



# **NDIA Quarterly Meeting ATC DE/DT Project Status Aug 2024**

# Digital Engineering Digital Transformation Project Status



- Paper is available.
- Will be included with the minutes from this meeting and posted to the NDAI ATC page along with the slides from the Executive Plenary session.
- Big thanks to many folks supporting the review of the paper
  - Including the committee teams with their contributions to the paper and the slides for Plenary Panel
- New project or an extension of this with more of a segmented topic?
  - Some have suggested the Cyber component driving the LCS/Maintenance collaborative need
  - Some have suggested the need to exploring AI in ATS and TPS
  - What are your thoughts?
- Please join us tomorrow morning at 9:15 for the Executive Plenary Panel discussion where the Project results will be further presented.

# Problem Statement

Driving force behind project was presentation at 2022 ATC Plenary Session

- The DoD and the ATE industry needs faster and less expensive methods to develop, deploy, and sustain automated test solutions.
- The DoD Digital Acquisition mandate is pressuring government acquisition organizations to emplace processes that deliver digitally acquired digital products.
- The industry lacks definition of the digital acquisition process as it relates to ATE and Digital Engineering / Transformation.
- What is the current state of industry to support an ATS Digital Product Model(s) and Acquisition?
- What are the insights Industry may provide to support our DoD ATS partners with their Digital Engineering and Acquisition needs?

Deliver a document for DoD reference that provides insights into the ATS/ATE Defense Industry's capabilities and potential improvements to support Digital Acquisition and the necessary execution of Digital Engineering and Digital Transformation.

# Project Mission and Goal

- Mission: Provide NDIA with a paper/presentation on where test industry is on this subject

Provide recommendations to the government on how the ATE industry can support Digital Engineering and Digital Transformation, specifically the process, approaches, models, tools, and standards by which the automated test equipment and test programs are developed, acquired, and maintained through Digital Acquisition.

- Goal: Indicate the state of Model Based System Engineering tools and processes within the Automated Test Industry and the Standards used by this industry, along with expectations from government on DE/DT and the Digital Acquisition process.

Help the government understand/gauge industry's response to a digital acquisition using MBSE, tools and the standards by which to convey the digital product.



# SUMMARY & RECOMMENDATIONS

# State of the Industry

## Integration of Digital Engineering and Digital Transformation

- Defense sector increasingly recognizing DE/DT importance

- Increase DE/DT principles across the ATS/ATE lifecycle

- Identified efficiencies driving transformation in acquisition of ATS/ATE

## Addressing the Challenges and Gaps as shown in the paper and in plenary brief

- Lack of unified modeling tools and workflows

- Use of the existing standards with common practices and adopting available tools

## Cybersecurity

- Interconnecting ATS on digital floor/backbone identified need

- Protection of assets and vulnerabilities to platforms continue to drive silo approach

## Life Cycle Support and Logistics

- Intertwined with Cybersecurity

- Long term sustainment and insights of ATS/ATE demand greater asset access to address continuous maintenance and larger data insights into both test stands, test assets and unit under test

Industry faces significant challenges in partnering with DoD for standardized practices, adequate funding, collaborative test stand networking to migrate data, and the

# Summarized Suggestions from Paper



## Funding Support

Both industry and DoD have to invest in digital tools, workflows, training and development of digital twins and models for future ATS assets

## Collaboration and Communications

Sharing best practices across DoD services (obvious, yet.....)

## Future-Proofing the Defense ATS/ATE Industry

Investments must be made

DoD acquisition must drive requirements through acquisition

## Pilot Projects and Case Studies

Again, funding, collaboration, and requirements driving the transformation could be accomplished with pilot projects and shared results

# Answering the “4 Questions” (finally)



*“The progression to Digital Engineering is envisioned to empower a paradigmatic shift from the conventional waterfall-based design-build-test methodology to a more dynamic continuous integration model-analyze-build-test approach. This shift is anticipated to enable DoD programs to extensively prototype, experiment, and validate decisions and solutions within a virtual environment, prior to their actual deployment in operational settings. Such a transformation not only promises to streamline development processes but also to significantly enhance the adaptability and effectiveness of solutions delivered to the warfighter.”*

## Recommendations

Please attend the Executive Plenary session tomorrow and you hear the recommendations.

Thanks!