

# DRiX O-16

Exail is to launch the game-changing DriX O-16, which it has designed for long-duration operations (up to 30 days). Twice the length of the earlier DriX models, it will be large enough to deploy multiple payloads and subsea assets. This revolutionary Uncrewed Surface Vehicle (USV) is based on seven years experience operating the original ground-breaking DeiX design.

The new DriX O-16 is especially suited for advanced scientific and hydrographic surveys, geophysical and UXO surveys, as well as subsea infrastructures inspection and surveys that might require the deployment of multiple robots.

Back in 2017, the then iXblue disrupted the world of offshore survey with the launch of its sleek DriX uncrewed surface vehicle. Since then, this vehicle has accumulated over 150 000hrs of operations at sea, travelling 2500 Nm in more than 19 countries. This represents 40 times the round globe.

With the length of 7.71m and its 1.6t displacement, it could sail around for up to 10 days at speed of 14 kt. Its 250L fuel tank gave it a range of 1000 nautical miles.

This vehicle was later called the DriX H8 to differentiate it the newer and upgraded DriX H9.

The DriX H9 vehicle was about a metre longer which allowed it to carry more fuel and this gave it a greater range. The capacity increased from 250L to 550L and



in doing so, essentially doubled the endurance from 10 up to 20 days.

The latest generation vehicle, called the DriX O-16 is set to change the market again.

### DRiX O-16

"The length of the new vehicle has increased from 5.71 to 15.75m, twice as long as the very first DriX," said Olivier Cervantes, VP Maritime Autonomy Solutions at Exail. "By doubling the length, the volume has increased by around 10 times. In doing so, the displacement has increased from 1.6t in the H8, up to 10.5 t.

"The vehicle is also a revolution in terms of endurance. All this extra capacity allows the vehicle to work

up to 30 days at a time with the range increasing to 2500 nautical miles."

Back in the original H-8 design, the top-heavy vessel was balanced by a retractable gondola which could house instruments. In the H-9, this turned into a larger structure. In the new vehicle, the gondola is a n extended permanent structure, 26m long, with a capacity to install 2.5 t of equipment.

"This now has room for a number of

deep-water, sub-Bottom profilers and acoustic subsea positioning and communication systems (USBL)," said Cervantes.

"While previous vehicles permitted a Multibeam Echosounder (MBES), with a capacity to scan 3000m, the new DriX is enough to accommodate the very large echosounder antennas, required for multibeam imaging down to full ocean depth.

"Another feature of the previous vehicles was they afforded an ideal platform to tow Exail's FlipiX ROTV. With its with active motion control (depth/altitude, pitch, roll), the FlipiX can carry Side Scan Sonar and magnetometers as well as providing interfaces for other type of sensors to increase the value of the DriX survey.

"As well as the ROTV, the back deck of the DriX O-16 is now large enough to launch and recover subsea assets such inspection-class Remotely Operated Vehicles (ROVs) as well as Autonomous Underwater Vehicles (AUVs).The deck has a one-ton capacity, so we could fit a range of equipment. It's truly redundant.

"At the front is an AI powered forward-looking sonar. This can scan

the water column to avoid obstacles such as fishing nets. The control system can combine all underwater information with radar, cameras and Lidar information for a total sensory package."

The new vehicle retains its diesel proportion system, but in addition, it has additional electrical system. This gives the DriX O-16 a greater speed, but the hybrid arrangement also means that the power source is dually redundant and thus offers a high level of reliability and operational efficiency.

"The diesel system is still located at the stern but forward from this, the new electric pod can rotate 360," said Cervantes. " There is also a bow thruster, so that instead of previous design to the vehicle being able to

hover, the O-16 has dynamic positioning. Being able to stay at one point without moving can be essential when launching and recovering assets

"This vehicle will be available late this year. It should be in the water in a couple of months and we are planning our first demonstration mid year with the target of launching of September. It will have a 12 month delivery time.

"With this next-generation transoceanic low-carbon USV, we are pushing back the limits of ocean exploration, empowering collaborative autonomy between surface and subsea drones, while minimising human exposure at sea," said Cervantes.

"The introduction of our new DriX O-16 truly marks a significant stride in autonomous maritime operations. Multi-robot missions are definitely where we see the maritime industry and our own developments leaning in the coming years."

## DRiX O-25



DriX O-25

While the three DriX vehicles will be production models, Exail are also looking at the possibility of producing a Larger custom-made vehicle. It will be 25m long and displace 80t. It will have similar speed and endurance to the production versions but the larger body will give it a fuel capacity of 20,00 L.

One of the principal features is that it will be able to launch and recover large AUVS able to operate at 6000 m. This DP2 uncrewed vessel will therefore, extend the range of the underwater vehicles while providing surface support.



	DriX H-8	DriX H-8	DriX O-16
Length	7,71 m	9 m	15,75 m
Displacement	1,6 t	2.1t	10,5t
Endurance	< 10 days	<20 days	<30 days
Speed	< 14 kts	< 13 kts	< 13 kts
Fuel capacity	250 L	550 L	2300 L dual hybrid
Range	1,000 nm	2,000 nm	2500 nm
Communications	Wifi, 4G, Satellite communication, UHF radio		
Towing/LARS	ROTVs towing capabilities		
Stationkeeping	Hovering	Hovering	DP
MBES capacity	3,000 m depth	3,000 m depth	Full Ocean
Transportation	1x 40' High Cube container		

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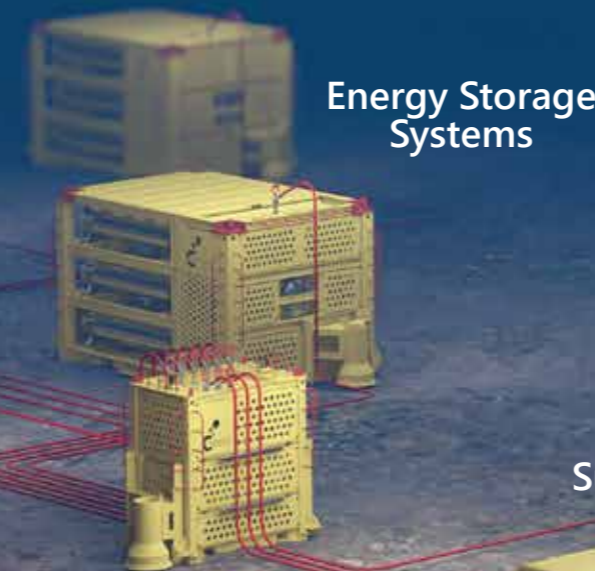
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