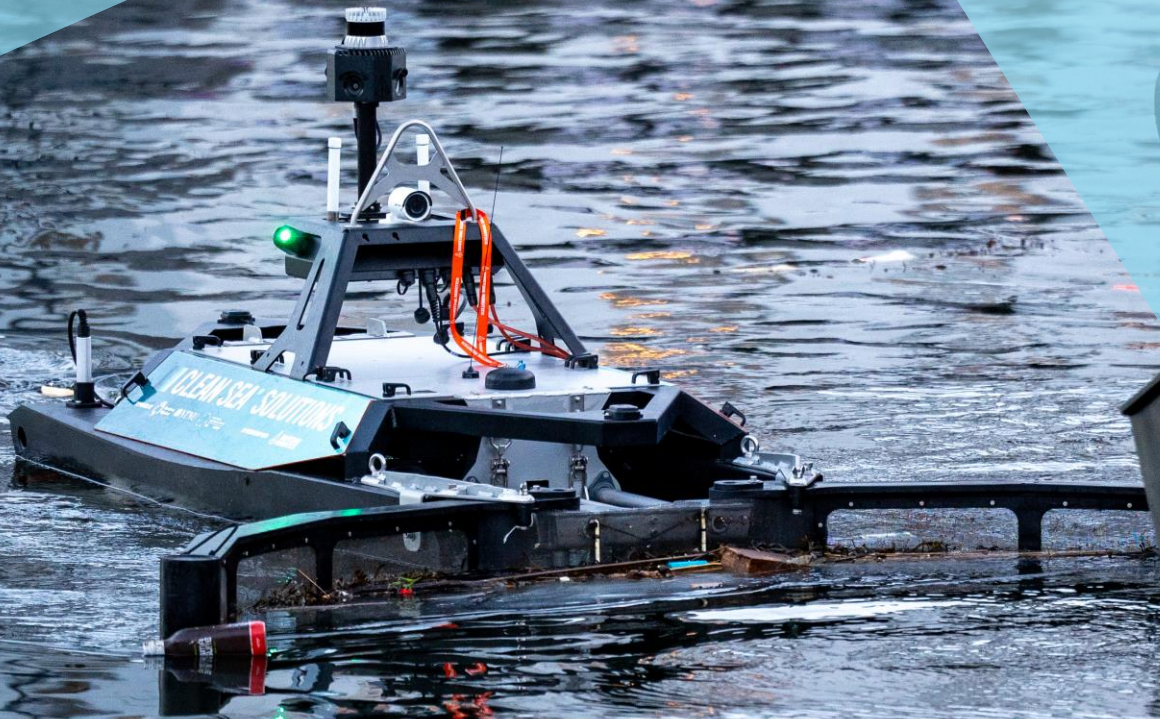


AQUADRONE

A WASTE COLLECTING USV





AQUADRONE - A WASTE COLLECTING USV

Clean Sea Solutions' Aquadrone is an unmanned surface vehicle equipped with movable arms that gather waste floating at the surface. It collects unwanted objects in the marina that otherwise would be uneasily accessed. In addition it streamlines the clean-up process. The Aquadrone leaves the marine area more welcoming for boats, swimmers and bypassing viewers.

The Aquadrone compliments the **Clean Sea Solutions Aquapod**. These products work together to keep the marine area clean. The Aquadrone can cover a larger area than the pod alone, whilst the pod work as a deposit station for the drone.

Further development on Maritime Robotics' Otter resulted in this Aquadrone. The Otter is a robust USV with great steering qualities and a solid duration on the batteries. By attaching arms designed to collect floating objects of various sizes, and by adding the opening and closing mechanism, the Aquadrone has several manoeuvres to clean the marine area.

The Aquadrone can be controlled in several ways. It can move along a predetermined path autonomously, whilst keeping clear of obstacles like boats or swimmers. The drone can also be controlled manually, either trough a computer or an app suitable for phones and tablets.

FEATURES

Autonomus

Not demanding any operator while collecting waste



Self Emptying

Deposits the collected trash into the Aquapod once max capacity is reached



Adaptive

Adapting to weather conditions and ocean currents, the Aquadrone adjusts its collection pattern accordingly



Flexible

Operates effectively in a variety of water environments, including harbours, canals, rivers and waterfronts.



Movable arms

The waste collecting arms can open and close to easier transport the trash to the deposit area



Streaming camera

The recordings from the camera can be used for peripheral monitoring, as well as the drone's computer vision



TECHNICAL SPECIFICATIONS

Dimensions	
Length w/o arms	200 cm
Length w/ arms	300 cm
Width closed arms	108 cm
Arm span	175 cm
Weight	
Without arms and batteries	62 kg
With arms and batteries	100 kg
Operational restrictions	
Min operating depth	32 cm
Max speed	4 kn
Max operating time (4 batteries)	16 h

Integrations

Camera

Lidar

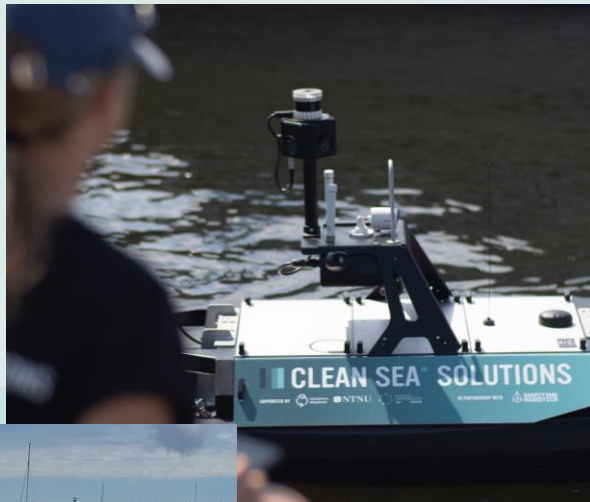
GPS

Both arms and batteries are detachable for easy maintenance and transport

The net can be changed depending on user specifications

The Aquadrone is under continuous development.

There are always ways to ensure an even more efficient waste-collecting system and route planning. Furthermore, additional functionalities can be implemented giving the drone more complex clean-up tasks.



Our development partners:

Maritime Robotics
NTNU
Port of Oslo