

exail at a glance

<b>80</b> YEARS OF EXPERIENCE	<b>250+</b> MILLION EUROS OF TURNOVER	<b>80%</b> OF TURNOVER ACHIEVED ABROAD
<b>1500+</b> EMPLOYEES	<b>80</b> COUNTRIES SERVED WORLDWIDE	<b>20%</b> OF TURNOVER REINVESTED EACH YEAR IN R&D
<b>50</b> NAVIES EQUIPPED	<b>1000+</b> NAVAL PLATFORMS EQUIPPED	<b>24/7</b> TECHNICAL SUPPORT

# over 50 navies around the world



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**MARITIME DOMAIN  
AWARENESS**

## Exail, a global partner for effective Maritime Domain Awareness

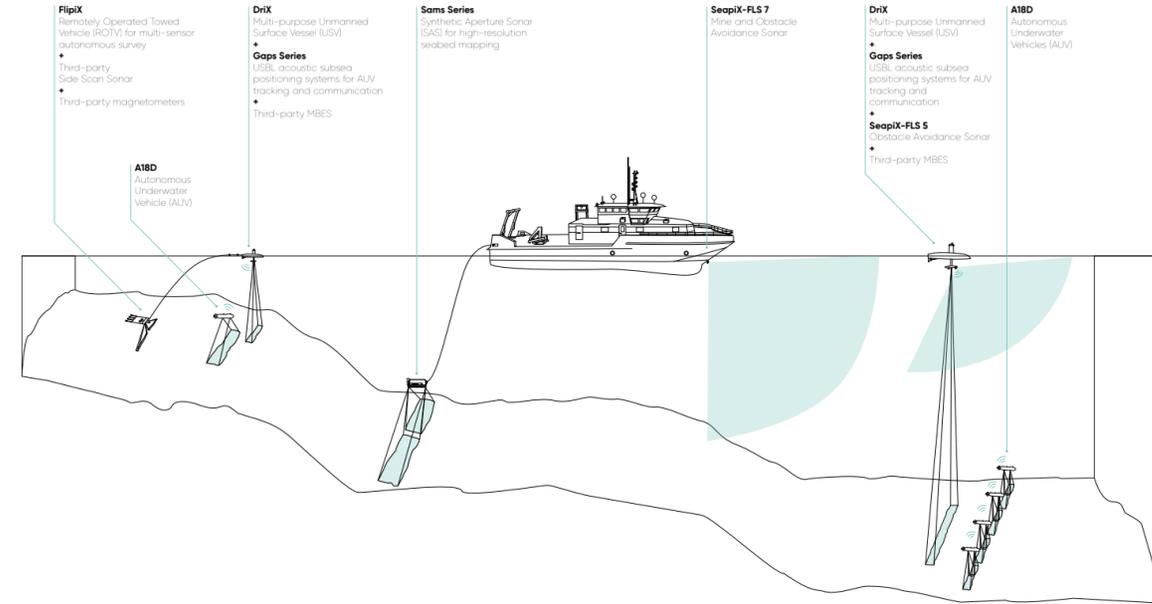
Maritime Domain Awareness (MDA) can be defined as the effective understanding of military and non-military events in the maritime environment that could impact the security, safety, economy, or environment of a nation or a region.

In the field, this understanding stems from the development of a robust common operating picture, whose accuracy and completeness provide decision-makers with the tools to make the right choice to keep crews out of harm's way.

A world-leading developer of maritime sensors and autonomous platforms, Exail offers nations a complete ecosystem of data acquisition solutions which, by maximizing near real-time awareness of maritime threats, are critical enablers for national and international maritime security.

# COMPREHENSIVE UNDERSTANDING OF THE MARITIME DOMAIN

Exail leverages its advanced expertise in autonomous surface and subsea platforms as well as maritime sensors such as subsea acoustic positioning systems and solutions for subsea imagery, to offer a complete ecosystem of data-acquisition solutions, contributing to an effective understanding of the maritime domain.



# AUTONOMOUS SURFACE AND UNDERWATER DRONES



## DriX Unmanned Surface Vehicle (USV)

DriX is a fast, efficient and discreet USV dedicated to hydrographic applications such as ISR (Intelligence Surveillance and Reconnaissance). Able to conduct both remote-controlled and supervised autonomous operations, DriX offers outstanding seakeeping and speed capabilities. A versatile and efficient USV, it can host a wide range of payloads and offers optimum conditions for high-quality data acquisition in both shallow and deep waters.

- Outstanding seakeeping and speed capabilities
- Highly accurate surface and subsea data acquisition
- Multi-AUV control and positioning from the surface
- Communication gateway between subsea drones and remote operation center
- Optimized for both coastal and offshore missions
- Highly versatile payload system thanks to open architecture
- Advanced obstacle avoidance for safety at sea
- Able to conduct both remote-controlled and supervised autonomous operations

DriX	
<b>Dimensions</b>	L 7.710 x H 0.4 x W 0.824 m / 2 m (draft)
<b>Endurance</b>	Up to 10 days
<b>Fuel capacity</b>	250L (average consumption 2L/H)
<b>Speed</b>	Up to 13 knots
<b>Communications</b>	Wifi, radio, 4G, SATCOMS



## FlipiX Remotely Operated Towed Vehicle (ROTV)

FlipiX is a ROTV designed to be operated autonomously and enhancing unmanned survey capabilities down to 100m. Deployed from USVs or traditional vessels, FlipiX can conduct multi-sensor bathymetric, geophysical and UXO operations in a single run. Leveraging best-in-class motion control and a reduced operational footprint, FlipiX is a unique conveyance platform for Side Scan Sonars (SSS) and Magnetometers.

- Covers the full autonomous survey scope
- Enhances autonomous survey operational efficiency
- Provides best in class motion control for enhanced measurement quality
- Reduces operational footprint

FlipiX	
<b>Dimensions</b>	L 1.8 x H 0.4 x W 2.7 m
<b>Weight</b>	68 kg (in air) / Positive buoyancy (in water)
<b>Depth rating / operational depth</b>	300 m / 100 m
<b>Towing speed</b>	3-7 knots
<b>Roll/Pitch measurement accuracy (AHRS unit)</b>	0.1 deg (RMS)



## A18D Autonomous Underwater Vehicle (AUV)

A18D is a mid-size AUV for deep water applications. It is dedicated to accurate 3D seabed surveys. It performs autonomous missions up to 3000 m depth with 21 h endurance and is easily transportable by plane for overseas missions. This system can be delivered with a LARS allowing automatic launch and recovery, and software for data post-processing.

- Light deep-water vehicle
- Easy launch and recovery in rough sea conditions
- Easy deployment for overseas missions (ISO containers transportation)
- Extended coverage and endurance capacities
- User-friendly mission management system
- Flexibility of sensor payloads

A18D	
<b>Dimensions</b>	4.5-5.5 m, 500-690 kg
<b>Endurance</b>	24 hours
<b>Max speed</b>	Up to 6 knots
<b>Nominal speed</b>	3 knots
<b>Operational depth</b>	5-3000 m

# SUBSEA IMAGERY SENSORS



## Seapix-FLS Series Forward Looking Sonars (FLS)

The Seapix-FLS Series is a 3D multi-beam FLS designed for mine and obstacle avoidance from the surface to the seabed. Integrating an advanced Inertial Measurement Unit (IMU), Seapix-FLS Series provides a clear and precisely geo-referenced picture of the surrounding environment for all naval platforms. Thanks to its unique three-dimensional coverage of the water column and bathymetric profile, it offers highly precise real-time detection and classification capabilities.

- 3D wide angle coverage
- Unrivaled real-time accuracy
- Water column coverage from surface to seabed
- Fully autonomous detection process
- Compatible with all vessels
- An intuitive and efficient user interface

	Seapix-FLS 5	Seapix-FLS 7
<b>Volume coverage</b>	120°x120°	90°x90°
<b>Object in the water column (-15dB)</b>	>300m	>600m
<b>Drifting object (-15dB)</b>	>300m	>450m
<b>Object on the bottom (-15dB)</b>	>200m	>350m
<b>Low target strength</b>	>250m	>520m



## Sams Series Synthetic Aperture Sonars (SAS)

The Sams Series enables highly accurate and efficient mapping of vast areas down to centimetric accuracy. By integrating positioning, navigation and built-in motion compensation capabilities, and by conducting real-time SAS processing, it delivers high-quality and high-resolution geo-referenced maps in real-time. The Sams Series can be mounted on assets such as AUVs, ROVs, and ROTVs, or towed behind a traditional surface vessel down to 6000m.

- Real-time generation of high-quality and high-resolution geo-referenced maps
- Full ocean depth
- Multibeam interferometric bathymetry
- 2 versions depending on operational needs
- Dedicated software for SAS data interpretation

	Sams-150	Sonar kit Sams-50
<b>Central frequency</b>	150 kHz	55 kHz
<b>Bandwidth</b>	30 kHz	15 kHz
<b>Swath</b>	500 m	1800 m
<b>Along-track/ Cross-track resolution</b>	6 cm x 2.5 cm	40 cm x 5 cm
<b>Coverage rate</b>	Up to 5 km <sup>2</sup> /h	Up to 8 km <sup>2</sup> /h