

WHO

SYSCOM: NAVSEA

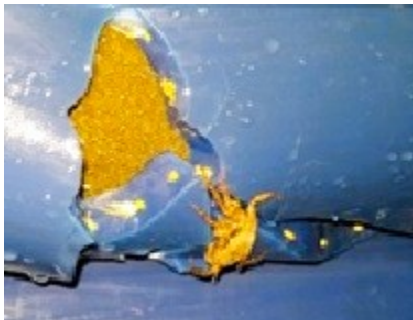
Sponsoring Program: PEO IWS 5.0

Transition Target: Qualified acoustic hoses for TB-34A, TB-37A, and TB-29C towed array systems

TPOC: (401) 832-8229
robert.cutler@navy.mil

Other Transition Opportunities: US Navy surface ships and submarines that depend on towed sensor arrays will benefit.

Notes: Beyond METSS' innovative material solution, METSS has developed unique testing capabilities that use actual fishhooks to evaluate punctures and slices to acoustic hoses. In this way, objective analyses can be made.



Towed Array Snag Ocean Debris / Damage Acoustic Hose

WHAT

Operational Need and Improvement: The Navy seeks improved cut-resistant towed array acoustic hoses to increase the availability of existing towed arrays and reduce lifecycle costs – an innovative solution to reduce or eliminate susceptibility to cutting and puncturing hazards often experienced during at-sea surveillance operations.

- Specifications Required:** Exceed current specifications
- operational temps and pressures
 - pass vibration tolerances per MIL-STD-167A
 - tolerate seawater, ISOPAR L/M exposure for at least 5 years
 - compatible with nylon, polyester, Kevlar, and Vectran reinforcement cords
 - outside diameters (ODs) that range from 1.1 to 3.5 inches
 - wall thicknesses up to 0.5 inches; surface roughness of 125 μ-inches
 - dcable/Ddrum ratio of 1:24 when wrapped on a drum
 - tolerate a leak-proof swage or crimped termination.

Technology Developed: METSS is incorporating novel additives to existing materials of construction to improve the abrasion- and cut-resistance that much be compatible with current acoustic hose manufacturing practices.

Warfighter Value: Increase operational availability; reduce maintenance and out-of commissions of ships/submarines; improve toughness without sacrificing performance.

WHEN

Contract Number: N00024-24-C-S008

Ending on: May 09, 2026

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Phase I Base Awarded	Low	Prove concept feasibility via lab-scale testing	4	4th QTR FY22
Phase II Base Awarded	Low	Continue development and testing methods	7	3rd QTR FY24
Prototype Acoustic Hoses	Low	Successfully manufacture acoustic hoses using existing practices	6	3rd QTR FY26
Meet LRIP Requirements	Medium	Improve physical properties without sacrificing performance	8	4th QTR FY26
Qualification Testing	Low	Meet USN requirements during at-sea trials	9	2nd QTR FY27

HOW

Projected Business Model: The current plan is to sustain manufacturing operations within the subcontractor's facilities and improve processing practices where feasible. METSS plans to be a materials supplier under a licensing agreement to safeguard SBIR Data Rights.

Company Objectives: METSS plans to address current shortcomings in acoustic hose material properties by improving the overall toughness and resistances to damage in an effort to avert fail-to-sail conditions or premature operational readiness for ships and submarines. Key platforms include the fat-line TB-34A and TB-37A, as well as the thin-line TB-29 towed array systems. Each of these towed sensors are susceptible to damage caused by 'ghost fishing' fishing gear (derelict longlines and fishhooks), marine animal attacks, and a plethora of surface and subsurface ocean debris.

Potential Commercial Applications: Within the Anti-Submarine Warfare community, US surface combatants and submarines that deployed towed sensor arrays depend on threat awareness to achieve mission profile success. A damaged acoustic module impacts operational readiness and exacerbates ship vulnerabilities, especially submarines that depend on remaining undetected.