

IUID Success: Maintenance Figure of Merit (MFOM)



Description

Fleet Forces Command's Maintenance Figure of Merit (MFOM) 2.0 implemented an outcome based pilot project integrating Item Unique Identification (IUID) technology within the MFOM 2.0 shipboard database and advanced maintenance information system known as Mission Requirements Assessment System (MRAS).

MRAS is the shipboard system developed to reflect MFOM material condition readiness metrics for shipboard use. As a result of this effort, IUID integration became part of the shipboard system and its database for the DDG-51 class. The DDG-51 class is a multi-mission guided missile destroyer designed to operate in multi-threat environments that include air, surface, and subsurface threats.



This project consisted of two major phases. The first phase was the application of UID technology to legacy shipboard components and equipment for the DDG-51 class. The second was integrating IUID into the MRAS software and database.

Goals and Objectives

The goals for this project included:

- ◆ Defining IUID marking technologies
- ◆ Identifying methodology for marking components without causing undue burden on ship's force
- ◆ Determining a methodology for obtaining the unique numbering system for shipboard components
- ◆ Initiating the marking process
- ◆ Incorporating IUID into the existing MRAS database
- ◆ Uploading of shipboard DDG-51 class IUID information into the DoD IUID Registry

Challenges

Challenges for this project included:

- ◆ Validating the format and accuracy of the Unique Item Identifier encoded in the 2D Data Matrix mark
- ◆ Establishing safety approved IUID marking and reading procedures onto shipboard equipment and assets
- ◆ Incorporating IUID marking procedures within maintenance procedures
- ◆ Creating the ability to track IUID marking throughout the movement and deployment of shipboard equipment and assets
- ◆ Validating that the mark will withstand the shipboard environmental conditions imposed on it
- ◆ Obtaining IT-21 software certification

Benefits and Achievements

As a result of this project, MFOM was able to integrate various IUID projects into a single Navy process, establish an interface with existing maintenance databases, identify shipboard legacy equipment to be marked, and select and field IUID application technology.

Additionally, the MFOM team consolidated maintenance databases, including MRAS for offshore units and MFOM for shore activities, while significantly improving the quality of maintenance action documentation development.

Implementation of IUID provides a unique identifier for components and equipment from manufacture to expenditure. This will improve the accuracy of data, enhance process control, and provide for better configuration control of assets. With more accurate data, the ship maintenance community will accomplish more effective asset management and inventory control, maintenance data collection, tracking, and analysis, and program decision support.

