

AI4SE & SE4AI Workshop 2022

Keynote



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DoD is a Data Centric Organization



- Unleashing data to advance the National Defense Strategy
- Guiding Principle #6 – Data for Artificial Intelligence Training – Data sets for A.I. training and algorithmic models will increasingly become the DoD's most valuable digital assets
- As DoD modernizes and integrates AI technologies into joint warfighting, generating DoD-wide visibility of and access to these digital assets will be vital in an era of algorithmic warfare



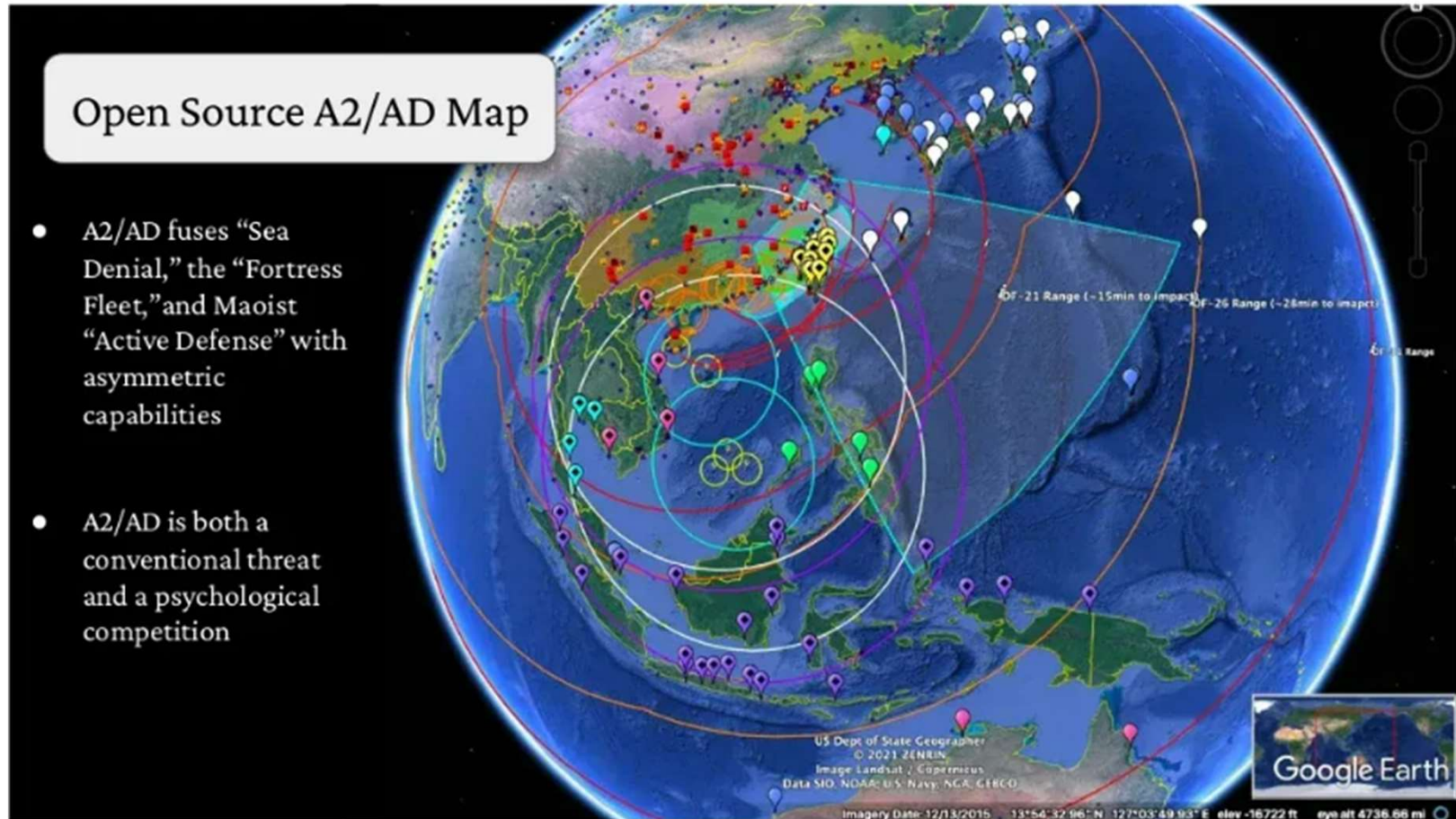
Increasing Complexity and Challenges



Source: 2022 PSM Workshop, RDML Dion English, SC, USN



Contested Environment – All Domain

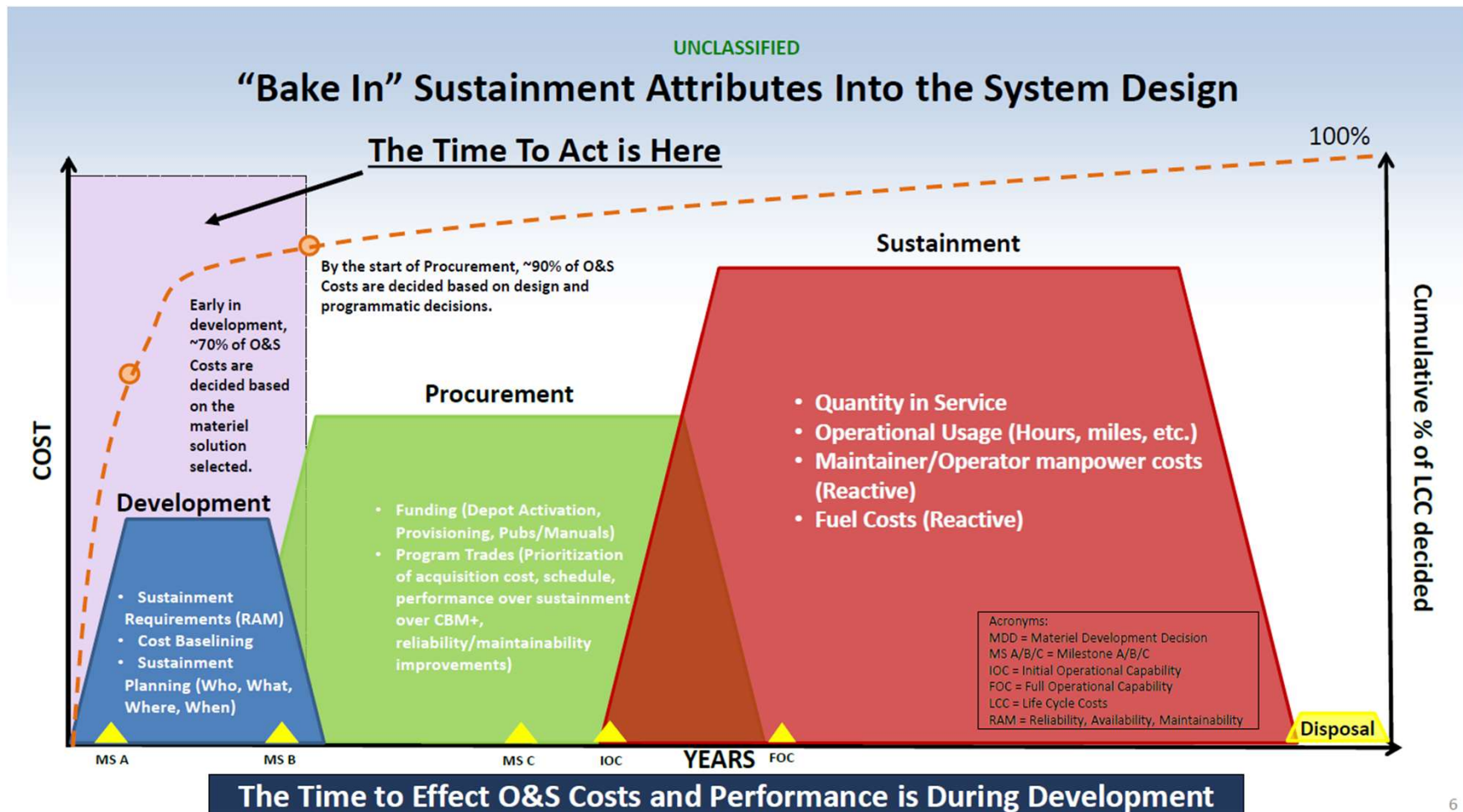


Attributed to The Stanford Project Agrippa 2021

Source: 2022 PSM Workshop, RDML Dion English, SC, USN



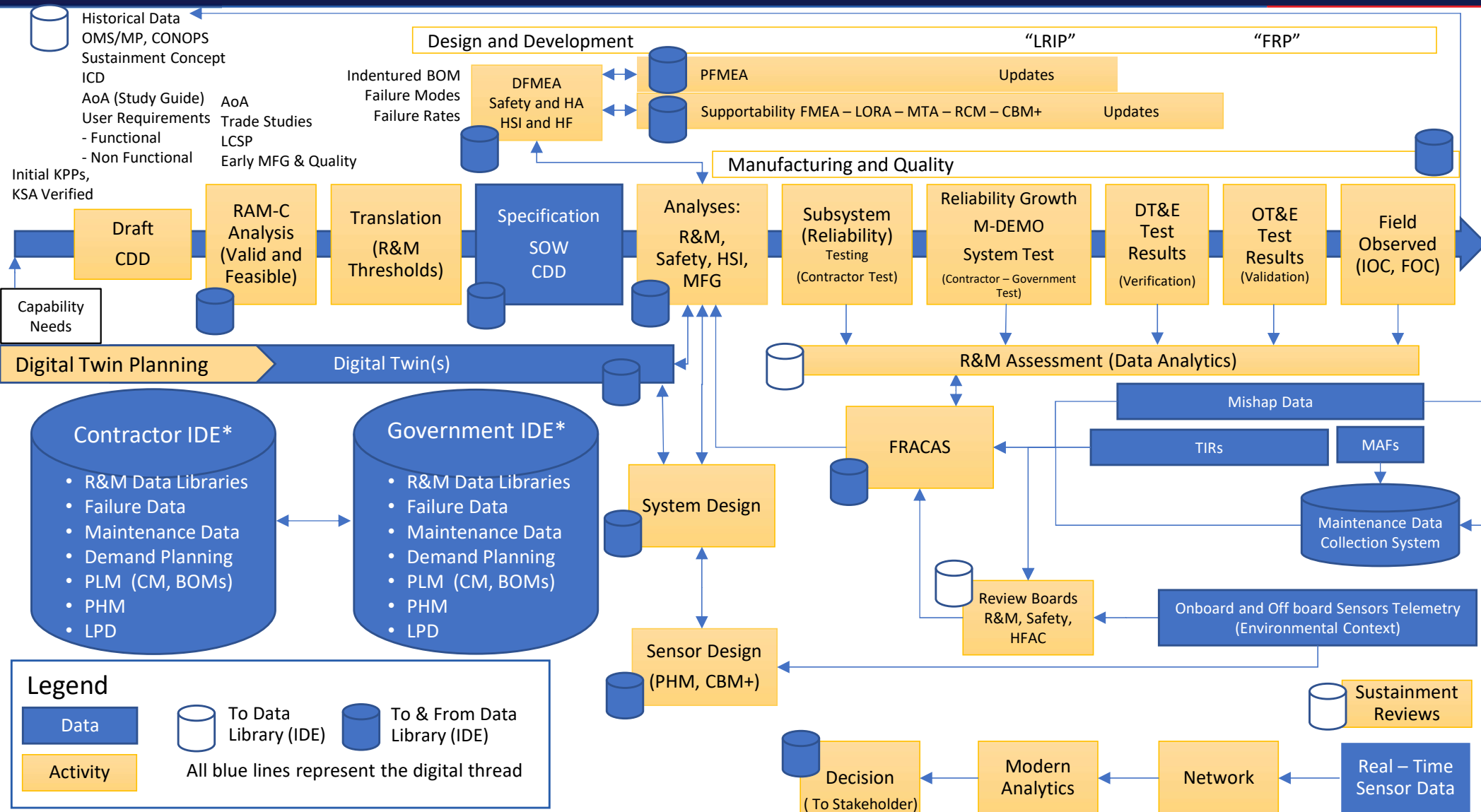
“Bake In” Sustainment Attributes into the System Design



Source: 2022 PSM Workshop, Principal Deputy Assistant Secretary of Defense (Sustainment)



Engineering Data in a DE Ecosystem

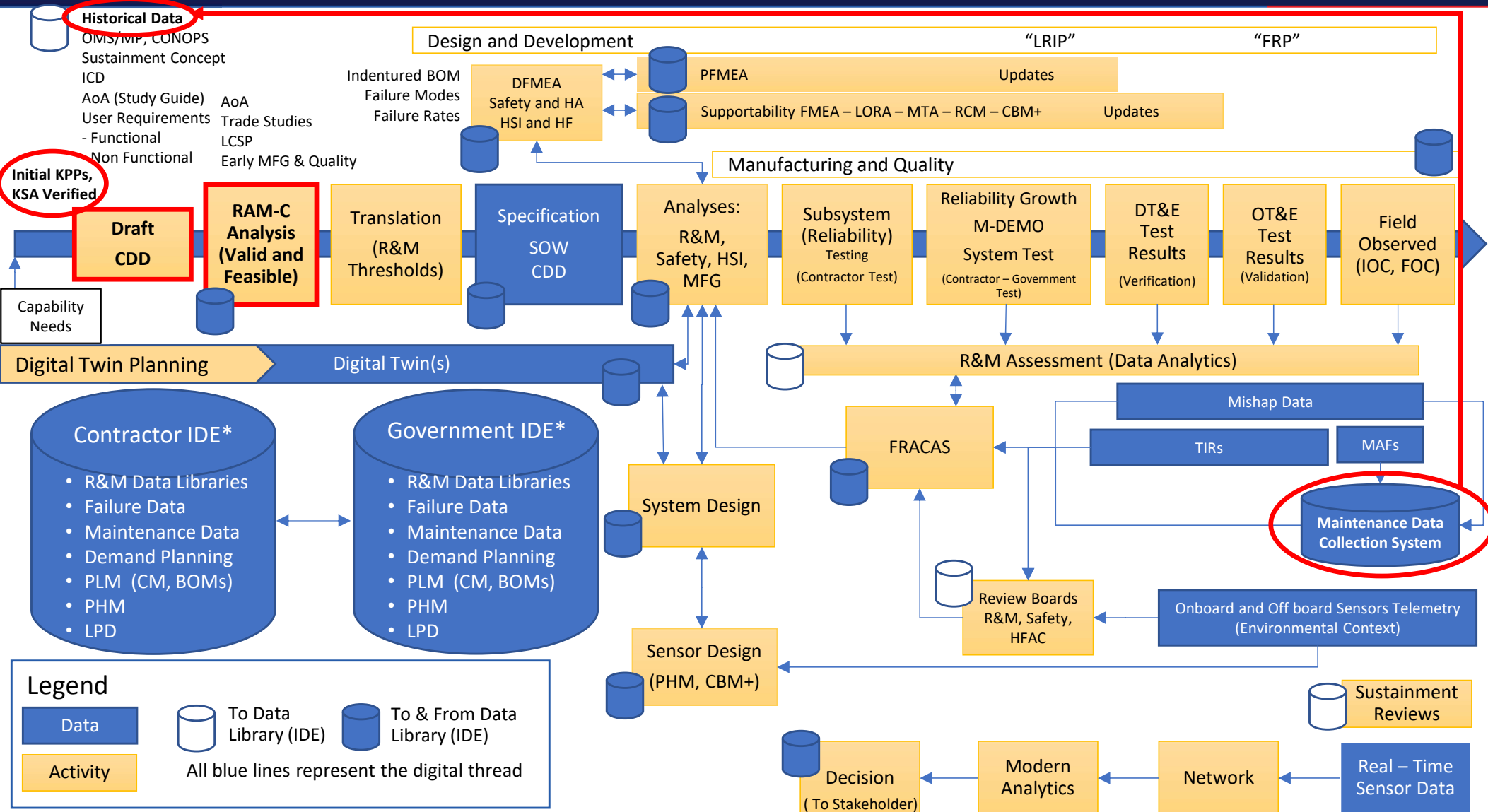


*Contractually agreed to content, views, access, and delivery of data.

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Early AI4SE Application in Engineering Data

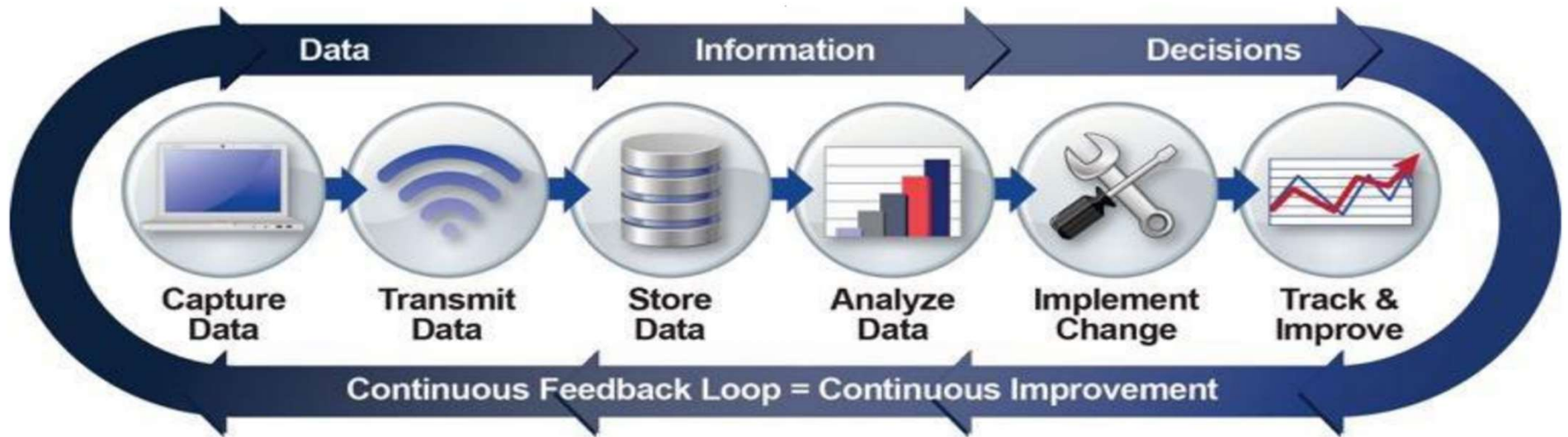


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CBM+



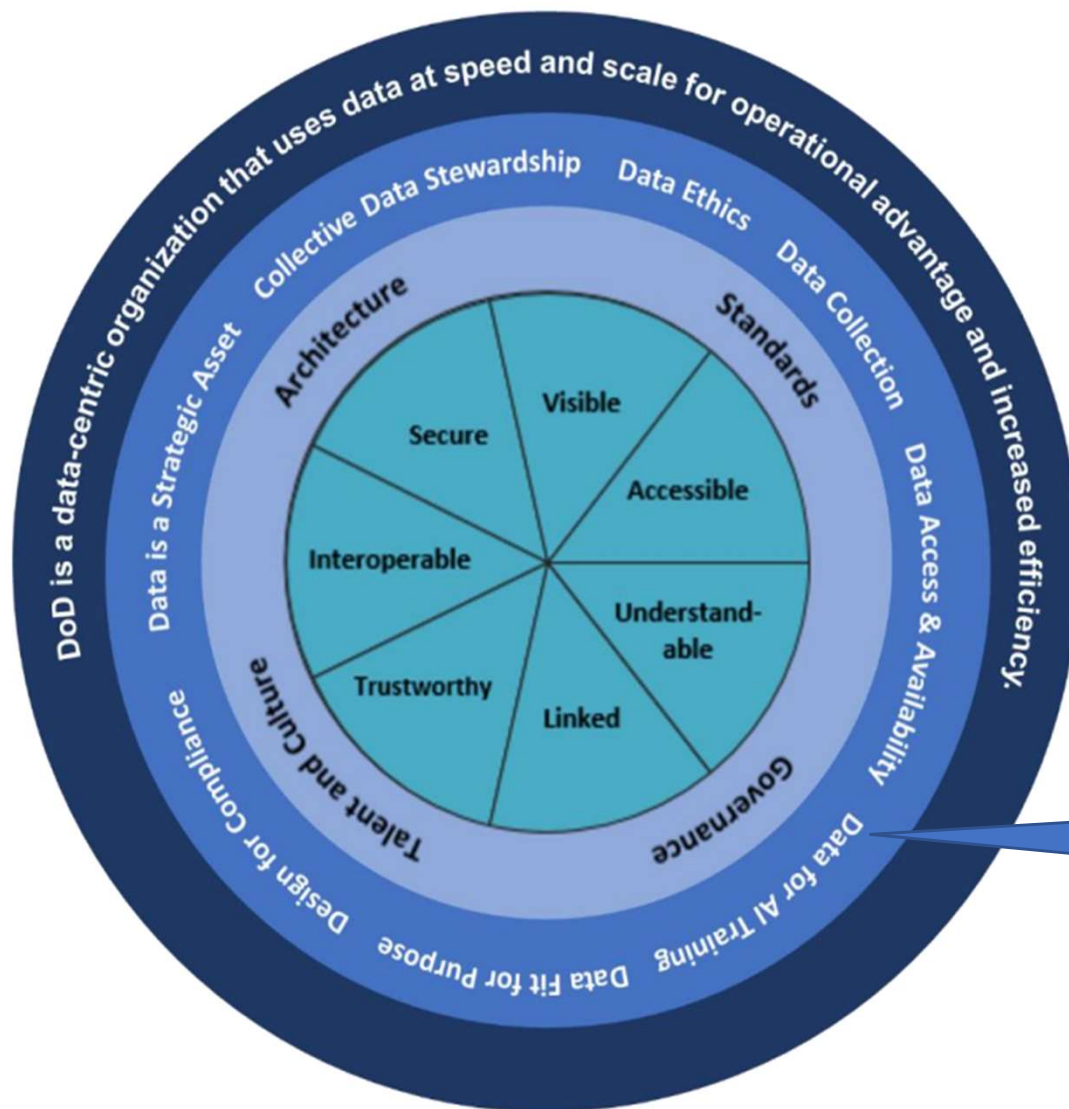
Source: The Office of the Under Secretary of Defense for Acquisition and Sustainment



Photo By: R. Nial Bradshaw
"Face of Defense: Youngest Maintainer
Launches Youngest Jet at Red Flag",
February 22, 2017



DoD Data Strategy Framework



Vision Statement
Guiding Principles
Essential Capabilities
Goals

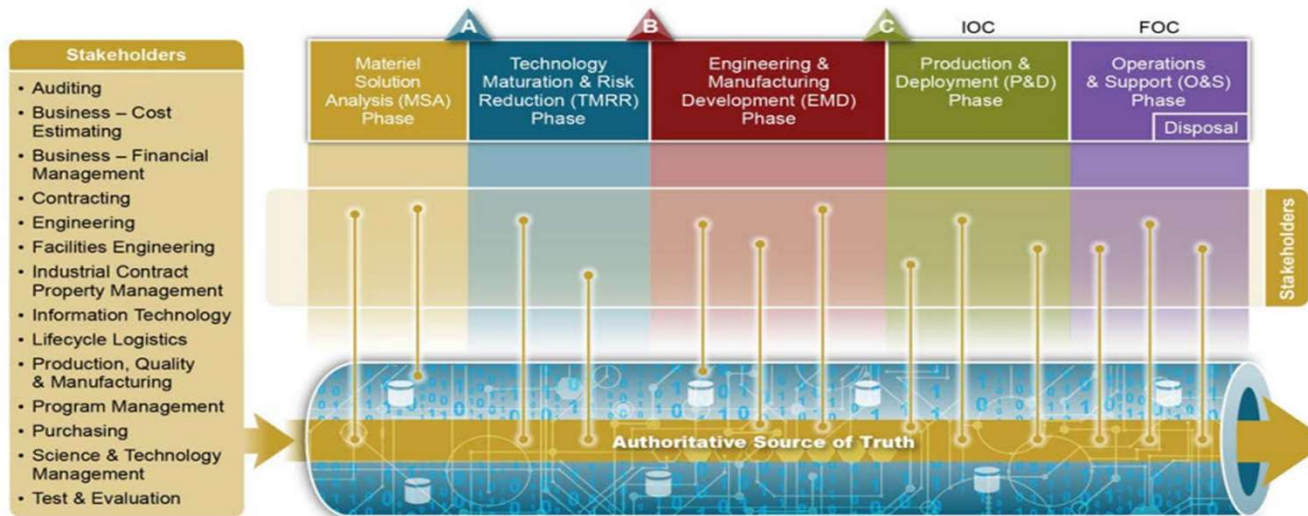
Guiding Principle #6:
Data for AI Training



Lesson Learned: Infrastructure Needed



U.S. Air Force photo
by Jill Pickett
HIGH MACH, Vol 67,
No 12



Authoritative Source of Truth, Digital Engineering Strategy



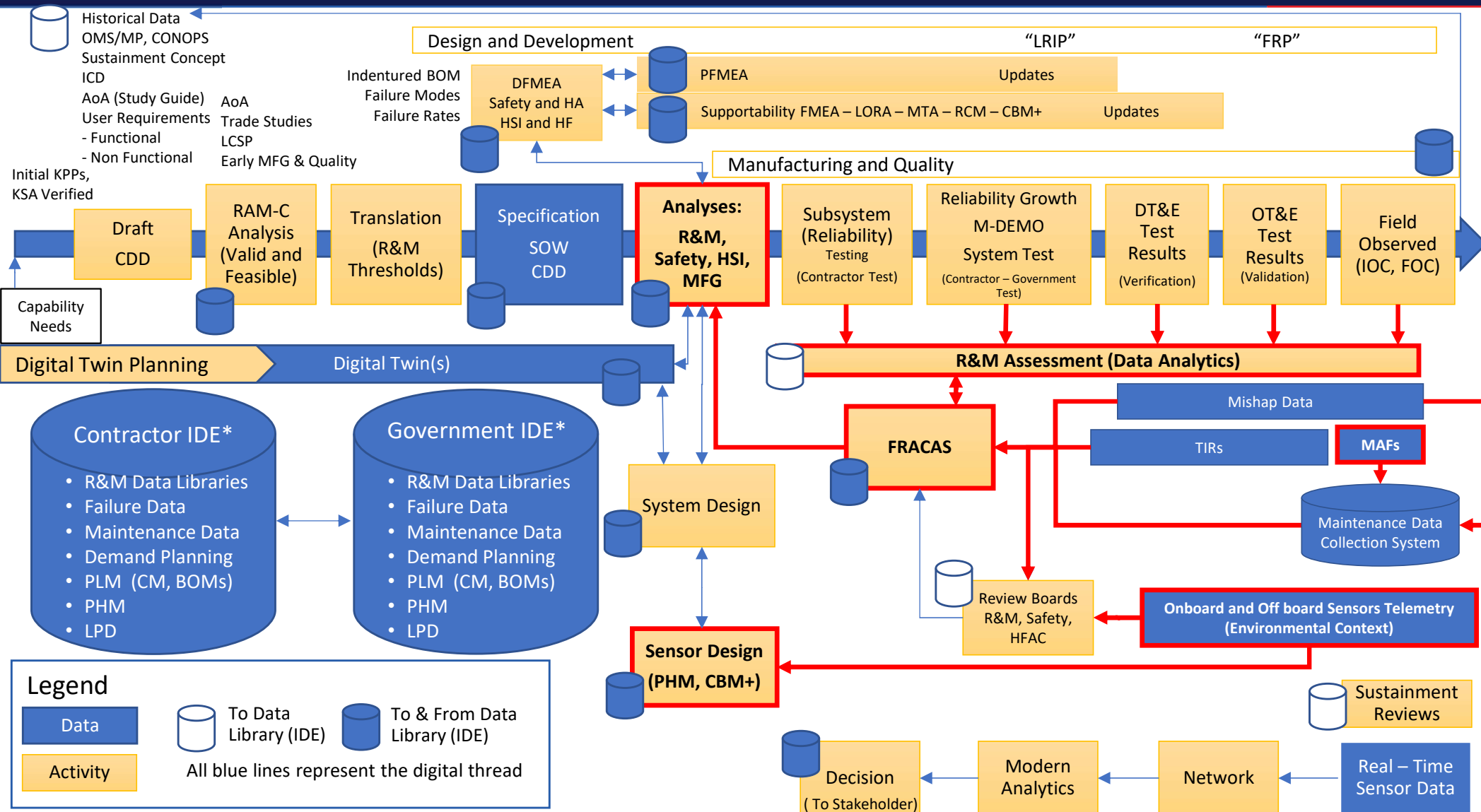
Photo By: Air Force Staff
Sgt. Keith James
Defense.gov/News

“Warfighters at all echelons require tested, secure, seamless access to data across networks, supporting infrastructure, and weapon systems out to the tactical edge.”

DoD Data Strategy, 2020



AI4SE Application in FRACAS Data

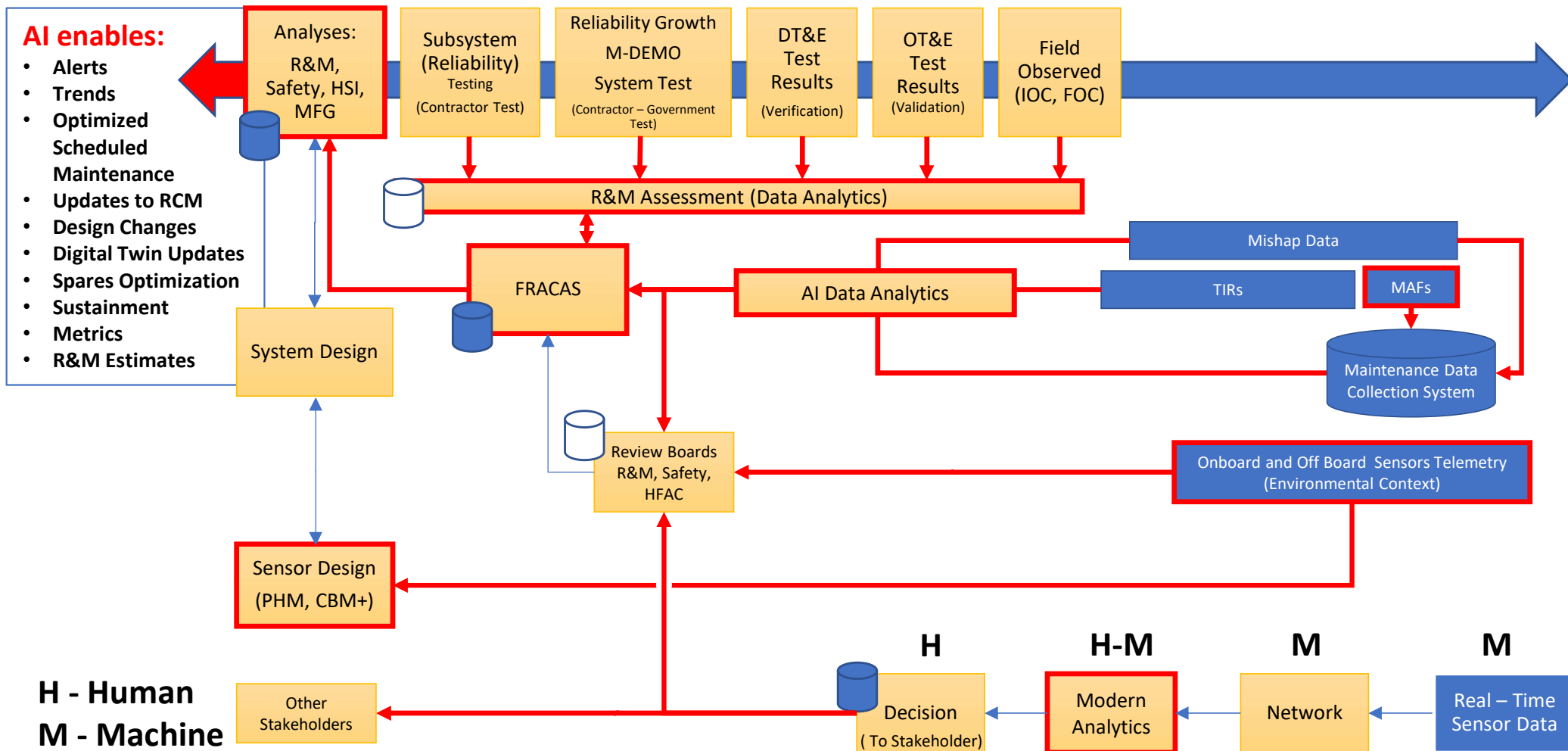


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AI4SE Application in FRACAS Data





Enhancing Predictive Maintenance



DoD image VIRIN:195294-P-UOR35-506.jpg, available at
<https://www.defense.gov/observe/photo-gallery/igphoto/2001135702/>



SE4AI Responsible, Effective, Safe and Reliable



Photo By: Marine Corps Staff Sgt. Jacob Osborne
“DOD Incorporating AI Ethics Into Systems Engineering, Official Says” January 21, 2021
[Defense.gov/News](https://www.defense.gov/News)



Its All About the Data – Enhanced by AI



Photo By: Army Spc. Kayla Anstey

“Digital Transformation, AI Important in Keeping Battlefield Edge, Leaders Say” June 9, 2022

960cyber.afrc.af.mil/News



For Additional Information

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