

Ingalls Pursuing a Real Time Process for Seamless Communication with the Dynamic Change Awareness Project

Status: Pending Implementation

PROBLEM / OBJECTIVE

Lack of visibility and knowledge of forthcoming changes to design or planned work increases engineering labor, planning labor, and increases re-work in production. Foremen spend hours weekly generating plans, confirming location of materials, and training crew on scope of the job. However, by the time the work is planned by foremen and ready to begin, engineering or planning may have changed details and impacted the foremen’s plan without his or her knowledge. When changes make it to the shop floor most often a step in the process is missed and the craftsmen spend more time locating missing material, removing items already installed, and/or repairing before change can be executed. Inefficient processes between engineering, planning, and supply chain management cause excessive man-hours which increases the cost of fabricating the DDG class.

The Dynamic Change Awareness project is developing a real time process for seamless communication between engineering, planning, supply chain management, and production control organizations. Ingalls is creating dashboard views from the ARAS PLM for engineering, planning, supply chain, and production control.

ACCOMPLISHMENTS / PAYOFF

Process Improvement:

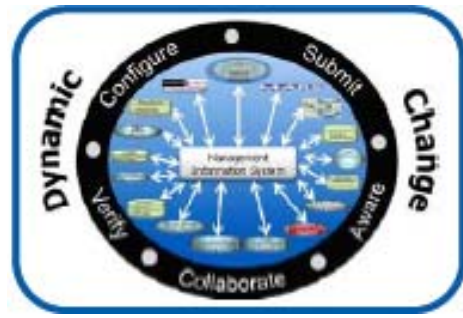
This project identified baseline process gaps for engineering and planning organizations focusing on reduction in process time. A real time process and PLM dashboards will reduce duplication of efforts and reduce the errors in material ordering reducing 5 full time equivalent heads per DDG. This project will enable the following capabilities for the organization:

- Product Data Change Management
- 3D Visualization of Change Data
- Collaboration on Change Development, Administration, Validation, and Approval
- Change Information Aggregation

Additionally, this project will provide the following benefits:

- Tighter Integration of Multiple Design Teams
- Improvement of Engineering Productivity
- Reduction in Design Cycle Time
- Improvement in Quality of Engineering Products
- Reduction in Engineering Changes

S2594 Dynamic Change Awareness
Rev B (Feb 17)



Implementation and Technology Transfer:

This completing project was conducted across two major phases at HII-Ingalls. During Phase I, Ingalls developed functional process requirements, data traceability requirements, and a revised real time process. Once the requirements were created and approved, and the Phase I Go/No-go gate was successfully passed, Ingalls developed the PLM dashboard proof of concepts and is piloting the real time process. Ingalls leveraged the project’s technology to enable their Engineering and Planning groups to work concurrently, to use 3D planning to provide end-to-end visibility of a design change’s impact, and to define the necessary Enterprise Service Bus requirements to efficiently pass data throughout the enterprise, thus preventing data duplication. The results of the project thus far has led to cost savings, ahead of full implementation, on the LHA-8 platform of over \$2.3M. At project’s completion, Ingalls anticipates a DDG-51 savings will exceed the initial estimate of \$3.3M per/hull.

Expected Benefits and Warfighter Impact:

- Reduce pipe outfitting man hours
- Reduction of incorrectly order material
- Reduce labor associated with engineering rework

TIME LINE / MILESTONES

Start Date:	December 2014
End Date:	April 2017

FUNDING

Current Navy ManTech Investment:	\$1.66M
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PARTICIPANTS

Navy ManTech
Naval Shipbuilding and Advanced Manufacturing Center
PEO DDG
Huntington Ingalls Industries, Inc.

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