TRAPS

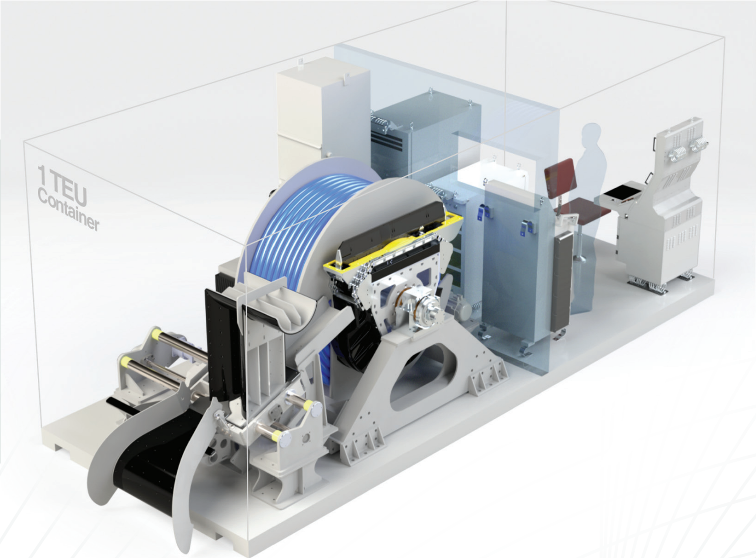
Towed Reelable Active Passive Sonar

GeoSpectrum Technologies Inc
Customizing Detection

HIGH-PERFORMANCE, MODULAR COST-EFFECTIVE ASW SONAR

SUMMARY

TRAPS is a family of variable depth, active passive sonars. With its **robust, modular design** and advanced, flexible sonar processing, TRAPS is an ideal choice for navies seeking high-performance anti-submarine warfare (ASW) capabilities while increasing fleet flexibility. TRAPS is available in containerized, organic, and USV variations.



OVERVIEW

With **All-in-One Active Design**, TRAPS incorporates a **single tow** with a Vertical Projector Array (VPA); no separate handling system is required to deploy, retrieve and stow. This reduces footprint, weight and cost. With **Multi-Mission Capability**, TRAPS is ideal for littoral operations and, in deep water, as part of a multistatic system.

TRAPS's containerized form enables integration into a wide range of new or upgraded naval vessels of all sizes. With its **modularity**, TRAPS is readily deployed and operated from its built-in operations room or the CIC and can be interfaced to the ship's CMS.

CONCEPT OF OPERATIONS

With GeoSpectrum's software processing, TRAPS provides surface ships such as OPVs, corvettes, ships of opportunity and USVs with high-performance active and passive sonar capability for detection, classification, tracking, and localization of underwater targets. TRAPS can be part of an integrated ASW suite including multiple sonars, torpedo defense systems, underwater communication and bathythermograph systems.

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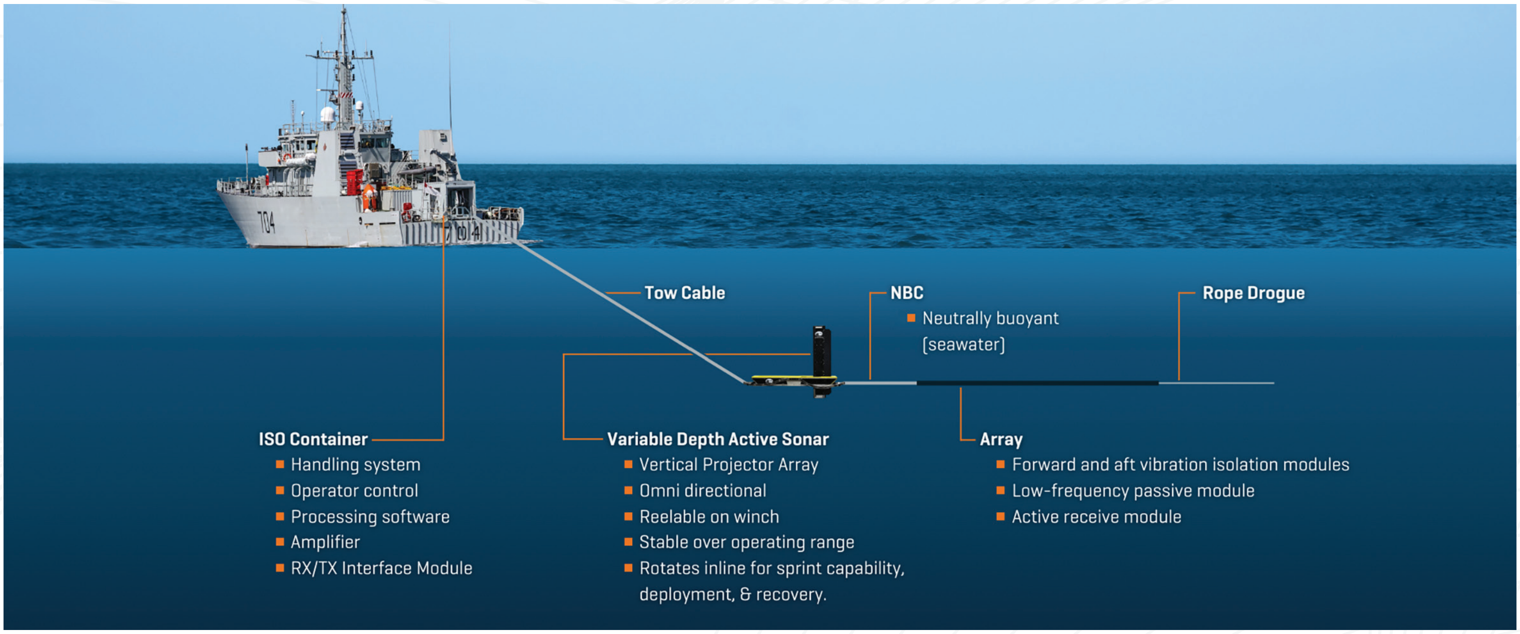

FEATURES

- Active and passive submarine detection
- Active and passive torpedo detection and alert
- Variable-depth operation
- Multi-target tracking
- Left-right ambiguity resolution
- Advanced user-friendly sonar processing and display with built-in analysis tool
- Ability to swap source to different frequency
- Flexible, compact deployment on frigates, corvettes, OPV, patrol boats and USVs
- Standalone or interfaced to CMS; integration into underwater suite
- Organic, containerized or USV configuration
- Reelable vertical source; no dedicated launch and recovery system needed

SPECIFICATIONS

- Active Sonar Frequency: 2 – 10 kHz
- 360-degree operation
- Pulse types: CW, FM, LFM, HFM, COSTAS, Custom
- Pulse length: 0.05 – 10 seconds
- Passive sonar frequency: 5 – 2500 Hz
- Passive processing: broad band, narrow band, DEMON, transient
- Min operating depth: 10 m
- Max operating depth: 300 m
- Max operational speed: 17 kts
- Max survival speed: 30 kts
- Shock: MIL-STD-901D
- Vibration: MIL-STD-167-1

OPTIONS

- Built-in simulator
- Provision for underwater communications
- Bi and multistatic processing
- Sonobuoy processing capability
- Black box pinger detection
- Continuous Active Sonar (CAS)

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LILYPAD–Persistent Surveillance

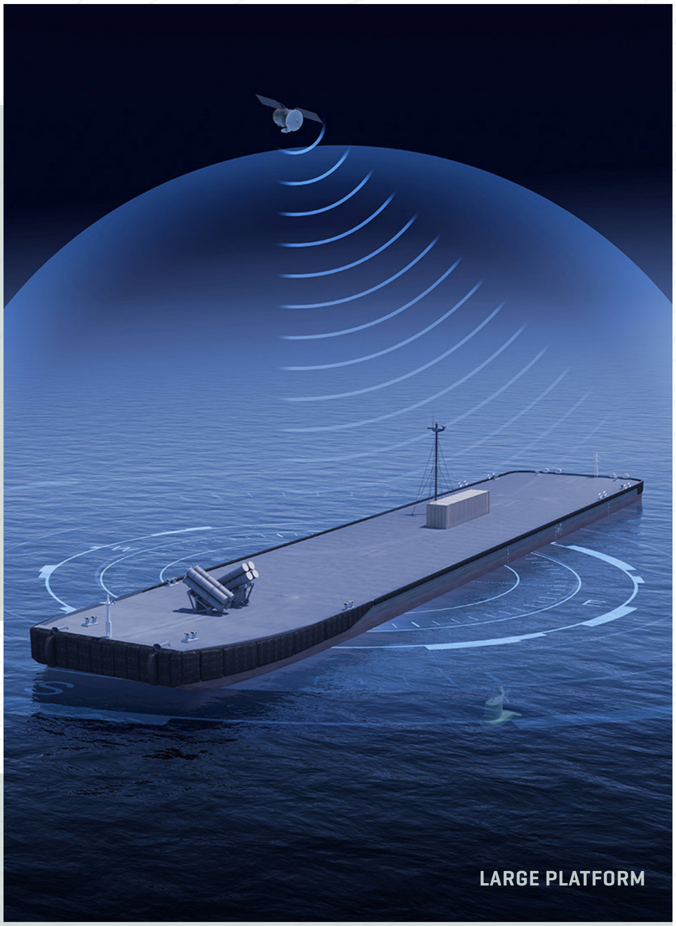
CUSTOMIZABLE UNCREWED AREA DEFENCE CAPABILITY

OVERVIEW

Lilypad is a state-of-the-art persistent offshore surveillance system providing maritime defence capabilities.

Configurable in mono or multi-system, Lilypad delivers low-risk, low-maintenance operations by combining a variety of capabilities in order to accommodate specific surveillance requirements.

Lilypad is a force multiplier that is ideal for expanding an area of operations with its capability of detecting threats below, on and above the water.



LARGE PLATFORM

CONCEPT OF OPERATIONS

Ideal for maritime defence and homeland security, Lilypad is comprised of moored, uncrewed, mono/multi-sensor platform(s) which can be strategically placed to expand maritime warning and enhance coastal defence capabilities.

Lilypad enables persistent surveillance and expanded coverage, reducing the need for expensive, conventional patrol methods such as surface vessels and maritime patrol aircraft.

Lilypad is capable of operating in a standalone configuration or as multiple platforms to expand coastal coverage as required. Fully customizable and capable of expansion to suit changing defence technologies.

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LILYPAD–Persistent Surveillance

COMPONENTS

PLATFORM OPTIONS

- Small/buoy
- Medium
- Large

SYSTEMS

- M660 Hull-mounted sonar
- M670 Hull-mounted sonar
- Radar
- Electronic sensor measures (ESM)
- Electronic warfare
- Automatic identification system (AIS)

DATA MANAGEMENT

- Various data management and combat management systems available

BUOY

FEATURES

- Uncrewed
- Low-maintenance
- Low-risk operations
- Reduces naval procurement and operating costs
- Data fusion through the use of a content management system

OPTIONS

- Capable of housing self-defence measures
- Diver deterrent

SPECIFICATIONS

SMALL PLATFORM/BUOY

- One or more sensors such as variable depth sonar, automatic identification system (AIS), radar, EO/IR

MEDIUM PLATFORM

- Multiple sensors such as variable depth sonar, automatic identification system (AIS), radar, EO/IR, electronic warfare, point defence, missile defence, intelligence gathering systems

LARGE PLATFORM

- All of the above, plus the capability to install offensive measures

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JAEGER USV

UNCREWED, AUTONOMOUS, MODULAR, MULTI-MISSION

OVERVIEW

The only vessel of its kind that **integrates all operational modes on one platform**. Featuring modular and switchable mission payload suites with advanced sonars and subsystems, the fully autonomous Jaeger USV can be deployed for multiple crewed and uncrewed missions. The Jaeger USV incorporates **mine counter measures (MCM), anti-submarine warfare (ASW), maritime security (MS), electronic warfare (EW)** and other advanced systems and technologies. Jaeger USV can operate at cruising speed for more than 4 full days at sea and is equipped to perform extensive missions. Comprised of composite and aluminum materials, the vessel incorporates removable floats and bridge dynamic positioning. Jaeger USV is easily deployed from port or mother ship and can be transported in a 40 ft container.

CONCEPT OF OPERATIONS

The Jaeger USV system provides naval forces with significant tactical advantages in underwater and surface warfare.

FEATURES

- Advanced sonar technologies and systems
- Line-of-site and SATCOM data links
- Modular payloads
- Mission control system

SPECIFICATIONS

Material	Aluminum, Composite
Length	12 – 20 m
Draft	0.8 m
Beam	3.3 m
Useful Payload	2,500 – 10,500 kg
Propulsion	Propellers and Thrusters
Diesel Engines	2 x 425 hp (Cummins)
Top Speed & Endurance	25 kt, > 4 – 8 days

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