



# SAILDRONE

Autonomous vehicles for offshore wind farms



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

## Environmentally Friendly Life Cycle Solutions for Offshore Wind

***The only uncrewed wind-powered vehicle to provide ocean data, maritime security, and mapping.***

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

Saildrone USVs are powered predominantly by renewable energy—wind and solar—producing a minimal carbon footprint. They carry state-of-the-art scientific sensors to collect the data required to develop and maintain an offshore wind farm, from high-resolution ocean mapping and establishing a metocean baseline to persistent year-round ecosystem monitoring and maritime security solutions.

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

### SCOPE OF CAPABILITIES

#### Wind farm life cycle support

- Site assessment
- Development
- Construction
- Operation

#### Ocean mapping

- Autonomous seafloor mapping
- Sub-bottom profiling

#### Environmental Data

- Complete suite of atmospheric and oceanographic sensors

#### Autonomous security

- 24/7/365 real-time surveillance directly to operations center

#### Marine life detection

- 360° cameras with machine learning above the surface
- Passive acoustics for underwater noise monitoring

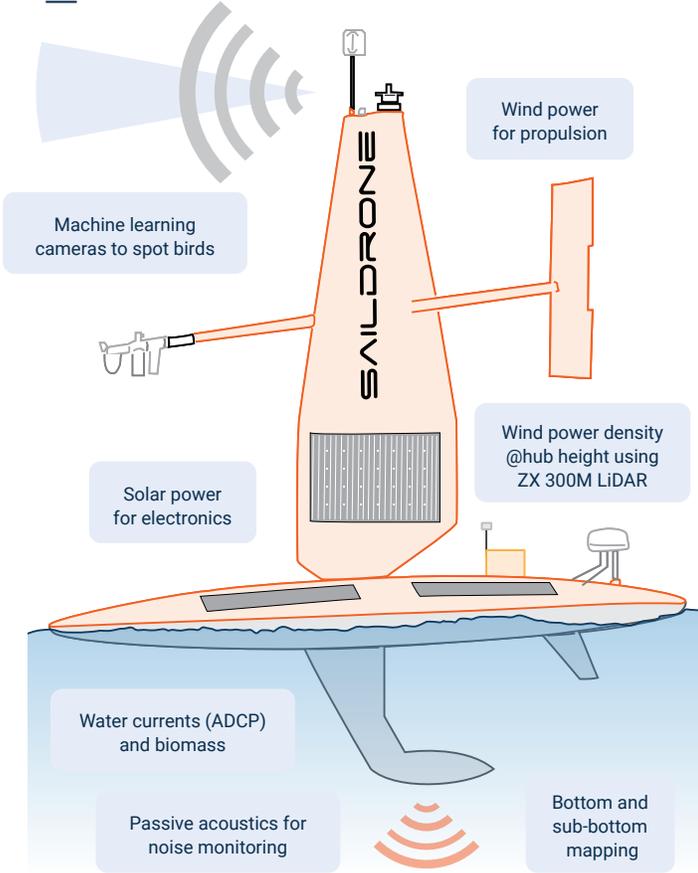
ENVIRONMENTALLY FRIENDLY

MACHINE LEARNING CAPABILITIES

SECURE DATA PORTAL



AMERICAN MADE, OWNED, AND OPERATED



Offshore wind projects require detailed understanding not only of wind conditions, but also of the entire ocean ecosystem and seafloor topography. Potential sites must be surveyed to establish an ecological baseline and understand potential ecological impact of a wind farm. Identified sites require persistent year-round monitoring of metocean variables and continuous surveying of the seafloor for topographical shifts due to sediment redistribution by ocean currents.

### The SAILDRONE Advantage

Ocean data collection required for the construction and operation of offshore wind farms typically relies heavily on fixed buoys and met towers, which are expensive, tied to a single location, and challenging to service. Critical ocean mapping is done by survey ships that are expensive and difficult to book, causing costly construction delays.

Saildrone solves these challenges with our uncrewed surface vehicles that can perform multiple critical missions concurrently to support wind farm operations—from metocean data collection and mapping to asset security. Saildrones support the entire life cycle of the offshore wind farm and are highly cost-effective, proven, and capable.

*The only uncrewed wind-powered vehicle to support the entire offshore wind life cycle*

### VEHICLE SPECIFICATIONS

EXPLORER	
Length	23 ft (7 m)
Wind propulsion:	3 knots avg.
Endurance	>365 days
VOYAGER	
Length	33 ft (10 m)
Wind propulsion:	5 knots avg.
Endurance	>180 days
SURVEYOR	
Length	72 ft (22 m)
Wind propulsion:	6 knots avg.
Endurance	>180 days

### Machine Learning-enabled Asset Security

Saildrones use optical cameras and advanced machine learning algorithms to deliver real-time, visual detection of anything in the vicinity of protected assets or offshore wind farms, including commercial and recreational boats or other vessels that may choose not to transmit their position.

Saildrones also detect and identify natural visitors like whales, seabirds, and bats.

The location of detected targets is fused with other data sources—AIS and acoustics—to deliver a fully informed picture of the surrounding marine areas providing advanced security 24/7/365 days a year.



ML-enabled 24/7/365 Maritime Monitoring  
( Illustrative image only )

