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Achieving the Digital Thread

From Design Engineering through Life Cycle Product Support via Standards

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Reliability, Availability, Maintainability
and Supportability

PLM Road Map™ & PDT North America 2024

*Value Drivers for Digitalization of the Product Lifecycle
Insights for the PLM Professional—Why the investment, what are the returns,
and how are they achieved?*

May 8 & 9

CIMdata

eurostep

Digital Design Data

- How do you manage your Digital Design Data?
 - (CAD, 3D Models, other tools...)
- Do you still have to work with Legacy Systems and Deliverables?
 - (Internal? External? Cloud based?)
- How are your External Partners handling their Digital Data?
 - (Government? Suppliers? Customers? Standards?)
- What are some of the Integration Issues facing your Organization?
 - (Legacy Data? Legacy Systems? Contracts? Standards?)
- What Challenges exist to achieving the Digital Thread, Through-Life?
 - (Contracts? Interfaces? Resources? Standards?)

Looking Forward

- How is your Organization looking to Resolve Digital Thread Issues?
 - Fully Integrated Solutions/Tools/Standards?
 - Mix of Integrated and Interfaced Solutions/Tools/Standards?
 - Federated or Cloud Based approaches?
 - Mandates?
- Charting a Path Forward to achieve True Digital Thread is challenging for any organization
 - Smaller Companies/Organizations are More Nimble/Agile, but less resources available
 - Larger Companies/Organizations are Less Nimble/Agile, but more resources available
 - U.S. DoD is a Very Large Organization... DoD is Organizations within Organizations, significant resources, but also significant complexities.

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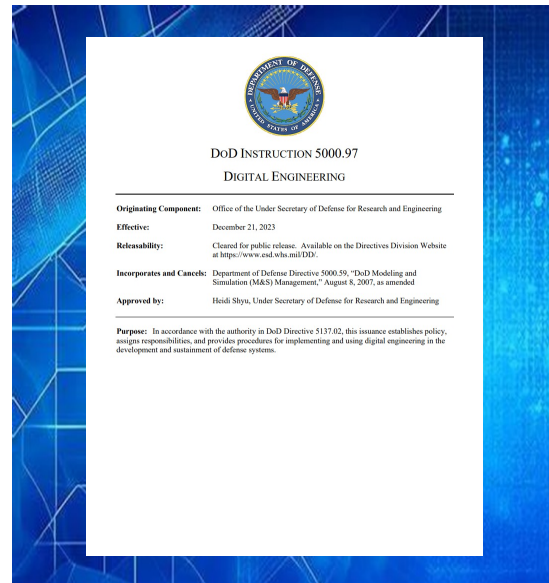
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Charting DoD's Path Forward

DoDI 5000.97 Digital Engineering

- Mandates Digital Engineering on all new DoD systems.
- Directs use of Digital Engineering practices
- Call for replacement of Documents with Digital Models
- Requires Appropriate Data Rights be obtained
- DAU to provide workforce training on Digital Engineering



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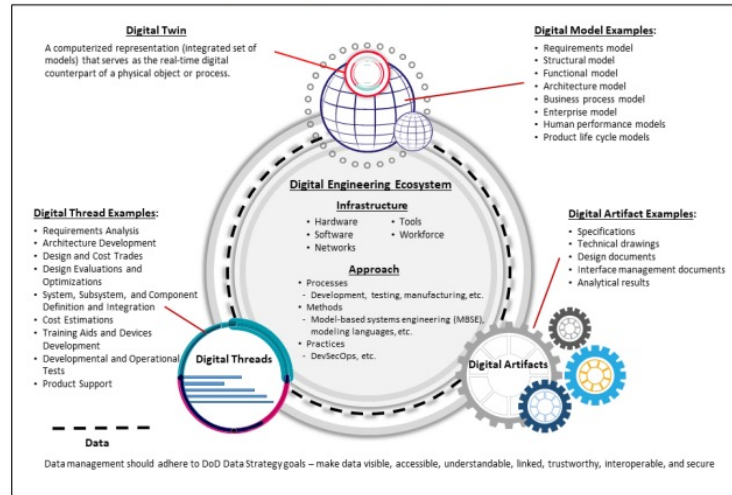
DoD Digital Engineering Framework (DoDI 5000.97)

DoDI 5000.97 The Digital Engineering Framework

- The Digital EcoSystem

- Digital Models
- Digital Twin
- Digital Thread
- Digital Artifacts

Figure 1. Digital Engineering Framework



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Standards and the Digital Life Cycle Product Support Enterprise

2024 Digital Product Support Study for U.S. Congress

- Assessed SAE International Standards currently in use by U.S. DoD
- Assessed ASD/AIA S-Series Specifications utilized by Industry
- Determined potential for use of either Standards/Specs if they both successfully align with ISO 10303 STEP, specifically:
 - AP 242 (ed2) 3D Models
 - AP 239 (ed3) Product Life Cycle Support (PLCS)
- Advantage is core sharing of objects between AP 242 and AP 239.
- This allows for greater data integration and Digital exchange between Engineering and Product Support.
- AP's offer Flexibility, however, it is both an Advantage and a Disadvantage if Reference Data is not managed.

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Thank You!

QUESTIONS?

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