**Applying an MBSE Approach for Evaluating Shipyard Operations**

**Abstract**

The key mission of the United States Navy is to “maintain, train and equip combat-ready Naval forces capable of winning wars, deterring aggression and maintaining freedom of the seas.” Through naval superiority, the United States has defended the preeminent position it holds in the world. However, as the individual ships and submarines continue to age, maintenance becomes a key issue in maintaining naval superiority.

The maintenance challenges that an aging Fleet faces are many. As technology continues to improve and change in the commercial sector, the US Navy often faces challenges within the public shipyard enterprise because ships and submarines have multi-decade lifecycles. Even when the supplies and resources are still available in production, structural problems in the supply chain process can lead to costly delays, keeping ships out of operation for extended times, and putting the fighting force at increased risk.

Using a Model Based Systems Engineering (MBSE) approach, this presentation will describe the overall operational model of a notional public shipyard by creating an As-Is state model of an unplanned maintenance cycle and how inserting new technology can alter steps in the process. In addition, the presentation will also explore the extent to which the overall model can be re-used as a foundation for other focused analysis efforts around different aspects of shipyard operations.

**Biography**

Mr. David Jurkiewicz is a Specialist Master at Deloitte, with a focus in Mission Systems Engineering, Digital Engineering, DoD, and industrial products within Government and Public Services. Prior to joining Deloitte, David had over 13 years of experience in Ship and Submarine Design, Construction, Maintenance, and Systems Engineering with the U.S. Navy at the Naval Sea Systems Command (NAVSEA).

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