

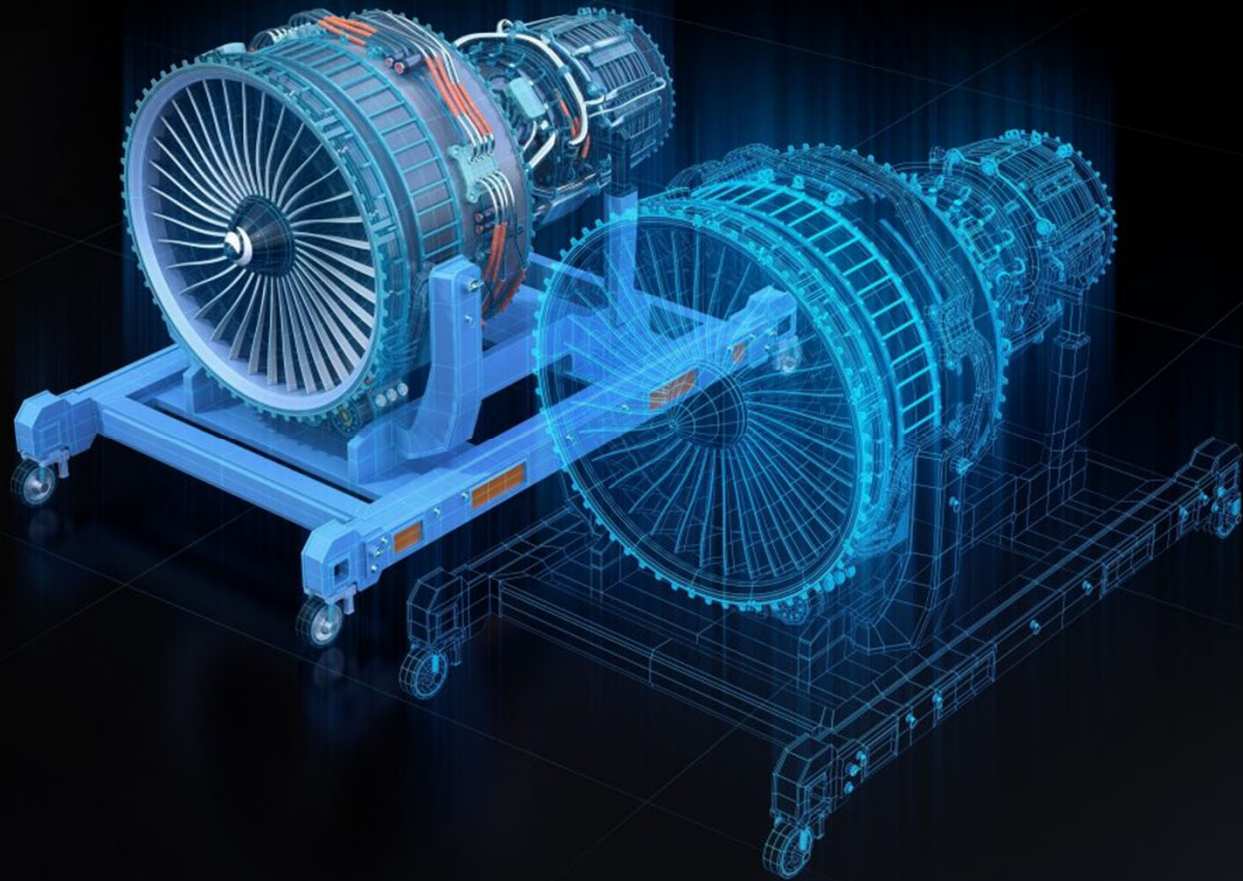


# In Pursuit of a Digital Twin

John McCrea

Account Manager, Beast Code

# The Market for Digital Twins

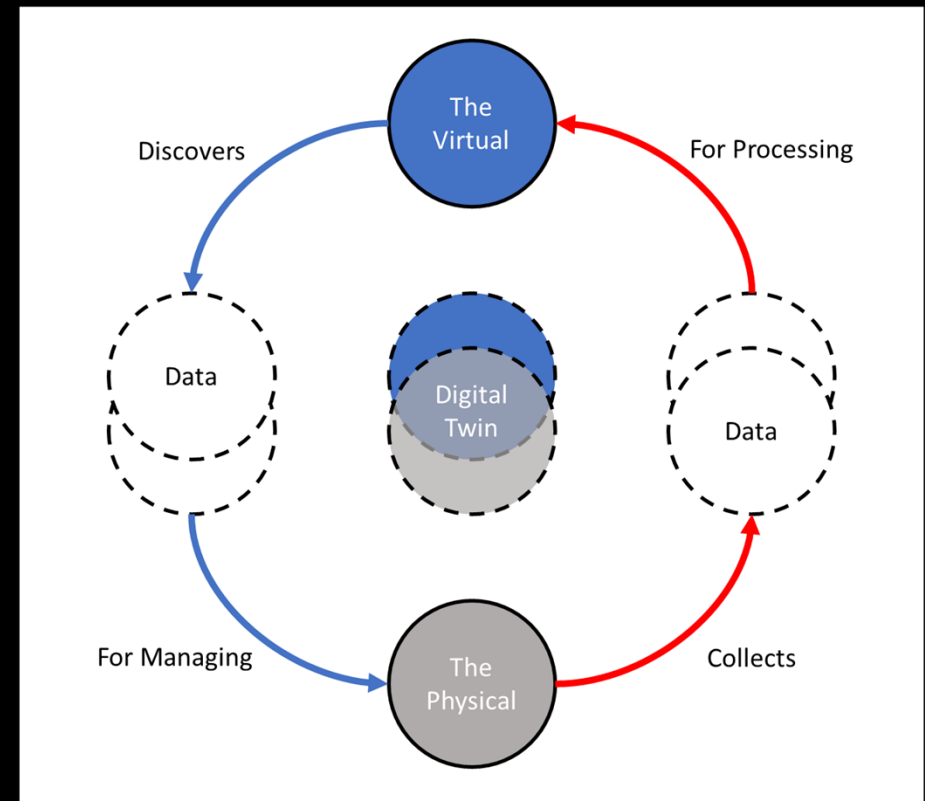


# What is a Digital Twin?

- According to the Digital Twin Consortium:
- A digital twin is a virtual representation of real-world entities and processes, synchronized at a specified frequency and fidelity.
  - Digital twin systems transform business by accelerating holistic understanding, optimal decision-making, and effective action.
  - Digital twins use real-time and historical data to represent the past and present and simulate predicted futures.
  - Digital twins are motivated by outcomes, tailored to use cases, powered by integration, built on data, guided by domain knowledge, and implemented in IT/OT systems.

# What is a digital Twin, Cont.

- Foundational Elements
  - Virtual representation
  - Real-world entities & processes
  - Synchronized mechanisms by which virtual & real-world entities interact



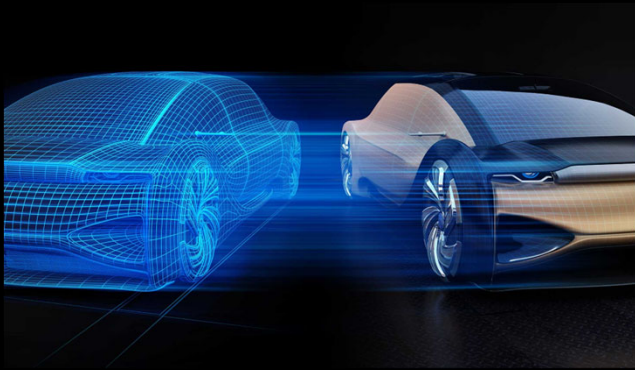
*Reference: Boje et al*

# Digital Twins in Aerospace & Defense



# Digital Twins Across Industry

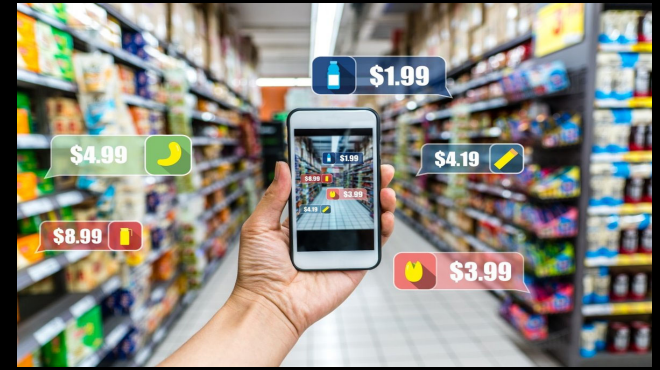
Automotive



Manufacturing



Retail



Healthcare



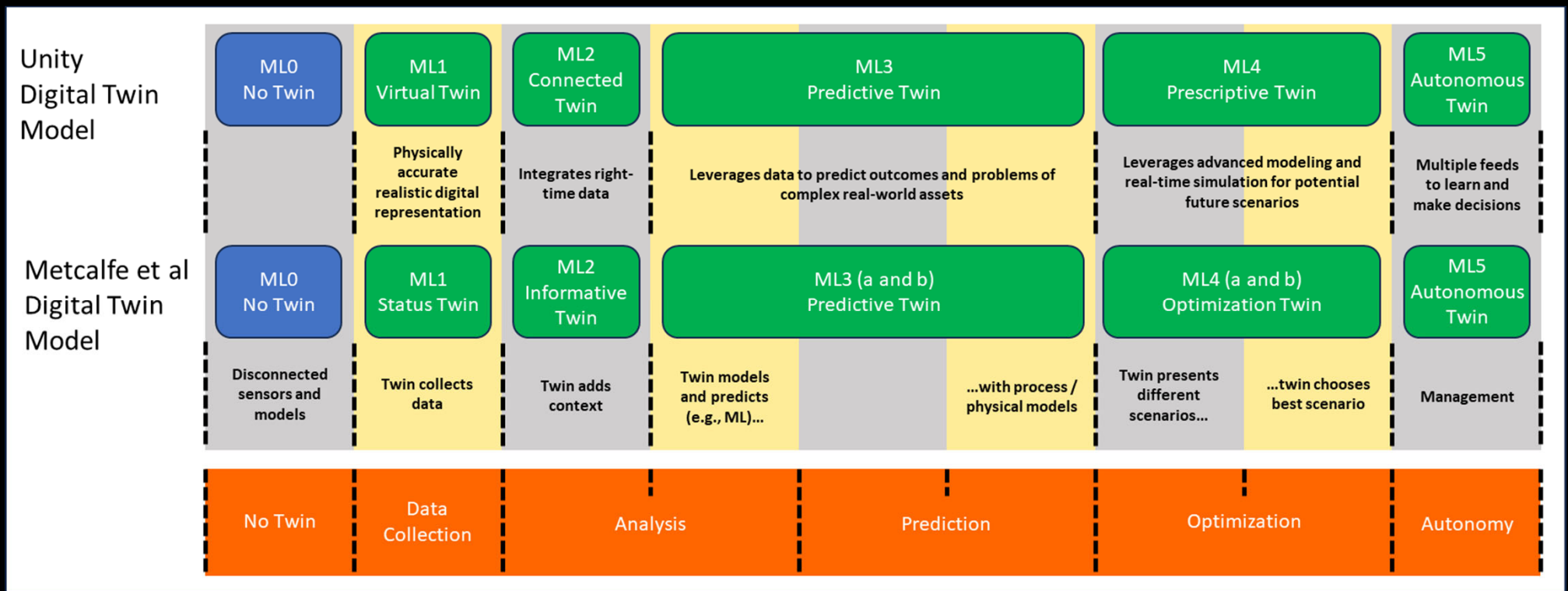
Construction



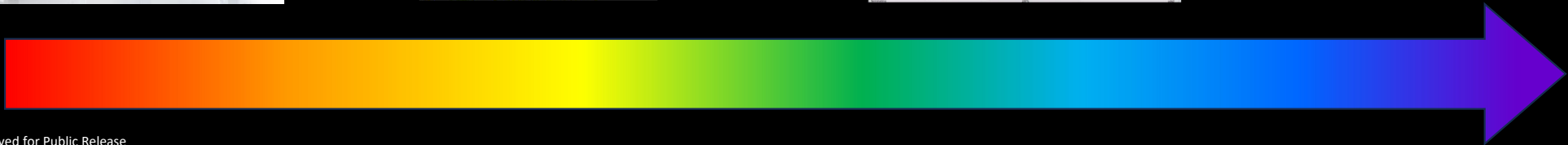
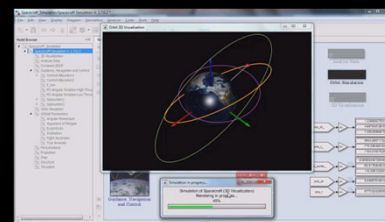
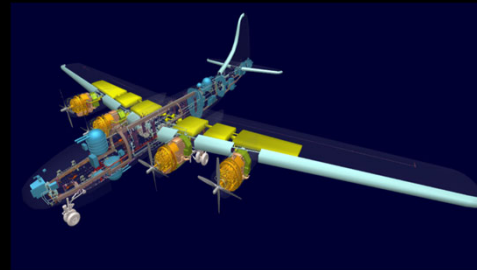
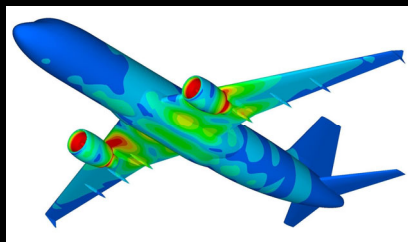
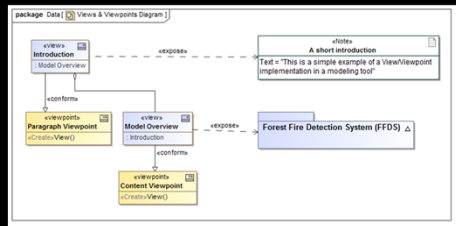
Infrastructure



# Digital Twin Maturity Models in Industry



# In Pursuit – Digital Twin Spectrum for the DoD

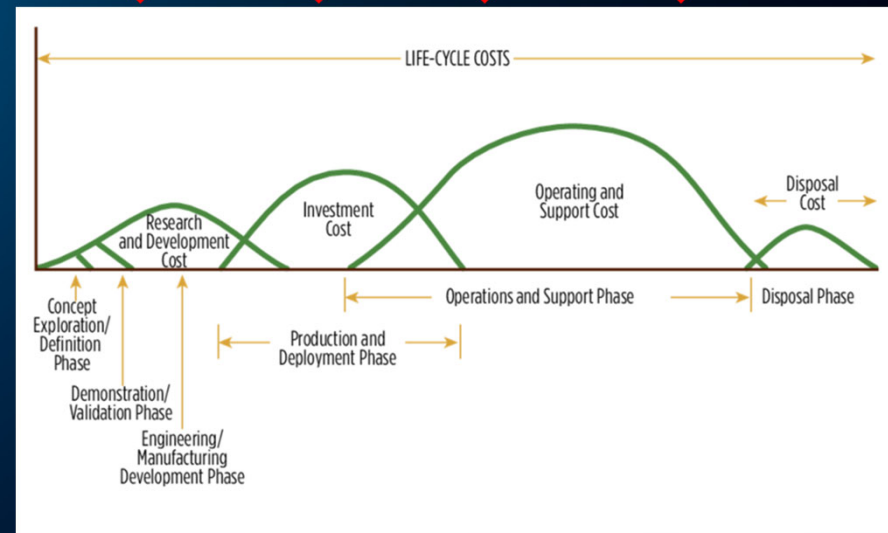




# Additional Takeaways for Defense



Meet your organization  
where it is,  
not where you  
wish it to be.



# Avoid Feature Creep



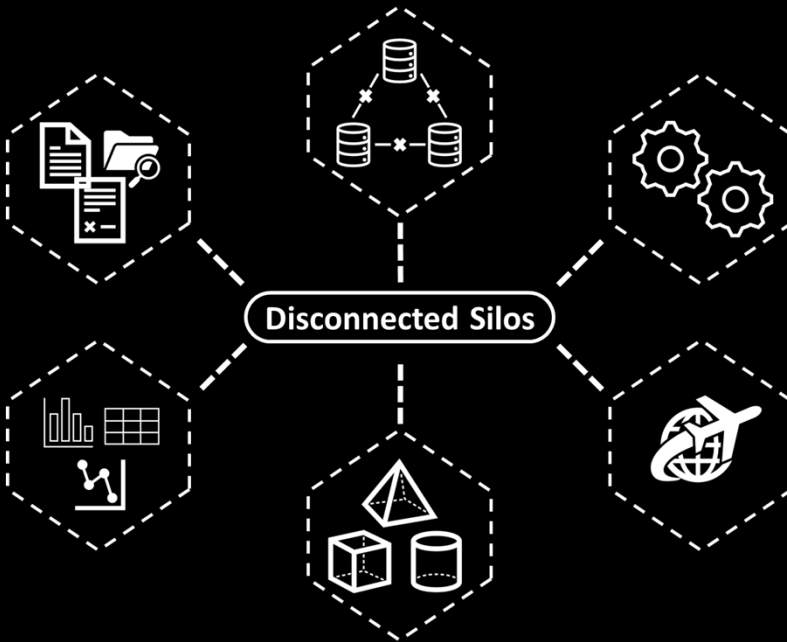
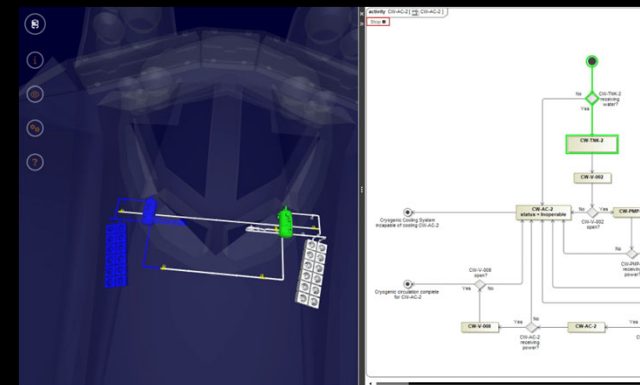
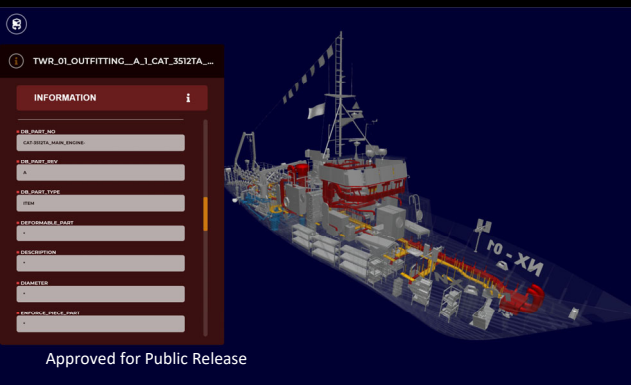
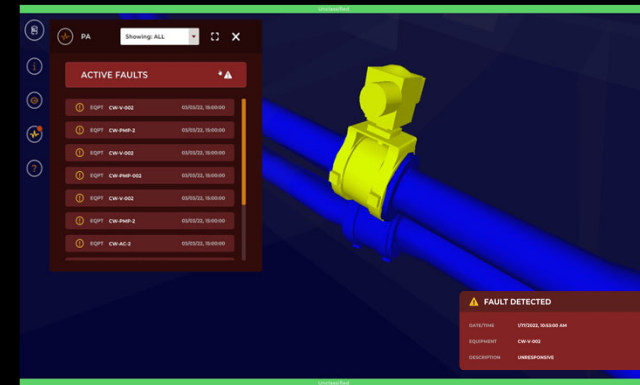
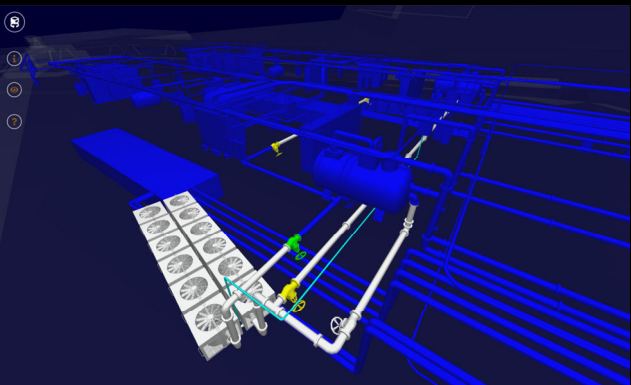
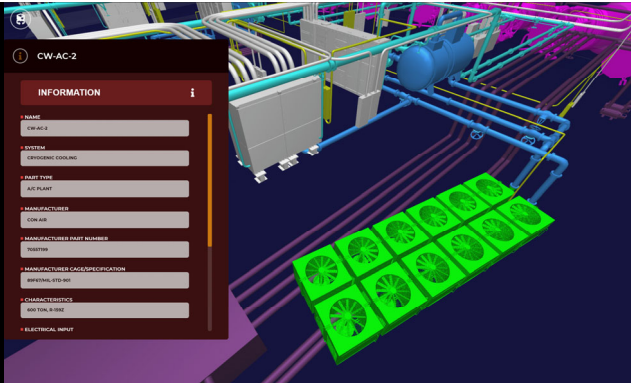


# K.I.S.S. Principle



**BEASTCODE**  
SOFTWARE NEVER SLEEPS

# Beast Code Implementation





The journey of a thousand miles  
begins with a single step.

- Lao Tzu



QUESTIONS?

# References

- Boje, Calin, Guerriero, Annie, Kubicki, Sylvain and Rezgui, Yacine ORCID: <https://orcid.org/0000-0002-5711-8400> 2020. Towards a semantic Construction Digital Twin: directions for future research. *Automation in Construction* 114 , 103179. 10.1016/j.autcon.2020.103179 file
- Metcalfe, B., Boshuizen, H. C., Bulens, J., & Koehorst, J. J. (2023). Digital twin maturity levels: a theoretical framework for defining capabilities and goals in the life and environmental sciences. *F1000Research*, 12, 961. <https://doi.org/10.12688/f1000research.137262.1>
- Unity.com
- <https://www.digitaltwinconsortium.org/>
- Images from Google & stock.adobe.com