

Modeling and Simulation-Based Systems Engineering Handbook

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Modeling and simulation (M&S) is increasingly becoming a central activity in the development of new and existing systems because it enables designers and researchers to manage systems complexity and investigate system behaviors through virtual representation. To date, a handbook that includes established M&S practices is not available in the systems engineering community. This multi-contributed reference book provides the M&S practices for supporting systems engineering in diverse domains. Readers can also identify their systems engineering needs and adapt these practices to suit their specific application domain, thus avoiding redefining practices from scratch.

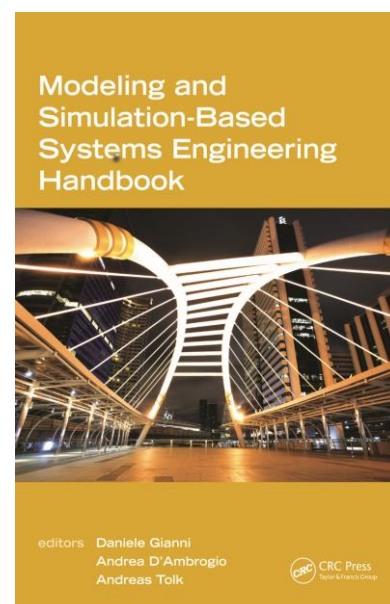
Key Features

- Covers modeling and simulation (M&S), an essential tool for systems engineering
- Matches M&S practices with systems engineering needs
- Explains how to use established M&S practices across other domains
- Includes a section on mitigation of risks associated with M&S
- Presents the processes and defines the design steps
- Discusses software architectures for the implementation of simulation software

Selected Contents

Introduction. Domain-Specific Languages. Model Repositories. Model-driven Systems Engineering. Collaborative Environments. Simulation Algorithms and Performance Engineering. Simulation Software Architecture. Processes. Verification, Validation & Accreditation. System Modeling. Enterprise Architecture. Advanced Concepts.

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