# **Chapter Meeting – July 2021**



CHICAGOLAND





# <u>Topic</u>: Reaching MBSE Adoption Maturity with System Modeling and Simulation <u>Presenter</u>: Dr. Saulius (Saul) Pavalkis

MBSE Transformation Leader and Senior Consultant at Dassault Systems **Presentation Site:** Remote. Online attendance only due to COVID-19.

<u>Date:</u> Agenda:

E: Thursday, July 15, 2021
a: 6:30 - 7:00 PM CT – Announcements & Introductions

7:00 - 8:45 PM CT – Feature Presentation and Q&A

### <u>Abstract</u>

Decreasing time-to-market phases and the increasing complexity of future systems make it difficult for engineers to test the proper performance of the systems, implement changes, and optimize system architecture. With help of system models in SysML simulation and integration with multidisciplinary engineering tools, we can reach a high-level maturity of Model-Based System Engineering (MBSE) / digital engineering adoption. In this session, we will go through MBSE adoption maturity levels from descriptive models to simulation and optimization. We will explain how to simulate a system model early in the development process. We will demonstrate how to integrate the system simulation with analysis and detailed design models to close the gap between engineering disciplines. Specifically, we will explore workflow from requirements • to system model, its simulation, simulation integration and analysis using OMG SysML. We will demonstrate integrations with 3DEXPERIENCE Dymola, Matlab & Simulink. We will explore one of the most popular Modelica standards, Functional Mockup Interface (FMI) for integration with +140 tools through FMU import. We will demonstrate integration with 3D CAD design, engine simulation models using simulation orchestration software, 3DEXPERIENCE Process Composer, which connects to all analysis and design tools in 3DEXPERIENCE platform and many external tools for optimization, trade studies, etc.

#### About Our Speaker

- Dr. Saulius Pavalkis has 18 years at Dassault Systems (No Magic) in model-based solutions with the core R&D team. He is currently working as the MBSE Transformation Leader and is an expert in systems modeling, simulation, MBSE ecosystem, interfaces and integrations, traceability and queries.
- Dr. Pavalkis is an INCOSE CSEP and an OMG OCSMP. He has received the No Magic lifetime modeling and simulation excellence award and is the community author for the largest SysML simulation channel (youtube.com/c/MBSE Execution) and MBSE success cases blog (blog.nomagic.com).
- Dr Pavalkis is the author of multiple papers on MBSE at INCOSE and NDIA. In 2020 he received the NAVAIR \$20M budget for V&V paper implementation. He is a Representative at INCOSE CAB and is supporting MBSE adoption in A&D, T&M and other domains. Major clients include P&W, Boeing, NASA, BAE Systems, Raytheon Technologies, NGC, FORD.
- Dr. Pavalkis has a BS and MS in Telecommunication and Electronics and a PhD in Computer Science from (Kaunas University of Technology)

Questions? For more information, go to http://www.incose.org/Chicagoland/.

# **Chapter Meeting – July 2021**



CHICAGOLAND

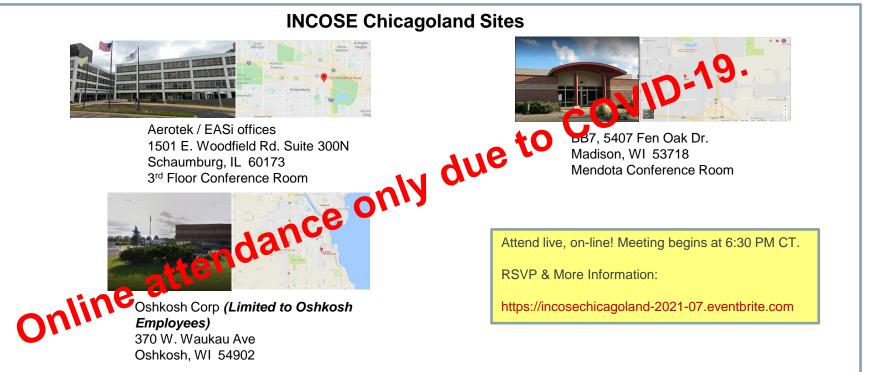




## <u>Topic</u>: Reaching MBSE Adoption Maturity with System Modeling and Simulation

### **Presenter: Dr. Saulius (Saul) Pavalkis**

MBSE Transformation Leader and Senior Consultant at Dassault Systems **Attendance:** Online attendance only due to COVID-19.



Questions? For more information, go to http://www.incose.org/Chicagoland/.