

DIGITAL ENGINEERING For Launch

Operating at EPIC Speed






Launch and space customers face complex challenges to ensure their missions are successful. Model-Based Engineering (MBE) solutions help address these challenges by providing several important benefits across the National Security Space Launch (NSSL) Enterprise:

- Integration of mission, systems, physics, cost models
- Lower costs across mission lifecycle when applied during early integration

Our digital engineering approach for the NSSL Enterprise includes:

- Model-Based Engineering (MBE)
 - Model-Based Systems Engineering (MBSE)
 - Multi-Disciplinary Analysis and Optimization (MDAO)
 - Digital Engineering Information Exchange (DEIX) and standards that link MBSE and MDAO
 - UAF-Profile integrates with SysML mod/sim tools to assemble complex systems-of-system models
- Modeling as a Service (MaaS)
 - Access high-fidelity analytical models
 - More time for exploring trade space
 - Models are never exchanged, only linked
 - Protects IP and eliminates software licensing issues
- Leveraging Commercial Best Practices
 - Maximizing partnerships to ensure that DoD attains the best technology and value

These capabilities allow us to operate at EPIC Speed to support Launch Phase 2 acquisition strategy & flight manifest including deep domain analytics, extensive mission integration experience, and quick return-on-investment for engineering change traffic.

Enterprise	SMC 2.0 EPICS	
	✓	Integrated product portfolio across programs
	✓	Resilient multi-layered architectures/ economy of scale
	✓	Dynamic, priority-based resource allocation
	✓	Wide, diverse supplier network
	✓	Inter-agency & International collaboration
	✓	Fast failure & learning - rapid demo/ feedback
	✓	Balanced portfolio of incrementalism & innovation
	✓	Strategic investments - game changers
	✓	Mission-focused, empowered workforce
	✓	Risk-taking, creative problem solving
	✓	Talent management system
	✓	Decision-making velocity
	✓	Streamlined acquisition processes, docs & reviews



Digital Workflow Objective
Naturally produces decision-ready model artifacts
Non-linear workflow easily repeated across mission lifecycle
High degree of interoperability, leveraging DoD and/or industry standards
Portfolio management – fleet & mission status
Supply chain insight – Product Line Management (PLM)
Refresh Enterprise technology
Quickly assess changes independent of LSP
Naturally captures knowledge & best practices
Multi-Disciplinary Analyses & Optimization (MDAO)
Accelerates work-flow
Minimizes early integration expense
Manages Mission Assurance baseline
Leverages Commercial Market
Increases Launch Tempo
Supports re-Use of Flight Hardware

Our expertise in digital engineering for launch enterprises is drawn from our many years supporting various customers across a broad range of engineering, sustainment, cyber threat, and logistics solutions. Our customers range across the DoD and intelligence communities, with many years supporting “cradle to grave” space customers and systems.

What Sets Us Apart from Others

- Library of Application Programming Interfaces (API's) can access a wide range of sensitive & proprietary models
- Broad launch experience essential for developing common digital views
- Hosting, Release Management, Cybersecurity (HRC)
 - Our COTs integration ensures no breaks in service due to version control, licenses, or evolving standards
 - Securing data in otherwise secure Cloud environments is critical to ensuring a stable and continuously accessible solution



Production Line Digital Artifacts

- 3-D Geometric Models
- Product Manufacturing Information (PMI)
- Digital Measurement Standards
- Finite Element Models
- Bids and Quotes



System Integration Digital Artifacts

- High-Fidelity System Models
- 3-D System Designs
- Simulation Animations
- Technical Deliverables
- Supply Chain RFQ/RFPs

DoD Acquisition Office



Acquisition Digital Artifacts

- Mission Models
- LV Certification Models
- Digital System Models
- Digital Threat for System Lifecycle
- Acquisition RFQ/RFP
- Operational Test Video



Ops & Maintenance Digital Artifacts

- Digital Twin
- System Performance History
- Fleet Portfolio
- Computerized Maintenance Management Data
- Training Simulators
- Disposal Records

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