



L3HARRIS™
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C-CAT 3 AUTONOMOUS SURFACE VEHICLE (ASV)

Robust Shallow Water ASV

VEHICLE CHARACTERISTICS	
Length	3.0m
Beam	1.6m
Height	2.3m (including antennas)
Draught	0.4m (not including payload)
Weight	320kg lightship 390kg (with maximum payload of 70kg)
Construction	Polyethylene catamaran hull modules GRP payload module (centre section)
Sea state	Operations in up to and including sea state 2
Speed range	10 knots maximum speed 3.5 knots cruising speed
Endurance	6-8 hours at cruising speed
Launch and recovery	Four integrated lift points for overhead lift via slings and shackles UK road legal trailer for slipway launch
Navigation aids and sensors	Solid-state compass Class B AIS transponder Port and starboard navigation lights, all-round white light Horn
Cameras	360-degree camera box featuring four daylight cameras (forward/aft/ port/ starboard)
Propulsion	2x 24V DC electric motors driving 3-bladed propellers
Standard vehicle control	Mission planning (lines, waypoints, station keeping, geofencing) Direct remote control via a hand-held control unit
Primary communications link	100mW COFDM IP mesh radio Tuneable RF channel bandwidths of 1.25 MHz to 10 MHz ~1-2km range with remote station antenna height of 3.5m Range can be increased with remote station antenna height >3.5m
Alternate communications	4G LTE cellular data connection Wi-Fi
Electrical power (DC)	2x 24V DC lithium batteries (2685Wh capacity each) Recharge time of 11 hours from depleted; optional fast charger for full recharge from depleted in 3-4 hours.
Payload capacity	Manually deployable keel that can accommodate small form factor sensors Payload control equipment is located on-board inside a 4U 19" rack unit, housed in a watertight central compartment 24V DC 180W payload power



The C-Cat 3 Autonomous Surface Vehicle (ASV) is a rapidly deployable catamaran ideally suited to shallow water operations in inshore and coastal environments.

The vehicle has a manually deployable keel which is capable of housing small form factor sensors such as an Ultra-Short Baseline (USBL) or a Multibeam Echosounder (MBES). A 4U 19" rack unit is fitted inside a watertight central compartment for the housing of sensor control equipment.

Its shallow draft and manoeuvrability mean that C-Cat 3 can operate in areas otherwise inaccessible to some conventional survey vessels.

C-Cat 3 can operate as a standalone platform or in tandem with a manned vessel.

C-Cat 3's shallow draught and excellent manoeuvrability make the vehicle an ideal solution for hydrographic survey, above-water mapping, UUV location and tracking, and acoustic communications. Powered by 24V DC electric motors and with a lithium battery inside each hull compartment, C-Cat 3 can carry out a full day of standard operations from a single battery charge.

C-Cat 3 is quick to mobilise and can be easily transported via a UK road-legal trailer. Alternatively, C-Cat 3's three main sections can be disassembled for transportation inside a standard van and quickly re-assembled at the launch site. The vehicle can be trailer launched via a slipway, or by overhead lift with slings and shackles via four integrated lift points.

C-Cat 3 is operated using the ASView control system, which enables pre-programmed missions to be set up, executed and monitored via a graphical user interface. Control modes include waypoint and line following, heading and track hold, station keeping and geofencing. The vehicle can also be operated using a bespoke hand-held remote control unit.

ASView features standard S57 navigational charts with the ability to import files such as geotiff and .dxf survey lines. Situational awareness is provided by a 360-degree camera box on the vehicle's mast featuring four daylight cameras and one optional forward-facing thermal (IR) camera. Live video feeds are transmitted to the remote station in real time.

C-Cat 3's operational safety is enhanced by an emergency stop system, and a supervision timeout feature that enables the vehicle to perform pre-programmed actions/missions following a loss of communications.

The vehicle's remote station control equipment is hand-portable and has a small form-factor enabling quick and easy set up to provide a control centre shore-side or on-board a support vessel.

Optional additions to the standard C-Cat 3 package include an upgraded battery charger for quicker battery recharge, and the provision of tailored operator and maintainer training programmes. L3Harris can also provide bespoke solutions for ongoing technical support and vehicle maintenance.



PACKAGE INCLUDES

- C-Cat 3 with 100mW COFDM IP mesh radio, 4G LTE and Wi-Fi communications links
- UK road-legal trailer
- Hand-portable remote station equipment including ASView-Base station, ASView-Helm remote control unit, ASView-Bridge laptop with User Interface, antennas and associated cables
- C-Cat 3 is available for purchase or short/long term lease

OPTIONAL ADDITIONS

- Fast-charge battery charger
- Upgraded mast box with 5W COFDM IP mesh radio for increased operational range and additional forward-facing thermal (IR) camera
- Tailored operator and maintainer training courses
- Post-sale maintenance and technical support contract

C-Cat 3 Specifications

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