

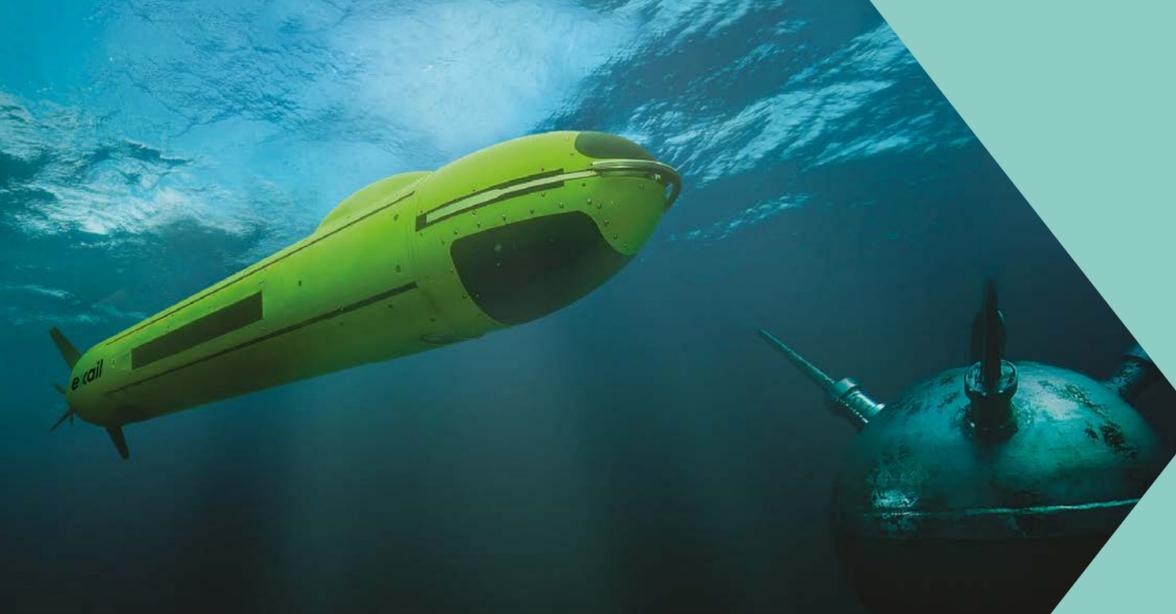
## exail at a glance

<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

## UMIS™ | TOOLS

	A9-M	A18-M	T18-M	Seascan	K-STER
<b>Dimensions</b>	L 2.0 m - Body diameter 9 inches (23 cm)	L 4.5 m - Body diameter 18 inches (46.5 cm)	L 4.70 m - Body diameter 18 inches (46.5 cm)	L 1.58 x H 0.43 x W 0.50 m	L 1.50 x H 0.43 x W 0.50 m
<b>Endurance</b>	Up to 20 hours (with 2 energy sections)	Up to 24 hours at 3 knots	20 hours	Up to 3 hours	1 hour
<b>Max speed</b>	Up to 5 knots	Up to 6 knots	Up to 18 knots	6 knots	Up to 6 knots
<b>Payloads</b>	Side Scan Sonar, Video, SVP (CTD and environmental sensors on request)	Synthetic Aperture Sonar (SAS), CTD	Synthetic Aperture Sonar (SAS), Multibeam Echosounder (MBES) or Gap Filler	High-resolution sonar, Color video camera, LED search light	Tilting head angle +90° to -90° shaped charge, reacquisition sonar, video camera
<b>Max operational depth</b>	300 m	300 m	300 m	300 m	300 m

	USV Inspector 90	USV Inspector 125
<b>Dimensions overall Length x Beam</b>	9.40 x 2.91 m	12.33 x 4.20 m
<b>Endurance</b>	Up to 24 hours	Up to 40 hours
<b>Max speed</b>	Up to 35 knots	Up to 25 knots
<b>Sea state</b>	Up to SS 3/4 unmanned	Up to SS4 unmanned, SS5 manned
<b>Payloads</b>	Mine Identification and Disposal systems (MIDS), Seafloor survey sensors, Coastal protection effectors, ISR sensors	Towed sonar, AUV with LARS, MIDS
<b>Draft</b>	0.60 m	0.70 m
<b>Hull material</b>	Marine Grade Aluminum	Glass Reinforced Plastic (GRP)



### Exail, a global partner in stand-off Mine Countermeasures

Exail has been supporting more than 50 navies with robotic solutions for over eighty years. The company is playing an important role in pushing forward the boundaries of legacy warfare by offering a unique stand-off approach, enabling navies to safeguard crews and ships by keeping them away from the minefield.

Exail proposes UMIS™, a comprehensive, safe, efficient and cost-effective drone-based system to perform maritime mine clearance missions. UMIS™ is an open robotic system developed for surveying and securing large or complex zones at sea, as well as coastal areas and ports.

Exail systems meet industrial integrators' needs for cost-effective and easy-to-integrate equipment. They share strong commonalities with regards to hardware, software and interface, resulting in significant savings in terms of integration, installation, configuration, logistics and maintenance costs.

exail

**MINE  
COUNTERMEASURES**

# UMIS™ | UNMANNED MCM INTEGRATED SYSTEM

Exail's advanced maritime Mine Countermeasures (MCM) multi-drone system, UMIS™, is the first third generation stand-off MCM system enhancing the safety and effectiveness of mine warfare operations. The UMIS™ system integrates Autonomous Underwater Vehicles (AUV), Unmanned Surface Vehicles (USV), Unmanned Aerial Vehicles (UAV) and Mine Identification and Destruction Systems (MIDS) to detect, classify, identify and neutralize sea mines. UMIS™ is unique in being deployable from a mothership, a ship of opportunity or from the shore.

UMIS™ optimizes the effectiveness and speed of mine clearance operations through the parallelization of missions – launching and managing multiple drones in parallel to cover a large area simultaneously, with significant savings of time and resources.

# UMIS™ | A TOOLBOX OF SEA-PROVEN DRONES DEPLOYABLE FROM SHIP AND SHORE

Compliant with NATO standards for reduced magnetic and acoustic signatures. Open architecture enabling integration of third-party drones. Scalable to adapt to the navy's evolving needs, the UMIS™ toolbox can be composed of several or all of the following vehicles:



## Inspector 125 Unmanned Surface Vehicle

For minehunting and sweeping

- Sea-proven hull design with 14 years' service in sea rescue
- Unsinkable through use of foam filled compartments
- Sea State 5 operations with 40% reduction in roll provided by anti-roll system
- Easily reconfigurable between AUV/towed sonar configuration and MIDS configuration
- Clearance Diving Team support, including jockey seats, dedicated stowage, jib crane and windlass for mine towing
- Smart & secure: up to 20Nm line of sight; autonomous navigation integrated with mine obstacle and avoidance sonar; cyber-hardened security
- Easy launch and recovery, tiltable mast and reinforced hull for deployment and recovery from a mothership
- Enhanced towing capacity with optional two drive shafts and protected propellers

## A18-M Autonomous Underwater Vehicle

For object detection, classification and survey

- Long endurance: more than 20 hours.
- High-resolution imagery from UMISAS Synthetic Aperture Sonar (SAS) and HD video camera
- Operational flexibility: launchable from Inspector 125, specialist MCM vessel, ship of opportunity or the shore
- Automatic launch and recovery system (LARS) from Inspector 125
- Autonomous, including autonomous mission adaptation, completion and automatic target recognition
- Embedded ATD/ATR

## A9-M Autonomous Underwater Vehicle

For object detection, classification and survey

- Man-portable for use in shallow-water operations supported by Clearance Diving Teams
- High-resolution imagery: Klein 3500 high-resolution side scan sonar and HD video camera
- Standalone capability: complete operational system, including mission planning, real-time mission monitoring and post-processing and report generation, for operation from RHIB
- Embedded ATD/ATR

## T18-M Towed Synthetic Aperture Sonar

For object detection, classification and survey

- High-level of commonality with the A18-M simplifying logistical footprint
- High-resolution imagery from onboard UMISAS Synthetic Aperture Sonar
- Energy independent: self-powered, enabling deeper diving and higher tow speeds
- High positional accuracy: a fiber-optic gyroscope INS assisted by a USBL positioning system

## IT180 Unmanned Aerial Vehicle

For object detection and communications relay

- Capability multiplier: enables navies to work above, on and under the sea, and in joint scenarios
- Airborne drone used to detect surface and drifting mines
- Robust: designed to be operated despite extremely harsh conditions
- Wide range of payloads

## SEASCAN Remotely Operated Vehicle

For mine identification

- Long endurance: ~3 hours
- High-resolution electronic scanning sonar for fast re-acquisition
- Effective visual identification aided by 3 HD cameras with adjustable LED lighting
- Deployable from USV via automatic LARS that includes battery charger for at-sea recharging
- High stability in turbulent water and remote manual control with automatic transit, assistance for pitch, yaw, heading, attitude and depth

## K-STER C Remotely Operated Vehicle

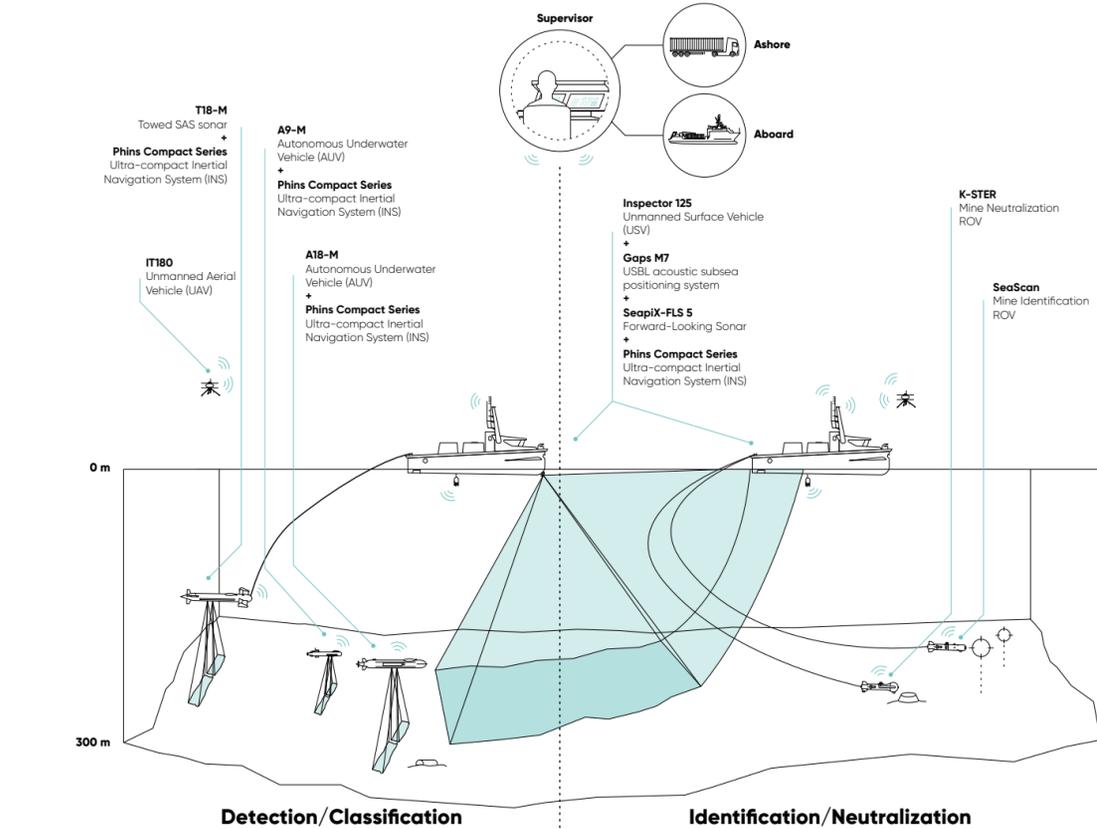
For mine neutralization

- Unique tiltable shaped charge enabling more precise targeting of mines even in strong currents
- High level of commonality with Seascan to optimize training, logistic support and through life cost
- Easy to use interface with automatic features to assist the operation
- Deployable from USV via launching canisters

## MCM Containerized Command, Control and Communications

C3 flexibility with multi-function consoles

- Comfortable for operators: ergonomically designed room with air-conditioning
- Secure including TEMPEST zone B shielding on request
- Fully integrated within technical container including interfaces with external comms
- Compliant with Container Safe Certifications



# UMISOFT™ | OPEN ARCHITECTURE MISSION MANAGEMENT SOFTWARE

This fully integrated system manages the entire mission from preparation and planning, execution, supervision, evaluation and processing of data, to post-mission analysis and reporting, for all MCM drones. It provides a unique and consistent interface which greatly improves the operators' efficiency and well-being through its ease of use and intuitiveness. UMISOFT™ is interoperable and can be interfaced in existing ship systems including Combat Management System (CMS), Mine Warfare Data Center (MWDC), and Military Message Handling System (MMHS). Navies will benefit from the integration of third-party products and systems thanks to UMISOFT™ open architecture.

UMISOFT™ allows operators to:

- Prepare and plan the missions
- Program and control the drones
- Supervise the missions, reallocate tasks
- Process, manage and store the data collected during missions
- Evaluate missions
- Generate mission reports

