vessel control and navigation.

Oceanus12 has been specifically designed as a versatile platform, with a very wide range of potential applications from surveys and monitoring of critical assets to safety. These include, for instance, geophysical surveying and mapping, offshore oil & gas exploration and renewables exploration and maintenance but also border control, fisheries science and defence.

The build of the USVs is to be completed by Manor Marine, an OEG Group company, prior to electronics, sensor and software installation. Manor Marine has an established reputation in aluminium vessel construction spanning more than 30 years.

## Pulling relevant technologies together

Matthew Ratsey, who serves as the managing director of [Zero USV](#), stated: “We believe that we are in a unique position, with our company backgrounds and experience, to bring together the technologies required to offer clients an ‘off the shelf’ autonomous vessel, while also being able to offer customization where necessary for specific jobs or clients. There has long been a requirement for proper ‘over-the-horizon’ capable USVs to fulfil a whole host of roles, but pulling the relevant technologies together has been extremely difficult for vessel operators. Zero USV solves that.”

“We now have the world’s first solution to the problem, by not only offering a state-of-the-art 12m over-the-horizon USV as a charter vessel but also with the full backup and maintenance support to ensure 24/7 operations with minimal downtime,” Ratsey continued. With safety and economy uppermost, the vessel will be available for charter or long-term lease for myriad offshore tasks that would otherwise require human presence, with the associated risks and on-water crew costs. Oceanus12 promises to deliver client users significantly greater flexibility and efficiencies and no crew costs. “We’re very excited to be working with such respected marine specialist companies such as Manor Marine and Navtech Radar to deliver a world-first deep-ocean USV charter solution for marine autonomy,” Ratsey concluded.

Currently in production are two Oceanus12-class vessels, with a further eight planned for 2025. Charter will be available in the UK, North America, Canada and Australia as Zero USV rolls out its USVs with global partners.



Oceanus12, a 12-metre fully autonomous ‘turnkey’ package, is poised for immediate deployment. (Image courtesy: Zero USV)

