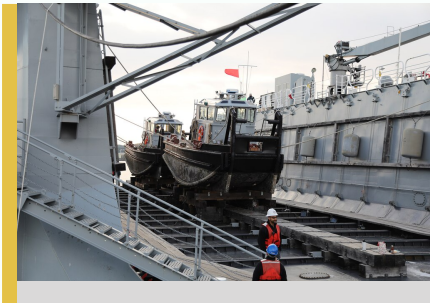


SUCCESS STORY

TOPIC NUMBER:
N01-137

SBIR INVESTMENT:
\$800,000

PHASE III FUNDING:
\$4,404,107



AN INNOVATIVE DSS-BASED EXPEDITIONARY LOGISTICS TOOL

ITA International LLC developed the Availability Management Suite (AMS), a tool that facilitates prescriptive human-augmented data-driven decision-making. AMS reduces the time and cost of ship maintenance and improves Naval readiness.

ITA International LLC

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THE CHALLENGE

The Navy's maintenance facilities operate in a complex environment of workforce, infrastructure, supply chain, regulatory, technological, and financial challenges in a "systems-of-systems" environment in which there is no single decisionmaker. The Navy sought a predictive analytical tool to streamline maintenance operations and minimize inefficiencies, facilitating logistics and operations in order to reduce the time and costs associated with ship maintenance.

THE TECHNOLOGY

ITA International LLC (ITA) developed the Availability Management Suite (AMS), leveraging a combination of innovative custom code with commercial off-the-shelf technology. AMS integrates modeling and simulation, artificial intelligence, machine learning and large language models to deliver actionable insights. The system provides more than 70 dashboards across six key areas: executive leadership, planning, material, execution, predictive analytics, and lessons learned. AMS enables early data-driven planning by generating synthetic government production schedules. The tool supports a wide range of roles—from schedulers to executive leadership—and enhances decision-making across the ship maintenance lifecycle. Ship maintenance is a key component of the ITA Analytic Platform (ITAAP).

THE TRANSITION

In 2015, ITA acquired SBIR Phases I and II technologies from 21st Century Systems, Inc. ITA focused on the technology for SBIR topic N01-037 "An Innovative DSS-based Expeditionary Logistics Tool," updating the Logistics Common Operating Picture (LOGCOP) technology originally developed by 21st Century Systems. ITA extended the LOGCOP tool to become AMS. AMS was initially developed and implemented for the Mid-Atlantic Regional Maintenance Center (MARMC).

ITA was awarded a Phase III in 2019 to continue development and implementation of AMS for MARMC. In 2021, the House Armed Services Committee recognized AMS as a successful example of SBIR-supported innovation benefiting the warfighter. MARMC extended AMS under a new contract award in 2024 for data analytic services to expand the work to five other Regional Maintenance Centers (RMCs), including the Forward Deployed Maintenance Center (FDRMC).

THE NAVAL BENEFIT

AMS enhances operational readiness by identifying at-risk schedule tasks by analyzing historical data, real-time progress updates, and task dependencies. The tool uses predictive analytics to identify tasks that may cause schedule disruptions and recommends mitigation strategies. AMS also tracks material inventory and status, identifying risks, critical impacts and key metrics for components and equipment management. With all stakeholders working from a single real-time data source, AMS reduces errors stemming from outdated or conflicting information. As an integrated tool, it improves ship maintenance outcomes by optimizing work package planning, schedule management, supply chain agility, and early risk detection.

THE FUTURE

In addition to ship maintenance, AMS has potential as a modernization suite for the shipbuilding industry. Shipbuilding is a large-scale, complex enterprise spanning a geographically dispersed industrial base. A shipbuilding modernization suite built on AMS would provide a single authoritative platform for data integration, analytics and collaborative decision-making.