



**exail**

**DRIX SERIES UNCREWED  
SURFACE VEHICLES**

# WHY CHOOSE EXAIL UNCREWED SURFACE VEHICLES?

## **Cost savings and operational efficiency**

By requiring fewer operational resources compared to crewed vessels, Exail USVs offer significant cost savings. These come from reduced labor costs, lower fuel consumption, decreased maintenance requirements, and enhanced mission efficiency, through reduced weather standby and post-processing. This leads to a more cost-effective solution for maritime operations.

## **Enhanced data quality and accuracy**

Offering outstanding seakeeping capabilities, including in high sea states (>SS5) and cross-currents, Exail USVs are equipped with advanced sensors and multi redundant communication equipment, enabling high quality data collection and real-time transmission. The payloads, located in a low noise environment, provide best in class data quality, delivering operators with reliable information for decision-making and analysis in various maritime applications.

## **Increased mission versatility**

Modular, Exail USVs are able to integrate and deploy a wide range of payloads, sensors and assets, enabling deployments for various mission requirements. This flexibility allows operators to efficiently address a wide range of maritime use cases, ranging from scientific application to subsea assets inspection and hydrographic/hydrophysics surveys, without the need for multiple specialized vessels.



### **Reduced environmental footprint**

Lower fuel consumption and greenhouse gas emission, reduced radiated noise in the water... All these factors contribute to minimizing the environmental impact of maritime operations and support the industry transition towards more sustainability.

### **A comprehensive service offering**

Providing onsite and remote support, extensive training courses, as well as a comprehensive documentation, the Exail teams – whether in-house experts or highly skilled and trained freelancers – are there from mission planning and field mobilizations to operations and maintenance, helping clients and partners deploy Exail technologies and smoothly transition towards uncrewed marine operations.

### **Sea-proven multi-vehicle collaborative autonomy capabilities**

Used as a surface communication and positioning gateway that supports AUVs/ROVs subsea operations, the DriX USVs have one of the most established track-record in supporting multi-vehicles collaborative operations. They further allow to track AUVs/ROVs, recover QA/QC data and recalibrate the subsea assets navigation or send new mission plans through Satcom.



# EFFICIENT LAUNCH AND RECOVERY

Exail's DriX USVs can be deployed using various methods depending on the model and on the specific mission requirements, logistical considerations, and available resources. Their versatility in deployment allows for efficient and effective utilization in a wide range of maritime operations.

## Launch and Recovery from a mother vessel

The DriX H-8 and H-9 USV can be deployed from a mother vessel using a specialized Launch and Recovery System (LARS) that can be deployed from a davit, a crane or an A-frame. DriX H-8 and H-9 LARS allows for the automatic docking of the USV, with no human intervention.

## Direct launch from shore or dock

All DriX USVs can be launched directly from shore or a dock standard equipment. This method is suitable for missions conducted in coastal areas or from shore-based facilities.

## Custom Launch and Recovery Systems development

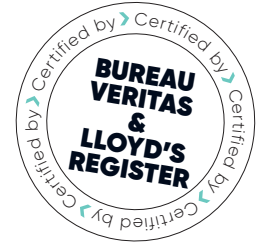
Exail can develop custom Launch and Recovery System to fit customer's specific operational requirements.



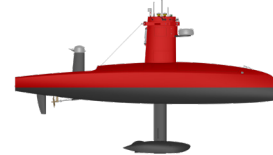
DriX H-8 being deployed from NOAA's *Thomas Jefferson* hydrographic survey vessel

# A COMPLETE RANGE OF USVS COVERING ALL OPERATIONAL NEEDS

As a world-leading developer of industry-changing uncrewed technologies, Exail offers a complete autonomous ecosystem to ensure a smooth transition towards remotely supervised maritime operations. Through a full range of certified Uncrewed Surface vehicles, launch and recovery systems, towed vehicles and purpose-made payload gondola adaptations, Exail provides complete end-to-end solutions for efficient and successful autonomous operations at sea.



**DriX H-8**  
Medium range USV



**DriX H-9**  
Long range USV

<b>Length</b>	7,71 m	9 m
<b>Displacement</b>	1,6 t	2,1 t
<b>Endurance*</b>	< 10 days	< 20 days
<b>Speed</b>	< 14 kts	< 13 kts
<b>Fuel capacity</b>	250 L	550 L
<b>Range</b>	1.000 NM	2.000 NM
<b>Communications</b>	Wifi, 4G, Satellite communication, UHF radio	Wifi, 4G, Satellite communication, UHF radio
<b>Towing / launch &amp; recovery</b>	ROTVs towing capabilities	ROTVs towing capabilities
<b>Station keeping</b>	Hovering	Hovering
<b>MBES capacity</b>	3.000 m depth	3.000 m depth
<b>Transportation</b>	1x 40' High Cube container	1x 40' High Cube container
<b>Other</b>	Launch & Recovery system	

\* Endurance depends on speed, gondola size, towing capabilities



## **DriX O-16**

Transoceanic range USV

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15,75 m

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10,5 t

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< 30 days

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< 16 kts

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2,300 L (dual hybrid propulsion)

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3.500 NM

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Wifi, 4G, Satellite communication, UHF radio

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ROTVs, Inspection Class ROVs, 1,000 m rated AUVs

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Dynamic Positioning

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Full ocean depth

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2x 40' High Cube container

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Customizable stern section for additional payload integration

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# COMMAND & CONTROL OF THE USVS

**150,000+**  
hours  
at sea

The Drix USVs operate autonomously with a high level of autonomy under the supervision of a remote operator. They can be operated either within LOS (Line of Sight) or OTH (Over The Horizon)

## Robust communication infrastructure supporting OTH operations

Relying on a redundant multi-channels communication system, the Drix USVs can support both Line Of Sight (LOS) or Over The Horizon (OTH) operations. It includes:

- 4G
- Kongsberg Broadband Radio
- Silvus Network Radio
- WIFI
- Starlink Satellite

The onboard communication traffic manager ensures a robust link between the USV and the remote operation center. It monitors the health of the communication infrastructure and manages the redundancy, bandwidth and data criticality.



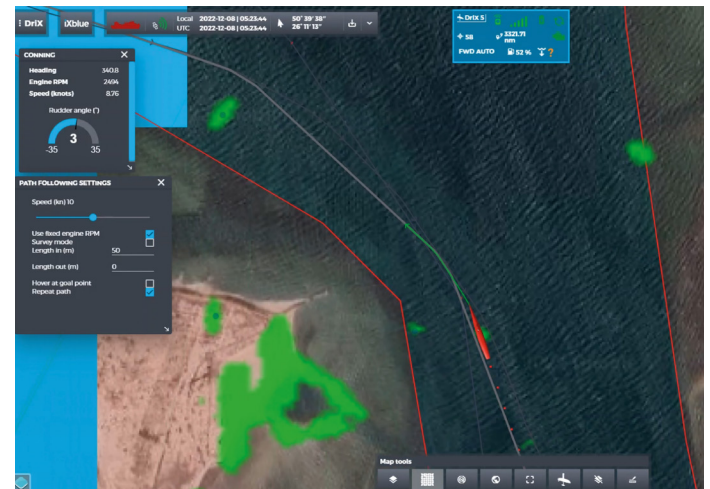
Remote multi-Drix USVs operation conducted from Exail Remote Control Center

## An open software interface designed for safe and efficient operation

Exail USV operations are supported by the CortiX software. CortiX is an Exail solution for the management of the operation of an USV including:

- Mission planning and supervision
- Supervisor situational awareness and vehicle health monitoring  
Sensors configuration
- On-board data management and acquisition
- Communication infrastructure monitoring and traffic management

CortiX is ROS based and is an open framework. It does not rely on propriety protocol or data format. eXail provides various level of API for third party software integration.



Drix web-based intuitive HMI enables efficient remote operations

# ADVANCED OBSTACLE DETECTION AND AVOIDANCE FOR MAXIMUM SAFETY AT SEA

Exail USVs benefit from an advanced Obstacle Avoidance System designed to ensure safe navigation in complex maritime environments. This system relies on a combination of advanced sensors (video and IR cameras, LiDAR, radar...) and sophisticated software algorithms, to detect and avoid obstacles in real time, allowing for safe operations in dynamic maritime environments.

