

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

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**CWind**

CWind Alliance

CTruk 20T MPC  
www.ctruk.com

**CWind247.com**

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.

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)





- 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 44m<sup>2</sup>  
Aft deck space: Up to 44m<sup>2</sup>  
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: 110m<sup>2</sup>  
Aft deck space: 128m<sup>2</sup>  
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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