MISTRAL USV — Accelerating Advantages of Unmanned Technologies

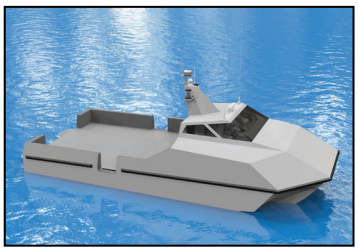
The Mistral USV is an advanced 15-meter unmanned platform featuring the Stiletto M-hull Technology, user-friendly control interface and composite material. The Mistral's double M-hull shape provides unprecedented efficiency, stability and payload for a variety of missions.

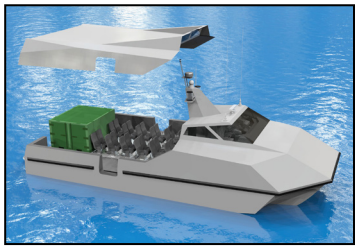
The Mistral's Command & Control (C2) system uses a smart, self-tuning autopilot designed to simplify operations with autonomous features for coordinated operations, fail-safe scenarios and pre-programmed objectives.

The Mistral can be operated as a manned or unmanned craft and is designed for landing on a beach or in a welldeck of a larger mothership without a trailer.

SELECT NAVAL ARCHITECTURAL SPECIFICATIONS				
	Light Load		Full Load	
	Imperial	Metric	Imperial	Metric
LOA, ft (m)	48	14.6	48	14.6
Beam, ft (m)	20	6.1	20	6.1
Displacement, lbs (kg)	25,000	11,340	32,000	14,600
Speed, kts	35+		30+	
Payload, lbs (kg)	2,000	907	9,000	4,082
Horsepower, bhp (mhp)	1,006	1,020	1,006	1,020
Range @ 20kts, nm	1,000		900	

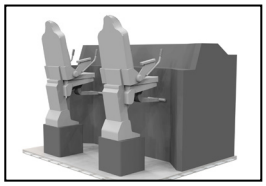
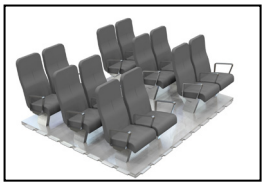
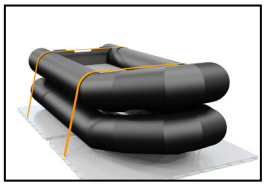
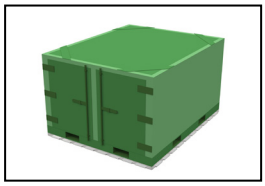
The monocoque, composite construction allows flexibility to carry modular sensor packages, supplies and/or equipment on standard 463L pallets or ISU60 containers.





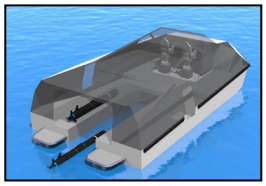
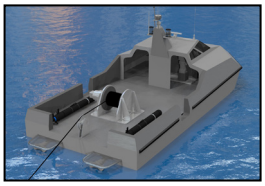
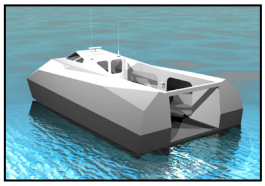
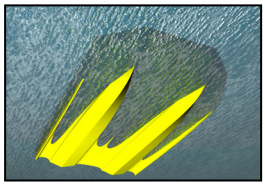
CARGO MISSION MODULES

The wide beam of the Mistral combined with an organic cargo handling system (standard 463L pallets) allows quick mission reconfiguration with cargo modules.

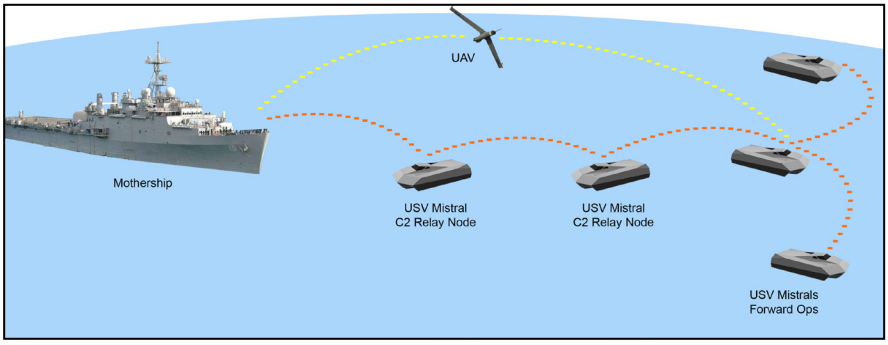





OPTIONAL MISTRAL USV CONFIGURATIONS

The geometry of the Mistral and its widely spaced water jets offer many unique configurations for launching & retrieving USVs and towed assets.

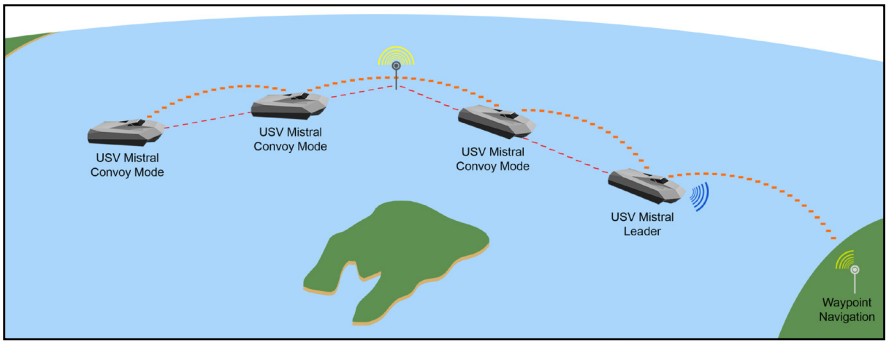





OPERATIONAL SCENARIO 1: Mothership Control with C2 Relay Nodes



- Mothership operates over the horizon at a convenient, safe and undetectable location
- USV Mistrals operate as command & control (C2) nodes for forward Mistrals to back up or replace UAVs and/or satellite comms
- Forward USV Mistrals operate as a group or individually
- USVs can be controlled individually or relative to one another with automatic alerts

OPERATIONAL SCENARIO 2: Waypoint Control with Auto-Follow Mode



- One manned Mistral controls a squadron of unmanned Mistrals
- USVs can be controlled individually or relative to one another
- Navigation by manual Joy-stick Control from the manned Mistral or autonomously by Waypoint, Vector (speed/heading) or Relative Tracking
- Ideal for delivery or retrieval of cargo, equipment or personnel

SELECT UNMANNED FEATURES	
Navigation Control	Uses waypoint guidance by GPS (preplanned or on the fly), vector mode, waypoint loitering, relative tracking and manned onboard control
Obstacle Avoidance	Uses a layered approach to obstacle avoidance depending on the mission and option package, including AIS, Sensor, “Known Fixed” and higher levels of autonomy
Manual Control	Fully remote control capable with special docking and start/stop sequences
Command & Control (C2) Redundancy	The C2 system operates on dual fully encrypted frequencies offering redundancy and security or non-encrypted UHF RF link for line-of-site operations
Fail-Safe Preprogrammed Plans	Maintains full preprogrammed control routines in the event of a failure in one or both of the radio links
Open System Architecture	The control system is IP based network architecture utilizing COTS protocols and equipment with onboard Ethernet and conductivity
Communication Options	System is agnostic to the data links with options for military and commercial line-of-sight communications and over the horizon (satellite) control (Iridium, BGAN, Ku & X band).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