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Abstract

As a manufacturing facility, Lima JSMC has used the QUEST software to plan and manage current and upcoming program lines, to analyze the impact of various production variables on cost, and to optimize our strategy for effective system implementation. When necessary, Lima's simulation team is tasked to create custom SCL scripts to more accurately recreate behavior within the plant.

JSMC has been instrumental in the production development of the Expeditionary Fighting Vehicle for the United States Marine Corps, and has been selected as the primary fabrication and assembly site for the first seven test vehicles. In an effort to improve our ability to develop and execute mitigation strategies for late part deliveries during this developmental stage of production, the JSMC simulation team created a QUEST-based tool that models and predicts line imbalances due to late part deliveries.

This presentation will present a brief look into the history of simulation activities at General Dynamics and a briefing on the mechanisms behind the demand-to-build (D2B) assembly analysis logic mentioned previously. It will examine some of the rationale that went into the development of the D2B logic, including the development constraints and requirements that the system had to meet. Finally, it will present a sample of analysis output and explain how the engineers apply that data to mitigate risk.

Author Biography

Ian Chongson studied Virtual Simulation as a Major of Technological Studies at Ohio Northern University. He began work as a simulation engineer for General Dynamics Land Systems in September 2005 at the Joint Systems Manufacturing Center in Lima, Ohio. He is currently serving in the role of lead simulation engineer for JSMC.