



Navy SBIR/STTR Success



Compact Towed Array

CTA - Compact Towed Array provides the U.S. Naval Fleet with next generation thinline array technology to address thinline reliability and restore mission operational capability.

Topic Number: N05-125

SBIR Investment:
\$1,224,178

Phase III Revenue:
\$10,137,501

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About the Technology:

The U.S. Navy Anti-Submarine Warfare (ASW) mission must effectively detect, track, and classify quiet, modern submarine threats in open ocean and littoral waters. Current towed array sensors, including TB-23, TB-29A, TB-16 and MFTA, provide the desired acoustic performance but are not optimal for deployment from unmanned vehicles. Additionally, due to the complex nature of the design, reliability in-situation and during handling operations requires modernization. Significant reduction in sensor power, internal component diameter, bend radius, and production cost will improve reliability and vehicle compatibility of towed array systems. L-3's solution – the Compact Towed Array (CTA) – Submarine Thinline Array is designed to reduce complexity, lower power, and improve robustness to withstand in-situ operations and stresses of handling systems. The superior performance telemetry, acoustic sensors and electronics are designed to provide a ubiquitous solution across the spectrum of submarine, surveillance, and unmanned towed arrays. This multi-mission commonality for these high volume and unique components provides cost savings throughout the entire supply chain starting with procurement and extending through life cycle support.

Naval Benefit

The Compact Towed Array provides the Navy with major technical advancements in towed array capabilities. This common towed array technology/architecture can be used across a broad range of submarines (SSN/SSGN/SSBN), surface combatants, and surveillance and USV platforms. Towed array reliability is crucial to sustain the Navy's submarine force in today's environment for extended periods of time while maintaining mission effectiveness and safety of the ship. Increasing robustness of the array and improving reliability allow the host platform to operate unrestrained.

Developmental testing has demonstrated comparable acoustic performance with significant reduction in power utilizing CTA technology.

Transition

Chesapeake Sciences Corporation (CSC) was established in July 1991 as a small business, high-technology company to design and manufacture electronic data acquisition systems for use in Anti-Submarine Warfare (ASW), ship self-defense, acoustic ranges, and geophysical exploration products. Chesapeake Sciences was acquired in January 2009 by L-3 Communications and is now part of the Marine & Power Systems Sector. The Compact Towed Sonar Array SBIR (N05-125) was awarded in 2005.

L-3 has been a leader and technology innovator in the acoustic sensor community for surface, submerged, and surveillance applications. L-3 has provided arrays to every U.S. submarine. Currently, L-3 is under contract to provide the TB-34 Production Fatline Towed Array and support submarine evaluation of the Compact Towed Array through a SBIR Phase III award.



L-3 Chesapeake Sciences Corporation