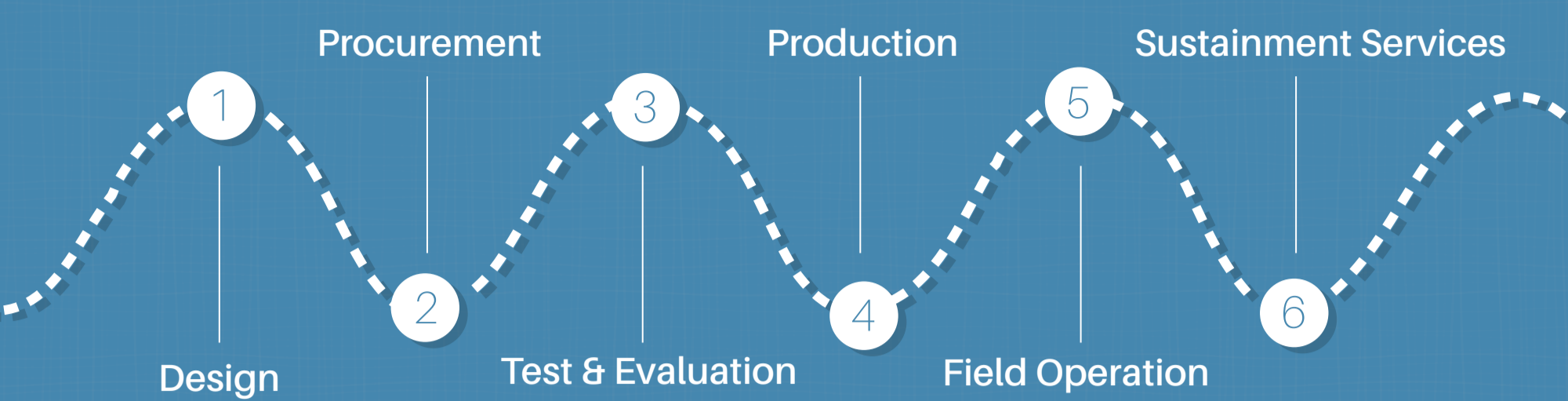


STATE OF THE DIGITAL THREAD

IS YOUR ENTERPRISE PREPARED FOR THE SMART FACTORY EVOLUTION?

The digital thread refers to the communication framework that allows a connected data flow and integrated view of an asset's data throughout its lifecycle across traditionally siloed functional perspectives. Adopting the digital thread is becoming an imperative step for complex manufacturers navigating increasingly fast-paced and heavily regulated industries.

DIGITAL THREAD WEAVES THROUGH THE PRODUCT LIFECYCLE



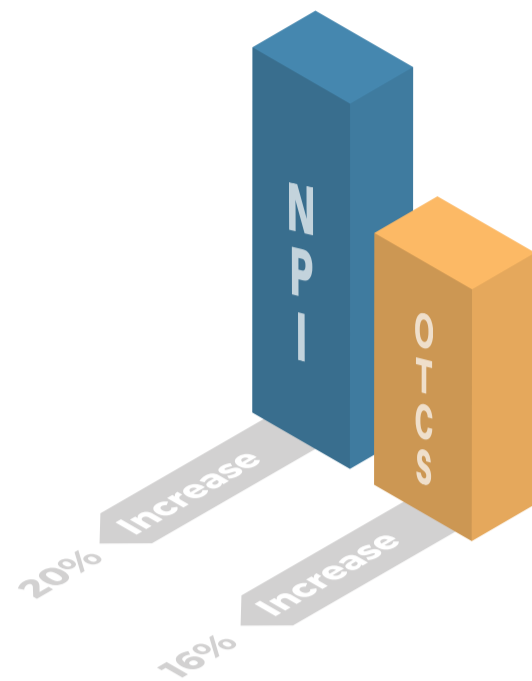
DIGITAL THREAD IS A BUSINESS PRIORITY

Engineers, quality professionals, and manufacturing experts throughout the world are going digital, removing paper processes from the shop floor and experiencing huge gains through adoption of the digital thread.

According to *LNS Research*, "tapping into the digital thread" means "significant payoffs" for manufacturers, including:

20% more NPI (successful new product introductions)

16% improvement in OTCS (on-time and complete shipments)



Consider the example of step-by-step visuals for a major defense program:

One major defense program experienced an opportunity cost savings of nearly \$800 Million after adopting the Digital Thread. Let's do the math.



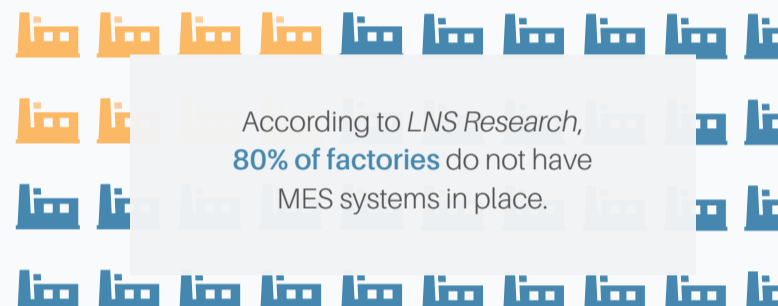
Digital Thread Saves Time and Money

Manufacturing enterprises are now able to have a digital thread of information flow from product inception all the way through maintenance and aftermarket service, providing insights into the products made and the shop floor that makes them. These insights will not only save the manufacturing sector time and money, but also fundamentally change how enterprises work across the entire manufacturing operations.

DIGITAL THREAD READINESS IS SURPRISINGLY LOW

Results from the iBASEt Digital Thread Readiness Survey indicate

Between 20-30% of companies have made strides implementing a digital thread across the enterprise. But for many, there is still a long road ahead.



PRODUCT DEFINITION Practices

7%

Only 7% of respondents use systems in which Engineering Change Notices flow to downstream systems with impacted and added objects defined

26%

Only 26% leverage 3D models in downstream applications like work instructions

INSPECTION DEFINITION Practices

40%

Nearly 40% are still using manual drawings and spreadsheets for inspection definition

14%

Only 14% have integrated change management controls between engineering models and inspection definition

AS-INSPECTED PRODUCT UNIT RECORDS Practices

< 20%

Less than 20% are capturing data directly from suppliers on purchased components or subassemblies

11%

Only 11% are capturing data from suppliers beyond the immediate first tier. In other words, 89% have no inspection data coming from the multi-tier supply chain

PROCESS DEFINITION Practices

> 70%

Over 70% of respondents are still using Word, PowerPoint, or basic databases for process definition!

< 30%

However, less than 30% have linked work instructions and bill of resources directly to 3D models

AS-BUILT and AS-SERVICED PRODUCT UNIT RECORDS Practices

66%

66% of respondents have as-built and as-maintained records in a database available for queries.

16%

However, only 16% include deviations and waivers as part of their as-built records.

SERVICE PROCESS DEFINITION Practices

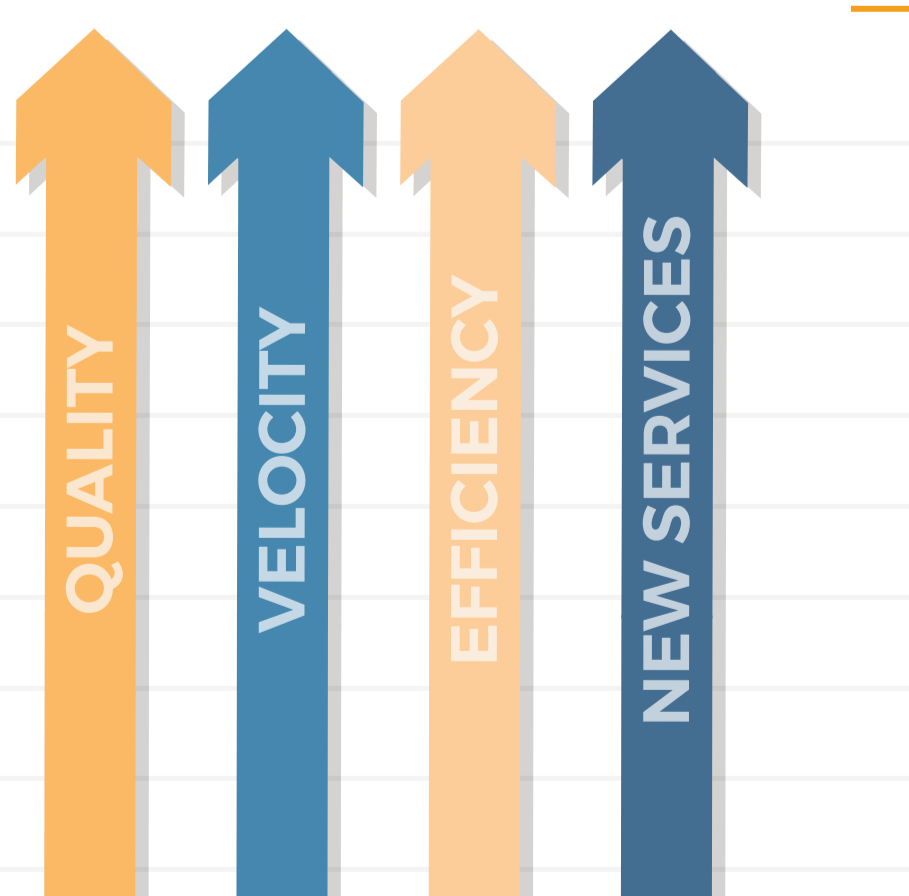
50%

50% of respondents still use Service Manuals in PDF format! Task card work instructions are on Word or PowerPoint.

< 10%

Less than 10% of work steps based on 3D visuals in PLM, with parts linked to a BOM.

THE IMPERATIVE FOR ADOPTING THE DIGITAL THREAD



Improve product quality

by avoiding mistakes in manual translations of engineering specifications along the product value chain.

Improve the velocity of new product introductions (NPI)

and the communication of engineering changes along the product value chain.

Increase the efficiency

of digitally capturing and analyzing data related to product manufacturing

Deliver new services

to customers along with physical product leveraging the digital data now available on the product

ARE YOU READY FOR THE DIGITAL THREAD?

In less than three minutes, the *Digital Thread Adoption Calculator* will allow you to easily assess your readiness. With a simple A-F grading scale, you'll be able to easily break down where your manufacturing enterprise can begin your journey to the Digital Thread.