Product Presentation: Hi-Target iBoat BS3

Applicant Name:
D-Reality Consultancy Limited / 現實點顧問有限公司

Product name:
iBoat BS3

Specification:
[CITF-PA20-062 D-Reality-iBoat BS3-Brochure-20201030-a.pdf]
https://www.dropbox.com/s/f4dxpfhuy97ht0m/CITF-PA20-062%20D-Reality-iBoat%20BS3-Brochure-20201030-a.pdf?dl=0

Core Functions:
- Light dimension and weight: 1100mm*520mm*300mm, and 7kg (without battery)
- Anti-wave&wind: 3rd wind level and 2nd wave level
- Maximum speed: 6 m/s
- Battery endurance: 4h with 2m/s

Technology Used:
- Hull design: Heavy duty trimaran, low barycenter, low resistance, stable sailing
- Waterproof: IP66
- Transmission range: 2km radio communicating (4G optional)

Key Improvement in Construction Process:
- Safety: Reduce heavy equipment transportation 46%
- Environmental: Internal Data Storage 46%

Job Reference:
- Bathymetric survey, Tung Chung New Town Extension – Reclamation and Advance Works, Hong Kong, adoption, 2019 (BS2)

Innovative Features

Core Technology:

- Light dimension and weight: 1100mm*520mm*300mm, and 7kg (without battery)
- Anti-wave&wind: 3rd wind level and 2nd wave level
- Maximum speed: 6 m/s
- Battery endurance: 4h with 2m/s

Patent:

- N/A

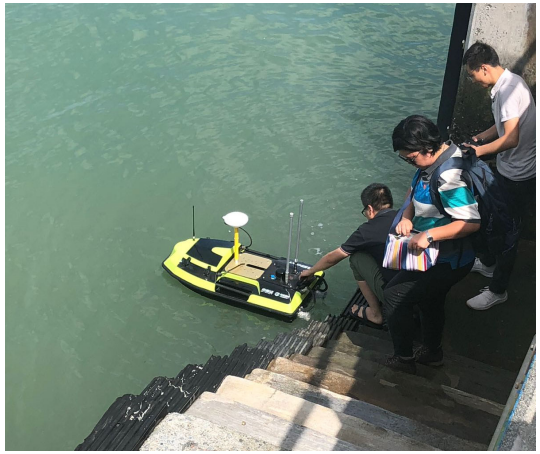
Comparison with current practice and popular models:

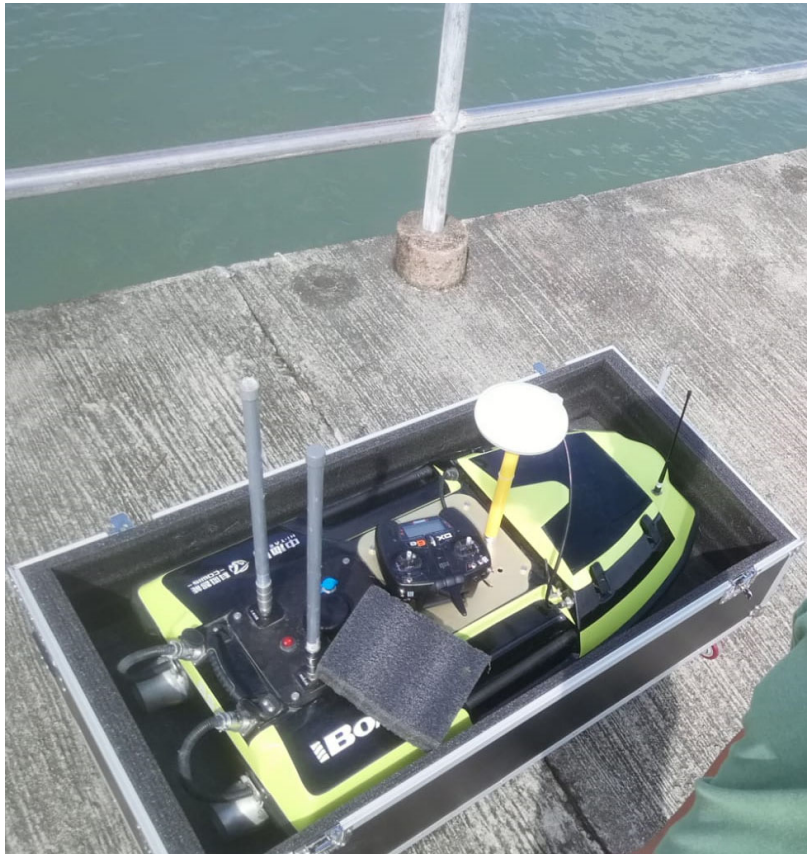
- Hull design: Heavy duty trimaran, low barycenter, low resistance, stable sailing
- Waterproof: IP66
- Transmission range: 2km radio communicating (4G optional)
- Safety: Reduce heavy equipment transportation 46%
- Environmental: Internal Data Storage 46%

- product demonstration video

Adoption Example

- Project for illustration: Bathymetric survey, Tung Chung New Town Extension – Reclamation and Advance Works, Hong Kong, adoption, 2019 (BS2)
- Work Process: completed
- Use/ Function in project: Bathymetric survey





Specification

SYSTEM EXTENSION

Multiple applications, available for single beam echo sounder, ADCP and side scan sonar.

APPLICATIONS

Underwater topographic survey | Hydrographic survey | Underwater geomorphic survey

TECHNICAL SPECIFICATIONS

Hull Parameters	Dimensions	1100mm*520mm*300mm
	Weight of base boat	7kg (without battery)
	Hull material	Kevlar & carbon fiber high-strength composite
	Hull design	Heavy duty trimaran, low barycenter, low resistance, stable sailing
	Anti-wave&wind	3rd wind level and 2nd wave level
Power and Eletrical Parameters	Battery endurance	4h with 2m/s (The battery pack can be added to improve the battery life)
	Maximum speed	6 m/s
	Propulsion	Removable modular culvert propeller
	Propeller type	Brushless DC
	Direction control	Veering without steering engine and sailing reversely
	Camera	360° PTZ camera
Safety Guarantee	Auto-return	Auto-return while low battery or signal loss
Ashore Base	Operating system	Windows 10
	Communicating mode	RF point to point in real-time
	Transmission range	2km radio communicating (4G optional)
	Navigation mode	Manual or auto-pilot
Intelligent Controller	Communicating mode	RF point to point in real-time
	Transmission range	2km
	Water proof	IP66
	Function	Real-time switching operation mode, control ship speed, steering and other functions, display the basic information
Sounding Performance	Work frequency	200KHz
	Beam angle	5°±0.5°
	Sounding range	0.15m–300m
	Sounding accuracy	1cm ± 0.1%h (h=depth), 1cm depth resolution
	Storage	Computer-based real-time storage
Positioning Accuracy	RTK	Horizontal: ±8mm + 1ppm RMS Vertical: ±15mm + 1ppm RMS
	Beacon (optional)	
	SBAS	0.5m CEP
System Software	Hull control system	Autopilot, hull parameter control, coordinate conversion , etc
	HIMAX sounding software	Supporting parameter configuration, coordinate conversion, depth location collecting, post-processing (simulative depth and digital depth combined for conveniently judging false depth), sampling feature point randomly, RTK and tide document for tide gauging, multiple data formats for result output , etc

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AUTHORIZED DISTRIBUTION PARTNER

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Specification (con't)

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SYSTEM COMPOSITION AND FEATURES

Hull Structure

- Streamlined trimaran and low barycenter design to ensure low resistance and sailing stably

- Only 7kg weight
  Small and portable hull convenient for transmission
  Available placement in the car trunk

- Made of Kevlar & carbon fiber high-strength composite with strong resistance to impact

Power System

- Propellers are applied with culvert-design and protective shield outside to prevent aquatic plants and fishing net from twining.

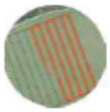
- Innovate highly integrated modular design making the propellers easy to remove and change. Paralleled level with the boat and convenient for transmission and placement.

- Auto-return while low battery or signal loss.

Base System

- The industrial controller with a large-capacity battery has more than 20 hours of battery life, and it is of easy use with one key to switch between manual and automatic mode while control distance reaches 2 km.

- The base station adopts a new omnidirectional high gain antenna and built-in Wi-Fi to guarantee the communication distance not less than 2km.

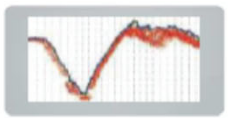


- iBoat BS3 supports automatic operation, automatic navigation, auto-return to fixed point and users can switch between manual and automatic mode at any time.

Hi-Target Sensors

- The Hi-Target HD-510 single beam echo sounder shows fantastic performance with its high-accuracy professional sounding module. The 0.15~300m sounding range adapts to all kinds of complex topographic surveying.

- With Hi-Target high-accuracy GNSS RTK module or DGPS beacon module, the location device support GPS/GLONASS/Galileo/BDS location. Besides, iBoat BS3 is equipped with multiple communication modes, such as UHF radio, beacon and SBAS.



- HiMAX surveying software is available for collecting, guiding and post-processing.
  The simulative depth and digital depth are combined for conveniently judging true water depth.

Benefits

已提交工程項目中的相關建造過程# Construction Process in submitted Project#	建造業創科基金目標 CITF Objective	評估範圍 Aspect for Assessment	量化表現 Quantitative Performance			表現改善 Improvement in Performance (與以往最好的方法相比) (compared to best method available in the past)	
			此產品 This Product	過往型號 Previous Model	傳統方法 Traditional Method	項目內的絕對值 Absolute Value in Project	百分比 Percentage
A fast and revolutionary hydrographic solution used in channel survey	促進生產力^ Productivity^	Save mandays	1	1	3	0	0%
		Reduce manhours	12	12	48	0	0%
		Reduce manpower	1	1	4	0	0%
	提高建造質素* Quality*	Enhance precision	20cm	20cm	0.5m	same	same
		mini. measurement	0.15m	0.15m	5m	0	0%
		positioning	8mm	8mm	5m	0	0%
	改善工地安全+ Safety+	Reduce workers in exposing to risk	1	1	3	0	0%
		Reduce workers on site	2	2	6	0	0%
		Reduce heavy equipment transportation	14kg	26kg	45kg mini	-12kg	-46%
	提升環保效益@ Environmental@	Reduce waste	100% paperless	100% paperless	carbon paper	same	0%
		Reduce carbon footprint	light loading in transportation	light loading in transportation	heavy loading in transportation	-12kg	-46%
		Internal Data Storage	transmit to PC	transmit to PC	analogue record	same	0%