DIGITAL TRANSFORMATION:

CREATING A RESILIENT ENTERPRISE ECOSYSTEM

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"The manufacturing leaders of tomorrow must make digital investments today that allow them to adapt quickly and cost effectively to meet business demands and increase resiliency. Our research shows that manufacturers investing in digital technology generate more revenue and are more profitable than their non-digital peers. The gap will only continue to widen if non-digital manufactures do not make changes to enable new sources of innovation."

Jeff Hojlo
Research Vice President, Industry Ecosystems &
Product Innovation Strategies at IDC

BUILDING A RESILIENT ECOSYSTEM

Creating a resilient enterprise ecosystem requires new ways of thinking, connecting, and collaborating—all of which require access to a precious yet misunderstood resource—product data. Organizations that deploy digital transformation projects to tap this resource create a clear differentiator from their competition.

How do you create an enterprise ecosystem to ensure efficient and effective use of product data? Most organizations think it is simply about connecting siloed data. The reality is a successful digital transformation requires new processes and the flexibility to disrupt standard operating procedures and let go of comfortable, yet outdated tools.

A resilient solution requires making product data available to all who need it, while keeping it secure enough to move throughout the enterprise so that users can access for any need, and in any role across the product lifecycle. Let's explore the obstacles, value, and solutions to making this happen for your organization.

"Managing the evolution of an enterprise ecosystem will become just as important as learning how to out innovate your competitors in the marketplace."

David Sherburne, David G. Sherburne Consulting Group

WHAT IS DIGITAL TRANSFORMATION?

Historically, digital transformation (DX) has referred to an organization's strategic implementation of emerging technologies, concepts, and a culture ready to transform its processes in order to deliver value to customers. Unfortunately, many of these early initiatives failed as a result of an **outside-in approach** where the focus was on advanced technologies and data collection with little emphasis on how they relate to existing processes and technology and using it to advance business strategy.

"By taking a sustainable platform approach, organizations are enabling the enterprise to get their work done in the most efficient way possible and can ensure end-to-end optimization and connectivity that is critical to an organization's digital transformation."

- Peter Bilello, CIMdata (September 2, 2020)

These DX efforts underestimated the acceleration of data and technical debt. Product complexity and competitiveness highlight the need to digitally transform the underlying product ecosystem that supports customers—the PLM platform. This new type of **inside-out digital transformation** is based on more iterative, agile transformations that focus on data-driven efficiency, removing obstacles to collaboration, and enabling customer driven innovation.

Key Digital Transformation Platform characteristics that must be considered in order to digitally transform:

CURRENT (UPGRADEABLE, SUSTAINABLE)	REDUCING TECHNICAL DEBT	DIGITAL THREAD
PLATFORM (LOW-CODE)	OPEN	SCALABLE
COLLABORATIVE	EMPOWERMENT	ADAPTABLE

The goal is to **continuously digitally transform** to become a more resilient, agile business, resulting in reduced costs, increased profitability, and the ability to differentiate your business model.

OBSTACLES TO A RESILIENT DIGITAL TRANSFORMATION

To get momentum going with resilient digital transformation projects requires the ability to articulate the goals of these projects, your belief in them, and how these projects benefit customers, the organization, and you and your team. Most projects fail for one big reason—a lack of communication with executive leadership that links to business objectives.

OBSTACLE #1:

Process and technology are killing your business

Inefficient, error-prone processes increasingly create a disconnect between data and people. Often the solution to this is new technologies, leading to constantly changing the IT application landscape which never solves the problem.

SOLUTION:

Understand the technology landscape and process maps

According to Oliver Wyman's Report, "Perspectives of Manufacturing Industries," **25%-45%** of all costs in engineered products add no value to the product or customer.

OBSTACLE #2:

Organizations are not aligned to what must change

Projects look good "on paper," and appear to improve the business, but there is not enough justification to move forward because you lack a deep understanding of the significant change required to be successful.

SOLUTION:

Break up big projects through iterations and adaptation

According to Gartner, *"digital transformation initiatives will take large traditional enterprises, on average, **twice as long and cost twice as much** as anticipated."*

OBSTACLE #3:

Inability to communicate in business terms

Its hard to get a project up and running because it's difficult to verbalize your belief in them and the benefits to customers, the organization, and your team. More than likely this is a result of speaking your department's language without successfully articulating the business value.

SOLUTION:

Move from IT-centric to business-centric.

	IT-centric	Business-centric
The Obstacle	What does it do?	What does it do?
Application	Advanced product quality and control	Enterprise change management
Issue	Problems with quality	Customer and financial risk
Addresses	Workforce inefficiencies	Sales decline, cost inefficiencies
Results	Time savings	Improved customer experience

THE VALUE OF A DIGITALLY TRANSFORMED ENTERPRISE ECOSYSTEM

Do you want to know what makes people move from resistant to resilient? Making product data and its status available to the right people at the right time. According to Accenture's, "Think thread first: Surf the wave of product data," companies that have merged the data supporting a product's lifecycle create the following operational efficiencies:

20%-40% reduction in costs for data duplication and overlapping toolsets

Up to **5x** the speed of data capture and curation through thread automation

2–3x data reuse through cross-functional access to data

15–40% improvement in time to market via enhanced design team coordination

10–50% reduction in product renovation activities through data-driven design

TRANSFORMING INTO A RESILIENT ORGANIZATION

Digitally transforming into a resilient enterprise ecosystem requires a new way of thinking. In some cases this means migrating to a better way of operating, thinking differently about how you deliver complex products or shifting to new markets.

See how others have done this using product data to make the move.

NuScale is taking a new approach to nuclear power. Instead of building reactors on-site, they designed a small modular reactor (SMR) which is built and assembled in a factory and transported to the site for installation. NuScale selected a solution to bring groups together across the product lifecycle to support a continuous digital thread, creating a digital twin so that product information can be linked to support customer and compliance requirements.

Kendrion was managing multiple systems across three divisions, one of which was approaching its end of life. To digitally transform, Kendrion sought a single product lifecycle management (PLM) environment to implement a digital thread to achieve traceability throughout the product development process, enabling the mapping of requirements to engineering, increasing reuse of information, reducing dependency on spreadsheet-based processes, and enhancing visibility of all product information.

Technip Energies' digital-by-design approach aims to achieve full project lifecycle traceability and optimization from concept through design, execution, and operations. This collaboration will increase efficiency and create new opportunities in the energy industry.

The solution will be a single project platform, leading to standardized data flows and seamless collaboration between disciplines and easy access to past project information to increase engineering reuse, reduction of cycle time, data integration for actionable reporting, and creation of a digital twin backbone.

THE RESILIENT PLATFORM SOLUTION

There are fundamental technology building blocks required to maximize business resilience with your digital transformation efforts.

DATA TRANSPARENCY
An open platform allows organizations to own their data instead of leaving it captive to an aging technology or a software vendor.

BUSINESS PROCESS ADAPTABILITY
Business processes will not only change but will do so often, quickly, and without concern for the ability of the systems to change with them. A resilient platform needs to be so adaptable that it not only supports change, but also encourages it.

EVOLVING TECHNOLOGIES
A platform should never be locked into a technology. For a platform to be continually relevant over time, there must be flexibility in the design by keeping to open standards.

SYSTEM CUSTOMIZATIONS
Since every company is unique and every business process evolves, a platform must be able to implement customizations without impacting future upgrades or creating crippling technical debt.

The bottom line is if your technology is not **(1) transparent**—as technology changes, the data inside the technology does not, **(2) evolvable**—solution selection doesn't lock you into one specific technology and, **(3) adaptable**—supporting and embracing constant change, it will take too long to break you out of your old and outdated business model.

Aras provides the most powerful low-code platform with applications to design, build, and operate complex products. It's technology enables the rapid delivery of flexible, upgradeable solutions that build business resilience. Aras' platform and product lifecycle management applications connect users in all disciplines and functions to critical product data and processes across the lifecycle and throughout the extended supply chain. Airbus, Audi, DENSO, Honda, Kawasaki, Microsoft, Mitsubishi, and Nissan are using the platform to manage complex change and traceability. Visit www.aras.com to learn more and follow us on Twitter and LinkedIn.

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