

Innovations in Composite Catamaran & SWATH Vessels for Wind Farm & Military Applications

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CWind

CWind Alliance

CTruk 20T MPC
www.ctruk.com

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Powered by
Rolls-Royce

RESCUE ZONE



- Active in the commercial (offshore wind) and military and security sectors.
- Founded 2010 and based in Essex, UK.
- Employs 65 personnel, including an in-house design department.



Company introduction

CTruk is a market leader in high-speed composite vessels for the offshore wind sector, with its 20T multi-purpose catamaran, CWhisper SWATH and amphibious rescue craft already proven in the harsh environment of the North Sea.

These boats are rugged, robust and cost-effective, with excellent load-carrying capabilities and a stable platform, features that have many commercial, military and security and disaster relief applications.

The company stands out from its competitors by its the use of resin infused FRP composites, saving on weight and enhancing hull efficiency with a smoother hydrodynamic shape.

This cutting-edge technique results in optimal fuel economy and increased time on task.



- **Weight advantage:** Composite structures are extremely robust but also lightweight, even though material thicknesses are greater than those used in comparable aluminium structures.
- **Non-corrosive:** Composites do not corrode under any circumstances and are not affected by UV or any other environmental conditions.
- **Energy absorbing:** Composites are flexible and so have high energy absorbing properties. Impacts are absorbed locally without any widespread structure damage or distortion.
- **Noise absorbing:** Another characteristic of composites is that they absorb noise and vibration that would normally be transmitted through the structure.
- **Thermal insulator:** Composite materials have a very low coefficient of thermal transfer, meaning the inside of the craft is insulated from extreme external temperatures.
- **Homogeneous construction:** Composites structures are designed to suit the application and when manufactured they form a single piece of material with no weak joints or welds.
- **Low life-cycle costs:** Composite materials do not corrode and are flexible, robust and resistant to impact, so the potential for fatigue failure and cracking is eliminated. As a result, through-life maintenance, inspection and repair procedures/costs are absolutely minimal.



Build history & class specification

Since launching in 2010 the CTruk team has built 18 offshore wind farm support vessels, including a ground-breaking SWATH (Small Waterplane Area Twin Hull) design for smoother transit in seas of up to 2m significant wave height.

The company built CWind Challenger in 2013, the first wind farm support vessel to be classed under **Bureau Veritas (BV) | ✕ HULL • MACH Wind Farms Service Ship-S1** rules, also meeting UK flag (MCA) MGN280 requirements for Category 1.

As well as building vessels to full BV class, CTruk offers standard craft built to DNV or BV letters of compliance.





- Designed to meet complex demands of offshore wind support
- Lightweight composite construction results in excellent fuel efficiency
- Reconfigurable deck system (patent-applied) maximises versatility
- Carries 12 pax + 3 crew

Main Particulars

Length over all: 18.5m
Beam over all: 6.1m
Draft: 0.86m -1.26m (carrying 20 tonnes cargo)
Lightship: 24 Tonnes
Hull material: Infused composites
Cruising/max speed: 25/30 knots

Main Equipment

2 x Cummins 610hp marine engines
2 x Rolls-Royce FF41 waterjets
Simrad electronics
Beta 11kW generator
16,000 litre fuel capacity
300 litre fresh water capacity
Inverter/charger 3KVA

Main Features

Moveable wheelhouse & removable deck pod system (patent-applied)
Large volume fuel transfer system
Multiple deck combination
Outside remote helm position
Single-handed MOB recovery system
Volkorf bow (patent-applied)



CTruk 20T video





- Designed to dramatically improve comfort of technicians in transit
- Motions approximately a quarter of those on a conventional catamaran
- Significantly increases wave height limits for technician transfer
- Measured fuel consumption of less than 100 litres per hour at 20 knots

Main Particulars

Length overall: 19.5m
Beam overall: 7.8m
Draft: 1.48m
Displacement: 30 tonnes
Hull material: Infused composites
Forward deck space: Up to 44m²
Aft deck space: Up to 44m²
Cruising/top speed: 23/26 knots

Main Equipment

2 x Cummins 610Hp marine engines
Fixed pitch propellers
Simrad electronics
Dynamic ride control system
Beta 11kW generator
6,000 litre fuel capacity
300 litre fresh water capacity
Inverter/charger 3KVA

Main Features

Moveable wheelhouse & removable deck pod system (patent-applied)
Outside remote helm position
Single-handed MOB recovery system
Volkorf bow (patent-applied)





- Designed to meet the requirements of wind farms further offshore
- Superb sea keeping characteristics
- Substantial payload capacity with space for 20ft container
- 40,000 litres in-hull fuel capacity

Main Particulars

Length overall: 28m
Beam overall: 9.5m
Draft: 0.9m
Lightship: 60 tonnes
Hull material: Infused composites
Forward deck space: 110m²
Aft deck space: 128m²
Cruising/top speed: 25/28 knots

Main Equipment

4 x Cummins 610Hp marine engines
4 x Rolls-Royce FF41 waterjets
Simrad electronics
2 x 15kW generator
40,000 litre in-hull fuel capacity
600 litre fresh water capacity
10kW inverter

Main Features

Moveable wheelhouse
Large volume fuel transfer system
Multiple deck combination
Outside remote helm position
Single-handed MOB recovery system
CTruk flexible pod mount system (patent-applied)
Volkorf bow (patent-applied)

CTruk's Military & Security Division can supply 11m-30m vessels for the following roles:

- Coastal patrol
- Force protection
- Riverine patrol
- Dive support
- Hydro-graphic survey
- Mine countermeasures
- Fisheries patrol
- Oil spill response
- General workboats
- Disaster relief
- Rigid inflatables





CTruk THOR - Twin Hulled Offshore Raider



- Need more factory capacity for larger vessels
- Training for new staff
- Larger vessels (>24m) & vessels carrying more passengers (>12 pax) - SOLAS, Classification & Country specific requirements, inc Fire?
- Acceptance of composites in military market
- Acceptance of catamaran in military market

Thank You

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