



Mine Counter Measures - MCM

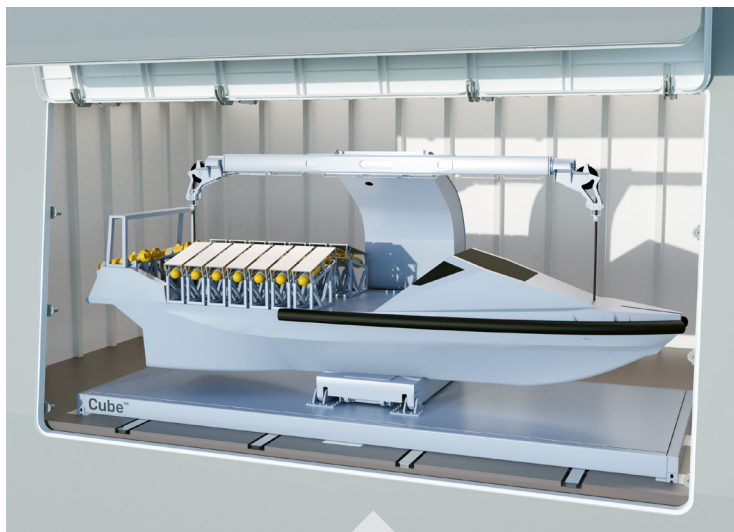
Mine hunting

As naval mines have become more sophisticated, and able to discriminate between targets, they have become more difficult to deal with. This has given rise to the practice of mine-hunting.

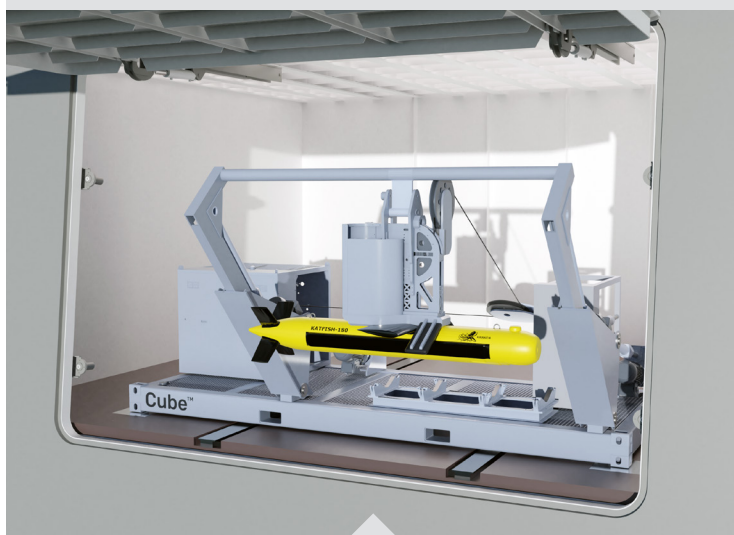
Mines are hunted using sonar, then inspected and destroyed mostly by USVs and AUVs.

For MCM operations, the following Cube™ modules are relevant:

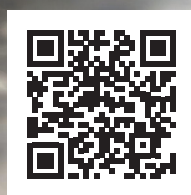
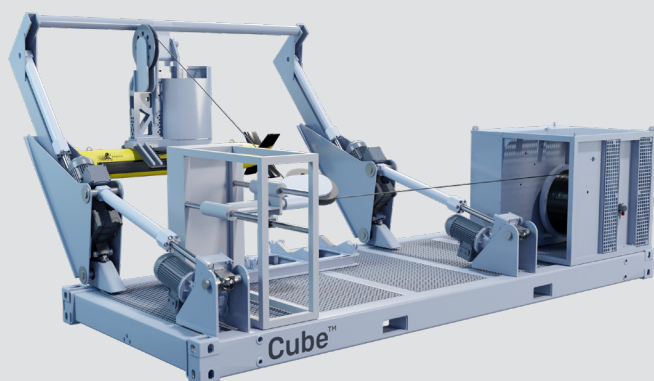
- Mine Clearance UUW-ROV modules
- Small weapons station modules
- Mine Clearance Side Scan Sonar modules
- Battery power plant modules
- USV 20-foot module
- USV Recovery cradle



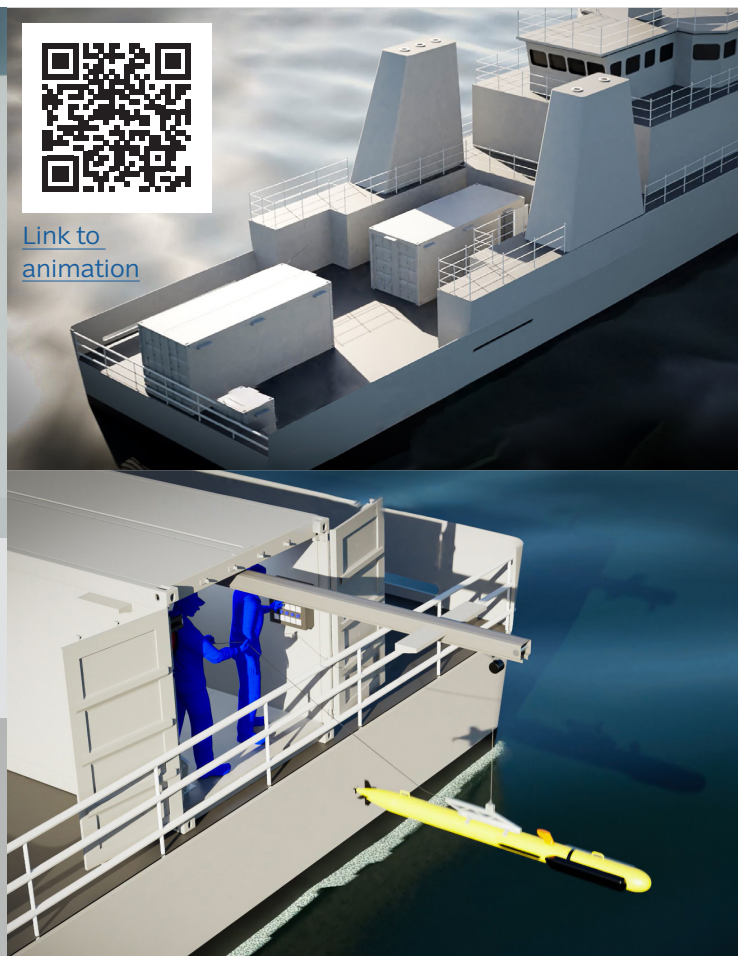
The **ECA Group** 'INSPECTOR 120' 12 Meters USV as a side launched Cube™ module. The Inspector is an autonomous platform for mine counter measures



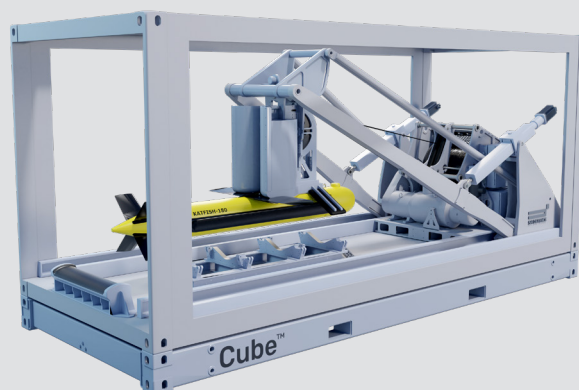
The Katfish is a towed SAS sonar from **Kraken Robotic Systems**. Engineered as a 20' Cube™ module - Side or stern launched. Launch and Recovery system by **SH Defence**.



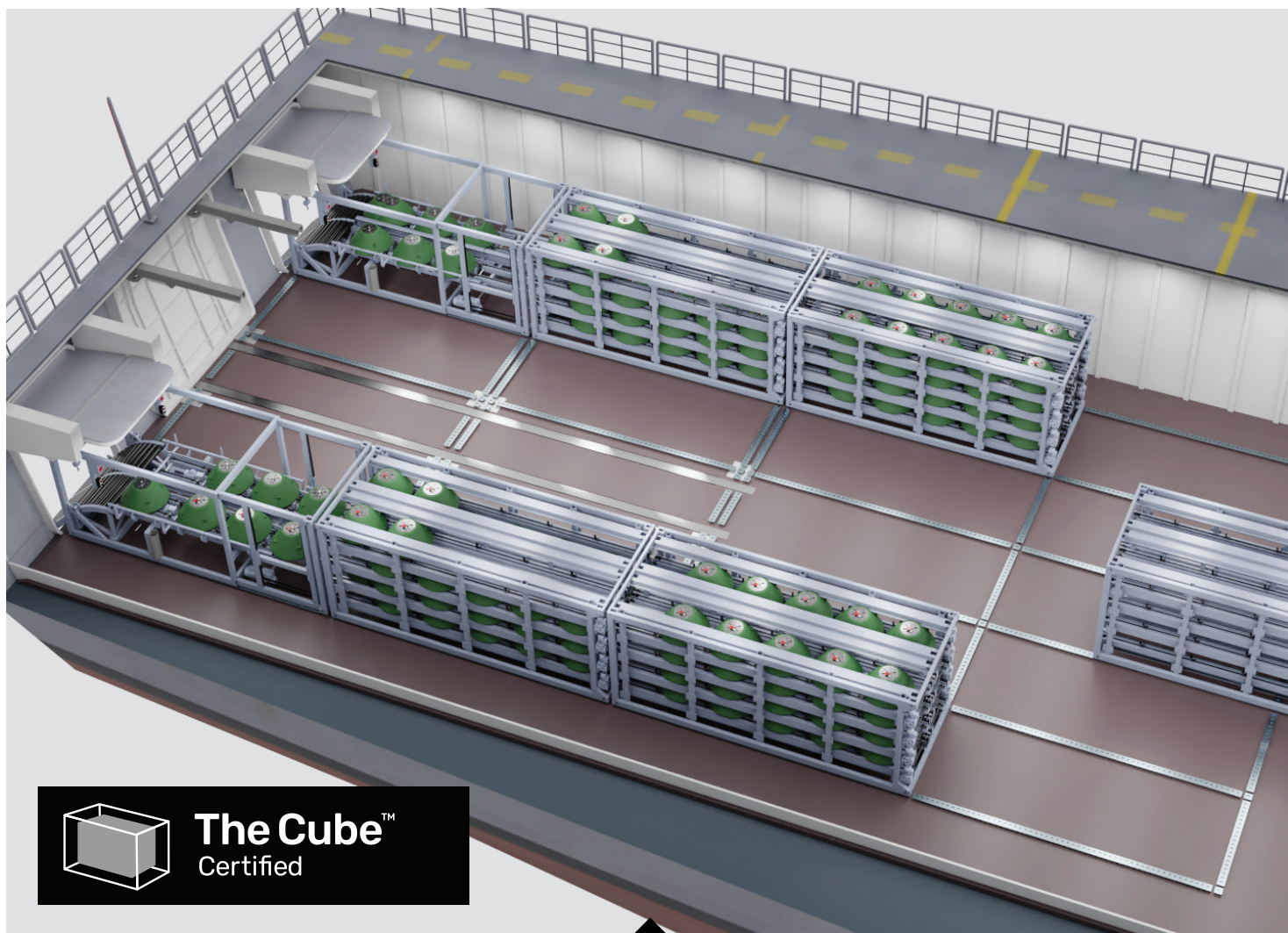
[Link to animation](#)



This mine hunter capability is a stand-alone system that includes several suppliers: C2 container and Launch and recovery system from **SH Defence**. A REMUS AUV from **Kongsberg** with a multi-sensor platform from **Kraken Robotic Systems**. The mine disposal system is a SeaFox from **ThyssenKrupp AG**. It can be put on any prepared Naval vessel, Coast guard or commercial ship.



The side and stern launch versions consists of a winch and an A-frame with a gripper installed on a 20' Cube™ Engineered Frame.



Mine warfare - Mine laying

The Cube™ Mine laying module

The multi-mission module as a turn-key system for containerized minelaying, which can be used on a naval vessel of opportunity with open access from the stern.

The system consists of a minelaying module and one or more storage modules capable of handling all known brands of sea mines.

Because of the 20-foot size corresponding with ISO

containers, the modules can be locked in place with Twist locks or equivalent. This makes it possible to use the system on various deck structures, such as helicopter landing decks or stern hangar decks with open access to the stern.

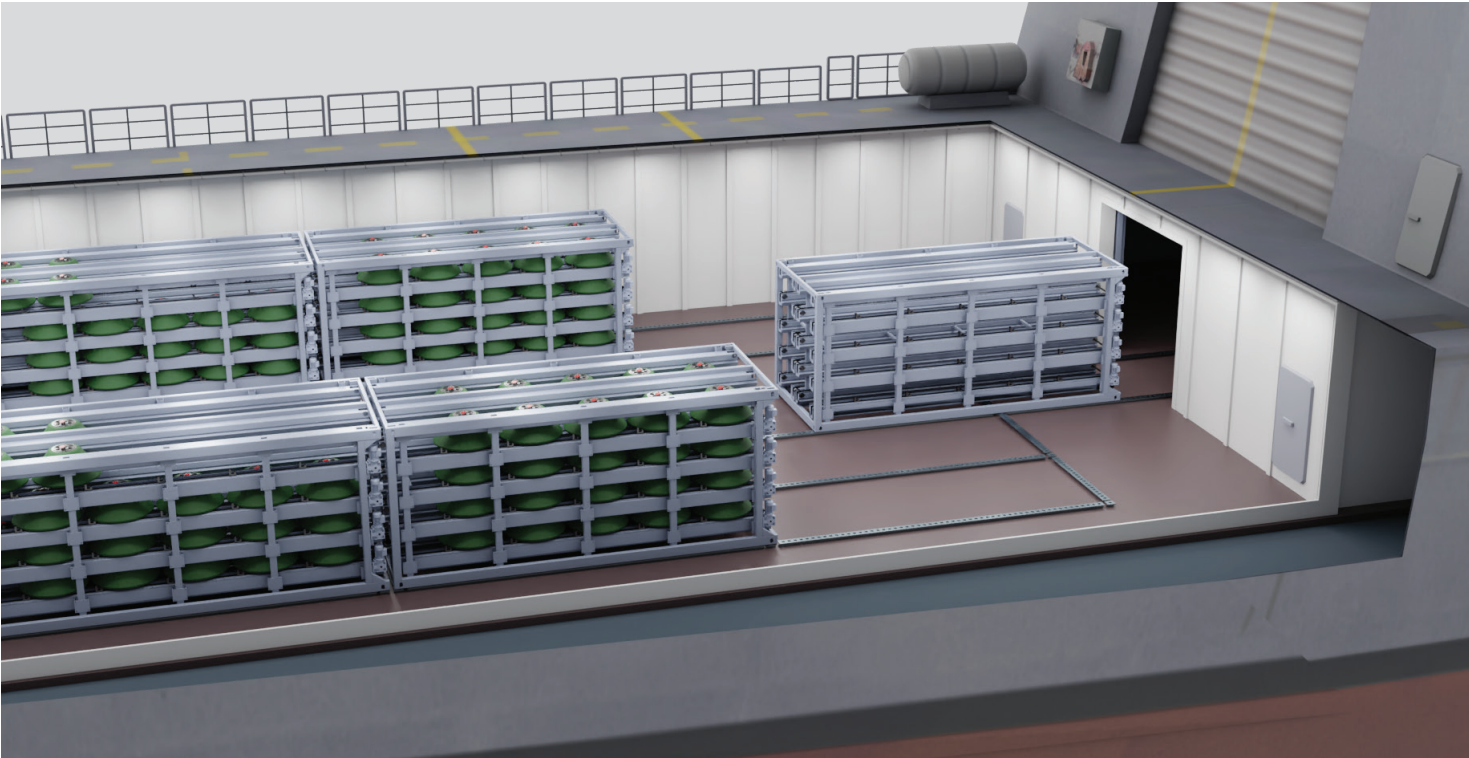
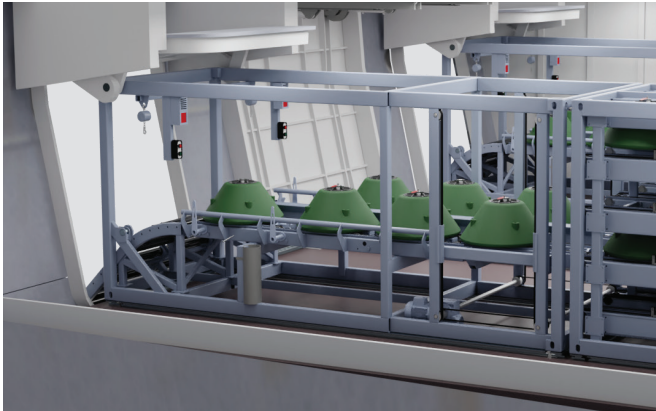
Several configurations using the standard minelaying module and storage module can lay the necessary minefield with various types of sea mines.

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Patent
pending

It will even be possible to lay different types of sea mines simultaneously.

Vessels with sufficient space and outfitted with a sea state skidding system will obtain the capability to lay more than 400 sea mines continuously without having to pause the operation when changing the storage module.



Technical specifications – Minelaying Module

Module size	1 x 20 foot (open frame type)
Weight	1Approx. 8 Ton
Shock approved	BV, DNV
Ammunition approved	Yes
Type of sea mines	All known brands
Sea mines per minute	2 - 4 (depending on type)



The Cube™
Certified



RWM ITALIA SPA
A RHEINMETALL COMPANY

Technical specifications – Storage Module

Module size	1 x 20 foot (open frame type)
Weight	12 – 18 Ton (depending on mine type)
Shock approved	BV, DNV
Number of sea mines	20 – 50 pcs. depending on type and shape
Types of sea mines	All known brands
Control	Fully Automatic