

TKMS



CERBERUS

Diver Detection Sonar
July 2025



ATLAS UK



PRODUCT OVERVIEW

Cerberus Diver Detection Sonar



Product Overview

System Components

Key Features

Functionality

Performance

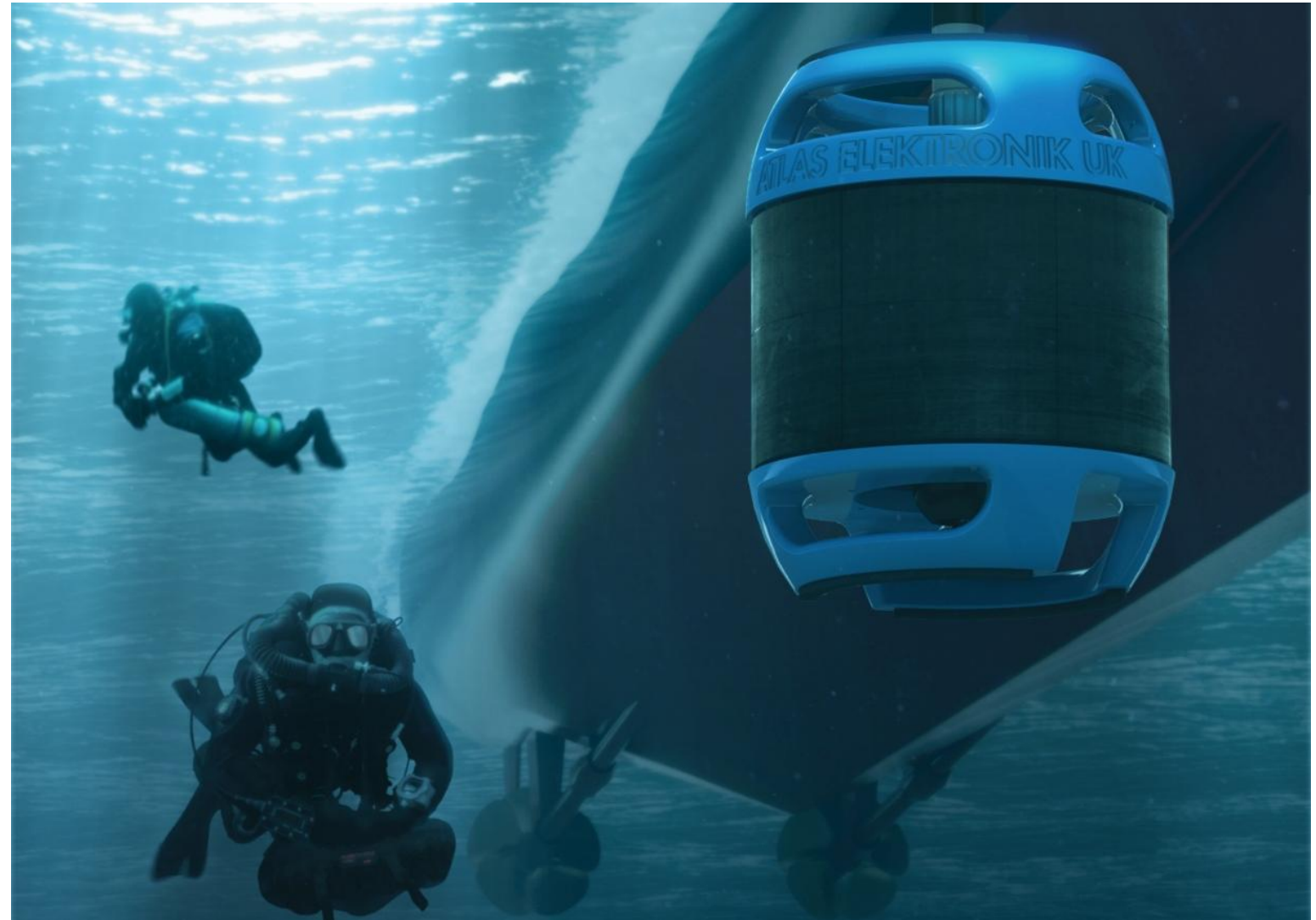
Product Options

In-Service Support

Contact

PRODUCT OVERVIEW

- ◆ Cerberus is the Diver Detection Sonar (DDS) product from TKMS ATLAS UK specifically designed to detect, classify and track combat divers, swimmers and swimmer delivery vehicles / UUV's
- ◆ It uses omnidirectional high frequency active sonar to transmit pulses to detect underwater contacts
- ◆ It is a simple, compact, highly reliable system able to be deployed in a variety of ways to suit our customers maritime security requirements





PRODUCT OVERVIEW

THE THREAT

- ◆ Permanent global threat of terrorism and military tension
- ◆ Asymmetric attacks unpredictable; early detection crucial
- ◆ Diver threat is real and covert

DEPLOYED GLOBALLY

Variant	Qty
Seabed	37
MIL-Spec Ship	15
Ship	5
Research	1
Total	58



U.S. Air Force photo by Tech. Sgt. Gregory Brook



SYSTEM COMPONENTS

Cerberus Diver Detection Sonar

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SYSTEM COMPONENTS

Portable Ship Deployed System

WALK-ON CAPABILITY

- ◆ Sonar head
- ◆ Deployment cable and drum
- ◆ Deployment sheave
- ◆ Power Supply and Processing Unit (PSPU)
- ◆ Control Laptop

OPTIONS

- ◆ GPS heading sensor
- ◆ Ship's cabling
- ◆ Ruggedised MIL-SPEC Laptop
- ◆ SVP probe



SYSTEM COMPONENTS

YACHT SONAR SYSTEM

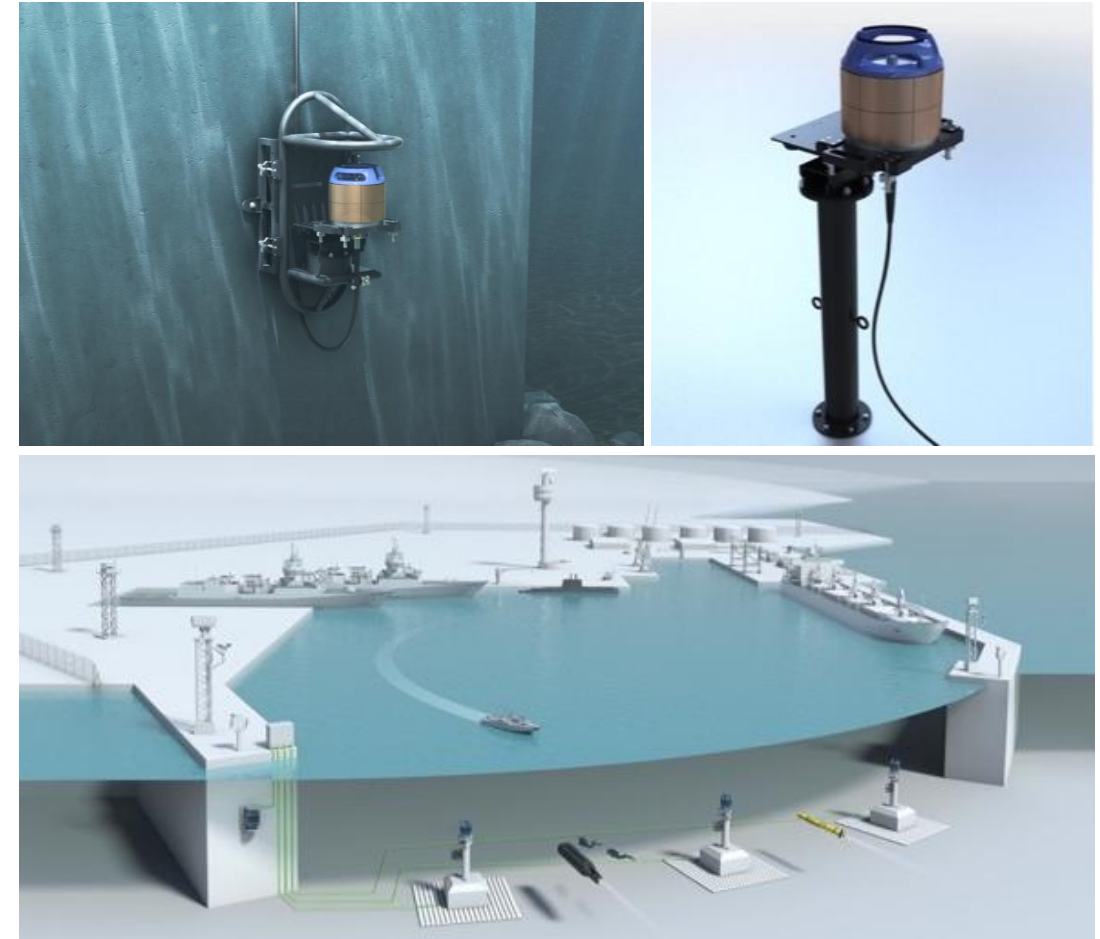
- ◆ Fully integrated into vessel
- ◆ Sonar head
- ◆ Power Supply and Processing Unit (PSPU)
- ◆ Control laptop
- ◆ Through hull hoist and deployment cable options
- ◆ Bridge display option



SYSTEM COMPONENTS

FIXED SYSTEMS FOR HARBOUR PROTECTION

- ◆ Sonar head
- ◆ Seabed or jetty mount
- ◆ Heavy duty seabed cable
- ◆ Junction boxes and land cables (option, if required)
- ◆ Office-based PSPU, display and keyboard
- ◆ Interface to C2 / security systems





KEY FEATURES

Cerberus Diver Detection Sonar

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KEY FEATURES

LIGHTEST AND SMALLEST DDS

- ◆ Small and compact
- ◆ Retains long range performance
- ◆ Easy to handle and deploy
- ◆ One man lift
- ◆ < 25kg



KEY FEATURES

Proven Classifier

WIDEBAND, HIGH-RESOLUTION SONAR

- ◆ Uses detailed characteristics of:
 - ◆ Active sonar returns
 - ◆ Track behaviour
 - ◆ Target Echo Strength

CLASSIFIES

- ◆ Open Circuit Divers
- ◆ Closed Circuit Divers
- ◆ Swimmers
- ◆ SDVs (UUVs and Mini-Subs)

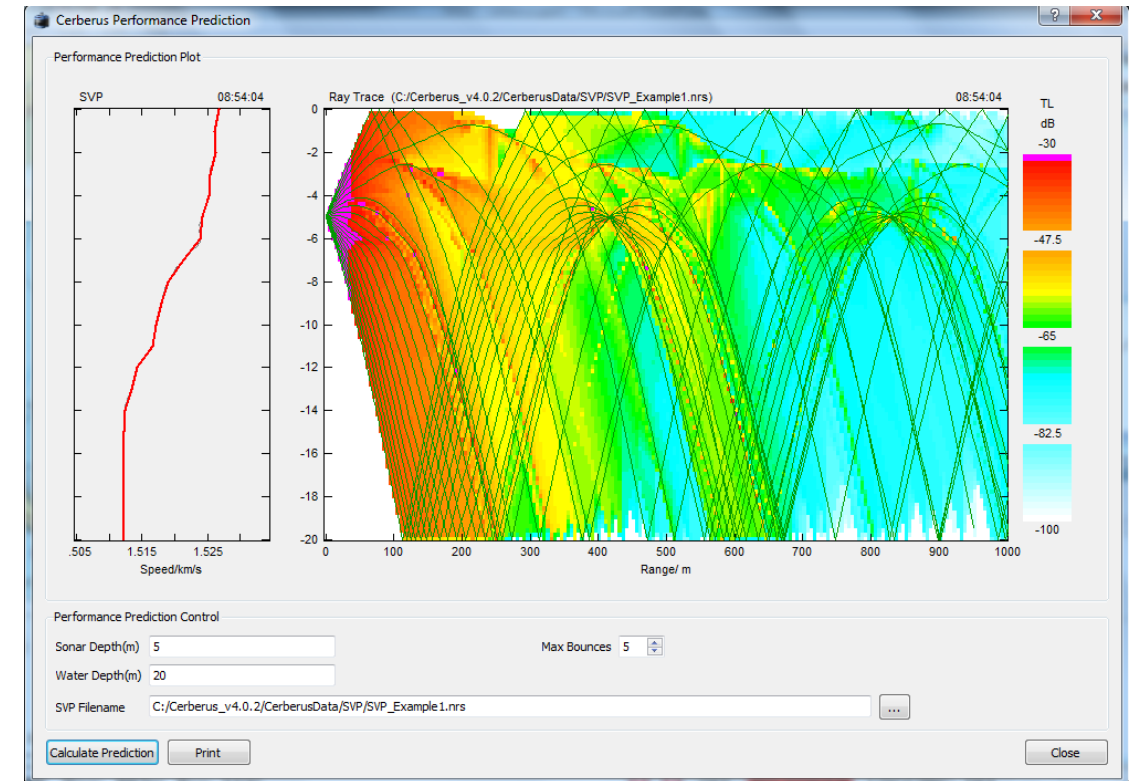


U.S. Navy photo by Chief Photographer's Mate Andrew McKaskle

KEY FEATURES

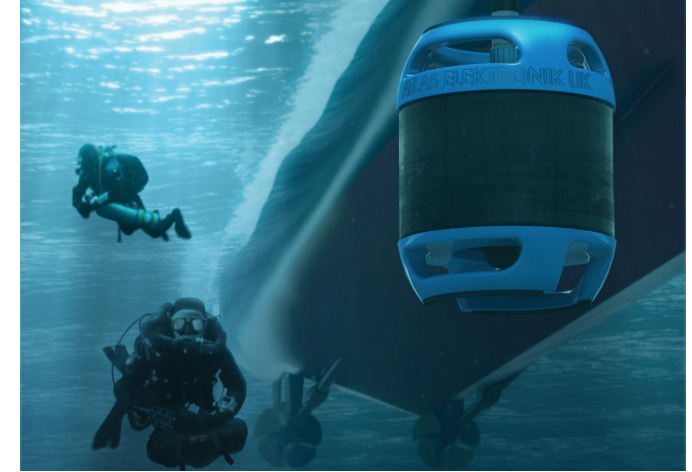
PERFORMANCE PREDICTION TOOL

- ◆ CTD probe data
- ◆ Delivers:
 - ◆ Sound velocity profile
 - ◆ Acoustic propagation plot
- ◆ Displays:
 - ◆ Heat map of likely detection ranges for that location and environment



KEY FEATURES

- ◆ Means to protect valuable personnel and assets
- ◆ Advance warning of intruders
 - ◆ Widest area coverage for a portable DDS
 - ◆ Ability to counter underwater threats
- ◆ Underwater security through:
 - ◆ Detection
 - ◆ Localisation
 - ◆ Classification
 - ◆ Tracking and Alerts
- ◆ Threats targeted:
 - ◆ Swimmers
 - ◆ Open Circuit (SCUBA) and Closed Circuit (Rebreather) Divers
 - ◆ Swimmer Delivery Vehicles (SDVs)
 - ◆ Uncrewed Underwater Vehicles (UUVs) and Mini-Subs





FUNCTIONALITY

Cerberus Diver Detection Sonar

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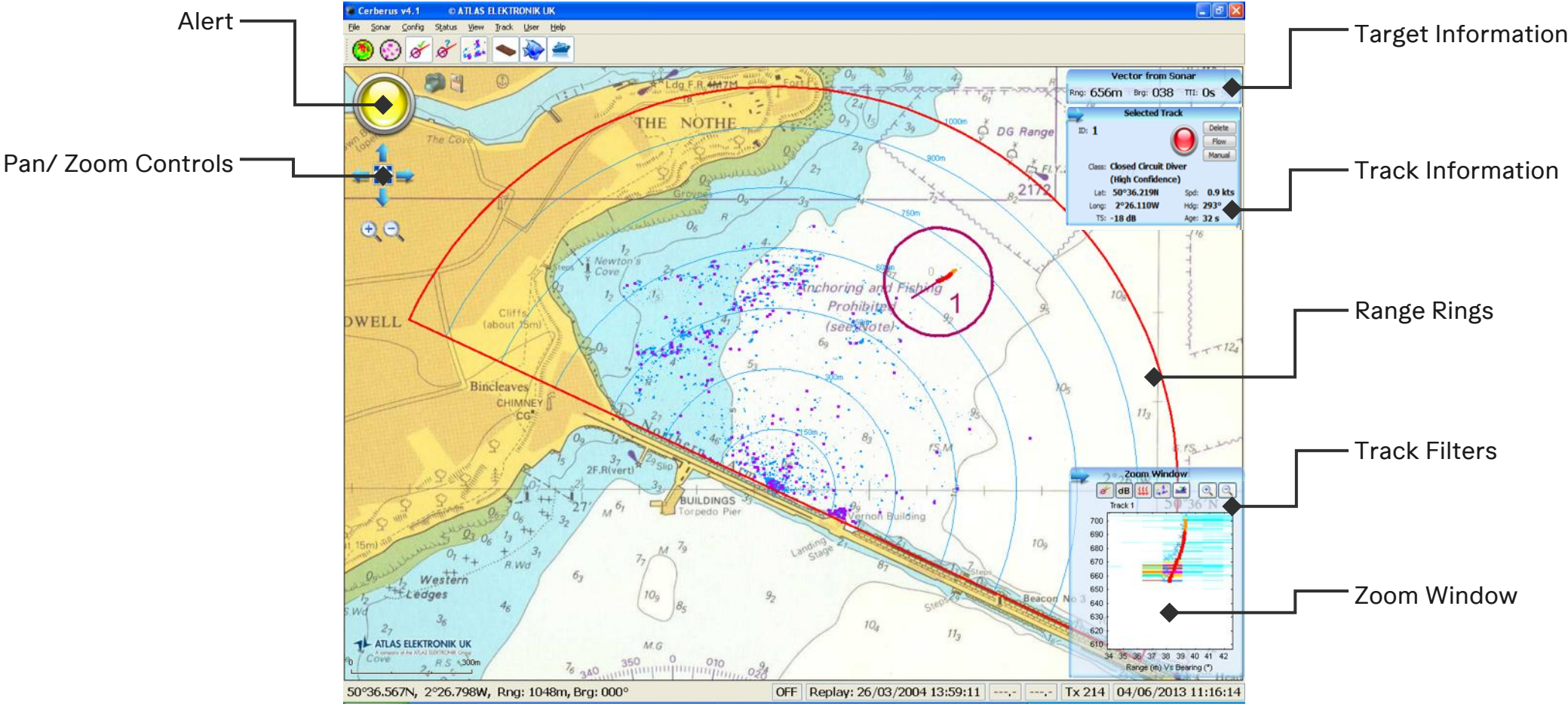
Product Options

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FUNCTIONALITY: CHART BASED GUI



FUNCTIONALITY

- ◆ High source level: 208dB re 1μPa@1m
 - ◆ Provides increased detection range over competitors
 - ◆ Most powerful portable DDS on the market
 - ◆ Broadband and Narrowband Pulses
 - ◆ 1-200mS duration
 - ◆ Tailored for the diver threat
 - ◆ Rotational correction capability
 - ◆ Stabilised sonar picture
- ◆ Cable deployed from vessels
 - ◆ No need for rigid platform mounting
 - ◆ Suited for:
 - ◆ Warship
 - ◆ Yacht
 - ◆ Merchant vessel
 - ◆ Patrol boat
 - ◆ Jetty



PERFORMANCE

Cerberus Diver Detection Sonar

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PERFORMANCE

Detection Performance Information	Detection	Tracking
Open circuit diver	<900 metres	<850 metres
Closed circuit diver	<700 metres	<670 metres
Swimmer	<600 metres	<550 metres
Swimmer delivery vehicle	<1200 metres	<1100 metres
Surveillance Area	<4.5Km2	-

Military Test Specification	Standards
Shock	BV0230 Class A, DEF STAN 08-123
Vibration	BV0240, Mil Stan 810G
Temperature	BV0240, Mil Stan 810G
EMC	BV0120, MIL STD 461F, SDIP/BSI Compliant

Physical Characteristics	Sonar
Weight in air	24.5 kg
Weight in water	7 kg
Height	377mm
Diameter	300mm

Physical Characteristics	Cables
Ship system cable diameter	13mm, Kevlar jacket
Ship system standard length	75mm
Seabed cable diameter	27mm, Armour jacket
Seabed installation options	Lengths to >2km



PRODUCT OPTIONS

Cerberus Diver Detection Sonar

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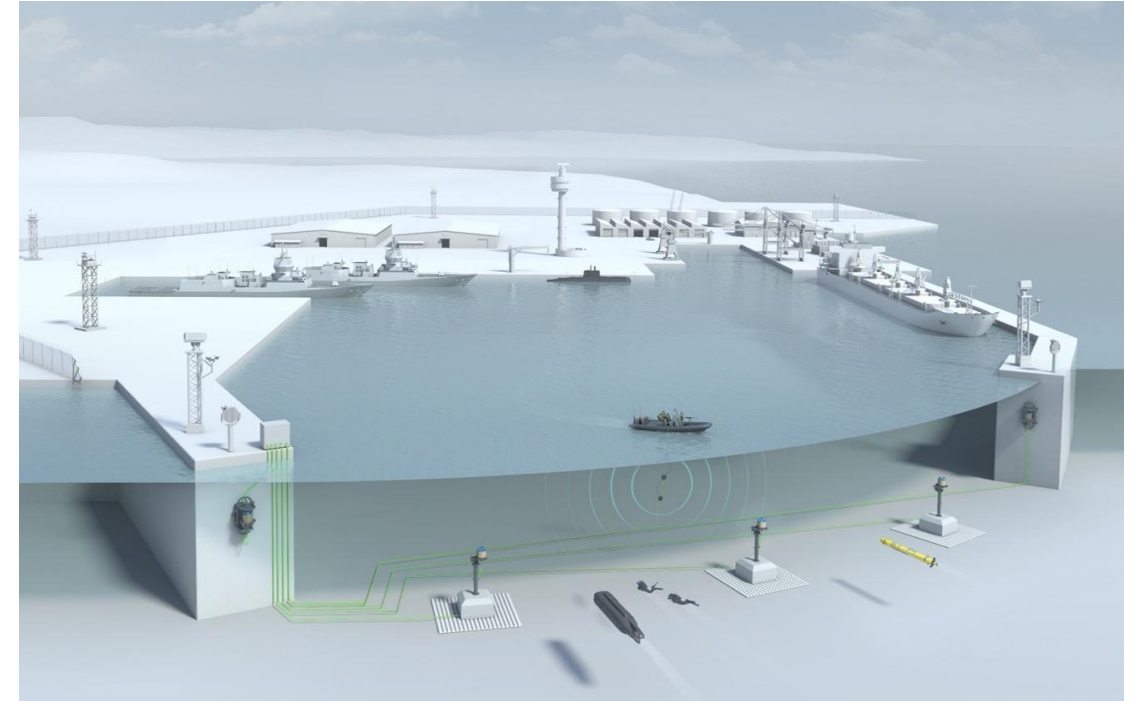
Product Options

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PRODUCT OPTIONS

- ◆ Multiple Sonar heads for large area coverage
 - ◆ Heavy duty seabed cables, Junction boxes and land cables
 - ◆ Interface to C2 or other security systems
- ◆ Simultaneous operation
 - ◆ Spatial separation
 - ◆ Frequency separation
 - ◆ Synchronised transmissions
- ◆ Multi Head Software (MHS)
 - ◆ Performs track fusion
 - ◆ Optional EO device control



PRODUCT OPTIONS

- ◆ Cable Options:
 - ◆ Heavy duty seabed cable for installations >100m (Ø27mm)
 - ◆ Lightweight seabed cable for installations <100m (Ø13mm)
- ◆ Underwater Loudhailer
 - ◆ Simple audio deterrent against underwater intruders
 - ◆ First step in deterring intruders
 - ◆ Broadcast alert or alarm tones
 - ◆ Broadcast instructions
 - ◆ Broadcast intent
- ◆ Audible range up to 500m
- ◆ Command integrated with Cerberus DDS





IN-SERVICE SUPPORT

Cerberus Diver Detection Sonar



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IN-SERVICE SUPPORT OPTIONS

BASIC SERVICE LEVEL

- ◆ Technical support / helpdesk
- ◆ Dedicated telephone support line
08:00 – 16:00 UK time zone
- ◆ Dedicated email address:
technical.support@uk.tkmsgroup.com
- ◆ Equipment survey and repairs

ON REQUEST SERVICES

- ◆ Training
- ◆ Training Needs Analysis (TNA)
- ◆ Technical publications
- ◆ Preventative and corrective maintenance
- ◆ Post Design Services (PDS)
- ◆ Modifications
- ◆ Configuration management
- ◆ Obsolescence management
- ◆ Spares ranging and scaling
- ◆ Failure reporting and corrective action

IN-SERVICE SUPPORT OPTIONS

ENHANCED SUPPORT

- ◆ After hours support
- ◆ Follow-up / refresher training
- ◆ Computer Based Training (CBT)
- ◆ Documentation support
- ◆ Interactive Electronic Technical Manual (IETM)
- ◆ Availability, Reliability and Maintainability (AR&M)
- ◆ Installation support and site survey
- ◆ Diver support

SUPPORT BENEFITS

World Class Support Services

- ◆ Expert support team
- ◆ Tailored support packages
- ◆ Global support network
- ◆ Expert field service support engineers
- ◆ Rapid survey and repair service

Cost

- ◆ Flexible
- ◆ Tailored
- ◆ Affordable

CONTACT

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