

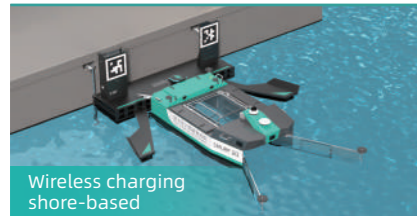
Product parameters

Hull size (length, width, height/mm)	2860*1700*1050
Hull material	High strength aluminium alloy
Hull weight	140KG
Loaded garbage	50KG
Battery life	8-10 hours
Charging time	6 hours (5%-90%)
Depth of immersion	470mm
Maintain waters	40-70 acres
Safety protection and dustproof design	IP65
Power plant	Electric propulsion
Speed of work	1.4m/s
Maximum speed	2m/s

Configuration service

Basic configuration

PAD control panel	Standard	Wireless charging shore-based	Optional
Charging cabinet	Optional	Unmanned boat intelligent management system	Optional



Wireless charging shore-based



Charging cabinet

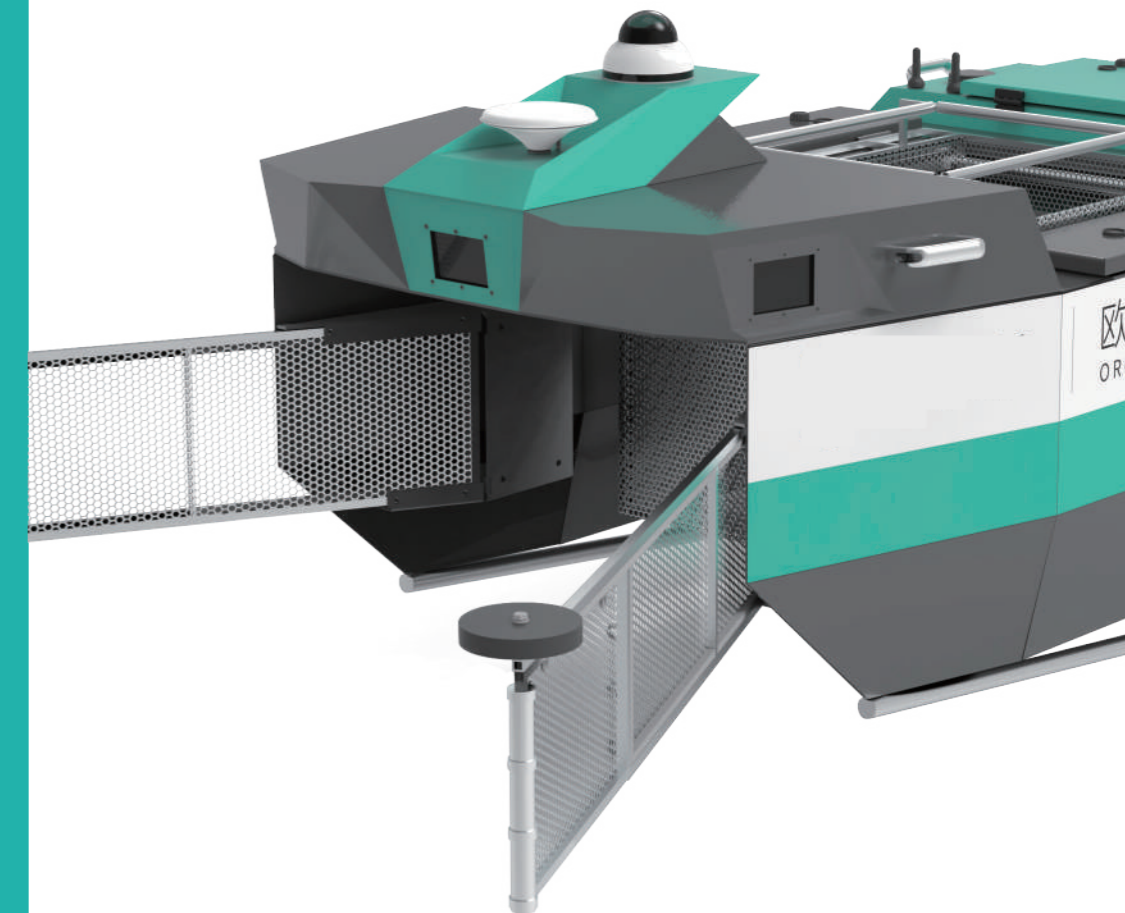
Value-added module

Conventional 5 parameter monitoring module	Chlorophyll detection module	Blue-green algae detection module
COD detection module	Ammonia nitrogen detection module	
Water depth detection module	Bluetooth smart audio module	



SMURF Unmanned Cleaning Boat

Multifunctional and suitable for a variety of waters



SMURF Unmanned Cleaning Boat

SMURF is the first unmanned cleaning boat in China that integrates surface garbage cleaning, intelligent inspection, and data monitoring. SMURF is mainly used in urban inland rivers, landscape lakes, reservoirs, offshore waters, and other water bodies. SMURF was awarded the title of "China Best Smart Sanitation Equipment".



Core functions



Unpowered
cleaning



Daily water area
inspection



Data
monitoring



Automatic
charging

Product Advantages

	SMURF	Traditional cleaning	Semi-automatic machiner
Maintenance area	70 acres/boat	20 acres/person	100 acres/person + boat
Length of work	16h/day (automatically charges itself)	6h/day	6h/day
Safety	Driverless, 100% safe	People + tools, high labour risk	Manned driving, high driving risk
Response efficiency	24h all-day response	Working time response	Working time response
Energy consumption	Clean energy, charges at night, works during the day	Manpower	Gasoline energy, need to be purchased at the petrol station
Skill requirements	Smart machine operation, easy to use, no certificate required	Skilled in using tools, skilled in ferrying boats, swimming license required	Skilled in mechanical boat driving, swimming license and crew certificate are required
Working quality	Machines clean-up, quality of clean-up is consistent	Affected by workers' status and attitude	Affected by workers' status and attitude, equipment maintenance is complicated, large equipment cannot be adapted to all water bodies

Product highlights

RTK High-precision positioning

Based on RTK's high-precision positioning, the unmanned boat can achieve centimetre-precision water surface positioning and better cope with complex water bodies.

Autonomous and precise obstacle avoidance

Relying on the equipped millimetre-wave radar + vision sensor, the unmanned boat can accurately avoid obstacles and can perform scene modelling of operating waters.

Intelligent path optimization

With the support of intelligent algorithms, the unmanned boat can independently plan the best cleaning path, which can achieve efficient and safe water cleaning operations.

Automatic lifting of garbage basket

The garbage basket can be automatically lifted to facilitate the dumping of garbage, and at the same time, it can reduce the water resistance during sailing.

The latest generation flexible extension arm

Using the industry's latest generation of flexible extension arms, it can clean all edges and spots in the water body, including the tiniest spot.

The latest generation battery system

Using the latest BYD batteries + LG imported batteries, the battery life can reach 10 hours.

Double boat pulling net technology

Support the double-vessel pulling net cleaning scheme, greatly increasing the water areas cleaned, and making the water cleaning process more efficient.

Bluetooth Smart Speaker

Equipped with Bluetooth smart speakers, it can warn illegal fishing and dangerous behaviours in water as soon as possible, and achieve efficient and safe inspection.

Project cases

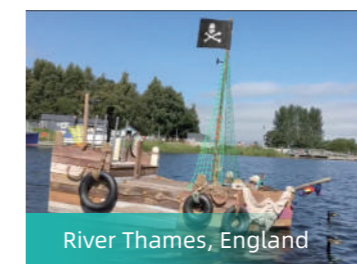
It has been employed in **10** countries, **50+** cities, **100+** water bodies, **400,000+** kilometres of sailing mileage.



Port of Barcelona, Spain



Lotus Pond in Tsinghua University, Beijing



River Thames, England



Sentosa Port, Singapore

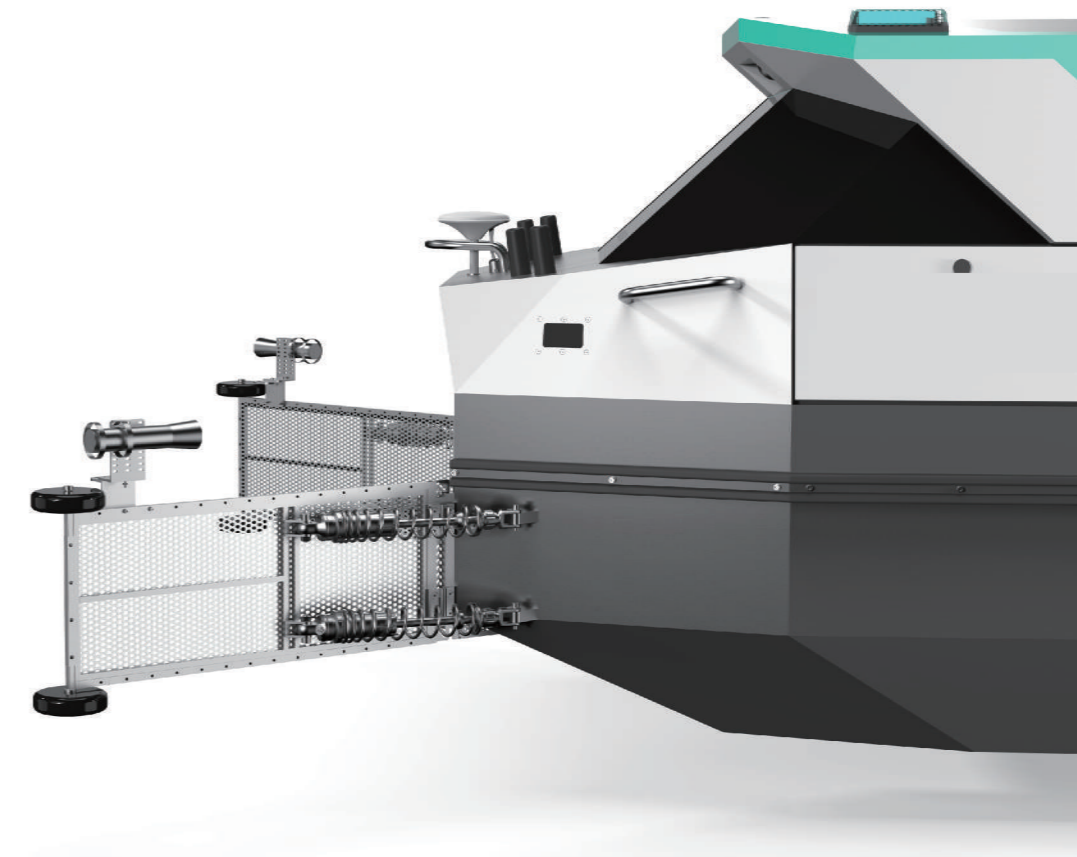
Product parameter

Product name	TITAN unmanned cleaning boat
Hull size · Length, width and height/mm (extension arm not included)	3150 × 1660 × 1480
Hull size · Length, width and height/mm (standard 1m extension arm)	4030 × 2980 × 1480
Hull material	Aluminum alloy
Hull weight (no load)	430Kg
Loaded garbage	100Kg
Charging time	0.45m³
Battery life	6 hours
Rated storage volume	800mm
Working minimum water depth	IP55
Safety protection and dustproof design	1.5m/s
Cleaning speed	5hours*



TITAN

unmanned cleaning boat



Configuration service

Basic configuration

Charging cabinet



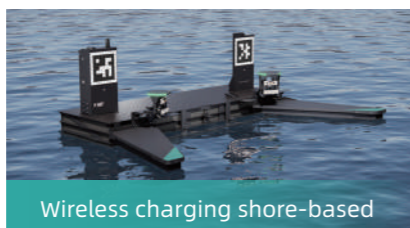
Charging cabinet

Value-added module

Wireless charging shore-based

water quality monitoring module

coastal flushing module



Wireless charging shore-based

TITAN unmanned cleaning boat

TITAN unmanned cleaning boat is a surface service robot that integrates surface garbage cleaning, water quality detection, intelligent inspection and other functions. It can collect 100kg of garbage. The main application scenarios are urban inland rivers, reservoirs, landscape lakes and other waters.

Core functions



garbage cleaning



dry and wet separation



water quality detection



intelligent route planning



full load of garbage and return

Product advantages

	TITAN	Traditional labor	Semi-automatic machinery
Maintenance area	24.7acres/boat	3.2acres/person	16.4acres/person
Length of work	0.5h/day (Artificial intervention)	6h/day (Artificial intervention)	6h/day
Safety	unmanned, 100% safe	People + tools, high labor risk	Manned , High driving risk
Response efficiency	All-day online	Working time response	Working time response
Energy consumption	Clean energy, charging at night, working during the day	Manpower	Gasoline energy, need to be purchased at the petrol station
Working Quality	Machine Cleanup, quality maintain unity	Affected by work status and attitude	Affected by work status and attitude
Skill requirements	Simple smart machine operation, no certificate requirements	Skilled in using tools, skilled in ferrying boats, swimming license required	Skilled in mechanical boat driving, swimming license required, crew certificate required

Product Highlights



Dry and wet separation of water surface garbage

Through the garbage collection module, the garbage floating on the water can be collected into the garbage basket inside the hull to filter out the water.



0.8m extended edge cleaning

For cement or stone rivers/lake banks, the sweeping module along the shore can be used to clean up the rubbish near the shore.



RTK High-precision positioning

Based on RTK's high-precision positioning, unmanned ships can achieve centimeter-level water surface positioning, which can better cope with complex water scenes.



Autonomous and precise obstacle avoidance

Relying on the mounted millimeter-wave radar, the unmanned ship can accurately avoid obstacles, and can perform scene modeling of operating waters.



Multiple cleaning modes

For different water scenarios, unmanned ships have multiple cleaning modes such as area cleaning and edge cleaning. The mobile /pad APP supports independent selection and combination of cleaning modes.



Hand/Auto mode switch

The user can either use the remote control that comes with the ship to control the hull unmanned ship, or remotely operate the mobile phone APP, and the two modes can be switched.



Autonomous garbage identification

Automatic garbage identification function based on visual recognition can achieve density cleaning and intelligent maintenance of water area cleaning.



LED Propaganda is everywhere

There are colorful LED screens on both sides of the hull, and customers can use PAD to edit the displayed text in real time according to your needs.

Landing case



Xi'an · Port area



Chengdu · Luhu



Xi'an · Seoul Lake



Wuhan · Shahu

Product parameters

Hull size length, width, height/mm (excluding extension arm)	4000*2500*1930mm
Hull size length, width, height/mm (standard 1m extension arm)	4700*2500*1930mm
Hull material	High strength aluminum alloy
Hull weight (unladen)	Weight 1100kg
Rated load	150kg
Charging time	5 Hours
battery life	8 Hours
Draft depth	0.4m
type of harvest	All submerged plants
type of control	4g-autopilot/2.4g-remote control
Maximum speed	1.5m/s
Rated working speed	1m/s

Configuration service



wired charging pile



wireless charging dock



MoShark 150 Unmanned mowing boat

Water ecological intelligent maintenance expert



Product introduction

MoShark 150 unmanned mowing boat is an intelligent maintenance robot for ecological waters. It is designed for large and medium-sized ecological waters. It has functions such as water grass harvesting, water surface cleaning, water quality monitoring, and autonomous return charging. It is suitable for ecological water systems with submerged plants, including natural lakes, urban parks, urban rivers and tourist attractions. As well as high-end residential waters, science and technology parks, golf courses and other commercial waters. It can achieve 24-hour standby, all-weather management and control, and promote intelligent maintenance of water ecology.

Core functions



water grass harvesting



water surface cleaning



water quality monitoring

Solving pain points

	MoShark 150	Traditional artificial	Semi-Automated
Harvested area per day	13000m ² /Boat	500 m ² /person	6900 m ² /3 people*boat
Working Hours	16h	8h	8h
Safety	unmanned, 100% safe	Human + tools, high labor risk manned	People are driving, high driving risk
work quality	Harvesting depth consistent, no omission	Harvesting depth is inconsistent, affected by environmental changes	affected by working state and attitude
work efficiency	Compared with traditional manual efficiency 25 times, compared with semi-mechanized mowing boat efficiency 88%		

Product Highlights

1.

AUTO Unmanned driving

24/7 response, automatic operation, one-button start, the whole process without worry

2.

Adjustable harvesting depth

the harvesting depth is 10cm ~ 60cm, which can be flexibly adjusted to meet the demand of water grass in low season.

3.

Functional integration

Harvesting water and grass at the same time, both water surface clear drift and water quality monitoring functions, multi-purpose boat.

4.

Horizontal and vertical cutters

The horizontal and vertical cutters are set to flexibly harvest high-density and complex aquatic plants.

7.

Automatic lifting and lowering of garbage baskets

The garbage baskets can be automatically lifted and lowered to adapt to docks of different heights and materials, reducing the difficulty of garbage dumping.

6.

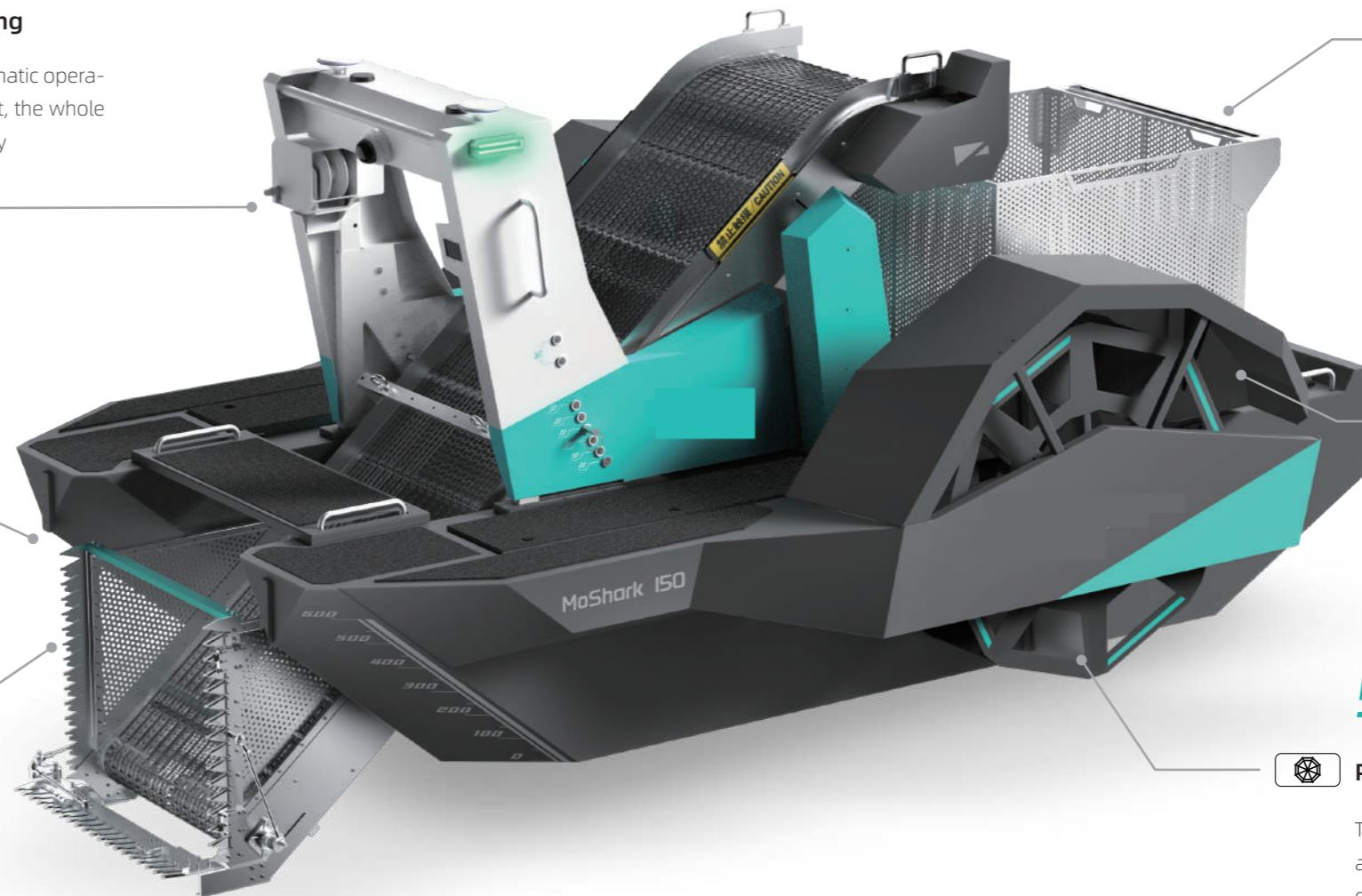
Garbage weighing

real-time statistics of harvest weight, convenient transportation scheduling, harvest prediction, and intelligent management.

5.

Paddle wheel propulsion

The paddle wheel propulsion system is adopted to avoid water and grass entanglement and ensure smooth operation.



Parameters

Parameters	Specifications
Hull size (length, width, height/mm)	4950*2360*1600
Hull material	High strength aluminium alloy
Hull weight	1300KG
Maximum load capacity	2100KG
Depth of immersion	0.5m
Width of collection	0 -15m
Loaded garbage	500-700KG
Maintain waters	500 acres
Safety protection and dustproof design	IP65
Wind and wave resistance rating	3 wind force, 1 meter waves
Speed of work	0.5m/s
Maximum speed	1.2m/s
Charging time	6 hours
Battery life	8-10 hours
Battery	2 High-capacity lithium batteries
Power plant	4*1KW Electric propulsion

Configuration services

Charging Equipment

Charger	Standard	Unmanned Intelligent Charging Dock	Optional
			



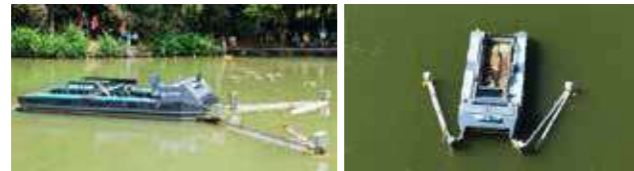
Zhiduoqing Intelligent Unmanned Cleaning Boat

—— Clean Everything on Waters ——



Introduction

Orcaubot Zhiduoqing is a high-efficiency large-scale unmanned cleaning boat designed for the water sanitation industry, which can collect many kinds of stubborn garbage on the water surface such as fallen leaves, willow flakes, floating mud, cyanobacteria, duckweed, oil, etc. It is mainly applicable to the daily cleaning of large-scale water areas, such as urban rivers, reservoirs, lakes, ports and wharves, etc., which can save 12-14 manpower and reduce the cleaning cost by 75% compared to the traditional manual cleaning.



Values

- 0 Fully unmanned operations**
8-10 hours of battery life, autonomous identification of garbage and cleaning, when it is low battery, it will automatically return to charge, automatic lifting of garbage basket, 24/7 unmanned operation
- 1 Guarantee one time clean**
The cleaning width is up to 15 meters, a 20 meters wide river can be cleaned once completely
- 2 Two control modes**
Using both autonomous driving and manned control, can be switched freely according to actual needs
- 3 Three types of shorelines**
Self-adaptation to different shorelines such as vertical, sloping, and ecological shorelines
- 4 Four types of challenges**
Can clean fallen leaves, cyanobacteria, floating mud and oil stains by using one boat

Cases



Xi'an Chanba Expo Ecological Zone

Before the China-Central Asia Summit held on May 18, 2023, Chanba Ecological Zone in Xi'an, as a reception center, introduced Orcaubot Zhiduoqing for the emergency cleaning of floating mud in the waters of the Expo Park, and the original plan was for 50 workers to complete the cleaning task in half a month, but the Zhiduoqing only took 6 hours to complete the job, which was highly praised by the owners.

On June 12, 2023, "Welcoming the Asian Games, Promoting Security, Embroidering Hangzhou" activity, Hangzhou Wuchang-gang River introduced Orcaubot Zhiduoqing for cleaning the river surface garbage and achieved a high degree of acceptance, to help create the most beautiful water environment for the Asian Games.



Hangzhou Wuchanggang River

Highlights

