# Implementing the Digital Thread: A Strategy for Compliance with DoDI 5000.97 and Beyond

GLOBAL PRODUCT DATA INTEROPERABILITY SUMMIT 2024

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# Presenter's Bio

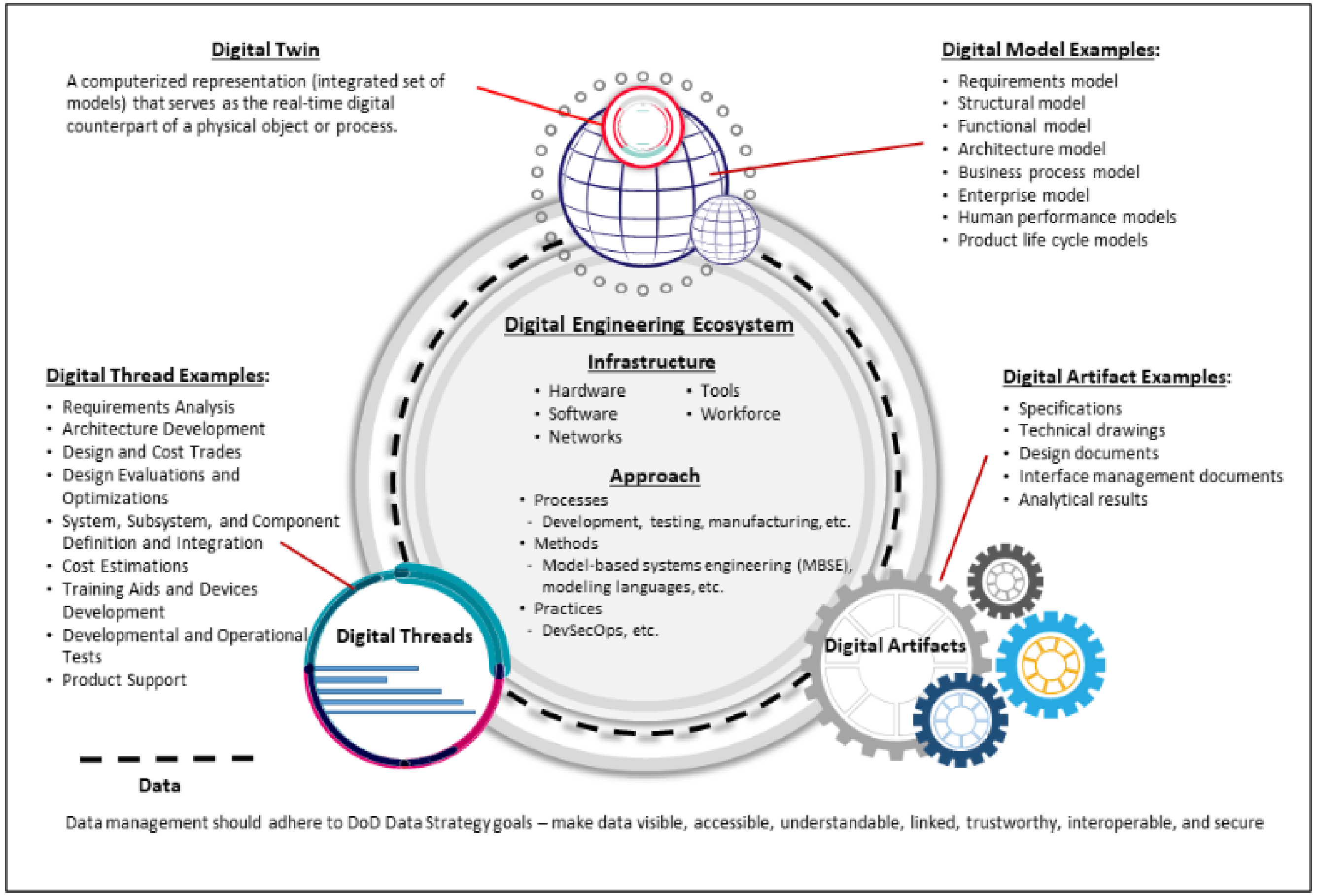


Tim Keer leads the North America Pre-Sales team at Aras, providing technical support to Account Execs. Tim previously spent 25 years at Arup, the global engineering consultancy, leading teams performing technical project work for clients in the automotive, aerospace, nuclear and built environment industries. With a background in engineering simulation, Tim is keenly aware of the need for organizations to ensure that a digital thread connects those who have traditionally been isolated in their silos (Simulation Engineers, System Engineers etc.)

**Purpose:**

In accordance with the authority in DoD Directive 5137.02, this issuance establishes policy, assigns responsibilities, and provides procedures for implementing and using digital engineering in the development and sustainment of defense systems.

**Figure 1. Digital Engineering Framework**




*DoDI 5000.97, December 21, 2023*

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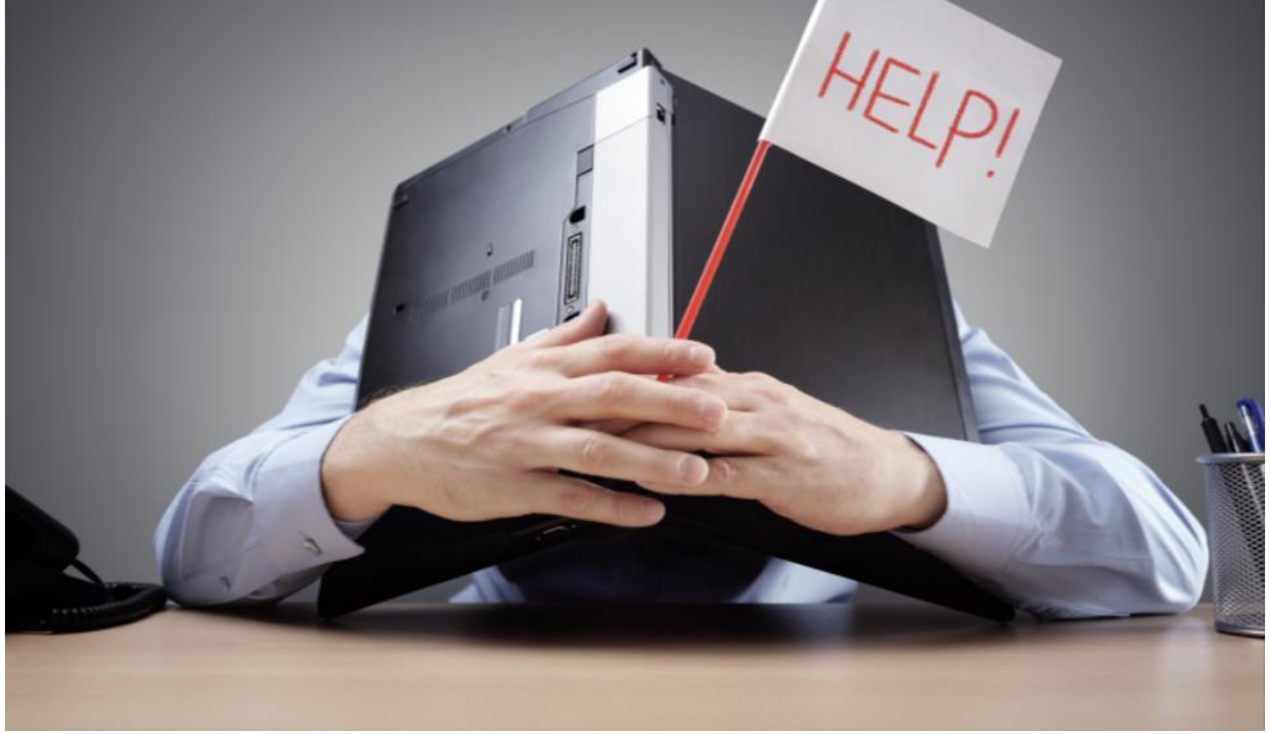
*Great - But where do I start?*




*DoDI 5000.97, December 21, 2023*

# The Digital Thread

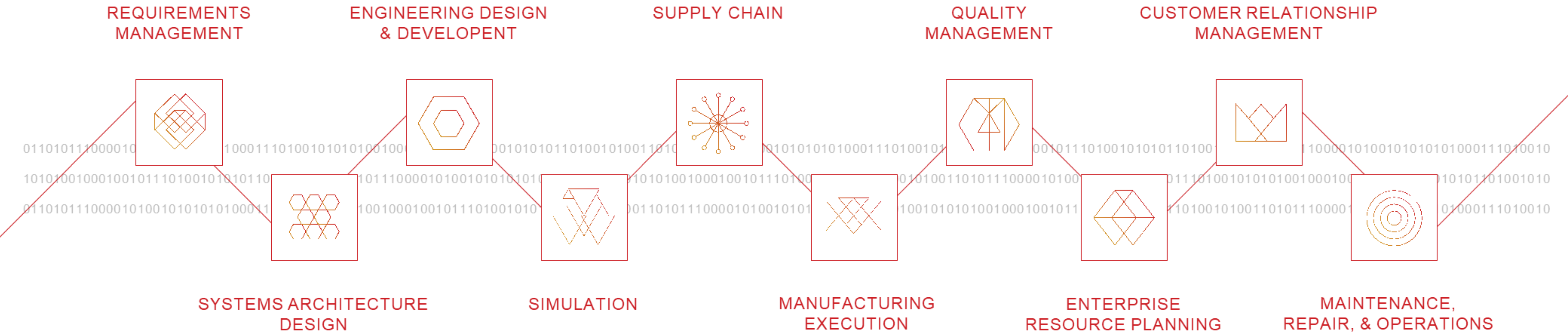


- Who?
- What?
- When?
- Where?
- Why?
- How?

- What?
- Why?
- How?
- Who?
- When?
- Where?

# What?




REQUIREMENTS MANAGEMENT
SYSTEMS ARCHITECTURE DESIGN
ENGINEERING DESIGN & DEVELOPENT
SIMULATION
SUPPLY CHAIN
MANUFACTURING EXECUTION
QUALITY MANAGEMENT
ENTERPRISE RESOURCE PLANNING
CUSTOMER RELATIONSHIP MANAGEMENT
MAINTENANCE, REPAIR, & OPERATIONS

# Why?



WORK CONCURRENTLY & COLLABORATE

CONNECT SILOED DATA MODELS

ENABLE BI-DIRECTIONAL TRACEABILITY

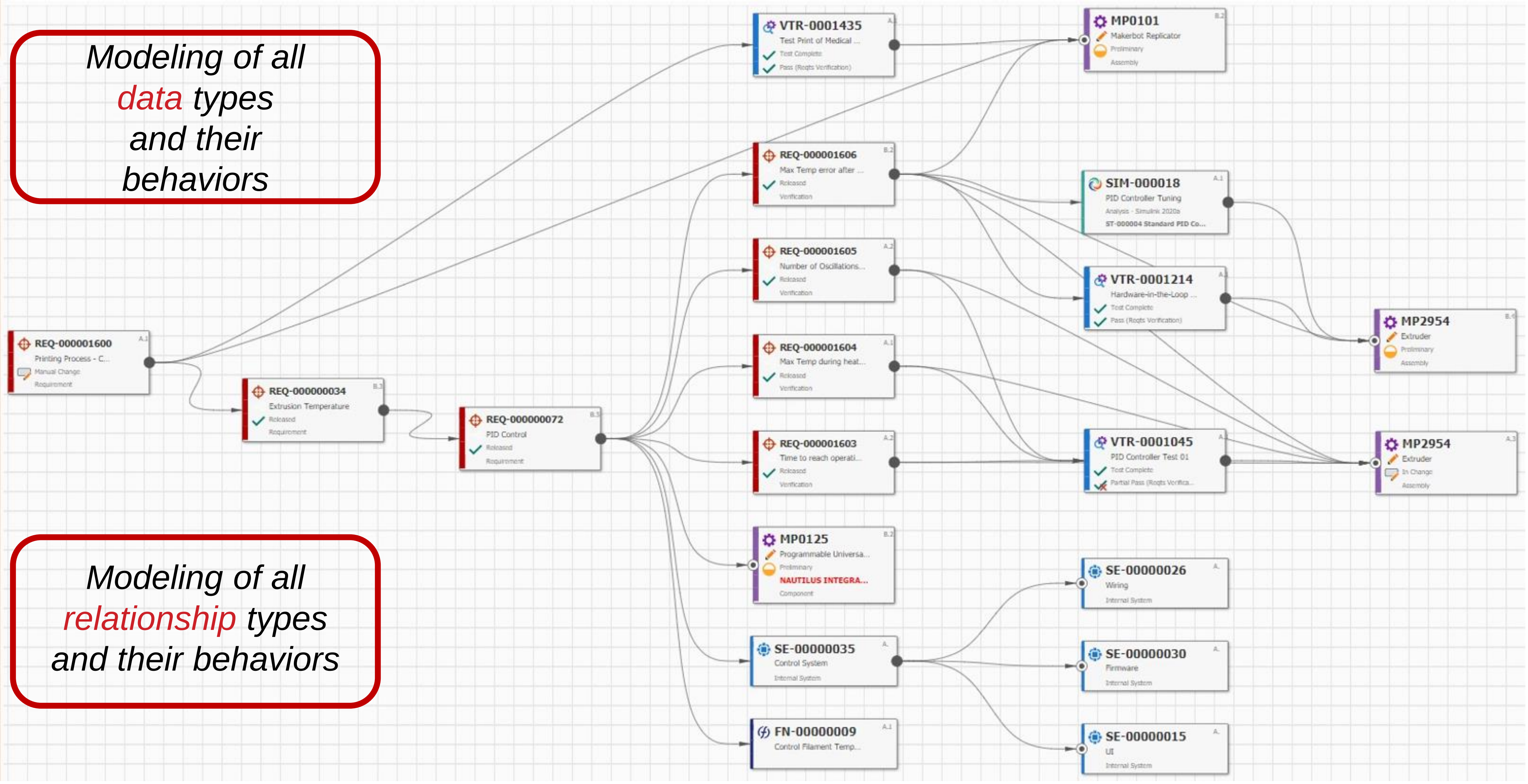
EXPOSE DATA IN CONTEXT

# How?



*Modeling of all data types and their behaviors*

*Modeling of all relationship types and their behaviors*

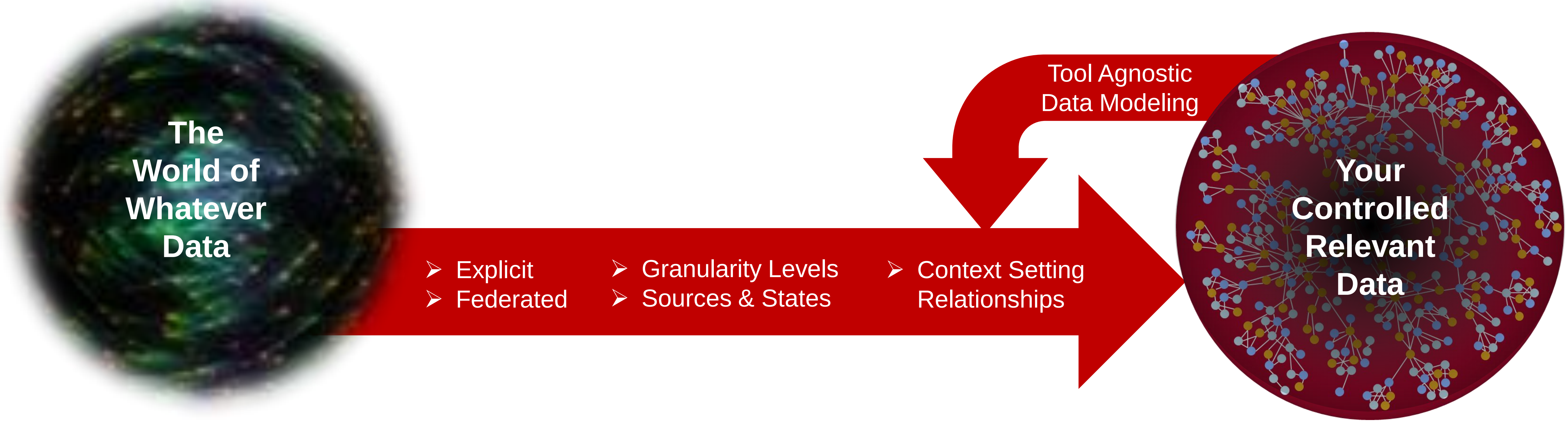


# Resilient Digital Thread Data Model



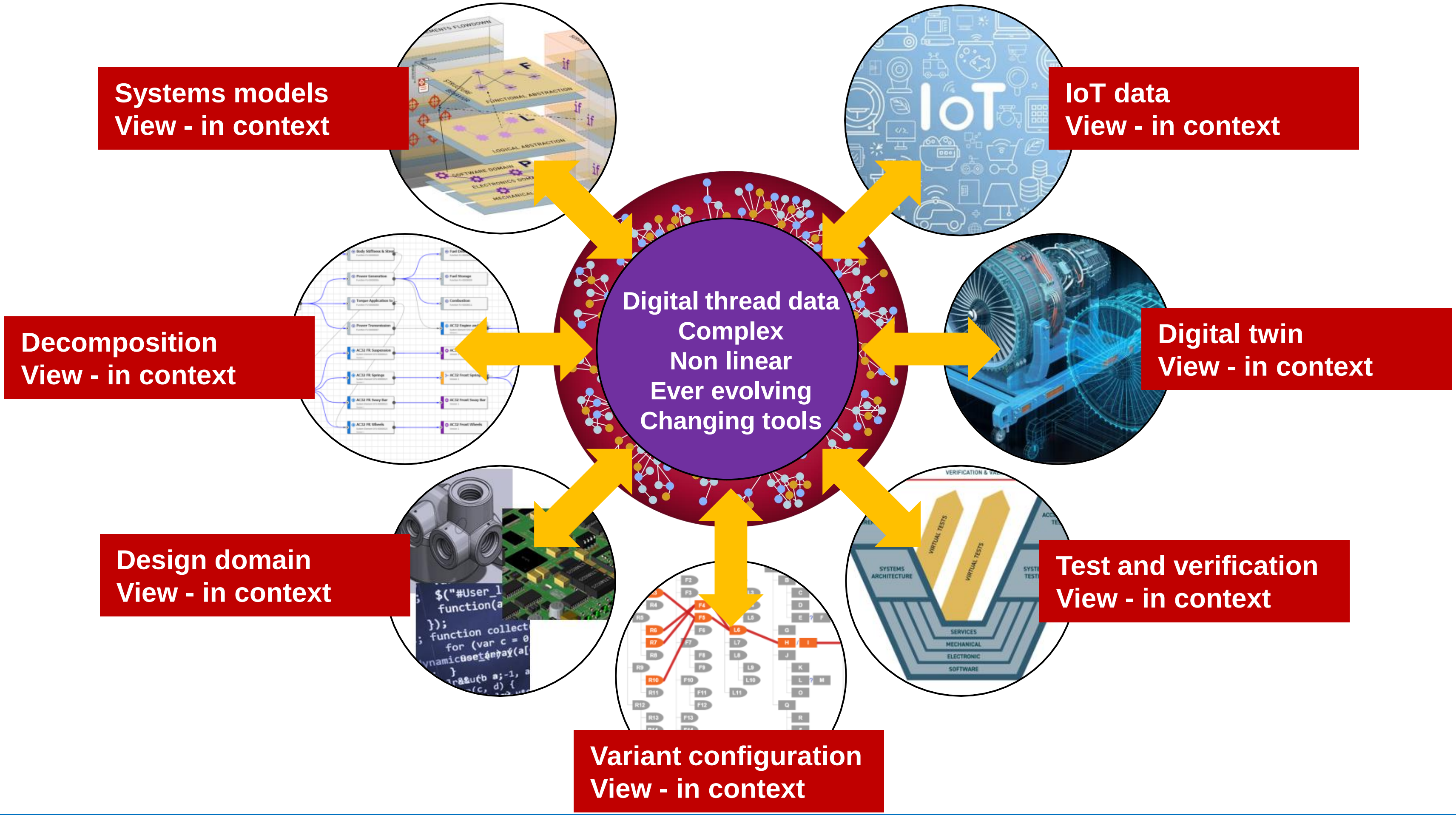
- Changing authoring tools
- Internal and external digital threads
- Engagement of external resources
- “Something new” will be needed in the future

- Very long-term traceability resilience between very large set of data types and very large sets of elements
- Apache Helicopter was designed 40 years past, 30 more expected



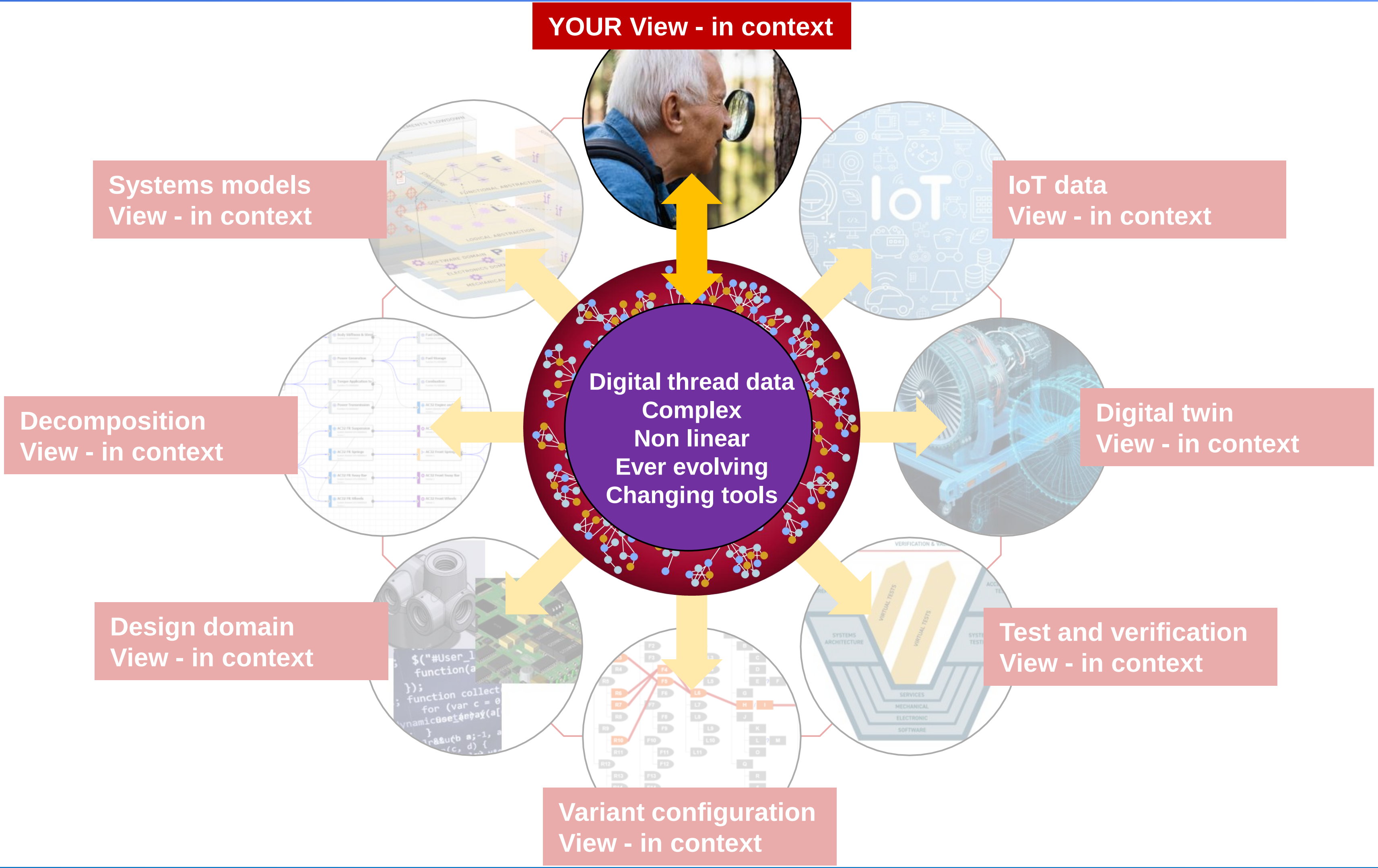
# Views in Context Deliver Value





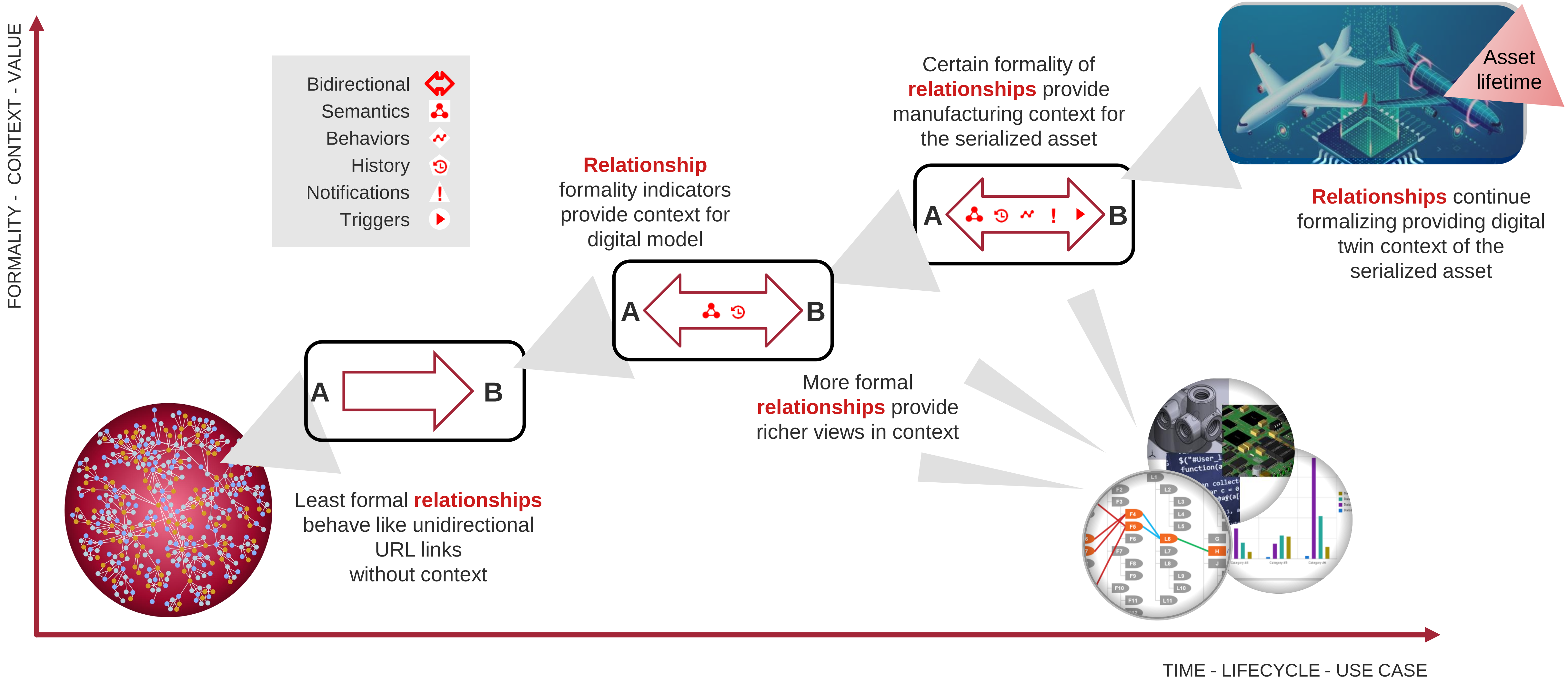
# Views in Context Deliver Value





# Relationships With Evolving Formality





# The Digital Thread



- What?
- Why?
- How?
- Who? Everyone!
- When? Always!
- Where? Everywhere!

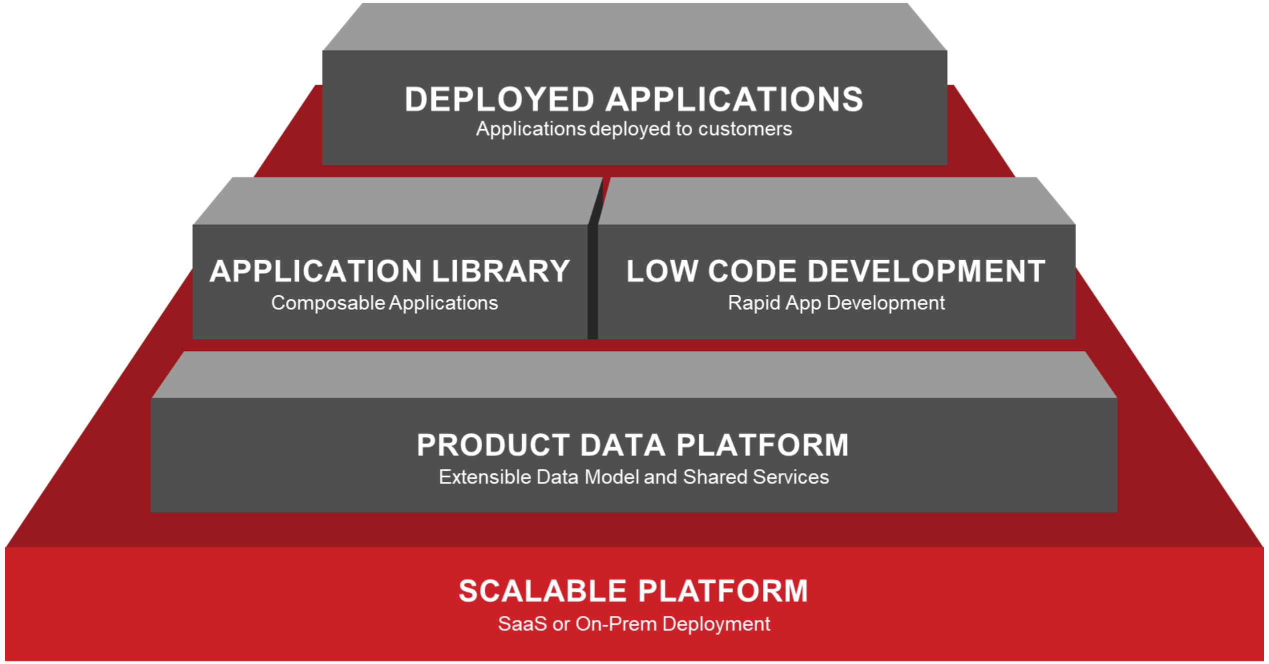
# Key Characteristics



- Uniqueness of your digital thread – no OOTB solution
- Expanding role of PLM – beyond physical BOM
- Transformation during manufacturing – Model vs Twin
- Tool specific vs tool agnostic – very long view
- Criticality of a view in context – key end value

# Aras Innovator






**Aras Innovator**

- Deploy on prem or as SaaS with no tradeoffs on capability or flexibility
- Subscription includes managed upgrade service, world-class customer success and support
- Enterprise-class SaaS ensures high availability, world-class security, 24/7 monitoring
- Proven in many Aerospace/Defense accounts

# Thank You!



Questions?

**Come to see a demo at the Aras booth!**

**or contact tkeer@aras.com**