DIGITAL ENGINEERING

Today's programs are complex, involve diverse stakeholders, and must achieve aggressive technical, performance, and schedule goals. Changing user needs, evolving external influences, challenging programmatic constraints, and increasingly complex technical capabilities require program management and technical leaders to utilize new and innovative ways to effectively own and manage their technical baseline while responding to dynamic environments.

BOOZ ALLEN DIGITAL ENGINEERING INNOVATION

Booz Allen Digital Engineering provides a rapid response modeling approach that scales to support quick-turn solution needs, transforming traditional systems engineering (SE) processes to model-based systems engineering (MBSE) methods. Developing a digital model (Digital Thread) creates a single, enduring source of truth that is the focal point of Booz Allen's Digital Engineering methodology.

We tailor agile practices to establish and verify that the model extends to lifecycle management processes (e.g., risk, cybersecurity, cost, and schedule), automatically produces program documentation defining system interactions and interfaces, and provides an interactive dashboard tool creating customized model visualizations. Our comprehensive approach delivers a digital environment that improves decision making and supports innovation, empowering program management and technical leaders to focus on their toughest challenges.

EXECUTION

Functional Subject Matter Experts to help implement integrated processes and tools that improve SE practices and increase mission effectiveness

TRAINING

Instructor-led, interactive training, workbooks, and procedures tailored to client needs

METHODS

Proven agile processes that quickly and effectively transition projects to MBSE approaches using a federated tool suite for prototyping, system development, operations & maintenance

POLICY

Executable and strategic policies verified across the Department of Defense, Civil, and Commercial markets by Digital Engineering transformation on enterprise to equipment sized projects
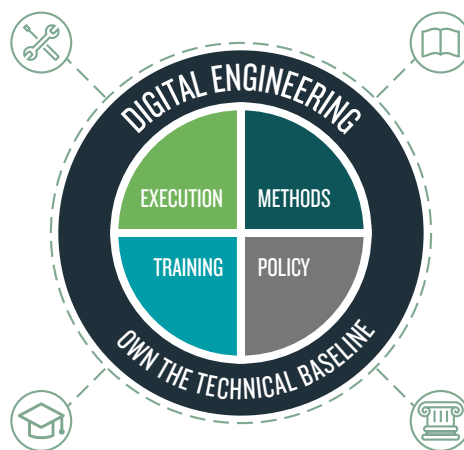
Booz Allen Hamilton's MBSE methodology helps clients transform their SE practices to the Digital Era

- Establishes single source of truth
- Enables data integration
- Ensures traceability
- Automates document generation

- Extends to lifecycle processes
- Automates artifact verification
- Expedites cybersecurity assessment

Enables Effective, Consistent Communications

Systems models create structured communications that replace document intensive systems engineering. **The model facilitates auto-generated documentation** such as requirements documents, interface description specifications, integration plans, transition plans, verification plans, data standards, and a variety of other artifacts.

Manages Increasing System Complexity

The necessity for Digital Engineering is driven by increasing system complexity. **Our data capture methodology institutes a common vocabulary to formalize the system definition process**. Resulting system designs provide explicit traceability across the system architecture. .

Maximizes Efficiency While Reducing Redundancy

Digital Engineering leverages automation to conduct technical reviews of design solutions and proposed configuration changes. **Complete and accurate assessments of proposed changes enable each stakeholder to clearly understand the impact** of the solution before a decision is made, significantly reducing iterations and time to implementation.

Ownership of Technology Baseline

The ability to make key modernization investment or sustainment decisions is informed with facts and data versus opinion. **Ownership of the Technical baseline is a deliberate and disciplined behavior pattern based on an integrated digital model that acts as the single source of truth** for the lead Government organization. More efficient and higher fidelity decisions can be made about changes to the design or operational system and the potential impacts with highly integrated digital system models.

Enhances Knowledge Capture and Retention

Our Digital Engineering approach provides a **user friendly searchable web-based interface** that enables navigating technical data clearly and easily. Stakeholders can access the full scope of technical and organizational information and dependencies in real-time.

Increases Product Quality

Rigorous systems modeling automatically identifies inconsistencies that typically arise later in the development or modernization process. **System risks are mitigated by our integrated digital twin construction methodology.**

About Booz Allen

For more than 100 years, business, government, and military leaders have turned to Booz Allen Hamilton to solve their most complex problems. Together, we will find the answers and change the world. To learn more, visit BoozAllen.com.

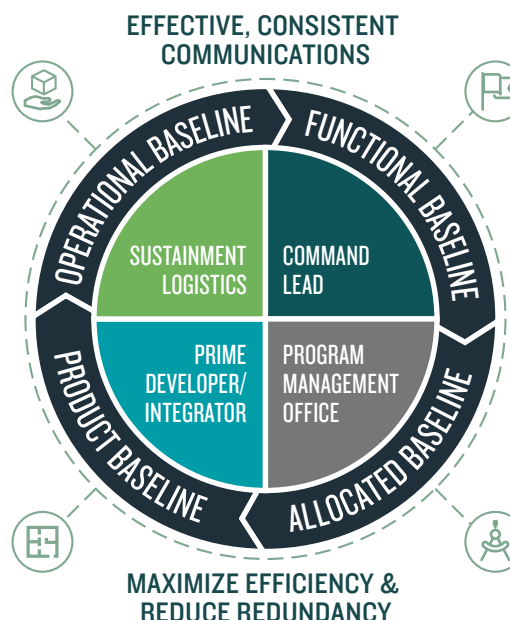*For more information, please contact:*

LEONARD BROWNLOW
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- Reliability, maintainability, availability
- Configuration management
- Interoperability & supportability
- Diminishing manufacturing sources & material shortages
- Modernization project
- Operational baseline management & control

ENHANCE KNOWLEDGE CAPTURE AND RETENTION

- Requirements validation
- Low-rate initial and full-rate production and fielding
- Installation and checkout
- Authority to connect/operate
- Requirements verification
- Functional/physical configuration audit
- Product baseline management & control

EFFECTIVE, CONSISTENT COMMUNICATIONS

OPERATIONAL BASELINE — FUNCTIONAL BASELINE

SUSTAINMENT LOGISTICS | COMMAND LEAD

PRIME DEVELOPER/ INTEGRATOR | PROGRAM MANAGEMENT OFFICE

PRODUCT BASELINE — ALLOCATED BASELINE

MAXIMIZE EFFICIENCY & REDUCE REDUNDANCY

- Initial capability requirements
- Program objective memorandum
- Capability description/initial production requirement
- Concept of operations/operations concept
- Operational acceptance strategy
- Functional baseline management & control

MANAGE COMPLEXITY INCREASE PRODUCT QUALITY

- Acquisition roadmap
- Lifecycle cost analysis
- Requirements allocation
- Interoperability & supportability factors
- Design/technical review
- Risk management framework analysis
- Allocated baseline management & control