Ingalls Pursuing 'Digitally Agile' Data Strategy with Machine Readable Material Transactions Project

The Office of Naval Research has awarded the DDG-51 focused *Machine Readable Material Transactions* project to the Center for Naval Shipbuilding Technology (CNST-a Navy ManTech Center of Excellence). The 'Machine Readable' project is focused on mobility technology and process improvements to demonstrate cycle time reduction of material transactions using "machine readable" data entry with mobile scanning devices. This will enable traceability and accountability of material transactions from receipt inspection through ship installation, checkout, and delivery to the end user. The overall goal is to create a material tracking and control system that will reduce ship construction costs by reducing material processing time and material replacement.

The Material Tracking and Control System (MTCS) will provide a machine readable unique identification and scanning capability for tracking and identifying individual items, containers of material, and loose materials at various locations throughout the shipyard. This outcome of this project will provide Ingalls with the capability to track every piece of equipment from the time it is received into the warehouse until it is installed or otherwise disposed. The MTCS will allow monitoring of the transaction history of each identified "traceable" piece of equipment. The Ingalls team envisions the MTCS as a scalable and expandable tool, able to add other components or modules to the system. The overall objective is to reduce cycle time of material transactions by using mobile devices to enter data directly into the material management system. This will increase data accuracy by minimizing the manual entry of material transaction data; maintain identification of material through consumption and any return to stock activities, and build an historical audit trail of the material movement.

The Ingalls project has two phases, with Phase I developing the Receiving and Material Tracking modules and Phase II developing the sequentially linked Inventory, Maintenance, and Material Consumption modules. To support implementation, Ingalls will issue mobile devices to all warehousemen, storekeepers, foremen, etc., working the fabrication of all DDG hulls as well as current and future programs at the end of each phase to begin using the mobile devices as the standard method of material receiving, issuing and tracking. Processes and procedures will be updated to support utilization of handheld devices for material tracking. This technology, once implemented, could reduce material processing time by 25% and save an estimated $1.7M per DDG hull and reduce annual material losses by $280K.

About CNST

CNST is a Navy ManTech Center of Excellence, chartered by the Office of Naval Research (ONR) to identify, develop and deploy, in U.S. shipyards, advanced manufacturing technologies that will reduce the cost and time to build and repair Navy ships. For additional information on this and other CNST projects, please visit www.cnst.us.