



Case Study: Inventory Management System Keeps Pearl Harbor Mission Ready

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When a submarine arrives at the Pearl Harbor Naval Shipyard (PHNSY), it undergoes a well-planned schedule of maintenance, overhaul, repairs, and upgrades. On-time completion of these and other maintenance-type operations play a major role in maintaining the readiness of submarines in the Pacific. To ensure these critical deadlines are met, PHNSY relies on skilled mechanics in three shifts a day and some weekends. According to Iris Seiki, PHNSY Supply Systems Analyst, not having inventory readily available for the mechanics on all three shifts and weekends has a direct impact on the project and on other people's job.

Just as in any maintenance and repair operation, PHNSY stores tooling, personal protective equipment (PPE), and consumable products in centrally located tool rooms. With the exception of the occasional walk and wait time to and from the waterfront tool room, getting the needed items for the task at hand was generally a simple process. Simple, that is, if you are a first shift mechanic. Because the tool room was staffed for the first shift only, getting materials was somewhat more complicated for the other shifts.

For second and third shift mechanics, this process required additional steps in the process. If the mechanic from the previous shift didn't turn over the materials to the next shift, he/she would have to submit an item request for the needed materials for the task at hand. Upon receipt of the request, the tool room would supply the materials. There was only one problem - the materials came 24 hours later. Then there were other concerns. What if the materials the mechanic received were not the items requested? When this occurred, the process would start all over again adding more unproductive time to the work schedule. These processes created barriers that directly impacted the on-time project completion.



USS Houston (SSN 713) enters Pearl Harbor - June 2008
(Courtesy US Navy)

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Barriers such as:

- Work stoppage due to inefficient processes
- Wasted time walking to and from tool room
- Inventory shrinkage

PHNSY decided to address the situation by getting back to basics. The senior personnel started by interviewing the mechanics about the barriers put in place that harm productivity. What they uncovered was the need to improve access to consumable materials, tools, and drawings. The first step in removing these barriers was to address the accessibility and accountability for the consumable materials. Consumables are commonly used items such as paint brushes, batteries, washers, nuts, and gloves. PHNSY looked to WinWare, Inc., the makers of CribMaster to provide a solution.

CribMaster is a set of inventory solutions used in military and other industrial-type environments. Their full suite of inventory management devices using barcodes and Radio Frequency Identification (RFID) is all driven by a robust software package called CribMaster.

In their search for a storage system that offered flexibility, PHNSY chose a suite of ToolCube™ point-of-use devices and located them dockside where the submarines undergo maintenance. The ToolCube™ is a large, heavy-gauge-steel constructed cabinet that contains drawers and compartments of various sizes. Here's how it works. The mechanic simply scans his/her badge and selects the item requested. CribMaster then provides access to only the approved quantity of the exact item requested. With the ToolCube's™ unique storage system of configurable drawers, PHNSY could accommodate many different types of inventory. Moreover, this system had



ToolCube Point-of-Use Device

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the capability of adding more devices as their operation grew and controls needed to be tightened.

Although the system was recently implemented in September 2009, PHNSY has realized immediate and positive results on their operation. Stock-outs in their consumable materials have been greatly reduced. The min/max feature on the software ensures optimum inventory levels by sending an email alerting someone when replenishment is needed.

More importantly from the mechanics point of view, they enjoy having the right material at the right time 24 hours a day, 7 days a week. This has allowed them to do their job regardless of which shift they are working and allowed PHNSY to control material usage all at the same time.

Where does PHNSY take CribMaster from here? According to the senior personnel, once the final cost analysis has been completed, PHNSY anticipates adding more dispensing devices to their existing suite. They are also researching tool dispensing devices utilizing the cutting-edge technology, Radio Frequency Identification (RFID). RFID has proven to accurately track tools, mobile assets, and other indirect materials used in the maintenance, overhaul, repair, and upgrades of submarines in other naval shipyards.

PHNSY is proud to keep the surface ships and submarines of our nation's Navy "Fit to Fight". Implementing the CribMaster "made-in-the-USA" automated inventory management system has provided continuous improvement in maintaining fleet readiness in the Pacific. This type of continuous improvement and more makes Pearl Harbor Naval Shipyard "No Ka Oi" - the best.

