

# MARINETECH

**RSV**  
Remote Survey Vehicle





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# INNOVATION & EXPERTISE

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Based on expertise gained from operations in several countries, MARINE TECH engineers use this feedback to design an efficient, reliable and robust solution: the RSV - Remote Survey Vehicle.

RSV are able to carry out oceanographic missions in shallow water or offshore areas and any other operations requiring the deployment of remote sensors.

This is a patented technology (FR1301643) made in France.



# APPLICATIONS

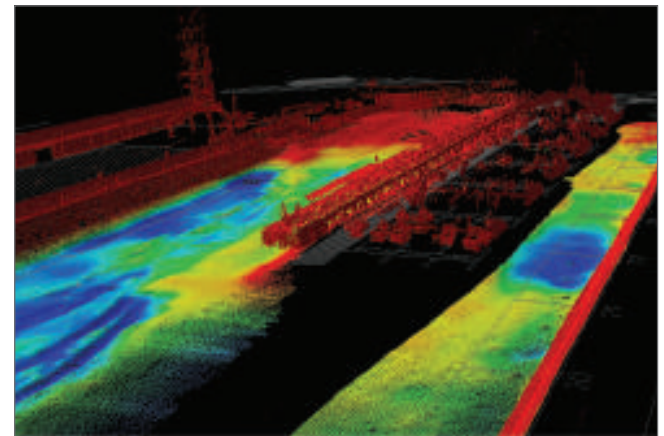
## MARINE SURVEY AND 3D SCAN

- 2D / 3D Bathymetry.
- Objects detection (shipwreck, pipeline, mines,...).
- Geophysical survey.
- Salinity measurement.
- Sea current measurement.
- Subsea works monitoring and observation.
- Aerial inspection of works.
- 3D digital twin.



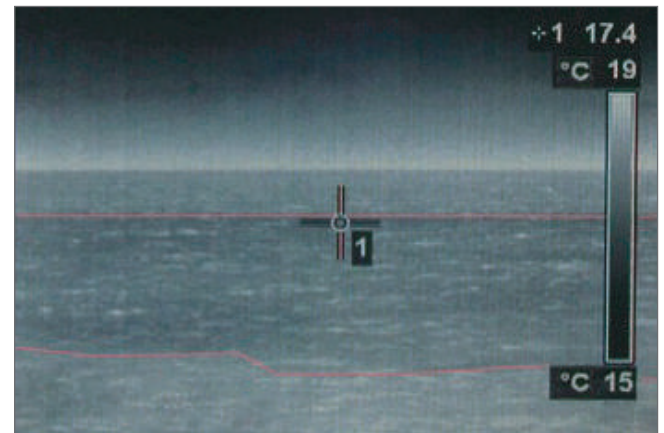
## POLLUTION RESPONSE

- Access to restricted or contaminated areas (pollution sites, offshore oil platforms,...).
- Atmospheric gas and chemical measurements.
- Surface contamination measurements.
- Infrared video monitoring.
- Detection of leak.



## SURVEILLANCE AND SECURITY

- Surveillance / Inspection day and night.
- Coastal surveillance and alert.
- Data acquisition in hostile environment.
- Message and signal transfer.
- Monitoring of submarine activity.
- Data transmission to a control center.



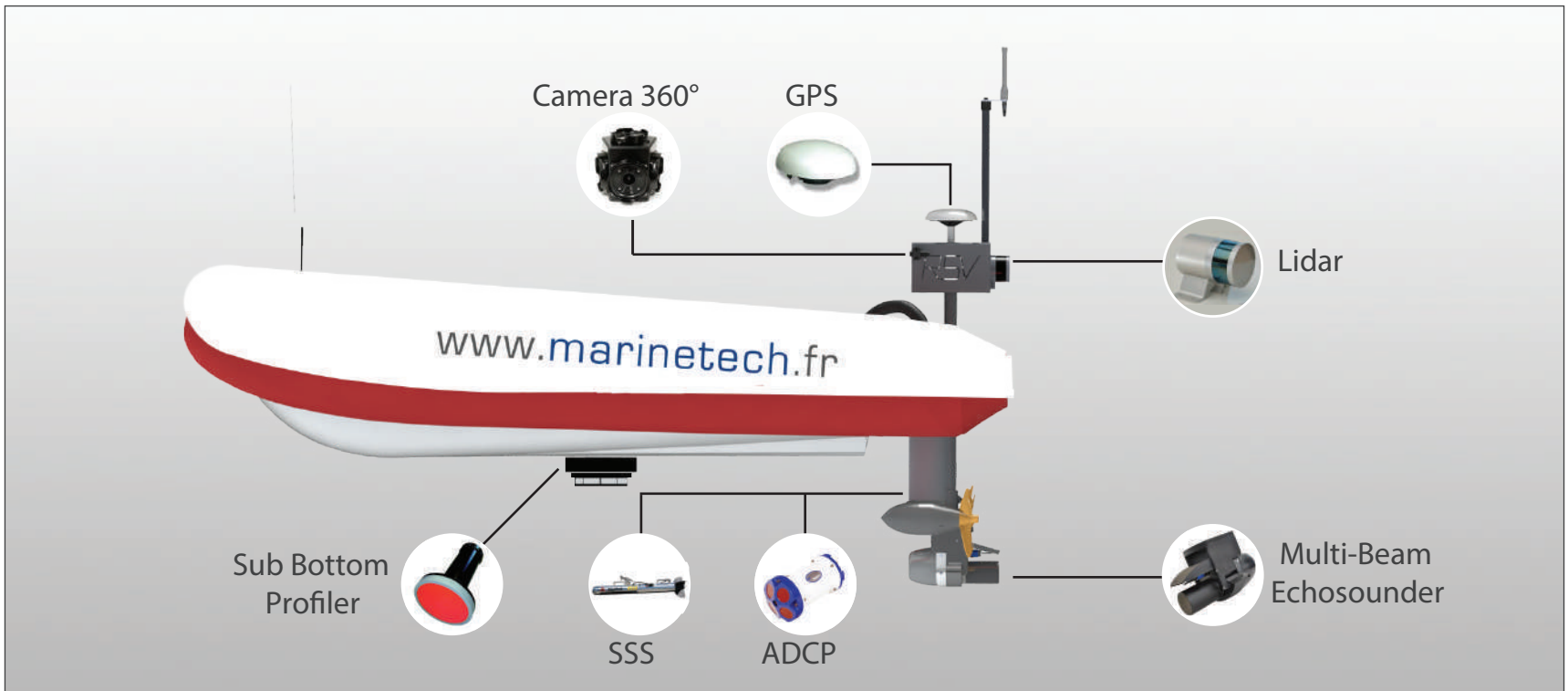


# OCEANOGRAPHY

With its ability to carry on multiple sensors, the RSV can record several measurements at the same time.

The communication system allows a long range control and data transfer in real time.

This is a major advantage in matter of time saving and data processing.



SENSORS	Lidar	USES	3D imaging of the environment
	Camera 360 Degrees		Give a complet field view
	Multibeam Echosounder		Seabed mapping
	Sub Bottom Profiler		Sediment profiling
	ADCP		Current profiling
	Side Scan Sonar (SSS)		Bottom inspection

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# RSV *Scan Drone*

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The RSV Scan Drone allows the deployment of an ROV and a captive aerial drone.

Designed for the inspection of offshore structures, the RSV Scan Drone allows the creation of a 3D digital twin (outer shell) with a single vehicle (USV).

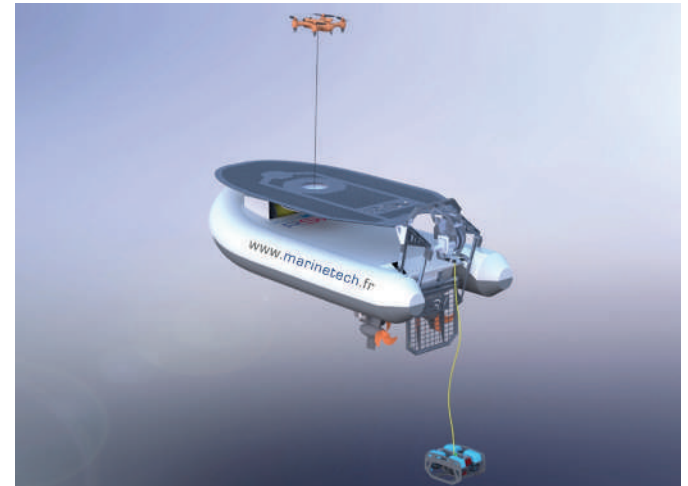
The aerial drone platform is designed to facilitate docking and allow for offshore operations.

The RSV Scan Drone is a structural anomaly inspection solution (rust, deformation, degradation) allowing cost reduction, risk reduction, time saving and a better data analysis and processing.



# 3D DIGITAL TWIN

Using the photogrammetry technology on board the ROV or fitted on the tethered quadcopter, RSV Scan Drone is able to provide 3D points cloud with very high resolution.



SENSORS	ROV / Captive UAV	USES	Subsea and Aerial inspection
	Photogrammetry camera		Georeferenced images
	Lidar		3D imaging of the environment



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# RSV *Sea Observer*

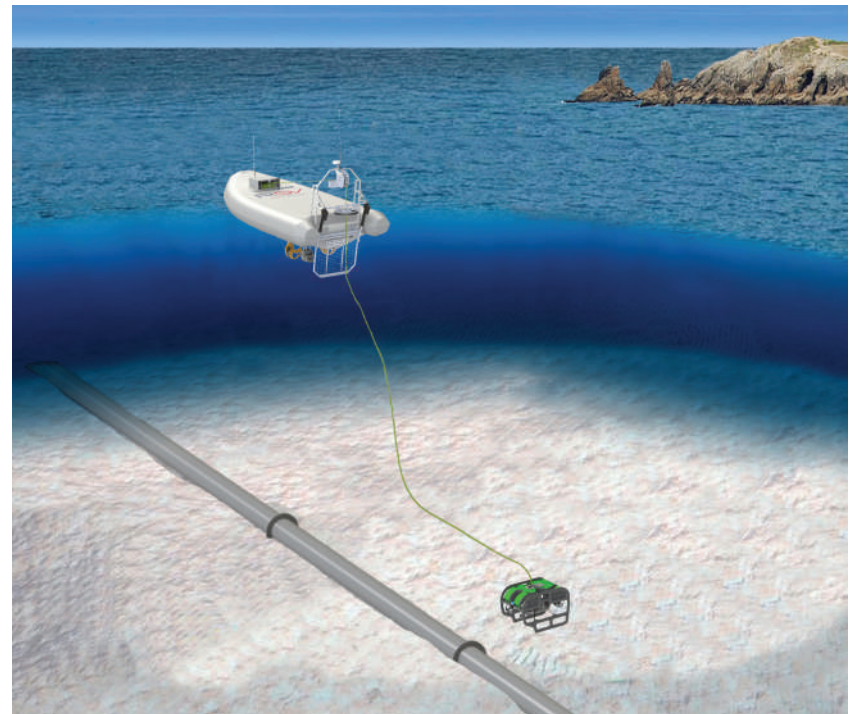
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The RSV Sea Observer is designed to welcome and deploy a ROV onboard coupled with an automatic tensioning winch.

As a fully equipped platform to assist marine works and diving operations, the RSV Sea Observer is a user-friendly and cost effective solution compared to conventional supply vessel.

Thanks to its latest generation of batteries, the system offers an autonomy of 24 hours, with the possibility to increase it up to 48 hours.

Only two operators are required to operate the RSV Sea Observer.

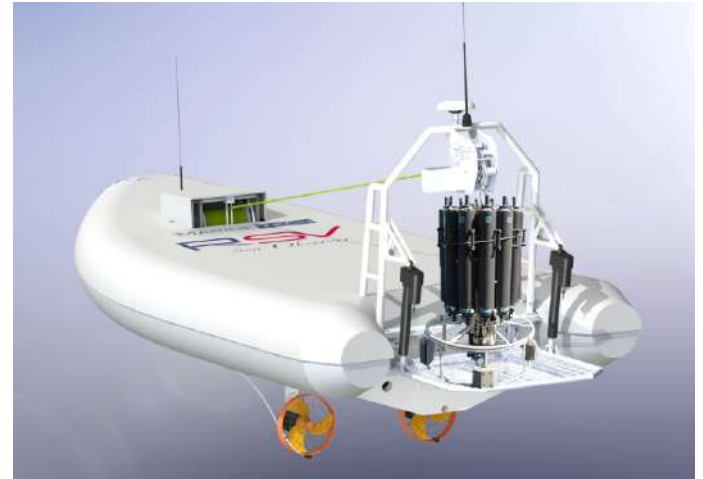




# SUBSEA MONITORING

Its motorized winch allows the deployment of a payload such as an inspection class ROV. An umbilical tensioning system provides a perfect winding.

Coupled with an articulated bracket at the back of the RSV, the ROV is launched and recovered easily and safely. In transit, the ROV is kept in a stable and secure position.



SENSORS	ROV	USES	Subsea monitoring / Inspection
	Multibeam Echosounder		Seabed mapping
	Side Scan Sonar		Bottom inspection



# RSV *Orca* & *Sea Observer Compact*


Designed for open sea applications, the RSV Orca and the RSV Sea Observer Compact are reliable and cost effective solutions for high-resolution survey.

Their rugged design and stability allows these RSV to achieve missions in up to 1.5 m swell and 35 knots wind.

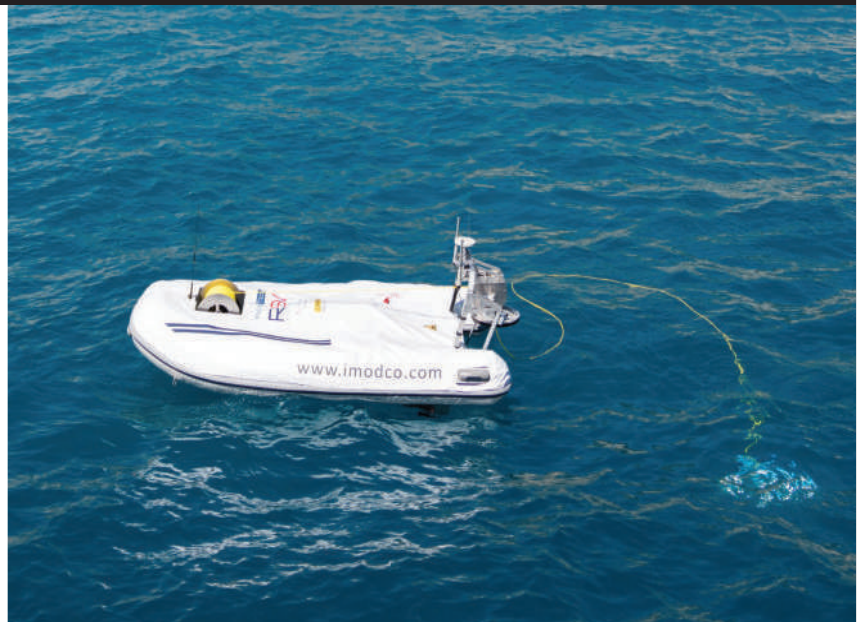
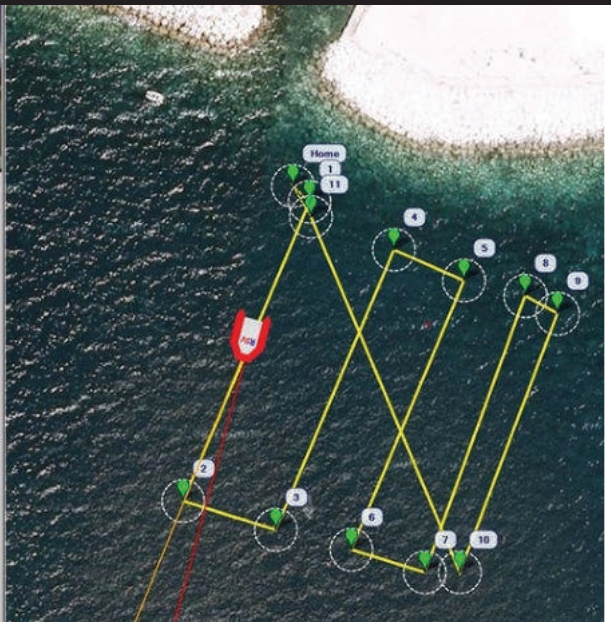
The built-in autopilot and keeping station mode make any survey missions easier.

The RSV Sea Observer Compact also allows for the deployment of a light ROV.





GPS: Good		Gyro: Good	
Bat Voltage	Speed (Knots)		
25,18	5,74		
Bat Remaining	Distance to Base (m)		
99	0		
Instru Temp (c)	Dist to WP (m)		
35	33		
START MISSION			
STAND BY			
RESUME MISSION			
RETURN TO BASE			
RSV position			



User friendly autopilot interface

Fast and easy ROV deployment



## NAVIGATION SYSTEM



Multi configuration control system



Motion sensor



GPS



Control Command

## COMMUNICATION SYSTEM



Data Communication Box



Data Transmission



Remote Control

## DEPLOYMENT



Classic Boat Trailer



Truck



Basket

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# RSV *Dolphin*

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The RSV Dolphin is a compact and affordable solution for occasional missions.

Designed for data acquisition in restricted access areas, such as rivers, ports, landfalls, lakes, dams, shallow water, the RSV is the perfect tool.

Composed of 3 modules of 30 kg each (control and electronic, hull, engines), the system is easy to transport and deploy.

Fitted with robust engines and quick charge battery, the RSV Dolphin represents a reliable and flexible solution.







# SURVEILLANCE & SECURITY

Noiseless, compact and taking advantage of its real time data transfer, the RSV represents a discreet solution for sensitive missions.







Infrared Camera

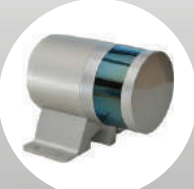


HD Camera





Megaphone

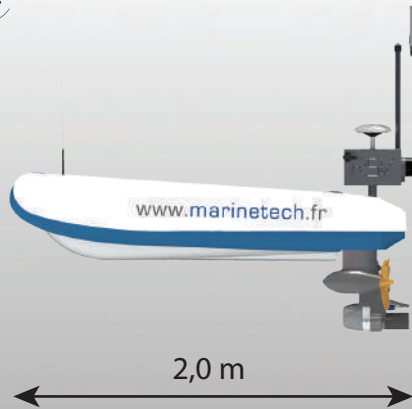


Lidar Scan Laser

<b>SENSORS</b>	Megaphone	<b>USES</b>	Warning
	HD Camera		Surveillance of suspicious activities
	Infrared Camera		Detect heat sources
	Lidar Scan Laser		3D Imaging of the environment

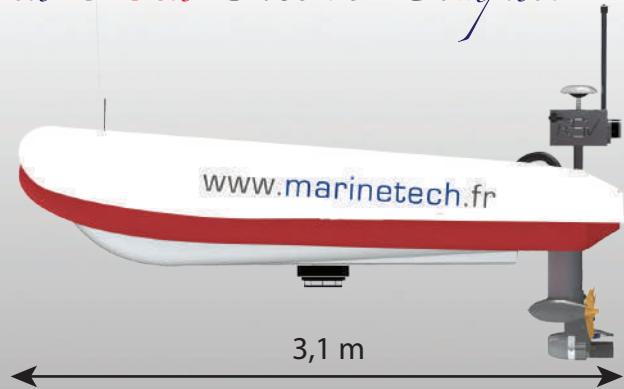
# PRODUCT LINE

*Dolphin*



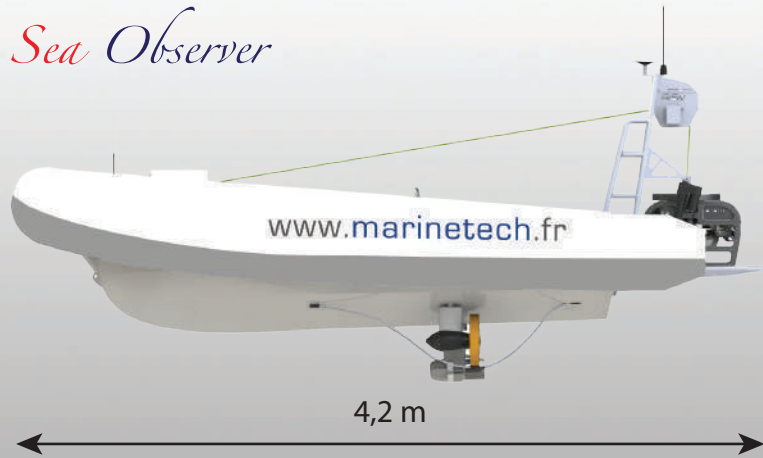
The RSV Dolphin for harbour, river and lake.

*Orca & Sea Observer Compact*



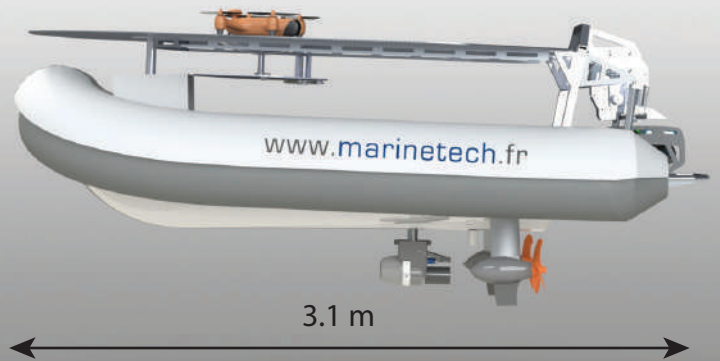
The RSV Orca for coastal and offshore operations, ROV deployment with the Compact.

*Sea Observer*



The RSV Sea Observer for offshore operations and ROV deployment.

*Scan Drone*



The RSV Scan Drone for offshore aerial and submarine inspection.



# TECHNICAL SPECIFICATIONS

FEATURES	RSV DOLPHIN	RSV ORCA & COMPACT	RSV SEA OBSERVER	RSV SCAN DRONE
Length	2,0 m	3,1 m	4,2 m	3,1 m
Width	1,2 m	1,7 m	2,1 m	1,7 m
Height	1,2 m	1,2 m	1,7 m	1,2 m
Draft	0,4 m	0,4 m	0,5 m	0,4 m
Weight	90 kg	250 kg	700 kg	250 kg
Engine	2 x 1 kW (electric)	2 x 2 kW (electric)	2 x 4 kW (electric)	2 x 2 kW (electric)
Payload	20 kg	150 kg (80kg+ROV for the compact version)	250 kg	230 kg
SENSORS				
Camera / Measure	HD Camera & Video Lidar / Infra-red camera			
Data correction	Gyrocompass / Motion-Sensor			
Positioning	D-GPS / GPS-RTK			
Marine sensors	Single Beam Echosounder Multibeam Echosounder CTD / ADCP	Single Beam Echosounder Multibeam Echosounder CTD / ADCP Sub Bottom Profiler Side Scan Sonar ROV (COMPACT only)	Single Beam Echosounder Multibeam Echosounder ROV Sub Bottom Profiler Side Scan Sonar / ADCP	Single Beam Echosounder Multibeam Echosounder ROV UAV Photogrammetry Camera Side Scan Sonar / ADCP
PERFORMANCES				
Speed	0 - 6 knots	0 - 10 knots	0 - 8 knots	0 - 10 knots
Endurance (standard)	4 hours	12 hours	24 hours	12 hours
NAVIGATION				
Average sea conditions	Sea State 2	Sea State 3	Sea State 4	Sea State 3
Control	Up to 5 km			
Autopilot	Unlimited range			

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# ADVANTAGES

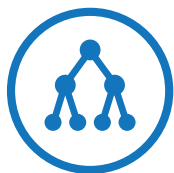
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USER FRIENDLY



ENHANCED ENDURANCE



REAL TIME DATA TRANSFER



SEVERAL CONFIGURATIONS



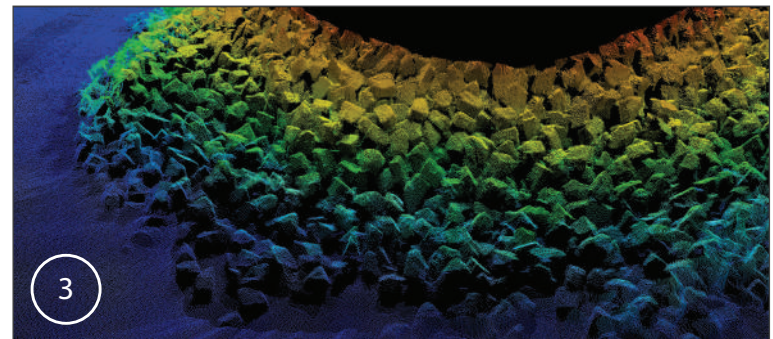
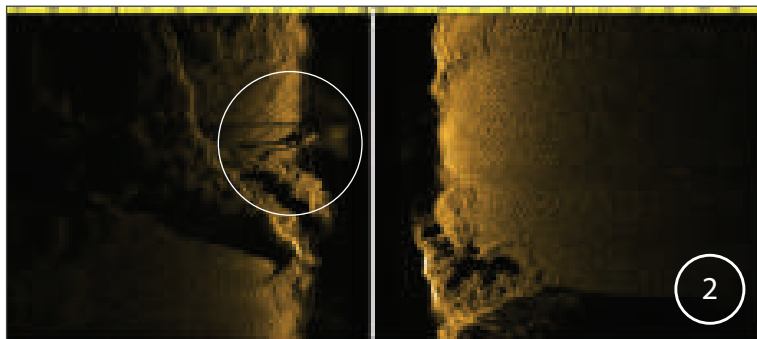
AUTOPILOT / REMOTE CONTROL



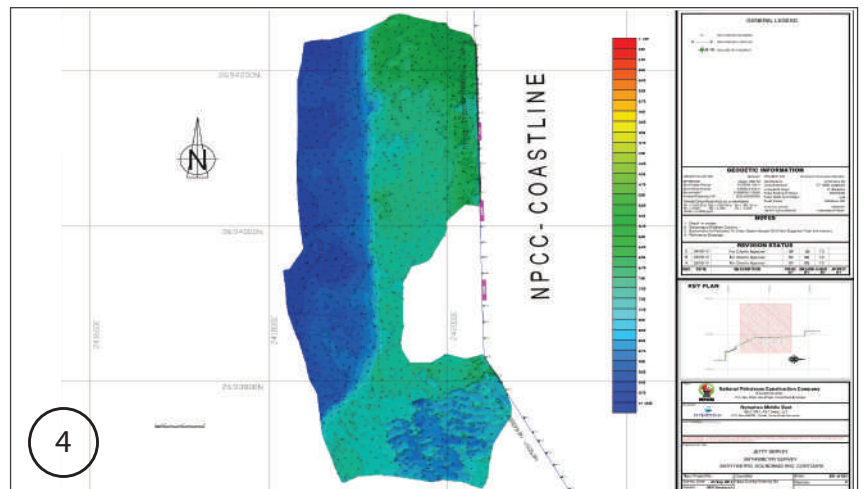
QUICK AND EASY DEPLOYMENT







- 1 RSV Orca - Acquiring bathymetry data
- 2 Diver localized with Side Scan Sonar
- 3 3D Bathymetry - Multibeam Echosounder
- 4 2D Bathymetry and contours





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