**Terms and Definitions Final 10072019 - Ready for SMSWGSC Review**

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| **Term Candidate** | **Definition Proposal** | **Origin** |
| Model-Based Engineering (MBE) | An approach to engineering that uses models as an integral part of the engineering processes that includes the requirements, design, analysis, implementation, and the verification and validation of a capability, system, and/or product throughout its life cycle.” It is the umbrella for many other MBx activities. | Derived from (Final Report, Model-Based Engineering Subcommittee, NDIA, Feb. 2011). |
| Model‐Based Systems Engineering (MBSE) | “The formalized application of modeling to support system requirements, design, analysis, verification and validation activities beginning in the conceptual design phase and continuing throughout development and later life cycle phases.” MBSE is a subset of Model Based Engineering (MBE) and Systems Engineering (SE). | INCOSE SE Vision 2020 (INCOSE-TP-2004-004-02, Sep 2007 |
| Model-Based Design (MBD) | The use of models and modeling techniques as an integral part of the design phase of a development process. Model-Based Design is a subset of Model Based Engineering (MBE). | SMSWG T-D Committee |
| Model-Based Definition (MBD)/(MBDef) | The practice of using 3D models (such as solid models, 3D PMI and associated metadata) within 3D CAD software to define (provide specifications for) individual components and product assemblies. The types of information included are geometric dimensioning and tolerancing (GD&T), component level materials, assembly level bills of material, engineering configurations, design intent, etc.” Model Based Definition is a subset of Model Based Design. | Derived from Wikipedia |
| Model-Based Safety Analysis (MBSA) | “An approach in which the system and safety engineers share a common system model created using a model-based development process. By extending the system model with a fault model as well as relevant portions of the physical system to be controlled, automated support can be provided for much of the safety analysis.” Model Based Safety Analysis is a subset of Model Based Engineering. | Model-BaseC1:C16d Safety Analysis, NASA, Feb. 2006 |
| Model‐Based Enterprise (MBE) | An organization where models serve as the authoritative information source for processes beyond engineering. Model Based Enterprise is the culmination of Model Based Engineering. | Derived from Wikipedia |