

## DIGITAL TRANSFORMATION

# Model-Based Systems Engineering (MBSE)

The digital engineering age is underway. Gone are the linear, document-based traditional approaches to system design with little collaboration or real-time data exchange.

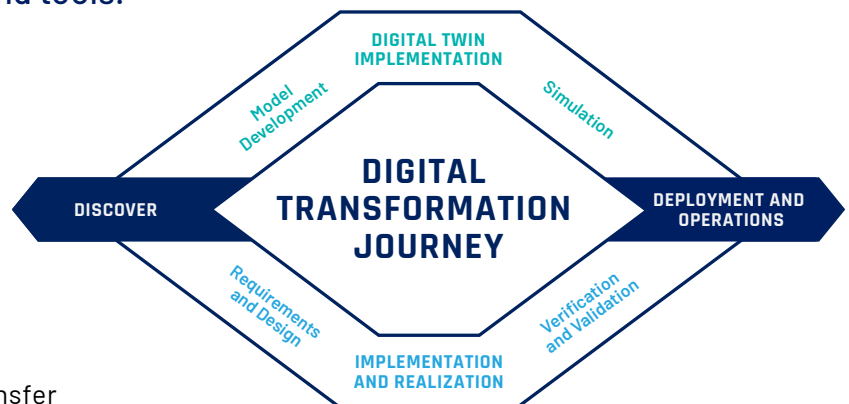
**Enter model-based systems engineering:** The structured use of visual models to represent system requirements, architecture, design and behavior throughout the development lifecycle using specific languages and tools.

#### Benefits of model-based systems engineering:

- Accelerated engineering cycles
- Technical and programmatic risk reduction
- Higher quality engineering using tools and simulation
- Better configuration management
- Reusability of engineering artifacts

Future work on DoD programs will require transfer of data across the engineering enterprise in MBSE models. Mercury Systems has invested in the enterprise to institutionalize MBSE/digital engineering across functions with governance, policy, training and culture change to meet this fast-approaching customer requirement.

Mercury is currently developing and delivering MBSE models to customers on active programs. Let us be your partner on your next MBSE/digital engineering program.



#### MBSE COMPLEMENTS THE TRADITIONAL SYSTEMS ENGINEERING PROCESS

- Develop MBSE models from requirements through operation and sustainment
- Cameo implementation and training
- Digital twins to support modeling and simulation
- Data integration with digital thread

**MBSE capabilities at Mercury**

- MBSE performed by a team of cleared modelers in classified environments and networks both in-house or at customer locations
- Element-level data marking capability for classification and intellectual property identification
- Model validation based on SAIC DE Validation Tool with Mercury enhancements
- Industry-leading modeling capability for Mercury’s secure processing product lines

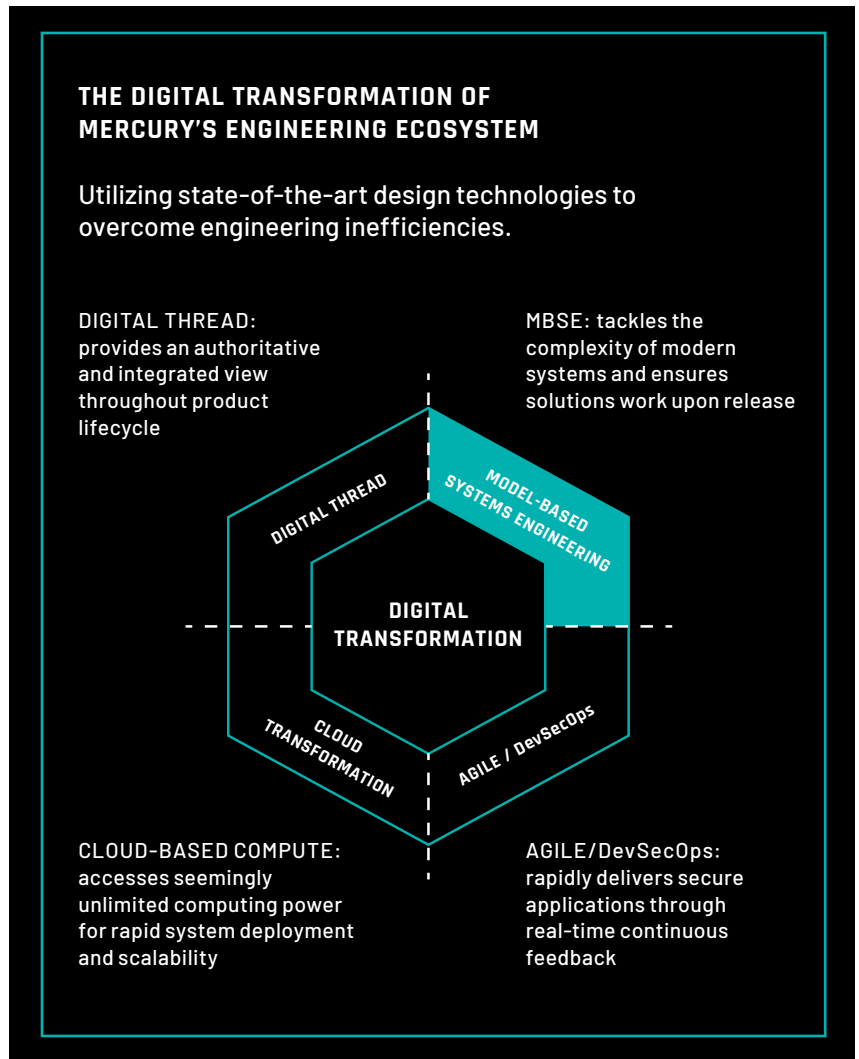
**Realized MBSE benefits**

85%

reduction in documentation generation effort

46%

fewer defects through early detection and simulations



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