

SUCCESS STORY

TOPIC NUMBER: N05-039

SBIR INVESTMENT: \$999,791

PHASE III FUNDING: \$26,587,902



TECHNOLOGY FOR SHIPBUILDING AFFORDABILITY

FTI's structured desktop computer-tool assesses affordability to improve the quality and effectiveness of investment decisions for ship and weapon systems.

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THE CHALLENGE

The initial challenge was to develop and implement innovative technologies that reduce the cost and cycle time to construct, modernize and repair Navy ships. PEO Ships leveraged the National Shipbuilding Research Program (NSRP) to effect change across the non-nuclear surface shipbuilding, modernization and repair enterprise by coordinating with U.S. shipbuilders to adapt and implement world class commercial best practices, including systems support technology capabilities. Affordability considerations in the initial screening of alternatives, a process that has traditionally been made primarily based on system effectiveness, represents a significant opportunity to improve the quality and effectiveness of investment decisions for ship systems.

THE TECHNOLOGY

Frontier Technology Inc. (FTI) developed a comprehensive suite of computer automated tools and support services to enhance critical decision support processes for the DoD. This includes weapon system acquisition, testing, and sustainment throughout the product life cycle. Navy ship-system data sources can be integrated together within a structured desktop computer-tool to provide insight and traceability from requirements analysis to performance analysis to life cycle cost (LCC).

THE TRANSITION

The work under this Navy SBIR topic, Technology for Shipbuilding Affordability, transitioned into two Phase III contracts for FTI. Although the computer automated tools and technology originated through NAVSEA and the technology initially was for Navy ships, a cost-plus-fixed-fee contract through NAVAIR is being used for planning, analysis, testing and sustainment of weapon systems throughout the products' life cycles. The potential value for this award is \$67,019,856. This technology has initiated another Phase III contract through a different topic for airborne systems life cycle planning and analysis through Naval Surface Warfare Center (NSWC) Corona Division.

THE NAVAL BENEFIT

FTI's technology provides an assessment capability for systems and technologies that enable the Navy to evaluate the value of potential investments, thereby enabling effective investments and design trades to ensure affordable systems. This capability provides a rapid assessment of alternatives in support of transformation of legacy systems, while providing cost-effective, efficient and secure solutions for acquisition and sustainment. FTI's Decision Analysis Technologies have been adapted to other Naval platforms, such as the F-35 Joint Strike Fighter, for systems assessments.

THE FUTURE

FTI's decision analysis technologies support a broad scope of work, and are used for other branches of the DoD, such as the Missile Defense Agency, the Air Force and U.S. Space Force. FTI's Integrated Cost Estimation tool (ICE) and Integrated Cost as an Independent Variable (I-CAIV) process and automated tool are used by the U.S. Air Force Materiel Command (AFMC) for cost estimation, and to make informed decisions about the acquisition and modernization of systems. Based on Navy data, FTI's decision analysis technologies may also be applied to commercial shipbuilding as well as for use in any industry desiring effective, well-founded business cases for its investment decisions.