

Proposed title For Ship Production Symposia

The use of Planning System Integration for improved Ship Production Quality, Cost and Schedule predictability

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Abstract

To face challenges associated with reduced shipbuilding budgets and increased ship system complexity, the Planning System Integration methodology has been created. Planning System Integration is a union between Engineering, Supply Chain Management, Planning, Scheduling and Systems Engineering implemented in new, innovative processes and tools to link system interfaces to material, planning, scheduling and test data via system requirements. Planning System Integration facilitates:

- reduced rework across departments and disciplines by integrating and verifying engineering, material, planning and scheduling data per Systems Engineering methods
- identification, analysis and configuration management of interface data by assimilating system data into Interface Traceability Matrices
- Program milestone accomplishment by interlinking interface data with planning and scheduling data
- validation of work package/ work order content per system requirements by analyzing interlinked interface, planning and scheduling data
- verification of Integrated Master Schedule (IMS) relationships per system requirements for test
- assessment of material availability (and impact of obsolescence) using material traceability down to Expanded Ship Work Breakdown Structure (ESWBS) level 7 per system requirements
- improved quality, cost and schedule performance of Ship Construction plans by utilizing interface data for impact and trade study analyses

The purpose of Planning System Integration is to design and plan from 'top down,' and integrate and test from "bottom up" to ensure systems are fabricated accurately and efficiently, thereby improving design and construction quality, cost and schedule predictability. This paper discusses the use of these processes and tools based on Systems Engineering principles to support Navy Ship production goals.