

An Eye on FMI (Functional Mock-Up Interface)

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Keywords

Systems Engineering, Co-simulation, Collaboration, Functional Mock-up Interface, FMI, Functional Mock-up Unit, FMU, Model Based Systems Engineering, MBSE, Systems Modelling and Simulation Working Group, SMSWG

Abstract

Products are increasing in complexity along with the workflows that are created to produce these goods. One difficult challenge is promoting collaboration among multiple engineering disciplines, integrating complex systems engineering processes, and enabling the sharing of intellectual property among globally dispersed teams. At the same time, costs must be tightly controlled while still ensuring that performance objectives can be met. By adopting new technologies and practices to merge the engineering analysis of products with the overall system behavior simulation in which they perform, more realistic, accurate and lifelike experiences can be studied. Additionally, the way more complex system models are exchanged by the supplier network is becoming a fundamental concern. This model exchange and co-simulation of engineering analysis and systems engineering is a new opportunity for industries to fundamentally transform their business processes and reduce development cycle time and cost.

This session will review some emerging standards within the Systems Engineering discipline. Specifically the Functional Mock-Up Interface (FMI) will be discussed. Examples of this methodology will be provided. This new paradigm is promoted as the foundation for new and powerful capabilities to support a Model Based Systems Engineering (MBSE) approach to solve complex, multi-discipline systems engineering problems. The collaboration initiative between NAFEMS (global nonprofit organization for engineering analysis) and INCOSE (global nonprofit organization for systems engineering) will be explored and a dive into the objectives of the relationship and current status will be discussed.