Affordable Readiness through a Comprehensive Asset Performance Management Strategy

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Problem Statement

Due to a number of constraints DoD branches are required to maintain combat and combat support platforms beyond their expected life, and at a lower cost.

• Asset availability is reaching historic lows in some branches
• Unscheduled maintenance continues to disrupt operations
• Traditional maintenance practices are inefficient
“If you went to bed last night as an industrial company, you’re going to wake up this morning as a software and analytics company.”

Jeff Immelt, GE Chairman & CEO
Overall Benefits

• Increased operational availability

• Improved Reliability

• Lower maintenance costs

• More efficient use of personnel

Integrated into a single view
Technology Deployment

• Currently used across many industries ... with direct applicability to the military

• Currently conducting a pilot with NAVSEA
Outcomes that Matter: NAVSEA 05Z

- Reduced Sustainment Costs
- Increased Availability & Readiness
- Optimal Use of Manpower
NAVSEA Monitoring Project

Desired Outcome:
Early Warning Case Study [EWCS] – Evaluate data quality and verify pilot feasibility
Propose a comprehensive end-to-end approach to CBM+ based on known data, architecture and results of pilot.

Key Tasks:
• Conduct an EWCS on vessel assets using historical ICAS System data
• Leverage existing sensors and data transmission systems (ICAS) to monitor gas turbines, MDE and SSDG on 6 vessels
• Explore options for enhanced CBM+ architectures that include predictive analytics and shipboard data visualization
Summary and Path Forward

Summary:
• The historical data provided was gathered by exception.
• Unable to apply our predictive solution capabilities.

Path Forward for this Project:
• NAVSEA changed the Configuration Data Sets (CDS) in the ICAS system to increase the data capture rates to once every 10 minutes, and to capture data from all sensors, not just those involved in (or triggered by) a trend change.
• Using the new data supplied by the modified CDS’s GE will create new baseline models and conduct a 12 month pilot, concluding fall 2017.
Project Team Participants

- NAVSEA 05Z
- NSWC – NAVSSES Philadelphia