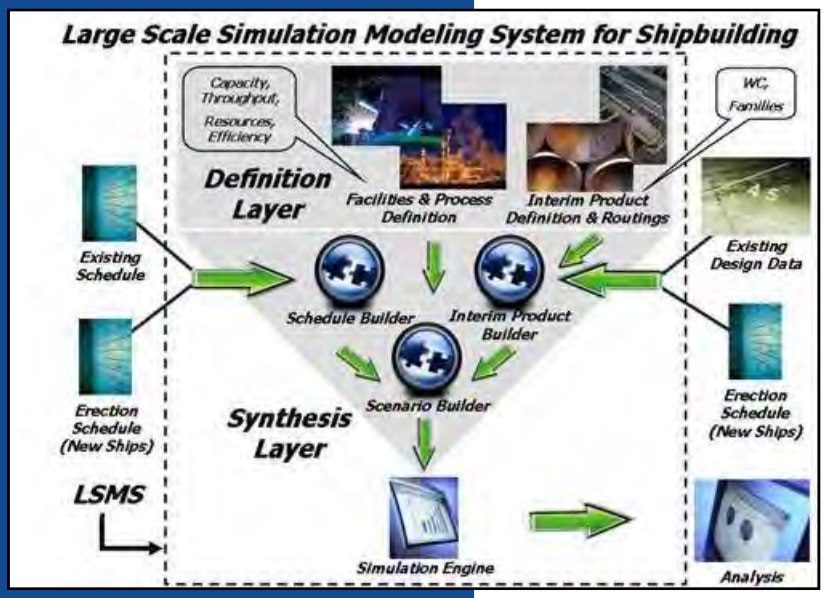
Large Scale Computer Simulation Modeling System



An innovative "whole shipyard" simulation model for streamlining current and planned operations

This project is developing and will deploy a yard-wide computer simulation modeling system that will enable analyses of the effects of current and new ship production work on the shipyard's operations. This project is innovative in that the yard-wide perspective of the modeling system will provide an advantage over current simulations that are typically focused on individual work centers or processes. The new system will also support a broad user base of planners, managers and analysts rather than a small group of highly trained specialists.

The system will include: (1) a yard-wide simulation model application, (2) user utilities to easily define facilities, schedules, processes/routings and interim products, and (3) automated links to product design and planning/scheduling data. The completed first phase produced a design specification, a selected modeling strategy and toolset, and prototypes of key system modules. The second phase will produce a fully implemented system at General Dynamics NASSCO along with technology transfer demonstrations.

Expected benefits include the reduction of time and cost to analyze how new ship production programs would impact production demands within the shipyard, and the ability to rapidly analyze how proposed process and facility changes would impact overall shipyard productivity. Ultimately this will lead to reduced cost and risk to Navy shipbuilding programs.

General Dynamics NASSCO is leading this project, building on many successful simulation modeling applications already used to analyze individual work centers within the yard. TransSystems is providing simulation model design support, and Atlantec ES is providing product data interface/handling support. Bender Shipbuilding and ShipConstructor Software USA participation is intended to demonstrate transportability of the developed simulation architecture to other, smaller shipyards and product modeling systems.

Objective

To develop and deploy a yard-wide computer simulation modeling system that will enable analyses of the effects of current and new ship production work on the shipyard's operations.

Performing Activities

General Dynamics NASSCO, Atlantec Enterprise Solutions, Bender Shipbuilding and Repair Company, Shipconstructor Software USA, TranSystems/Automation Associates.

Key Deliverables

- Functional Requirements Document
- Modeling Strategies and Selection
- System Design Specification
- Modeling System
- Final Report

Point of Contact

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INDUSTRY INVESTMENT: $1.1M

NSRP ASE INVESTMENT: $1.4M