TECH**INSIGHT** | Integrating Test

Focused on Digital Transformation? Don't Overlook Test Systems

Many aerospace and defense (A&D) leaders view product testing as a necessary evil. Although they realize it's essential for improving quality and performance, they don't always recognize the value it brings to their business. Some A&D leaders may even blame testing for unanticipated cost and schedule overruns.

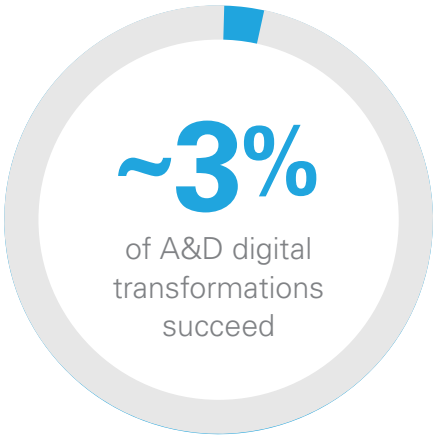
If their expectations for product testing are so low, it's no wonder that test systems and test data are often excluded from digital transformation initiatives. A poor opinion of product testing might help explain why so many companies are struggling to get these sorts of initiatives off the ground. About 3 percent of A&D digital transformations succeed,[1] and the reason for this low success rate may have something to do with the fact that many organizations aren't taking a holistic approach—inclusive of test and measurement data—when launching these initiatives.

NATIONAL INSTRUMENTS

[1] Bain & Co.

Test data plays a vital role in supporting engineering and a business's efforts to evolve digitally.

It streamlines processes and empowers teams to innovate faster and more productively. That is why it's so important for those who oversee design, production, MRO, and other parts of a business to understand the value of test data across the entire enterprise.



Source: Bain & Co.

Automated test and measurement systems that are connected and tightly integrated with instrumentation and test data can improve efficiency and quality across the product life cycle in several ways. For example:

- Automated validation and characterization can interface seamlessly with design and simulation tools so test program sets can be developed earlier.
- Automated production test systems that are linked to a manufacturing execution system (MES) can ensure that test assets are allocated and managed efficiently. Plus, linked systems help guarantee that test execution is optimized as manufacturing conditions change.
- Automated Intermediate- and Operational-Level systems used for field maintenance and testing can share usage, diagnostic, and repair data automatically to inform ongoing product development and refinement.

Many organizations that hope to integrate test data into their digital transformation initiatives face several challenges. For one, multiple factors, including government regulations, incompatible data formats, and/or communication protocols used by legacy test equipment and software, hinder their ability to combine disparate data sets. Second, test data is often stored without metadata that describes the operating context of the test. Process leaders rely on metadata to improve the usefulness of the test data. Finally, organizations must combine real-time data with historical data and make all of it readily available so process leaders and operators can use it on demand.

Fortunately, there are solutions on the market today to address the challenges impeding a business's digital transformation. IT units and operations teams can employ these solutions concurrently and strategically, helping their businesses move toward this ultimate goal.

Read the interactive white paper, "Leveraging Automated Test to Enable Digital Transformation," to learn more about the value of test data and share that information with your colleagues.

Learn more at ni.com/aerodef-digital-transformation.