



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 reliable communication equipment, enabling precise 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 tasks, ranging from scientific and exploration, to subsea inspection and hydrography/geophysics, 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

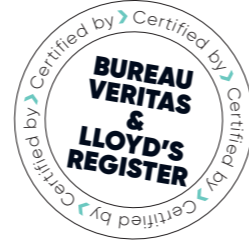
Providing onsite and remote support, extensive training courses, as well as a comprehensive documentation, the Exail teams – whether in-house experts or highly skilled and trained freelancers – are there from mission planning and field mobilizations to operations and maintenance, helping clients and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

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



DriX O-16
Transoceanic range USV



DriX O-25
Custom-made USV

Length	7,71 m	9 m	15,75 m	25 m
Displacement	1,6 t	2,1 t	10,5 t	80 t
Endurance*	< 10 days	< 20 days	< 30 days	< 30 days
Speed	< 14 kts	< 13 kts	< 16 kts	< 13 kts
Fuel capacity	250 L	550 L	2,300 L (dual hybrid propulsion)	20,000 L (hybrid propulsion)
Range	1,000 nm	2,000 nm	2,500 nm	2,500 nm
Communications	Wifi, 4G, Satellite communication, UHF radio	Wifi, 4G, Satellite communication, UHF radio	Wifi, 4G, Satellite communication, UHF radio	Wifi, 4G, Satellite communication, UHF radio
Towing / launch & recovery	ROTVs towing capabilities	ROTVs towing capabilities	ROTVs, Inspection Class ROVs, 1,000 m rated AUVs	ROTVs, Work Class ROVs, 6,000 m rated AUVs
Station keeping	Hovering	Hovering	Dynamic Positioning	Dynamic Positioning 2
MBES capacity	3,000 m depth	3,000 m depth	Full ocean depth	Full ocean depth
Transportation	1x 40' High Cube container	1x 40' High Cube container	2x 40' High Cube container	On cargo ship deck
Other	Launch & Recovery system		Customizable stern section for additional payload integration	< 20 tons payload allowance

* Endurance depends on speed, gondola size, towing capabilities

COMMAND & CONTROL OF THE USVs

150,000+
hours
at sea

The DriX USVs are able to conduct both remote-controlled and supervised autonomous operations. Within the latter, the USVs perform their missions by themselves while the pilot supervises the operations, either within or beyond visual range (Over The Horizon).

Robust communication means supporting OTH operations

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

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

In full OTH mode, Exail USVs are able to select the best communication mode depending on the environment, while smartly managing the use of bandwidth to guarantee critical data priorities.



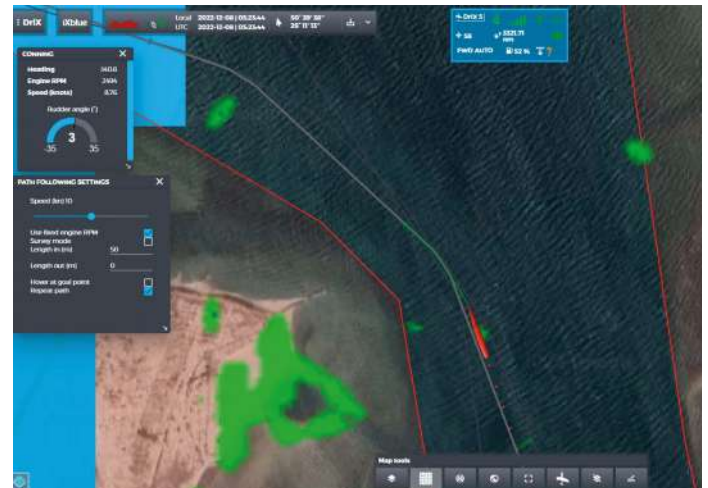
Remote multi-DriX USVs operation conducted from Exail Remote Control Center

A user friendly HMI for efficient operations

Exail USVs come with a user-friendly HMI (Human-Machine Interface) that allows operators to plan and control the uncrewed platforms and their parameters. Highly intuitive, the DriX HMI features a graphical interface that enables real-time monitoring of various parameters:

- Status
- Mission planning and progress
- Sensors configuration
- Alerts management

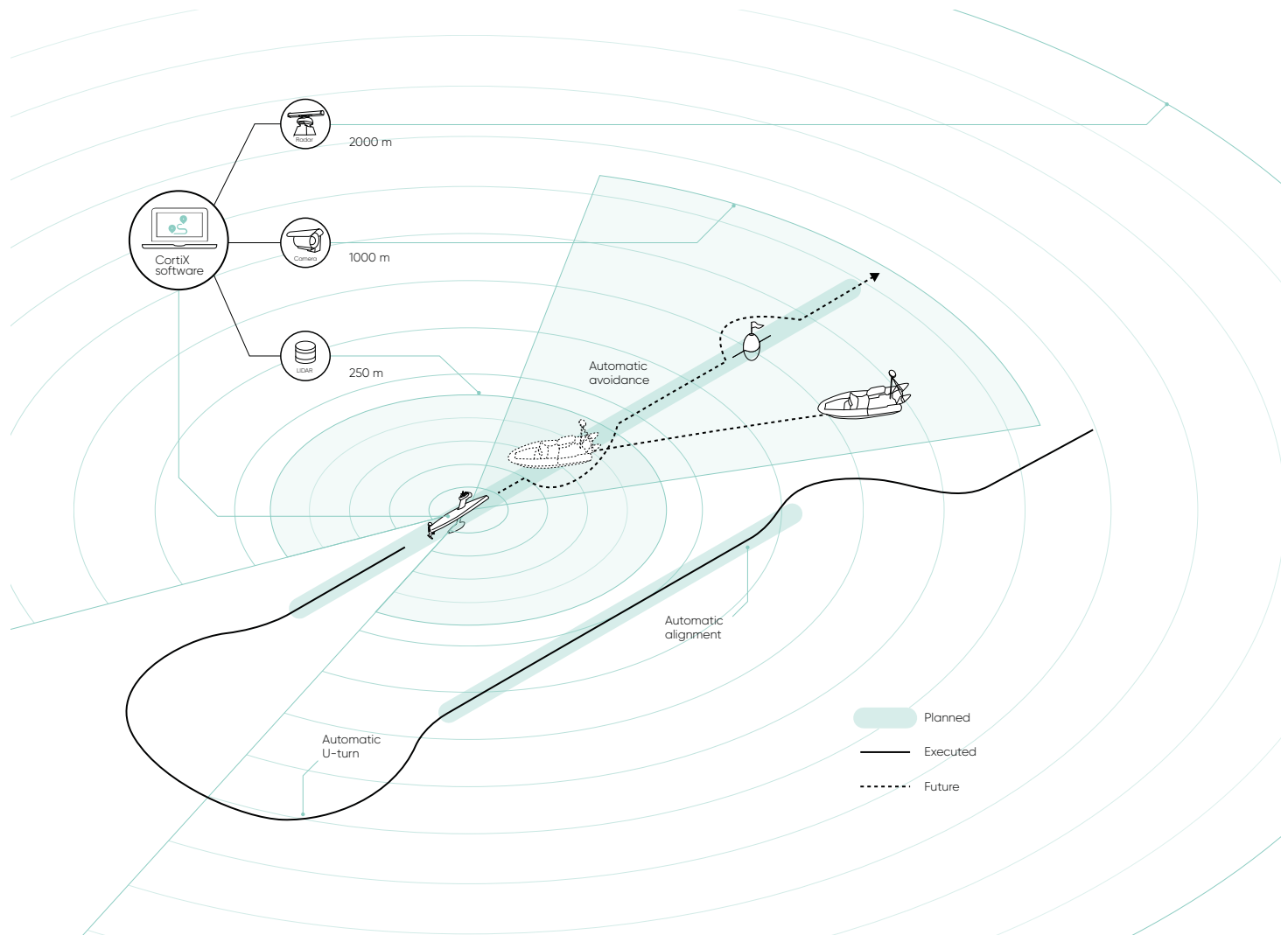
This allows operators to quickly understand the USVs' status and make informed decisions during mission execution. DriX autonomy software is based on the ROS middleware. Exail can provide various levels of API for third-party software interfacing.



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.



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 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 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 using a crane or other lifting equipment. This method is suitable for missions conducted in coastal areas or from shore-based facilities.

Custom Launch and Recovery Systems development

Specific studies of a mother vessel are also available to develop custom Launch and Recovery solutions adapted to customers' specific operational requirements.



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