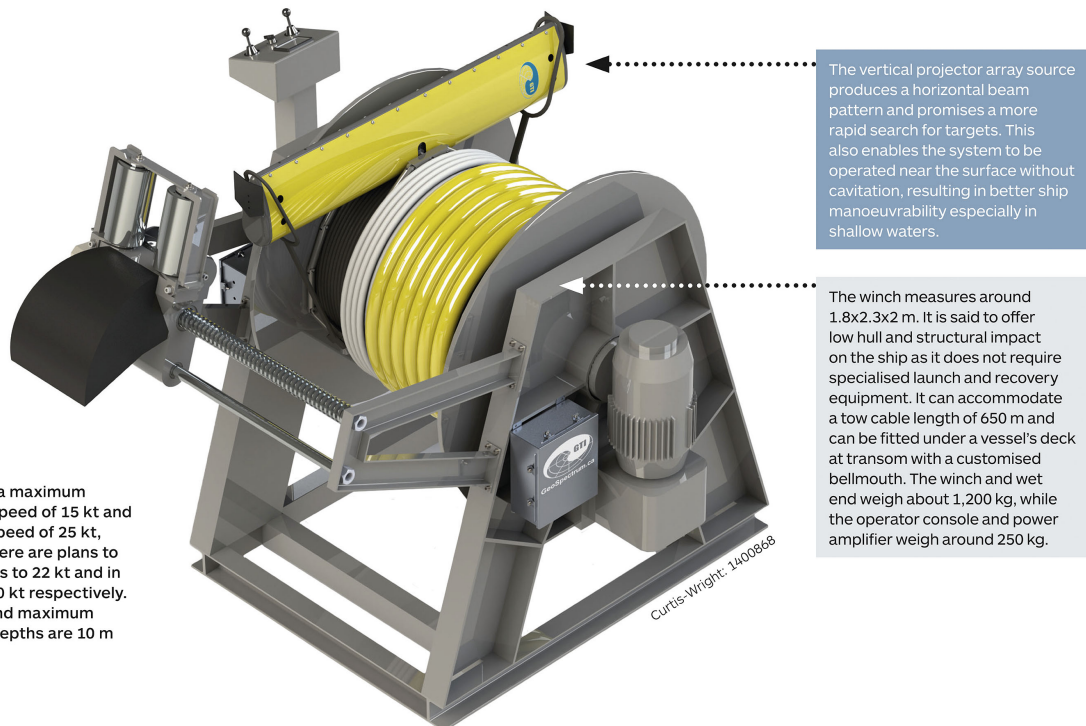


Parting shot: TRAPS

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TRAPS has a maximum operating speed of 15 kt and a survival speed of 25 kt, although there are plans to upgrade this to 22 kt and in excess of 30 kt respectively. Minimum and maximum operating depths are 10 m and 300 m.

The vertical projector array source produces a horizontal beam pattern and promises a more rapid search for targets. This also enables the system to be operated near the surface without cavitation, resulting in better ship manoeuvrability especially in shallow waters.

The winch measures around 1.8x2.3x2 m. It is said to offer low hull and structural impact on the ship as it does not require specialised launch and recovery equipment. It can accommodate a tow cable length of 650 m and can be fitted under a vessel's deck at transom with a customised bellmouth. The winch and wet end weigh about 1,200 kg, while the operator console and power amplifier weigh around 250 kg.

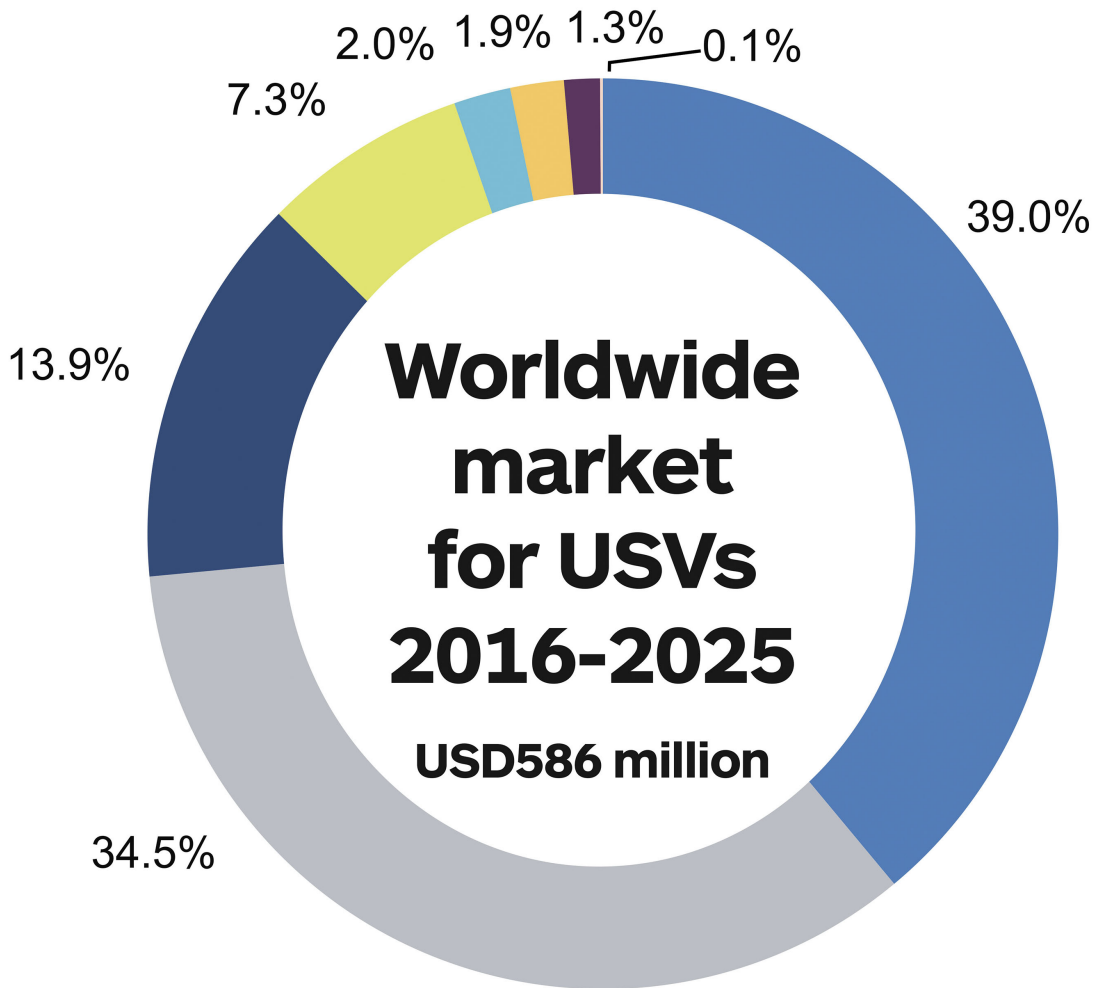
TRAPS has a maximum operating speed of 15 kt and a survival speed of 25 kt, although there are plans to upgrade this to 22 kt and in excess of 30 kt respectively. Minimum and maximum operating depths are 10 m and 300 m. (Curtis-Wright)

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Development of the Towed Reelable Active Passive Sonar (TRAPS) system was first announced at the Undersea Defence Technology Asia exhibition in Singapore in mid-January 2016.

The system is targeted at operators of smaller surface combatants and unmanned surface vessels (USVs) that require anti-submarine warfare (ASW) capabilities.

Curtiss-Wright Defense Solutions' Indal Technologies business unit is collaborating with underwater acoustic systems developer GeoSpectrum Technologies to develop TRAPS. The latter is providing the sonar hardware and processing software for TRAPS, while Indal Technologies is responsible for its winch and cable system.



- Western Europe
- Americas
- East Asia
- Middle East
- West & Central Asia
- Oceania
- Eastern Europe
- Sub-Saharan Africa

Source: IHS Markets Forecast

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Worldwide market for USVs 2016-2025 (IHS)

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According to a GeoSpectrum representative, submarine detection using passive sonar has become more difficult given improvements in underwater stealth technology and rising noise levels in the ocean. As such, active systems are deemed to be more effective than their passive counterparts.

Many active sonar systems require large vessels and complex overboarding and management systems, said the GeoSpectrum representative.



The TRAPS system is designed to be compatible with other hull-mounted sonar, dipping sonar, and sonobuoys, enabling bistatic and multistatic operations. The system operates at frequencies between 2 kHz and 4 kHz - or more - and depending on environmental conditions is said to be able to detect underwater vessels at a maximum range of 50 n miles when operating at speeds of up to 12 kt.

Curtis-Wright states that as a result of its reduced size and weight, TRAPS will be the first towed active/passive sonar system that will enable smaller navies to perform effective ASW operations.

The system's components include a winch drum, a tow cable, a directional passive towed array, a vertical projector array, a neutrally buoyant tow cable, and an operator console.

In addition to being permanently installed on board a vessel, the TRAPS system can also be modularised in either a 10 ft or 20 ft container, the latter of which will include an operations room for the system's operator.

Besides the detection of submarines, the directional passive towed array can also be upgraded to detect torpedoes and can be configured as a torpedo decoy.

The TRAPS system incorporates sonar processing software that has been co-developed with Defence Research and Development Canada and is currently in service with Canadian armed forces.

Initial tow testing of the system's vertical projector array active source is now complete but further work has been scheduled for the second quarter of 2016 to confirm the ability to operate the device at higher speeds. "We plan to commence testing of a fully integrated containerised prototype within a year", said the company representative.