

## MBTC USV Cetus Service Offer - Technical Specification Sheet

The University of Plymouth Via the Marine Business Technology Centre (MBTC) is able to offer eligible companies a package of technical support to support the trial and demonstration of new products and services using the University's newly acquired Uncrewed Surface Vessel 'USV Cetus'.

### Vessel Technical Specifications

Length	4.17m
Beam	1.58m
Draft	0.41m
Weight	680kg lightship 980kg Fully fuelled
Propulsion	Marine diesel engine driving waterjet
Speed	Up to 7 knots
Endurance	Up to 48 hours
Control	ASView for direct, semi-autonomous or autonomous control
Communications	DTC Mesh radio, WiFi, 4G Giving a working range of between 6 and 30km depending of elevation giving a 14Mbps communication speed with payloads
Dry payload space	Sealed dry, easily configurable payload bay of 0.5m <sup>3</sup>
Wet payload bay	An Underwater Retractable mast is situated in in a 700mm x 500mm moon pool, that can accommodate a range of underwater sensors such as MBES, ADCP, USBL, PAM
Profiling winch	OSIL 100m profiling winch for 15kg payload
Payload power	400W continuous power available
Towing capability	The vessel can tow moderate sized loads
Payload computers	Onboard Panasonic Toughbooks available easily accessible via Teamviewer remote link
ROS Interface	All vessel hardware can be accessed and independently controlled via a ROS interface



## USV Operations support

The vessel is fully supported with a full time specialist technician working out of the University Of Plymouth's Coxside Marine Station. This highly active facility is able to provide MBTC clients with:

- A fleet of three large and three small workboats for Support Vessel Support
- Rail cradle vessel launch and recovery from large, dry, fully equipped and staffed workshop facility
- HiAb waterside crane
- Secure compound
- Classrooms
- Laboratories
- Conference space



Support vessels available include:

- **RV Falcon Spirit:** 14 metre aluminium catamaran, 15 Knots
- **Wavedancer:** 11 metre (36 feet) Mk11 Catamaran, 22 Knots
- **Jojo:** 10.5 metres Monohull work boats, 10 Knots
- **3 Polar Cirkel polyethylene work boats** 5.96m, 15 Knots

USV Cetus can be towed, or deployed off the back of Falcon Sprit in calm seas.

The USV Technician is able to take care of all aspects of the USV deployment on behalf of MBTC client companies, including gaining requisite permissions, passage planning, support vessel acquisition and configuration, launch, pilotage and trail execution, recovery, data extraction and reporting.

In addition, the USV Technician has access to a full machine shop facility for the configuration of USV payload hardware and software.



In addition the University Autonomous Marine Systems (AMS) research group and the Robotics and Neural Systems (CRNS) research group can provide high level expertise that can be called upon if required for the configuration of cutting edge autonomous marine technology.

For more information about technical aspects of the MBTC offer, please contact:

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