SAILDRONE SURVEYOR

Autonomous uncrewed vehicle for deep-ocean multibeam mapping

The world's most capable, proven, and trusted USVs

Autonomous IHO-compliant Surveys, Multibeam Mapping, and Ocean Data Collection

Uncrewed mapping vehicle for depths to 7,000 m

Saildrone is a US small business that designs, manufactures, and operates a fleet of the world's most capable, proven, and trusted uncrewed surface vehicles (USVs).

Predominantly powered by wind and solar, Saildrone USVs are capable of extreme-duration missions of over nine months in the open ocean, while producing a minimal carbon footprint. With a speed up to 10 knots, the Saildrone Surveyor carries sonar equipment capable of seafloor mapping to 7,000 meters.

The impressive capabilities of Saildrone's autonomous vehicles have been proven in numerous operational missions for science, ocean mapping, and maritime security, covering 800,000+ nautical miles from the Arctic to the Antarctic. The Saildrone fleet has logged 18,000+ days at sea in some of the most extreme weather conditions on the planet.

ACOUSTIC PAYLOADS

Multibeam Sonar

Kongsberg EM 2040
<400 m

Kongsberg EM 304
<7,000 m

Echo Sounder

Simrad EK80
for ecosystem monitoring

ADCPs

Simrad EC150 ADCP
300-500 m

Teledyne Pinnacle 45 ACDP

Additional capabilities include:

- Near-real-time acquisition monitoring
- Onboard data processing
- Seafloor classification
- High-resolution feature mapping
- Nautical chart validation
- Winch SVP to 500 m

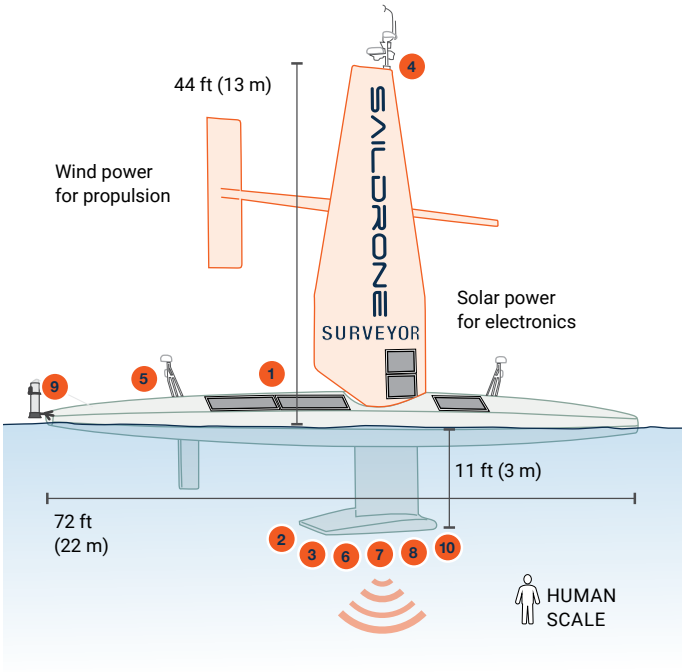
ENVIRONMENTALLY FRIENDLY

SECURE DATA PORTAL

AMERICAN MADE, OWNED, AND OPERATED

SAILDRONE SURVEYOR

Autonomous IHO-compliant surveys, multibeam mapping, and ocean data collection to depths of 7,000 m



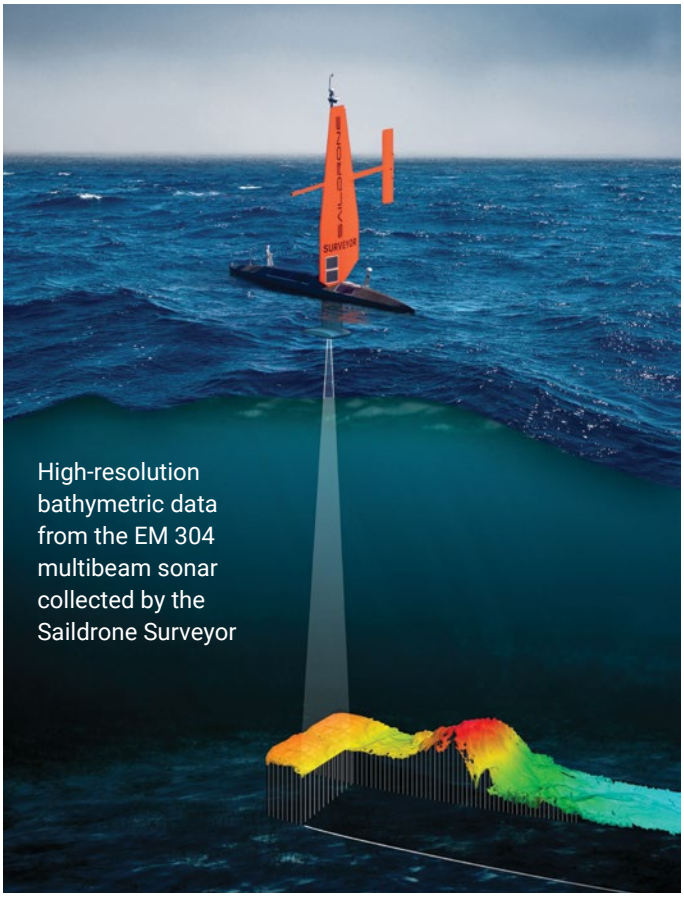
VEHICLE SPECIFICATIONS

Hull length:	72 ft (22 m)
Wing height:	44 ft (13 m)
Draft:	11 ft (3 m)
Primary propulsion:	Wind (Saildrone wing)
Auxiliary propulsion:	78 hp high-efficiency diesel
Mapping speed:	6 knots
Endurance:	2,500 nm @ 6 knots under power; 9+ months under sail
Payload power:	2,000 W steady state 4,000 W peak

PAYLOAD OPTIONS

No.	Variable	Sensor
1	Positioning	Seapath 380+ GNSS/INS system
2	Deep-water bathymetry	Kongsberg EM 304 multibeam sonar
3	Shallow-water bathymetry	Kongsberg EM 2040 multibeam sonar
4	Wind speed & direction	B&G WS730S
5	Barometric pressure	Yacht Devices YDBC-05N
6	Ocean currents	Simrad EC150 ADCP
7	Ocean currents	Teledyne Pinnacle 45 ACDP
8	Fish biomass	Simrad EK80 echo sounder
9	Sound velocity profiler	Valeport sound velocity probe (cast depth: 500 m)
10	Surface sound velocity probe	Teledyne SVP 70 (fixed on bottom of gondola)


Bathymetry sensors on Saildrone Surveyor gondola



High-resolution bathymetric data from the EM 304 multibeam sonar collected by the Saildrone Surveyor

"We are confident [the Saildrone Surveyor] will expand the capability of our existing fleet of ships to help us accelerate in a cost-effective way our mission to map, characterize and explore our nation's deep ocean territory."

—Alan Leonardi, Former Director
NOAA Office of Ocean Exploration and Research