

OpenSCALING: A Saab Aeronautics Perspective

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Abstract

This presentation provides an overview of Saab Aeronautics' perspective and involvement in the ITEA4 project Open Standards for SCALable Virtual Engineer^{ING} and Operation (OpenSCALING). The project explores a range of research topics, from hybrid modeling techniques—integrating physics-based and data-driven approaches—to the development of traceable, model-based engineering processes. The focus of this presentation is on the processes, methods, and tools required to establish credible models and simulations. This includes both Modeling & Simulation (M&S) operations and the numerical aspects of comprehensive credibility assessments. A central tenet of the project is that stakeholders should communicate digitally using stand-alone simulation artifacts that are iteratively refined and applicable throughout all phases of the system life cycle. In essence, models and simulators should encapsulate information about their own credibility. Key features of relevant Modelica Association standards will be highlighted, including specific elements of the recently released SSP 2.0, SSP Traceability, and the emerging format for exchanging numerical credibility data developed within the project. Finally, the current and stipulated future use of Modelica standards at Saab Aeronautics will be illustrated—ranging from early subsystem concept design to full-scale aircraft simulators used during operational and maintenance phases.