



Digital Transformation in Aerospace

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Mission-Driven Transformation

Across our business, we're **transforming with urgency** to deliver the **21st Century Warfighting capabilities** our customers need to stay ahead of rapidly-evolving threats.

We're embracing **disruptive innovation** in our processes, technology and tools to drive **speed, agility, and data-driven insights** for our customers.

Pillars of Transformation



Digital Engineering: Model-based engineering optimizes design and links design, manufacturing and sustainment teams on a common digital thread to save costs and speed program lifecycles.



Data as a Strategic Asset: We're building the global infrastructure to share data instantly and securely, and the AI-powered, predictive analytics to glean insights that advance performance from the factory to the field.



Next-Gen Software: A company-wide Software Factory is deploying DevSecOps approaches and enabling fast development and continuous deployment of software to advance customer missions.



Advanced Production: We're revolutionizing our factories with smart tools, connected machines, networked supply chains and AR/VR for technicians that speed production and improve quality.



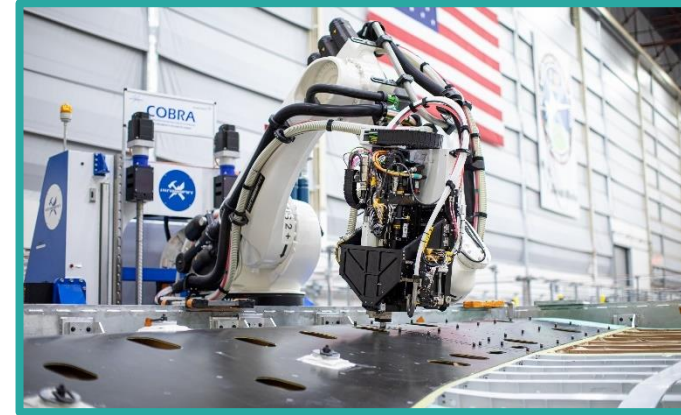
Digital Enablement: Company-wide investments in process reinvention, business system modernization, 5G networking, cyber and cloud are laying the foundation for transformational capabilities.

A holistic approach to Transformation that will empower employees, streamline processes, and take One LM to the next level.

Aerospace-Unique Considerations



Demanding Mission Requirements



Low-Volume, High-Complexity Manufacturing

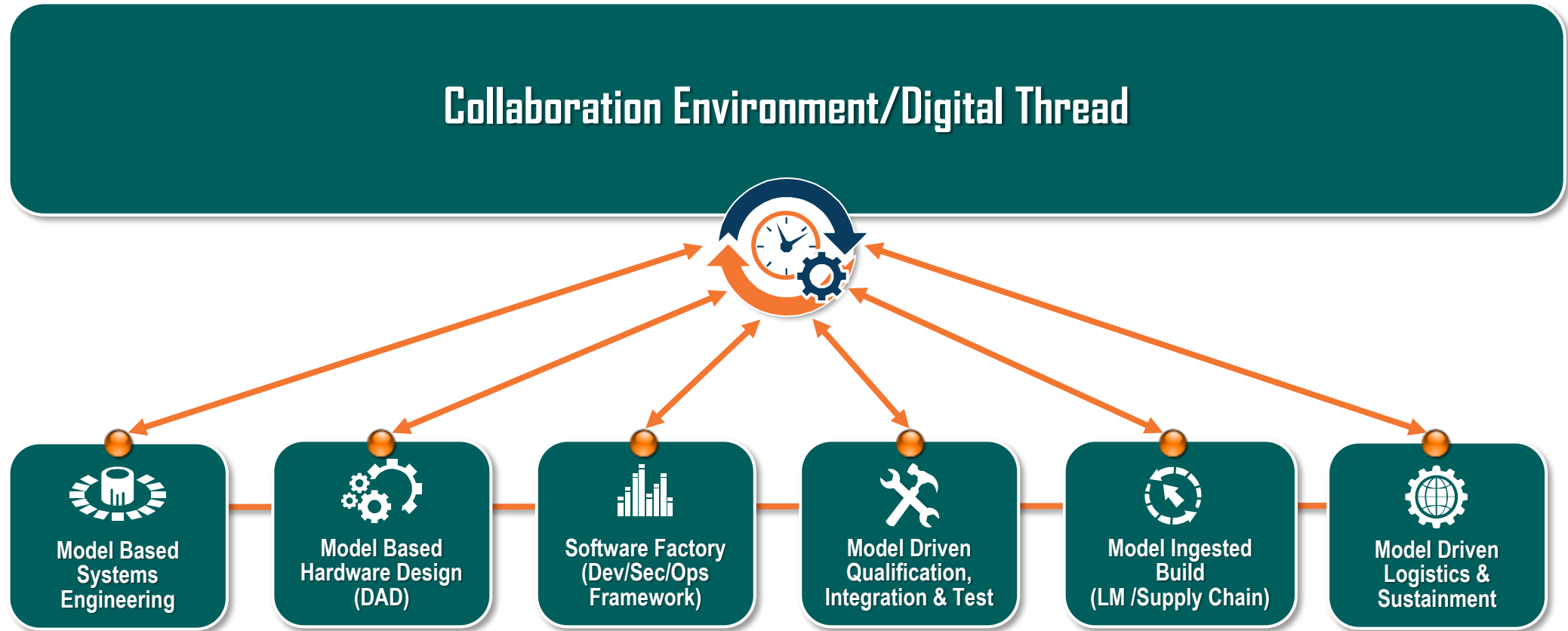


O&M Drives up to 70% of Lifecycle Costs



16,000 Suppliers Across 50 Countries

Building A Model-Based Enterprise



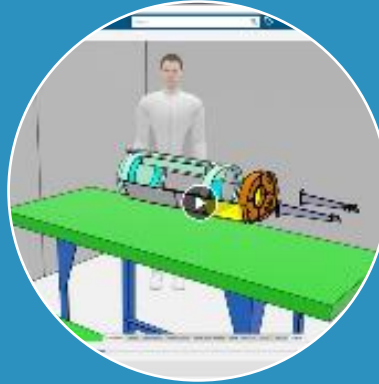
...Optimize the Value Chain Across the Product Life Cycle

Factory & Product Build Simulations in Parallel with Product Design



Factory Simulation

Enhanced Automated Capacity and Utilization Analysis For Factory Optimization



Build Simulation

Iterative Manufacturing and Design Loop To Improve Design and Accelerate Learning Curve



AR Training

Digitally Simulated Mfg Environment Increases Preparedness of Factory Staff

Virtual Build Before You Build

Transformation in Action



Aeronautics is driving down product development cost and span with **StarDrive**, a modern Integrated Digital Environment for Advanced Development Programs.



MFC is building a **Model-Based Enterprise** for defining the model-based execution of a program from initial concept, through design, manufacturing, and sustainment. It will be implemented and demonstrated on the Precision Strike Missile program.



RMS Sikorsky is driving efficiency and reducing rework by transforming development into an ongoing “assembly” of data and finding opportunities for single-piece-flow digital threads on the **Raider X Future Attack Reconnaissance Aircraft**.



Savant is **Space's** knowledge management platform, connecting various data sources including internal and external lessons learned and command media processes.

Strengthening Digital Culture

- Highly-visible executive engagement and organizational alignment
- Company-wide “Model-Based Enterprise” training and engagement efforts
- Comprehensive process re-engineering program with cross-functional participation
- Free online training through Digital Academy
- Multiple digital-focused conferences, workshops and seminars annually
- Digital Transformation campaigns within technical and non-technical functions





Advanced Manufacturing Capabilities

Consuming & Feeding the Digital Thread

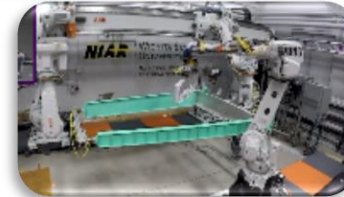
Auto Storage, Kitting,
Material Handling



Flexible Tooling, Mfg Floor



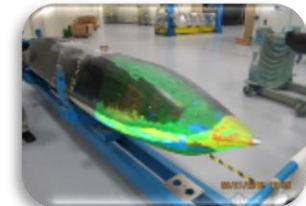
Assembly Automation



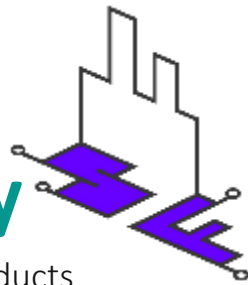
Automated Finishes



Virtual Verification



One LM Software Factory



Mission-Ready, Safe, High-Quality Products that are Cyber Secured and Interoperable delivered at the Speed of Relevance. Built on a culture of agility enabled by people, process, and tools.

OUR GOALS

- > **ONE LM SOFTWARE FACTORY**
A set of standard tools and processes ubiquitous to product and development teams across all of LM.
- > **DOD PARTNERSHIPS**
Direct partnership and collaboration with DoD agencies to contribute to their software platforms and technology stacks.
- > **COMPETITIVE ADVANTAGE**
Leveraging best practices will enable rapid prototyping, real-time deployments, and scalability.

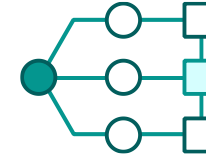
Adaptable and Scalable for All LM Programs by 2021

WHAT IS OUR ONE LM SOFTWARE FACTORY?



CLASSIFIED SOLUTIONS

Standalone classified deployment and Cloud secret region connectivity



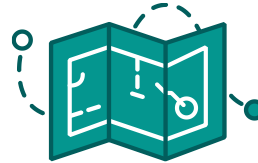
SELF-SERVICE PIPELINES

Enable teams to automate and deliver repeatable software development tools



PLATFORM & CLOUD

Automated deployment and direct integration with DoD cloud solutions



BLUEPRINTS

Common templates and reusable pipelines for rapid software delivery



SUPPORT & ENGAGEMENT

In-house experts, designers, and coaches bringing real world experience



WORKFORCE

Building a workforce that lives by Agile and DevOps methodologies

BUILT ON DEVOPS

The software automated tools, services, and standards that enable programs to develop, secure, deploy, and operate applications in a secure, flexible and interoperable fashion.



PEOPLE

- Cross-Functional Teams
- T-Shaped Expertise
- Systems Thinking



PROCESS

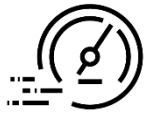
- Agile Backlog Management
- Small Batch Sizes
- Fully Integrated Security



TOOLS

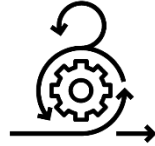
- Automated Test
- Automated Security Scan
- Infrastructure as Code

Our Vision: Transformational Outcomes



Speed:

Accelerate program timelines to deliver new capabilities from the factory to the field faster than ever



Agility:

Respond to rapidly-changing customer needs and stay ahead of a dynamic technology landscape



Insights:

Build a data-centric enterprise that collects, integrates and analyzes information for strategic advantage



Competitiveness:

Drive efficiency and customer mission value through innovation, competitive pricing and streamlined processes