

WHO

SYSCOM: NAVSEA

Sponsoring Program: PEO IWS 3L

Transition Target: Cruiser-Destroyer (CRUDES) platforms with the MK41 VLS system

TPOC: (540) 653-3639

Other Transition Opportunities: Navy platforms with vertical launch systems can benefit from hybrid composite/metal uptake hatches and/or cell hatches, including Ticonderoga class CG, DDG-51 class, DDG 1000, unmanned vessels, AEGIS Ashore, and submarines. Other services with mobile launch platforms that utilize canisters can also benefit from the technology.

Notes:



US Navy Photo, <https://www.navy.mil/Press-Office/News-Stories/display-news/Article/4195103/two-us-navy-ddgs-successfully-engage-srbm-and-mrbm-during-exercise-formidable-s/>

WHAT

Operational Need and Improvement: The primary goal of this Small Business Innovation Research (SBIR) Phase II is to resolve a major maintenance problem with corrosion, and availability for the weapon system. Currently, hatch replacement is required during each availability, which drives up sustainment costs.

Specifications Required: Meet shock and ballistics requirements, reduce weight, and reduce sustainment costs.

Technology Developed: Composite technology using specific resin and fiber selections unique to meet all performance requirements.

Warfighter Value: Addressing corrosion issues reduces life cycle costs and increases ship availability. In addition to solving corrosion issues, the hybrid composite hatches provide weight reduction and better insulation while still meeting ballistics requirements.

WHEN

Contract Number: N68335-22-C-0550

Ending on: Jun 10, 2026

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Prevent/mitigate corrosion to reduce rework costs and extend service life	Low	Sub Element testing per MIL STD 810 and Pathfinder fabrication	6	TBD
Meet current uptake hatch ballistic requirements	Low	Completed ballistics test	5	TBD
Meet operational (temperature, durability, loading) requirements	Medium	Structural and environmental analysis complete. Proof out manufacturing processes through assembly	5	TBD
Qualifications Testing	Medium	Passing all necessary tests identified for cell and uptake hatches	6	TBD
At Sea Testing	Low	Survivability in a marine environment	7	TBD

HOW

Projected Business Model: PEI intends to fabricate Cell and Uptake Hatches within its Nebraska facilities. Further, PEI will apply the technology developed to other DoD systems, i.e., other launchers and missile systems.

Company Objectives: Find ways to reduce weight and improve sustainment costs for defense components, meet shock and ballistic requirements, and eliminate/reduce corrosion for the cell and uptake hatches. Additionally, leverage other technology gains to provide an evolutionary approach to improving and introducing composite products into the fleet.

Potential Commercial Applications: Potential breakthroughs in meeting ballistic protection requirements opens up the commercial market significantly across the entire protection realm. There is direct application to many of the armored vehicles used by the US Military. Additionally, corrosion resistance and weight savings for components can be applied across many areas of the DoD and markets such as recreational vehicles and sports equipment.