Digital Engineering Measurement Framework – v1.1

A collaboration among industry, government and academia

Developed and Published by Members of:

Practical Software &
Systems Measurement

Systems Engineering
Research Center

Aerospace Industries
Association

National Defense Industrial
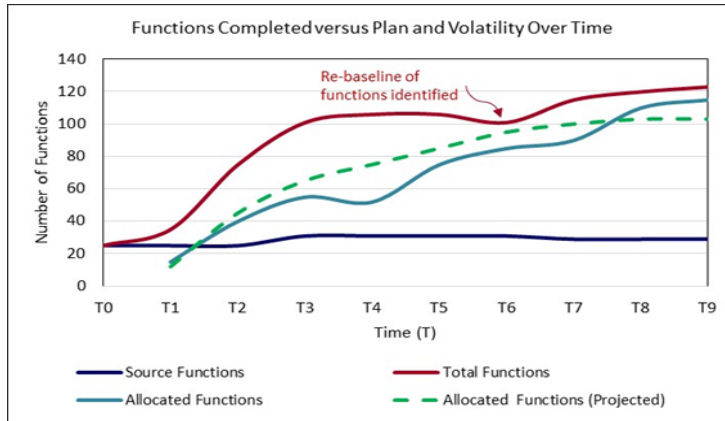Association

International Council on
Systems Engineering

Department of Defense
Research & Engineering
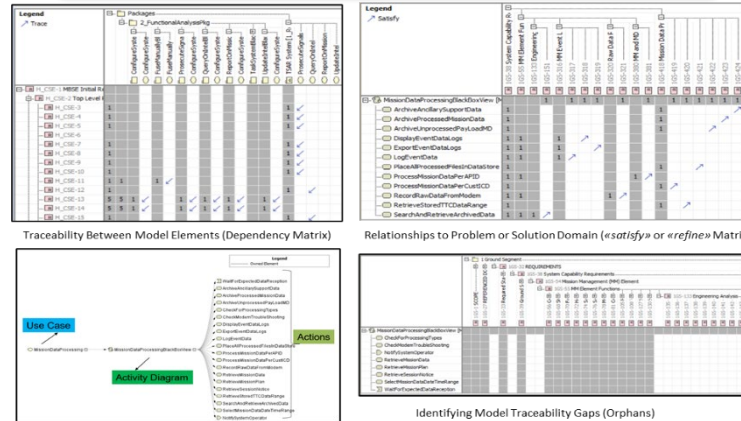
The Aerospace Corporation

Digital Engineering Measurement Framework – Example Indicators
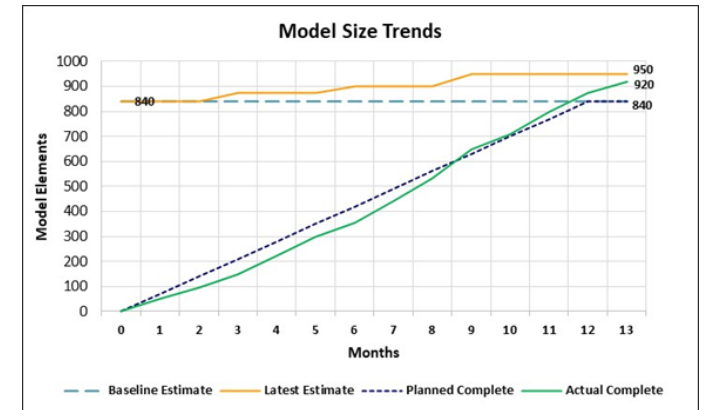
Architecture Completeness and Volatility

Is the architecture complete to proceed with design?

Model Traceability

Traceability Between Model Elements (Dependency Matrix)   Relationships to Problem or Solution Domain («satisfy» or «refine» Matrix)

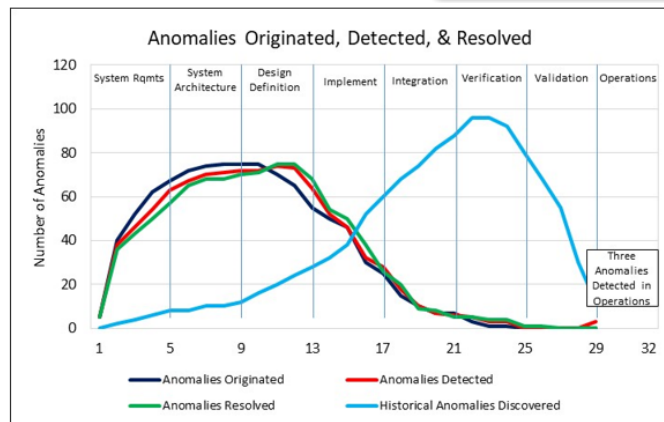Identifying Model Traceability Gaps (Orphans)

What is the traceability and coverage of model elements?

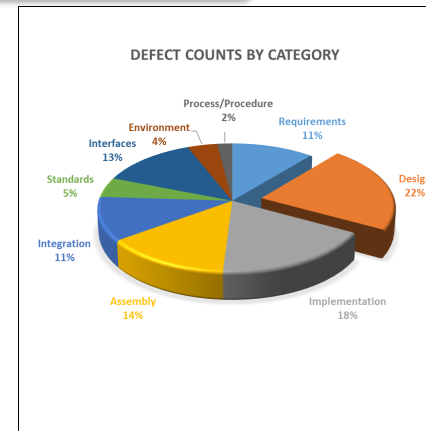## Product Size (Model Elements)

What is the size and scope for the DE project or product?

DE Anomalies

Are we finding and removing anomalies earlier using DE?

**How can we reduce the leading causes of anomalies?**

Excerpts only from DE measurement specifications. Some specs have multiple sample indicators. See framework Section 8 - Measurement Specifications for details.

Click titles for details

Digital Engineering Measurement Framework – Example Indicators
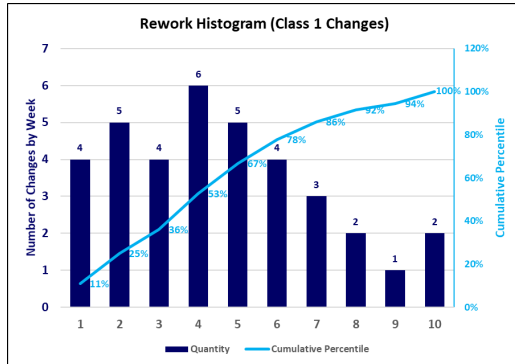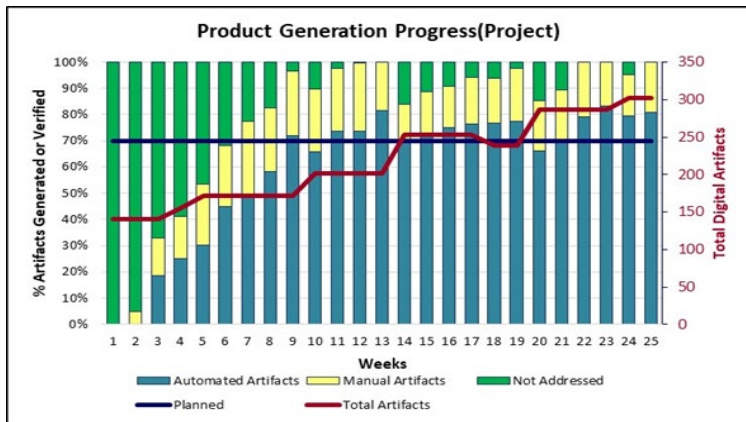
Adaptability and Rework

Excerpts only from DE measurement specifications. Some specs have multiple sample indicators. See framework Section 8 - Measurement Specifications for details.
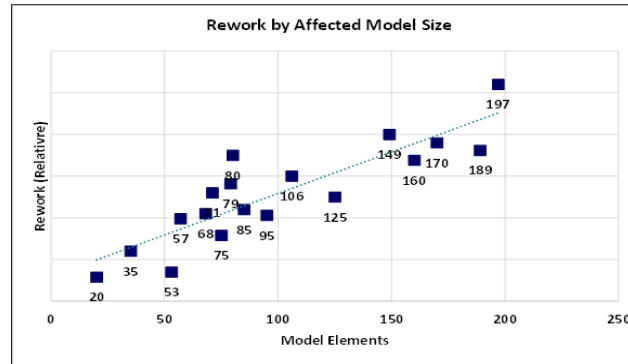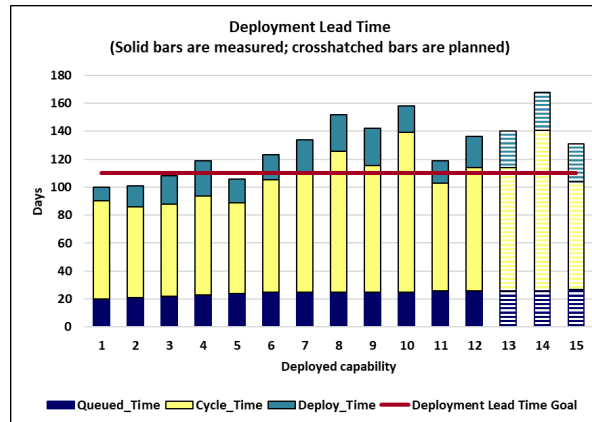

How much rework is for planned and unplanned changes?
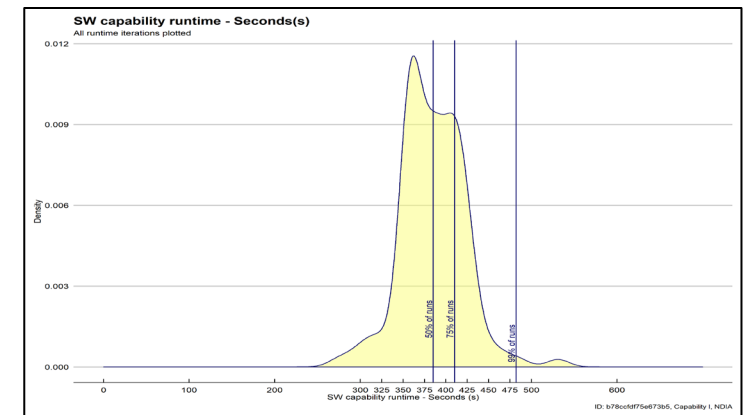
Product Automation

What percentage of artifacts are automatically model-generated?

Deployment Lead Time

How long does it take to deploy an identified capability?

Runtime Performance

What is the likelihood performance will meet operational needs?

Digital Engineering Measurement Framework v2.0

- The v1.1 release of the DE Measurement Framework established an initial consensus from our partners as a starting point to advance a discussion across industry – some measures are conceptual

- We are now beginning work on v2.0 to address:
  - Updates from implementation lessons learned
  - Enterprise information needs and measures
  - Additional measures identified by working group members

- We have been asked us to turn the report into an international standard
  - Considering a joint working group with ISO/IEC/IEEE for the v2.0 update

- Get involved! Participate in reviews, provide comments and suggestions, pilot the measures proposed, and participate in the future evolution of this framework

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