Gold Standard Methodology™

Model-Based Systems Engineering (MBSE) is a giant leap forward in Systems Engineering's approach to development. This approach has streamlined development and significantly reduced man-hours related to development, revision, analysis, and advancement. The resulting benefits include reduced cost, less intensive revision cycles, and increased transparency. However, to further improve upon MBSE's innovation, further standardization and automation is needed to truly unlock the potential engineering power.

The definitive MBSE approach to System Engineering is provided by the G2 Ops Inc. Gold Standard Methodology™ (GSM). The GSM stands as the culmination of engineering experience, efficiency-driven innovation, quality-minded processes, and the desire to provide automated, accelerated, and advanced engineering development while standardizing the process.

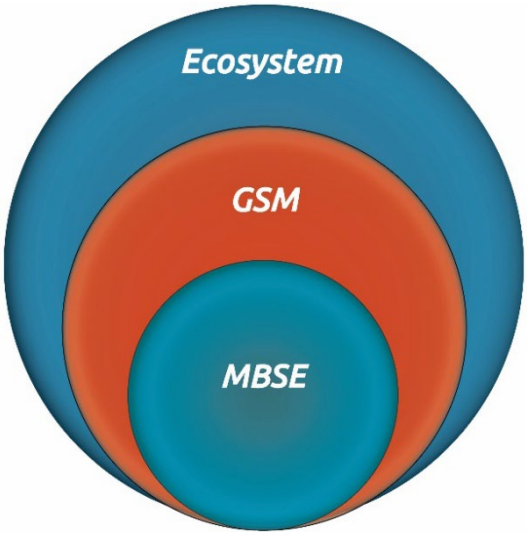
Gold Standard Methodology™ (GSM) Ecosystem

The Gold Standard Methodology™ (GSM) is surrounded by a developmental ecosystem that represents an engineering developmental lifecycle that marries best of breed MBSE practices, customer concerns and requirements, INCOSE-sanctioned engineering best practices, evolving automation techniques, analysis, and quality management with efficient and repeatable modeling developmental activities. A fully developed schema, or common modeling approach, provides a foundation to build from, allowing for reduced time to build and develop an MBSE-based model.

The foundational model, coupled with the core processes and automation incorporated into the lifecycle, form an ecosystem that prioritizes efficiency, accuracy, and completeness, ensuring a quality process product. The result is a definitive systems engineering design and maintenance ecosystem providing customers with a detailed understanding of their systems, reduced development and revision timelines, and improved analysis of their systems that better informs their business strategies and decisions. Key elements and functions include:

- SE Lifecycle – Systematic and concise developmental process that provides a standard repeatable plan of action
- Best of Breed Practices – Incorporation of efficient, repeatable, evolving techniques designed to continuously improve process and product
- Metamodel – Core baseline and customizable model agnostic of one-off systems allows for fast data ingestion and mission-focused adaptability
- Total Quality Management – Critical analyses inform process improvement ensuring the entire ecosystem, systems, and objectives evolve in an efficient and quality-driven manner
- Configuration Management – Exacting process, function, and document control throughout ecosystem ensures consistency and accuracy
- Risk Management Framework – Through line process that continuously analyzes and mitigates risk factors to reduce casualties to mission critical objectives and configuration items
- Analysis and Improvement – Allow for detailed 'what if' scenarios to be played out, analyzed, and critiqued in virtual environment before any real-world physical or process changes are ever made
- Automation – Continuously refined and adaptable software and data-collecting functions designed to reduce touch time and improve accuracy

The GSM is based on a three-layer system developing unique solutions to customers complex business needs



Model-Based Systems Engineering (MBSE)

- G2 Ops accelerates our customers systems digital reconstruction that mirrors their physical system in every detail across its entire developmental lifecycle

Gold Standard Methodology™ (GSM)

- G2 Ops integrates MBSE models together to support greater enterprise customer needs
- Proactively drives common model schema to rapidly mature Systems Engineering (SE) automation tools
- GSM enables compatibility with G2 Ops analytic tools and capabilities

GSM Ecosystem (GSME)

- The GSM ecosystem fosters development and continual improvement of software applications that can be reused for subsequent projects, benefiting from lessons learned on previous efforts
- Baseline schema created from 'best of breed' practices form the core of any single project, but can be utilized across multiple models and projects reducing development time and effort

Key Elements of the G2 Ops Gold Standard Methodology™

Collaborative Environment: Engineers, stakeholders, and owners have access to developmental and functional elements allowing for greater convergence of knowledge, understanding, and adaptive and innovative change.

Automation: Automated data collection and ingestion into the model is driven by powerful, customer-requirement focused software eliminating the need for manual input and wasted labor.

Operational Flows: Criteria set by the system's Concept of Operations (CONOPS) and Customer requirements direct the operational integrity of the system. These flows direct system operations, ensure system safety, and provide efficient, reliable, and repeatable outcomes.

Concept of Operations: Clearly defined Concept of Operations explaining basic purpose, functionality, intent, and results. All capabilities and desired objectives are clearly outlined and sanctioned by stakeholders.

Requirement Integrity Analysis: Requirements are the backbone of any modeling system. These requirements require periodic evaluation to verify their value to the system functionality as well as how the system conforms to the directives established by those requirements.

Functional Flow & Operational Routing: Describes the sequential operations, dependent on the prior operations success, which is logically outlined and ordered to conduct operations while managing multi-tier functionality. Operational Routing directs specific operations to perform relational tasks to complete a function.

Interface Management: The multifaceted activities operating within the ecosystem, i.e., modeling, automation, software development, analysis, quality control, and customer interactions, are all guided through interoperative control that manages how each component interacts with the whole.

Detailed Design: Customer requirements, systems characteristics, desired functional outcomes, and real-world operational parameters are incorporated into every systems model, while still maintaining a specific baseline modeling foundation, resulting in a system's digital construction that mirrors the physical system in every detail.

Mission Threads: A mission thread defines a sequence of activities, end-to-end, including a series of steps, accomplishing the completion of one, or multiple capabilities a System of Systems (SOS) supports.

Component Design Properties: Elements of the overall system conform to requirements and a design that facilitates system functionality. Component design properties are derived from the systems' CONOPS and address requirement and functionality needs.

RMF Artifacts & Cyber Analytics: Risk Management Framework (RMF) artifacts are created utilizing data drawn from the model. These artifacts provide specific information for stakeholders to refine functionality and make informed decisions for operation. Cyber Analytics provide a detailed analysis of vulnerabilities and functionality against cyber-attacks and bad actors.