

# State of Digital Transformation in the Manufacturing Industry

In light of the changing landscape, the urgency of digital transformation in the manufacturing industry has become an undeniable reality. Almost all manufacturing executives (95%) agree that their organizations forecast an increase in digital transformation initiatives in the next 12 months.

The drive to innovate and stay competitive tells part of the story, yet the constantly evolving technological world poses a massive challenge to the ability to focus on these objectives. As the industry faces rising costs, cybersecurity risks and connectivity concerns, manufacturing leaders must re-evaluate their digital transformation strategies.

This report, conducted by Windstream Enterprise and Industry Dive, delves into the findings from a recent survey of 150 manufacturing executives. Insights into digital transformation priorities, budgets and barriers can aid manufacturing leaders as they consider risks and opportunities for the next era of growth.

## Executive takeaways

Here's what you'll learn from this survey report:

- 1 The technologies manufacturers value most for supporting Industry 4.0 and other digital initiatives.
- 2 The impact of digital transformation on manufacturing.
- 3 The ways to address the primary barriers to digital transformation, including cost, security and connectivity.
- 4 The advantages of a "single pane of glass" approach to managing strategy and technology ecosystems.

## Manufacturers gain momentum

Industry 4.0 initiatives are widely recognized as crucial for business success in the coming years, with 91% of respondents agreeing on their importance. This commitment is reflected in the increased budgets for digital solutions in 2023, as 68% of manufacturing executives reported.

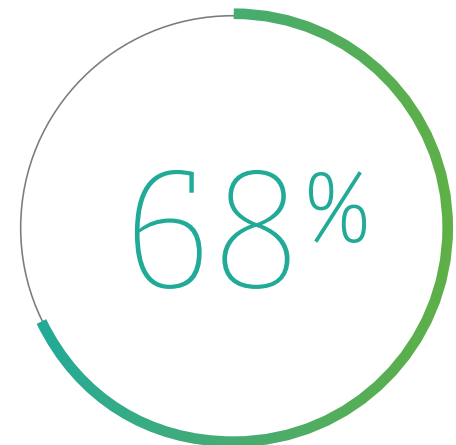
Notably, no surveyed leaders reported a budget decline, despite economic and geopolitical challenges. This highlights the steadfast focus on digital transformation as a critical strategy for staying competitive and driving growth in the manufacturing industry.

***“CEOs are increasing digital technology investments to counter current economic pressures, including inflation, scarce talent and supply constraints. Of course, CIOs and other technology executives will be tasked with executing digital IT strategy. Despite many in-progress digital initiatives, few are yet delivering the digital dividends that senior leadership expects.”***

**Gartner**  
Digital Transformation in  
Manufacturing Industry<sup>1</sup>



of respondents agree on the importance of industry 4.0 initiatives



of manufacturing executives say their commitment is reflected in the increased budgets for digital solutions

## Post-pandemic landscape: Transitioning from ‘necessity’ to what comes next

During the pandemic, organizations rushed to adapt to changing requirements. Many manufacturers made significant structural changes to applications, systems and processes, lacking the time to perform in-depth planning and evaluation.

According to a CIO feature article by contributor Beth Stackpole, these actions led to an accumulation of technical debt, which can bog down development and add to complexity.

Stackpole noted, “The issue of technical debt is certainly not new, but the problem was exacerbated after two years of fast-tracking digital initiatives to facilitate remote work and deliver virtual customer experiences when mainstream business practices were upended due to pandemic shutdowns.”<sup>2</sup>

Now, as the dust settles, manufacturers must reassess whether recent technology implementations still align with long-term goals.

**As seen below, manufacturers are embracing technology investments, with 71% noting their companies are at least in the proof-of-concept phase.**

**More than three out of five companies have adopted these six technology services or solutions:**



Telecommunications  
(e.g., VoIP)



Cybersecurity  
technology



Data/advanced  
business analytics



Network  
solutions



On-premises  
infrastructure



Cloud  
migration

**The top three benefits companies would realize if they were to reach their current digital transformation goals are:**



Improved network  
security



Cost  
savings



Cyber risk  
mitigation

## Technical debt

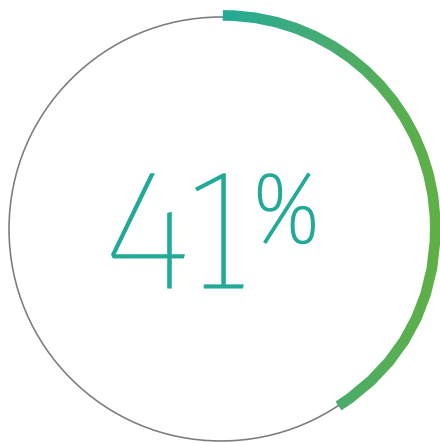
Refers to choosing short-term, easy-to-implement solutions that are not scalable to meet long-term needs. Consequently, these solutions may need replacement soon, resulting in significant costs in terms of time and money.

## Cybersecurity: The thread that runs through every area of digital transformations

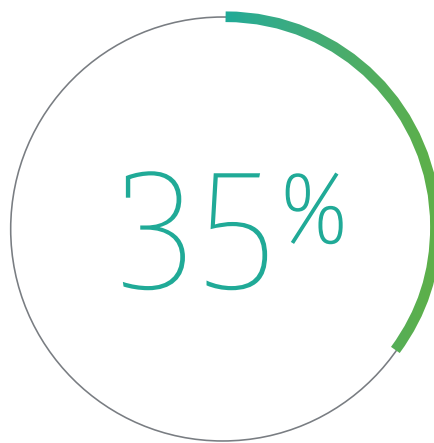
To support digital transformation, manufacturing executives say their critical priorities relate to cyber risks and adopting smart automation technology. In reality, these two areas are closely intertwined. Adopting smart automation technology—or any digital initiative—without a secure infrastructure is ineffective.

Almost all companies (91%) surveyed have experienced cyber incidents, with many witnessing an increase in incidents compared to two years ago. This highlights the importance of strong cybersecurity measures to protect valuable data and systems.

To successfully navigate the digital transformation landscape, manufacturers should expand their smart automation capabilities without increasing vulnerability to cyber risks.



anticipate that cybersecurity risks will increase significantly over the next 12-18 months



say they are very confident in their company's ability to mitigate potential cyber risks after implementing the latest digital technologies

## Barriers to transformation: Securely connecting disparate apps and systems

A primary barrier to digital transformation is the ability to effectively connect and manage a complex technology ecosystem. Many organizations strive for a streamlined approach, desiring a “single pane of glass” view.

However, the reality is that businesses often require a variety of applications and systems to operate. The focus should not solely be on reducing the number of applications and systems, but on optimizing what is already in place.

To overcome this barrier, it is essential to ensure your ecosystem is well managed at all times. This includes maintaining security, connectivity and optimization across all applications and systems, allowing for a more seamless and efficient digital transformation journey.

77%

report that their teams need 3-4 applications or programs to have a complete view of their business

20%

say they need five or more

Finding balance between specialized apps and fewer vendors

54%

say that they prefer to use a variety of specialized applications, infrastructure and systems when evaluating technologies for their companies

39%

prefer using fewer vendors

**Across eleven digital transformation initiatives, manufacturing executives believe that there are four challenges that are most likely to be barriers:**



Connectivity issues



Lack of global cloud infrastructure



Too many applications to manage



Workforce spread across remote, hybrid and onsite

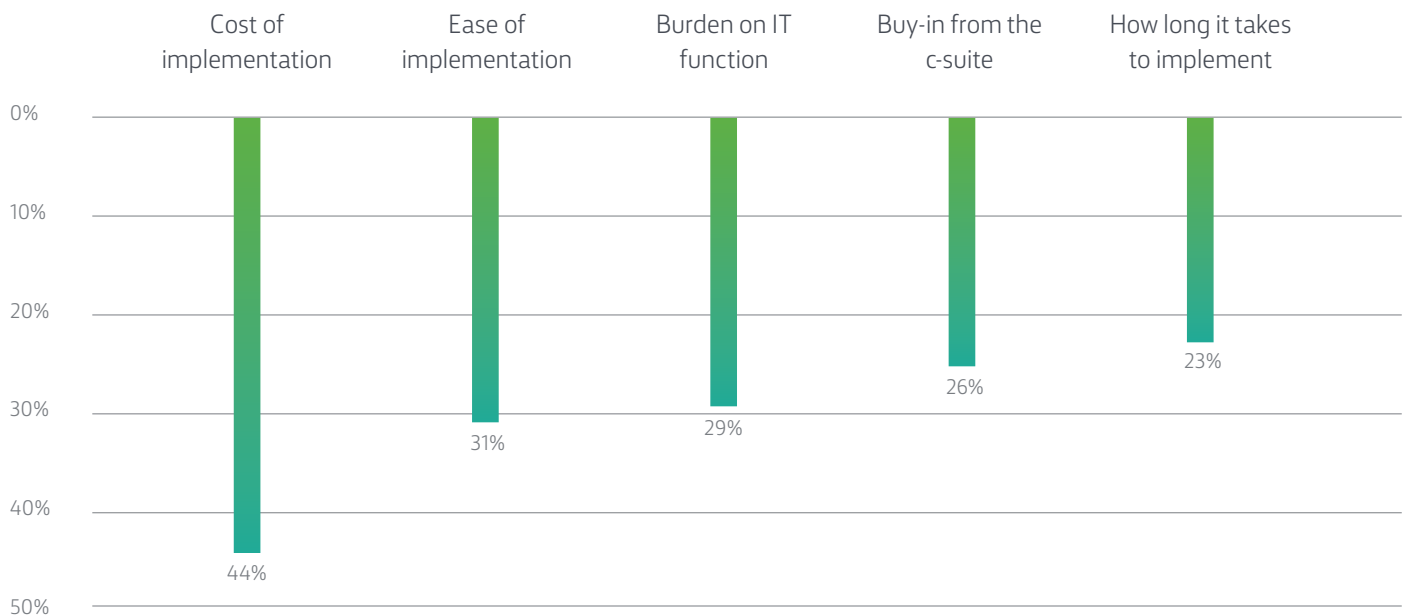
## Barriers to transformation: Burdened by cost, security and IT requirements

Among the various obstacles to digital transformation, cost ranks highest. Justifying the expense of IT investments to stakeholders can be challenging, but considering the total cost of ownership (TCO) can help.

For instance, security and connectivity are cited as primary barriers to digital transformation. However, addressing these issues through investment can protect a business from expensive cyber risks and pave the way for growth.

Striking the right balance is crucial. When evaluating IT investments, consider TCO and how specific elements may drastically improve areas like uptime, security, productivity, and resource allocation.

**Out of 13 factors used when evaluating and considering digital initiatives, the following five factors ranked of greatest importance:**



## Manufacturers benefit from a single point of expertise and support

Manufacturers recognize the critical nature of technology. However, they prefer to focus their resources on what they do best rather than getting entangled in IT complexities.

For example, fragmentation—when facilities adopt disparate IT systems and practices—may pose a serious cybersecurity risk. Yet solving this issue requires developing a more extensive global IT strategy, which manufacturers may not be prepared to tackle.

It helps to partner with an outside firm that specializes in managed services to formulate a unified IT strategy and select the optimal technology for your needs. With a central point of contact, you gain the “single pane of glass” view that organizations desire, while benefiting from the specialized applications, infrastructure and systems that drive the business forward.

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## Bridging the gap

Factors of successful digital initiatives point to a need for a fully managed solution approach. Yet only 45% currently use managed services.

This gap exposes a significant opportunity for manufacturers to differentiate by leveraging managed services to stay ahead of the curve.

Managed services help manufacturers:

- + Redirect staff from IT-related tasks to critical business
- + Ensure a secure and connected business
- + Gain visibility and control over their technology ecosystem

## Conclusion

The urgency with which manufacturer's approach their digital transformation has increased dramatically. The benefits realized so far, combined with hard-won lessons from the disruptions of the pandemic have compounded this urgency, leading manufacturers to prioritize and increase budgets for digital initiatives.

Safeguarding against cyber threats and navigating complex ecosystems are paramount in this journey. Shortages for IT talent, however, are limiting many firms' ability to accelerate their effective deployment of new technologies. However, by embracing external expertise and capacity, manufacturers gain an edge in navigating these challenges and opportunities with confidence, speed, and agility.

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1. Gartner. (n.d.). Manufacturing Digital Transformation.

2. Violino, B. (2022, January 24). IT leaders take on pandemic tech debt. CIO.

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