

Modeling and Simulation Body of Knowledge (M&SBOK) - Index

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M&S: Reliability

Three levels of issues are important:

- (1) Basic issues are validation and verification of simulation studies
- (2) Quality Assurance
- (3) Failure Avoidance

The following table highlights categories of sources of errors that can occur in M&S studies.

Table - Categories of Sources of Errors that Can Occur in M&S Studies

- Goal of the study
- Instrumentation
- Data collection
- Modeling
- Scenarios
 - Realism and applicability of scenarios
 - Consistency of joint scenarios in federations and federations of federations)
- Experimentation
- Assumptions (explicit and/or implicit) in specifications of models, experiments, and (model, experimental frame) pairs
- Computerization
- Computation
 - Numerical computing
 - Soft computing
- Fallacies in logic (paralogisms, sophisms)
- Artificial Intelligence
 - Rule-based (expert) systems
 - Software agents (trustworthy agents, moral agents)
- M&S infrastructure
- Documentation (inconsistent / erroneous)