**Proposed Terms and Definitions r4v2 - In Progress by T-D Committee**

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| **Proposed Term** | **Definition Proposal** | **Origin** |
| Model Based Development (MBDev) | An approach to engineering processes that uses models as an intregal part of the overall development process. This may use modeling techniques such as mathematical, acausal, and visual methods to define and predict system behavior, and performance. Model Based Development (MBDev) is a subset of Model Based Engineering (MBE). | SMSWG T-D Committee |
| Democratization of Simulation | A significant expansion of the use of Engineering Simulation by all users in a reliable way, for whom access to the power of Engineering Simulation would be beneficial. | ASSESS Initiative |
| Engineering Simulation | The use of numerical, physical or logical models of systems and scientific problems in predicting their response to different physical conditions. | NAFEMS |
| Engineering Simulation Digital Twin | A physics-based computer representation of a physical asset or collection of physical assets (physical twin) that exploits information flow to/ from the associated physical asset.  Each physical twin may have multiple Engineering Simulation Digital Twins used for various purposes. | ASSESS Initiative |
| Digital Twin | A digital surrogate that *is a dynamic physic-based description* of physical assets (physical twin), processes, people, places, systems and devices that can be used for various purposes. The digital representation provides both the elements and the dynamics of how an Internet of things device operates and lives throughout its life cycle. | Wikipedia |
| Generative Design | Using computer-based algorithmic methods to create feasible product designs or outcomes from a set of performance requirements, objectives, constraints and use cases for a specified design space. the use of algorithmic methods to quickly and automatically, or iteratively, transform requirements, constraints, uncertainties, and design space to create/drive viable designs or outcomes. Requirements, constraints, and uncertainties may include factors from multiple areas including: design, performance, manufacturing, usability, aesthetics, ergonomics, and cost. | ASSESS initiative ASSESS initiative |
| Simulation Governance | Executive management policies and procedures assuring that the business benefits of engineering modeling and simulation across the product lines are aligned with the strategic vision and goals of a company. It should drive the management procedures to ensure appropriate capability and confidence in addressing how simulation is to be used for product development and manufacturing, lifecycle support, and for decision-making. The principles are contingent on having a collaborative simulation management organization that directs and develops people, processes and technology in performing and integrating engineering simulation across the lifecycles of product lines to meet the business objectives. Managerial functions focused on strategic business assets and processes for cross-functional collaboration in using logical, mathematical, and physical models to study the behavior of systems, including quality and credibility assurance procedures, tool standardization, best practices, optimal use and coupling of digital, physical, and operational data, and provision of the needed resources. | SMSWG Flyer NAFEMS  |