



The Founder of Unmanned Surface Driving Technology
The Founder of Surface Cleaning Robots



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ORCAUBOAT

Better Self-driving. Better Water Bodies.



<https://orca-tech.cn/en>

COMPANY PROFILE



Founded in 2017, ORCAUBOAT focuses on the research and development of unmanned surface driving technology and the innovation and application of surface service robots. As a leading tech company, we hold several records, including the highest mileage record in the industry, the world's first multi-sensor dataset for the unmanned surface vehicle, and the world's first dataset for floating waste detection.

At the application level, ORCAUBOAT designs standardized unmanned environmentally friendly vessels for high-frequency and high-demand scenarios on water surfaces. Dedicated to comprehensive solutions to the intelligent (unmanned) maintenance and management of urban water bodies, we play a unique role with significant impacts in the industry. To this date, we have delivered integrated surface cleaning robot services of over 650,000 km, covering hundreds of water areas across nearly 10 countries worldwide.

On the technical front, ORCAUBOAT pioneers the development of standardized unmanned surface driving systems, facilitating intelligent navigation for leisure vessels, unmanned logistics ships, ship ADAS, and various other smart water surface applications. As a unicorn in unmanned surface vehicles, our team keeps scaling new heights in the industry.

111 invention patents

39 trademarks across **30+** countries

13 authorized patents

4 software copyrights

- Member of the United Nations Global Partnership on Marine Litter (GPML)
- United Nations Young Champion of the Earth for Asia and the Pacific
- Establishment of a joint laboratory with the China Waterborne Transport Research Institute and School of Marine Science and Technology at Northwestern Polytechnical University, setting the benchmark for the intelligent ship industry
- Establishment of a training base in collaboration with the Department of Electronic Engineering at Tsinghua University, serving as a model for industry-university-research integration
- Champion of the AIM Congress 2024 China Division
- Champion of the James Dyson Award China Division
- Champion of the Global Social Venture Competition China Division
- Champion of the 2019 Create@ Alibaba Cloud Startup Contest
- Grand prize in the Silk Road Robotics Competition
- Champion of the China Innovation and Entrepreneurship Competition

1. Surface Cleaning Robots



SMURF
Surface Cleaning Robot



TITAN
Surface Cleaning Robot



MOSHARK
Surface Mowing Robot



WASTEWHALE
Surface Cleaning Robot

2. Autonomous Leisure Boats



Uboat-XI
Autonomous Pontoon Boat



Uboat-YANG
Autonomous Floating Space on Water



3. ORCAUBOAT Advanced Systems for Intelligent Sailing



Surface Cleaning Robots

SMURF Surface Cleaning Robot

TITAN Surface Cleaning Robot

MOSHARK Surface Mowing Robot

WASTEWHALE Surface Cleaning Robot

Shore-based Intelligent Charging Dock

Surface Cleaning Robots

Industry Challenges

Manual water surface cleaning: costly, hazardous, inefficient

Traditional water data collection: expensive, difficult, inefficient

ORCAUBOAT Solutions

"Technology products + data services" to facilitate industry-wide intelligent digital upgrades

ORCAUBOAT has developed a range of unmanned cleaning boats for water surface garbage collection, water data monitoring, security patrol, etc. ORCAUBOAT is committed to providing intelligent solutions for the maintenance and management of urban rivers, lakes, reservoirs, ports, and more.

SMURF
Surface Cleaning Robot



TITAN
Surface Cleaning Robot



MOSHARK
Surface Mowing Robot



WASTEWHALE
Surface Cleaning Robot



Applications

Smart
Water Supply

Smart
Water Conservancy

Smart
Environmental
Protection

Smart
Sanitation

Smart
Water Ecology

Software
Systems



Customized Management
System



Smartphone App for
Cleaning Team Members



Tablet App for Cleaning
Team Leaders



FAE Management
System

Standard
Functions



Garbage Collection



Aquatic Plant Mowing



Water Quality Monitoring



Routine Patrol

Charging
Equipment

Cable-Connected
Charging Pile



Intelligent
Charging Dock



Surface Cleaning Robots

SMURF Surface Cleaning Robot



SMURF Surface Cleaning Robot

This unmanned cleaning boat is the world's first standardized production of intelligent unmanned surface cleaning. It combines water surface cleaning, intelligent security patrolling, and water quality monitoring for 24/7 online response and user-friendly operation, primarily serving rivers within a width of 10 meters, small to medium-sized artificial lakes, reservoirs, and similar water bodies.

Specifications

Hull size	2921*1763*1080 mm
Material	high-strength aluminum alloy
Weight	155kg
Capacity	50kg
Draft depth	0.47m
General speed	0.8-1m/s
Maximum speed	2.2m/s
Charging time	5h
Battery life	6-8h
Maintenance area per boat	30,000-65,000m ²
Power type	2sets of 24V*80AH lithium batteries



Surface Cleaning Robots

TITAN Surface Cleaning Robot



TITAN Surface Cleaning Robot

This environmentally-friendly robot integrates features like surface garbage collection, water quality monitoring, and security patrol services. It can be applied to urban inland rivers, medium-sized and large artificial lakes, reservoirs, and similar water bodies.

Specifications

Hull size	4030x2980x1480mm
Material	high-strength aluminum alloy
Weight	430kg
Capacity	100kg
Draft depth	0.45m
General speed	0.8-1m/s
Maximum speed	1.5m/s
Charging time	6h
Battery life	6-8h
Maintenance area per boat	65,000-130,000m ²
Power type	4 sets of 24V*80AH lithium batteries



Surface Cleaning Robots

MOSHARK Surface Mowing Robot



MOSHARK Surface Mowing Robot

This intelligent water maintenance robot is designed for medium-sized and large water bodies, with 4 core functions: aquatic plants removal, water quality monitoring, autonomous charging, and security patrolling. It excels in tasks such as water plants identification, water surface cleaning, and autonomous return. Ideal for natural lakes, urban parks, golf courses, and other commercial waters, it offers 24-hour standby capability and all-weather control to maintain the health of waters and landscapes.

Specifications

Hull size	4700*2500*1930mm
Material	high-strength aluminum alloy
Weight	800kg
Capacity	150kg
Draft depth	0.4m
General speed	0.8-1m/s
Maximum speed	1.5m/s
Charging time	5h
Battery life	6-8h
Maintenance area per boat	130,000-200,000m ²
Power type	2 sets of 24V*80AH lithium batteries

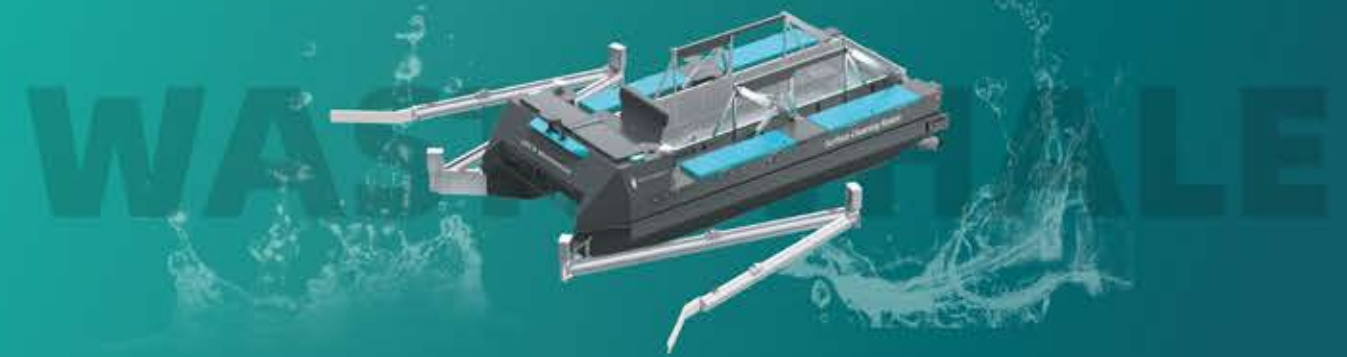
Key Highlights

Unmanned Operation	Visible Wheels
Longitudinal and Transverse Sickle	Adjustable Cutting Depth
Waste Weighing Capability	Automatic Lifting of Waste Basket



Surface Cleaning Robots

WASTEWHALE Surface Cleaning Robot



WASTEWHALE Surface Cleaning Robot



WASTEWHALE is a large and highly efficient unmanned cleaning boat tailored for multiple water surface cleaning demands. It adeptly gathers various types of stubborn water surface debris, including fallen leaves, cyanobacteria, and oil. Primarily deployed for routine cleaning in large water bodies such as urban rivers, lakes, and ports, it offers significant advantages over manual cleaning approaches. It saves 12-14 manpower hours and reduces cleaning expenses by 75% compared to manual methods.

Product Features

Intelligent Operation	Manned & Unmanned Modes
High-efficiency	Available Along Various Edges
Capable of Handling Multiple Types of Garbage	

Key Highlights

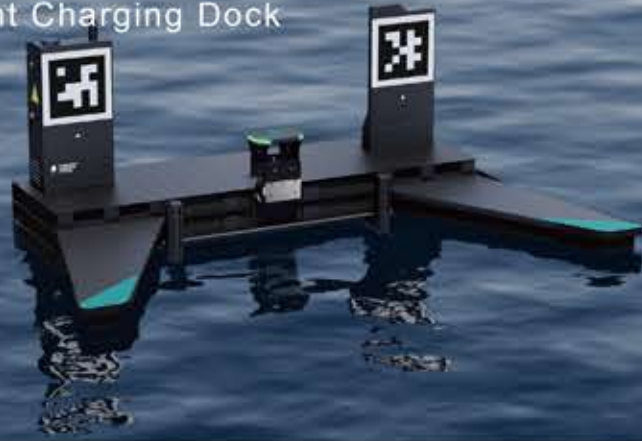
Original 6-degree-of-freedom Robotic Arm
L4 Fully Autonomous Operation
Unique Omnidirectional Propulsion Device
Intelligent Lifiable Submerged Waste Basket

Specifications

Hull size	4950*2360*1600mm
Material	high-strength aluminum alloy
Weight	1300kg
Capacity	500-700kg
Draft depth	0.5m
General speed	0.5-1.2/s
Charging time	6h
Battery life	8-10h
Maintenance area per boat	300,000m ²

Surface Cleaning Robots

Shore-based Intelligent Charging Dock



Shore-based Intelligent Charging Dock

The intelligent charging dock is designed to enhance the surface interaction environment for unmanned vessels, ensuring they can operate effectively in all weather conditions.

Industry Challenges

- Maintenance and repair complexities
- High demand for manpower
- Difficulties in parking unmanned boats along natural shorelines
- Limited compatibility with 24/7 operation

Specifications

Charging Dock

Charging dock size	2588*1670*1195mm
Switch box size	340*230*910mm
Material	high-strength aluminum alloy
Weight	54kg
Wind & wave resistance level	3
Minimum working depth	0.6m
Communication	4G cloud communication, Bluetooth communication



Power

Input voltage	110V / 220V
Maximum charging power	750W
Maximum charging current	26A
Charging time	5h
Waterproof rating	IP54

Surface Cleaning Robots



Main Advantages

– Efficient



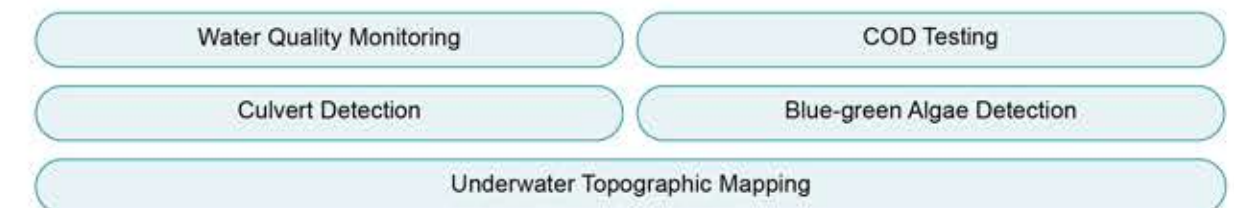
– Real-time

16 working hours/day (with continuous charging) **24/7** response

– Safe

The adoption of a fully automated working mode replaces manual operations, effectively mitigating the risk of drowning accidents for staff.

– Versatile

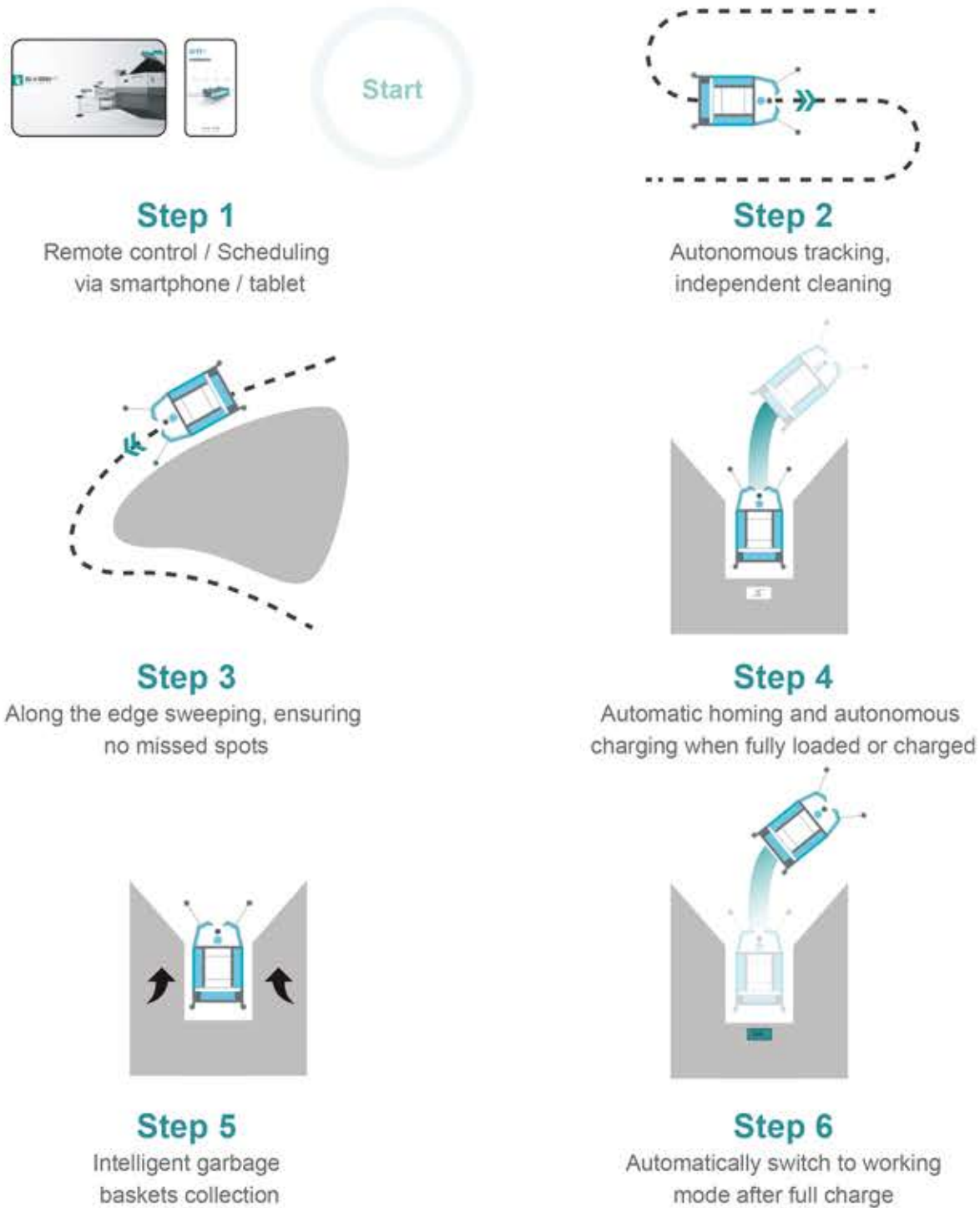


– User-friendly

ORCAUBOAT surface cleaning robots operate independently of employees' working conditions and attitudes. They collect garbage based on system commands, requiring no specific skills from the staff. One person can control multiple vessels simultaneously, significantly enhancing work efficiency and cleaning quality. What's more, a fully automated work mode enables digital management and reduces the workload for the management personnel.

Surface Cleaning Robots

Workflow



Surface Cleaning Robots

Cases

in **10** countries, **50+** cities, **100+** waters, **650,000+** kilometers



River Thames, United Kingdom



Sentosa, Singapore



West Coast, Singapore



Barcelona, Spain



Bangkok, Thailand



PT.IWIP, Indonesia



San Tin, Hong Kong



Tsinghua University, Beijing



Changfeng Park, Shanghai



Ziyang Park, Wuhan

Autonomous Leisure Boats

Uboat-XI Autonomous Pontoon Boat

Uboat-YANG Autonomous Floating Space on Water

Autonomous Leisure Boats

Uboat-XI Autonomous Pontoon Boat



Uboat-XI Autonomous Pontoon Boat

With the vision of "Better Self-driving and Better Water Bodies", ORCAUBOAT aims to capitalize on technology to empower the industry and enhance the travel experience for the public. "Uboat-XI" self-driving leisure boat not only addresses the gap between unmanned surface technology and the cultural tourism industry, but also revolutionizes the control process and business model of traditional cruise ships.

Key Highlights

Automated Driving

Cutting-edge Design

Intelligent Service

Safety Features

Specifications

Hull size	5305*2740*2950mm
Passenger capacity	8-10
Drive modes	manual / remote / auto
Draft depth	0.8m
Water depth for working	>1m
General speed	2.2m/s
Battery life	6-8h
Battery type	lithium battery
Positioning module	GNSS + IMU + SLAM
Sensor module	laser radar + millimeter-wave radar + HD camera



Autonomous Leisure Boats

Uboat-YANG Autonomous Floating Space on Water



Uboat-YANG Autonomous Floating Space on Water

This innovative vessel is the world's first unmanned water super space, seamlessly merging advanced technology with luxury. Ideal for diverse business such as private receptions, waterfront cafés, floating karaoke bars, and more, it provides visitors with an unmatched futuristic experience on lakes and rivers.

Key Highlights

Autonomous Driving Capability

Electrochromic Glass Technology

Voice-controlled Interaction

Fragrance Dispensing System

Intelligent Lighting Features

Heating & Cooling Air Condition



Jinji Lake, Suzhou



Hancheng Lake, Xi'an

Specifications

Hull size	6610*5900*3275mm
Passenger capacity	4-8
Waterline length	4.98m
Water depth for working	>1m
Maximum speed	1.2m/s
Battery life	8-10h
Battery type	lithium battery
Positioning module	GNSS + IMU + SLAM
Sensor module	laser radar + millimeter-wave radar

Autonomous Leisure Boats

Cases



Honghe Dongfengyun Town, Yunnan



Xuanwu Lake, Nanjing



Yunhe Park, Wuxi



Jinji Lake, Suzhou



Slender West Lake, Yangzhou



City Wall Moat, Xi'an



Dishui Lake, Shanghai



Dong Lake, Wuhan



Jinji Lake, Suzhou



Mingyue Lake, Chongqing

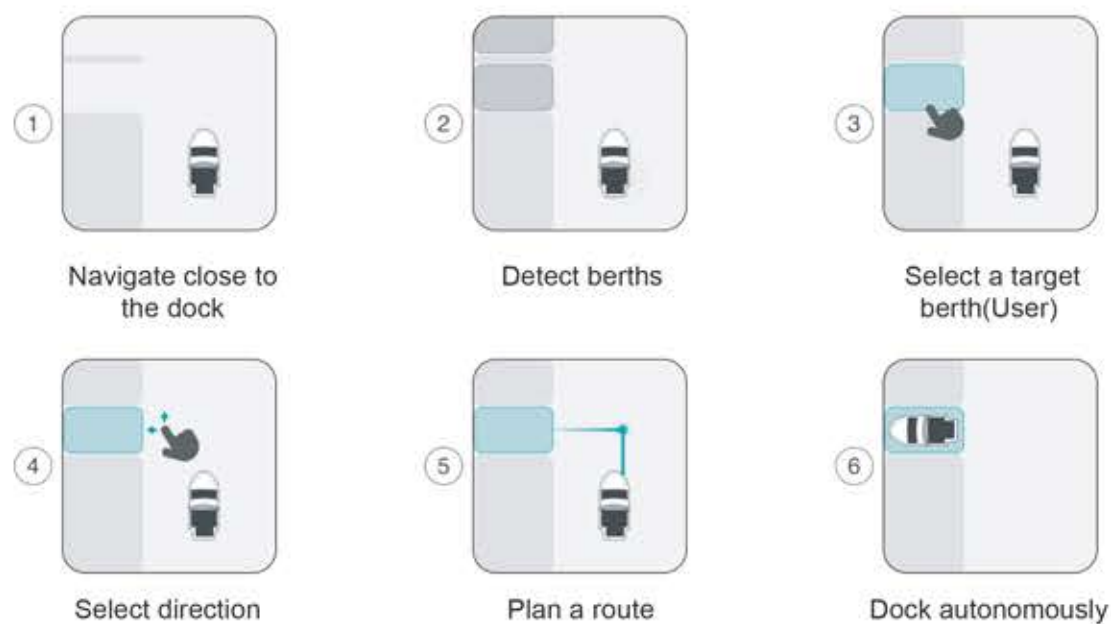
Autonomous Leisure Boats

Undocking:

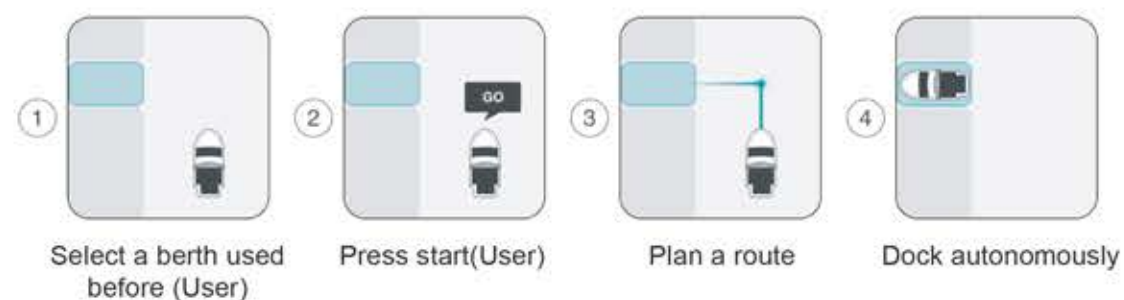


Docking:

Mode 1:



Mode 2:



OASIS



OASIS

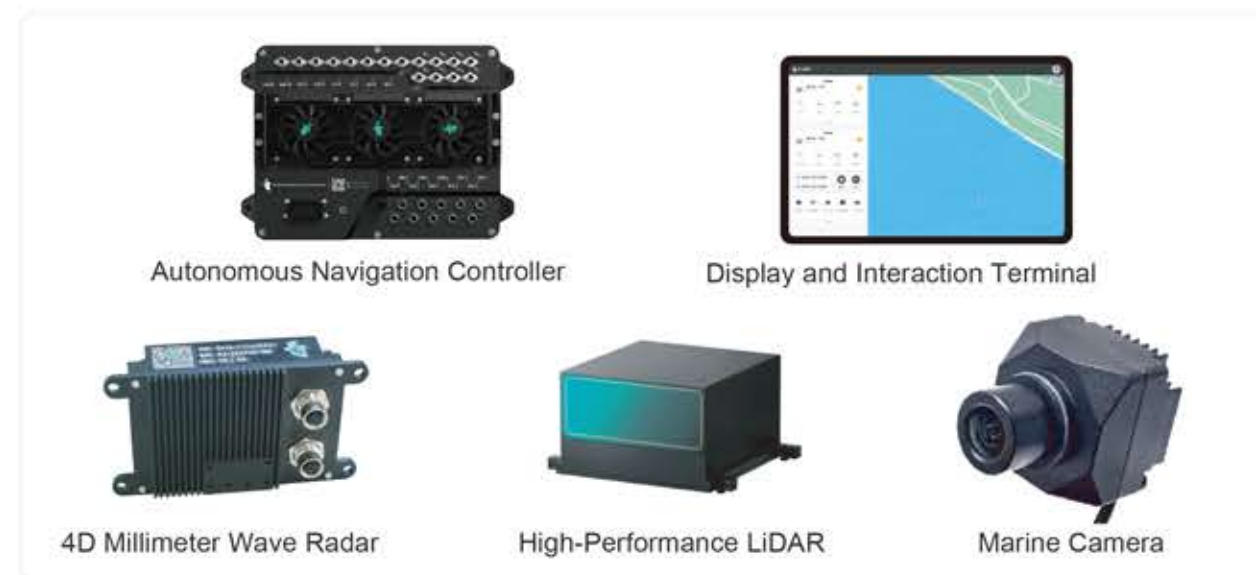
ORCAUBOAT Advanced Systems for Intelligent Sailing

OASIS - Insight

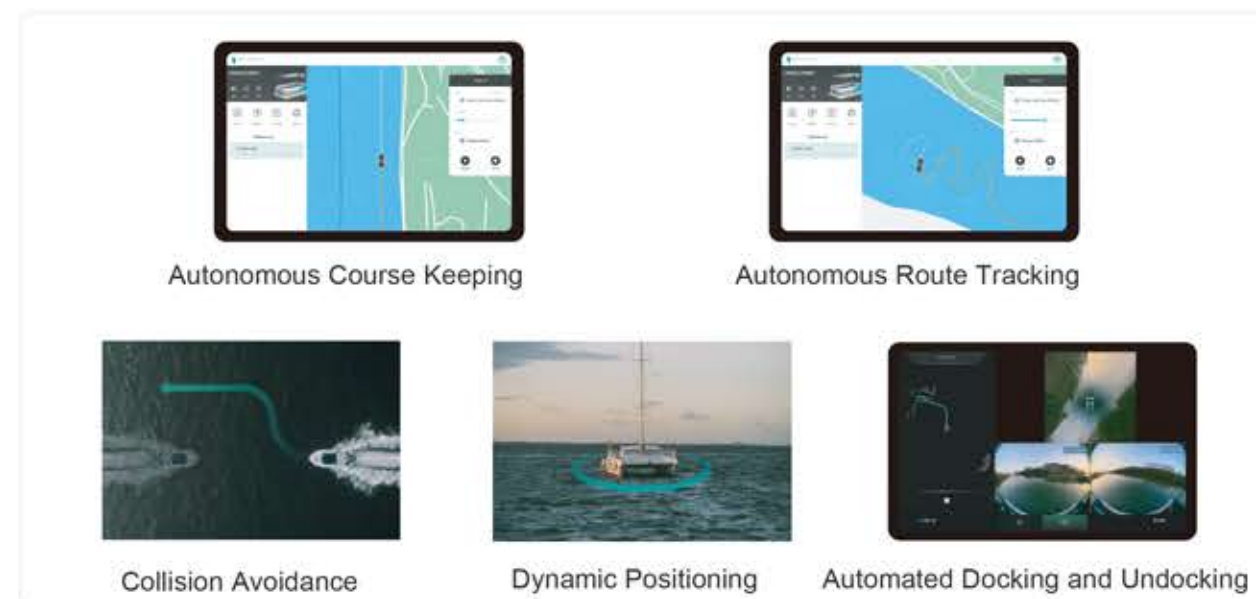
OASIS-Insight, utilizing semi-autonomous driving technology, provides comprehensive navigation assistance, ensuring safer and more relaxed voyages.

OASIS - Pilot

OASIS-Pilot engages in active control of the boat, offers a sailing experience that surpasses manual operation, and makes navigation worry-free and more efficient.



Features



Key Highlights



Reduce the Burden of Boat Operator

The automated and semi-automated assistance sailing systems can help the operator handle repetitive and complex tasks, such as route navigation and hazard identification, thereby reducing their workload.



Enhance Efficiency

OASIS can optimize navigation outcomes, reduce fuel consumption and operational costs, while simultaneously increasing overall navigation efficiency.



Easy to Install

OASIS features a modular design that allows for customizable selection and upgrades as needed, and can be easily integrated with onboard AIS systems, navigation radar, and other equipment.



Improve Safety

OASIS is capable of 24/7 real-time monitoring of the boat's surroundings, including other boats, buoys, shallows, and obstacles, thus significantly reducing the risk of collisions.

Investors



Advisors



Partners

