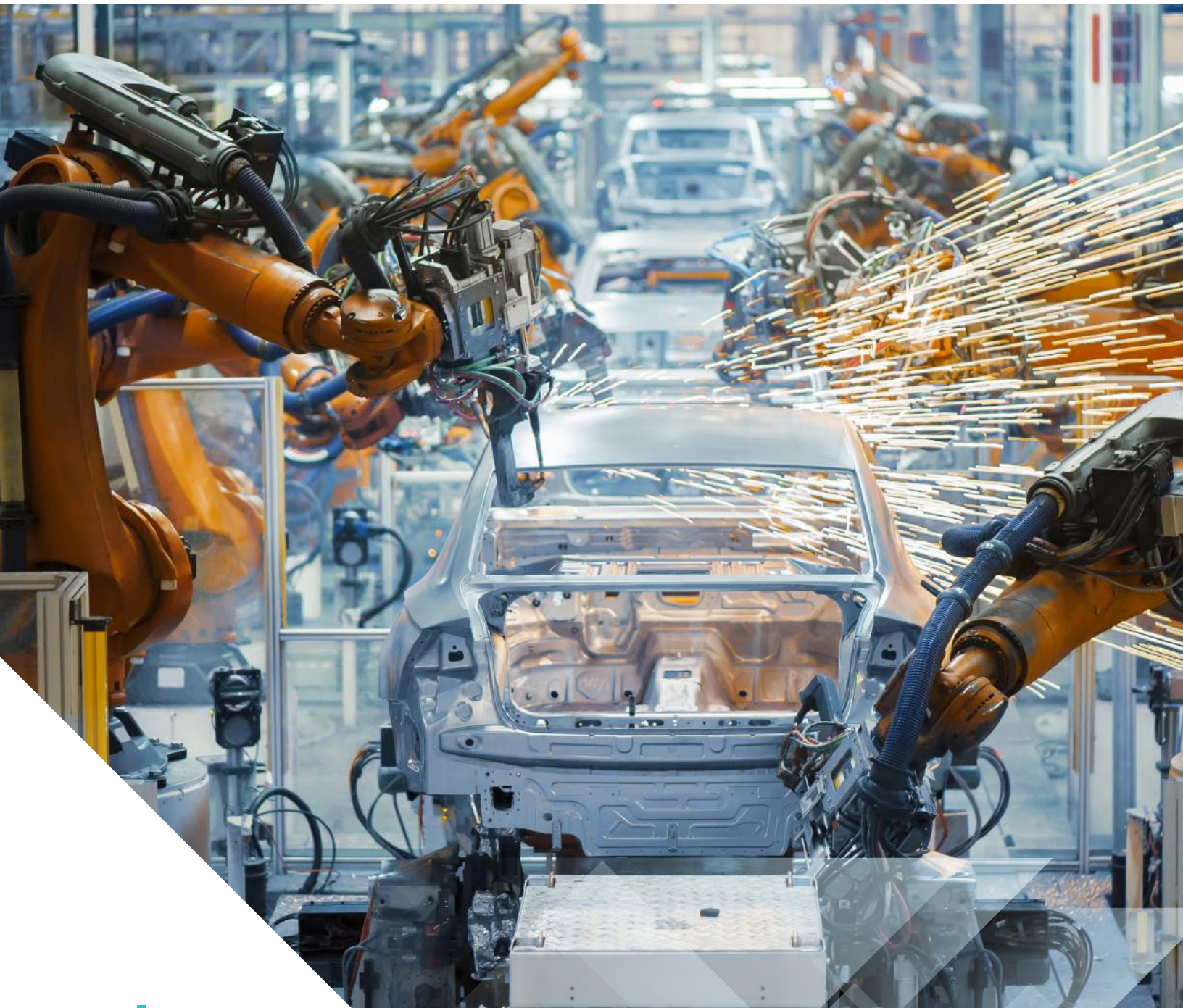# Manufacturing in a Connected World - Part 2:

How to Build a Digital Transformation Strategy

SYSPRO™

Introduction

Industry is always evolving – from 1913, when Henry Ford revolutionized the automotive manufacturing sector with the introduction of the first assembly line, to the use of the first robot for production applications by General Motors in 1961, to the artificial intelligence we see starting to enter manufacturing floors today.

Companies are always looking for ways to improve customer experience and become more efficient in a quest to stay competitive and keep a healthy bottom line. One key element for achieving that goal today is to adopt digitization and develop a digital transformation strategy. That said, digital transformation isn't as simple as bringing in a single piece of technology. Strategies to implement digital transformation require a great deal of forethought and planning as well as cultural buy-in, upskilling of employees and being able to adopt a very different way of doing business.

This is the second part of a three-part series. In the first, Manufacturing in a Connected World: Part 1 - Getting Started with Your Digital Transformation Journey, we reviewed the history of Industry 4.0, the components of an Industry 4.0 smart factory, top Industry 4.0 business goals, and covered the internal foundation required for preparing to implement Industry 4.0. This includes assessing your organization's current needs and planning out a successful long-term transition strategy. In this part we will focus on:

1   **A brief definition of digital transformation**

2   **The four foundational requirements of Industry 4.0**

3   **The seven key steps to building a digital transformation strategy**
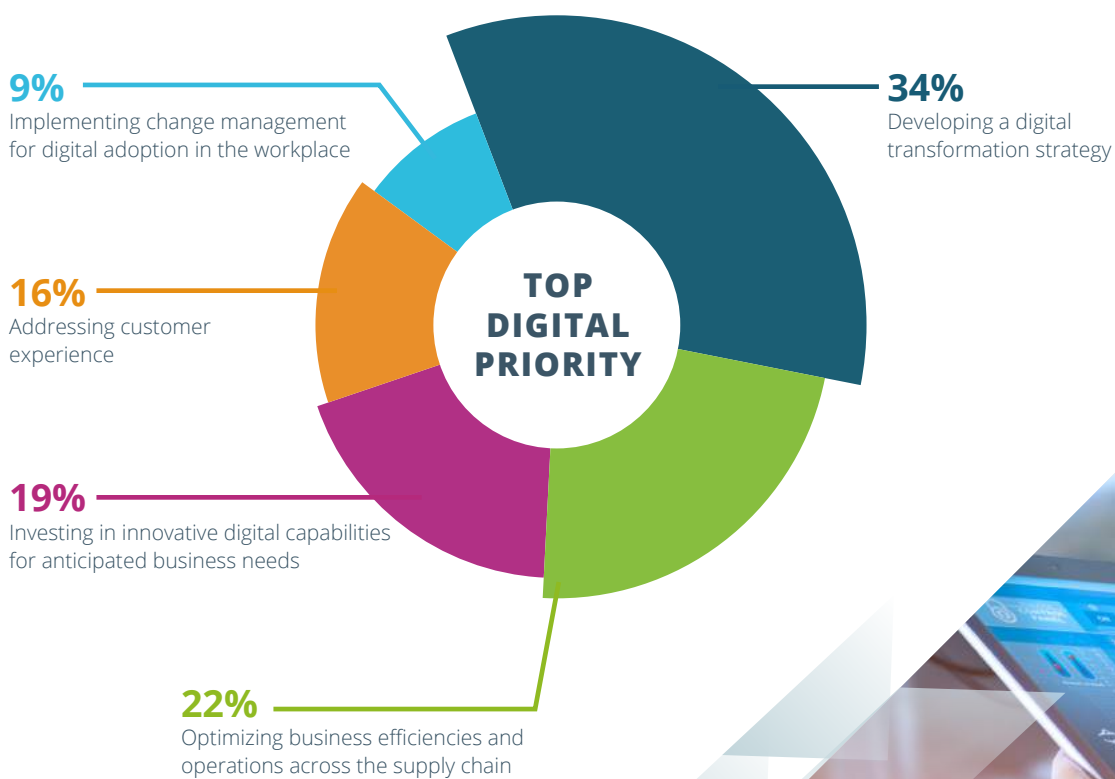
What is Digital Transformation?

Simply put, digital transformation is the process of using digital technologies to create new – or modify existing – business practices, culture, and customer experiences to meet changing business and market requirements.

Implementing a digital transformation strategy is a top priority for many corporate executives across a wide variety of industries.

Business priorities

BDO's 2019 Middle Market Digital Transformation Survey, which included 300 C-level executives from companies with annual revenues between $250 million and $3 billion, had respondents state the following digital priorities:

9%
Implementing change management for digital adoption in the workplace

16%
Addressing customer experience

19%
Investing in innovative digital capabilities for anticipated business needs

22%
Optimizing business efficiencies and operations across the supply chain

TOP DIGITAL PRIORITY

34%
Developing a digital transformation strategy

The Four Design Principles of Industry 4.0

Industry 4.0 describes the trend towards automation and data exchange in manufacturing technologies and processes – which include cyber-physical systems (CPS), the internet of things (IoT), industrial internet of things (IIoT), cloud computing, cognitive computing, and artificial intelligence.

"In a nutshell, what we're talking about are systems that connect information technologies with operating technologies to self-optimize and to deliver meaningful insights to key people so they can make effective decisions at the right time," says Jonathan Gross, Managing Director at Pemeco Consulting – a vendor-neutral consulting firm that specializes in the delivery of transformative technology projects.

Industry 4.0 is built upon four design principles which companies are encouraged to implement to fully take advantage of the technologies' capabilities:

1

Interconnection
The systems need to connect people, machines, sensors, devices, and software through the Internet of Things (IoT) and allow them to communicate with one another.

2

Technical assistance
The intent is two-fold: 1) to shift low-value tasks from people to cyber-physical systems, and 2) for systems to provide people with analysis and information to make timely and effective decisions.

3

Information transparency
The data collected through interconnection needs to be made available to operators for decision-making.

4

Decentralized decisions
The systems need to be able to make their own decisions and take autonomous action.

One example of an area where Industry 4.0 design principles are being implemented today is for improving predictive maintenance procedures. On a manufacturing floor, sensors are being utilized to collect data on a machine's day-to-day activities. That data is then processed by software to help employees optimize their predictive maintenance procedures and reduce downtime. By knowing what parts to keep stocked at any given time, companies can automate some of their procurement procedures.

Starting the Digital Transformation Process

According to McKinsey & Company, less than 30 per cent of digital transformations succeed. In a 2018 survey, only 16 per cent of respondents stated that they experienced improved performance from their digital transformation and believe they are equipped for sustainable long-term success.

So, how do you ensure you are set up to succeed? And, how do you make a case for digital transformation within your organization? According to Gross, there are several key steps organizations need to plan out before taking any action.

1. Identify industry and competitive drivers

The first step an organization should take when developing a digital transformation strategy is to understand where things are, and where things are headed from both a general industry and a competitive perspective. Gross suggests that companies need to see where they stack up – what they do well, what they do not, and where they can improve.

"Once you've gone through your initial market, industry and technology landscape review, you can start digging into your business. It's time to know where you really are relative to where you want to go," he says.

2. Map current technology infrastructure and potential gaps

Companies need to map out their key informational and operational technologies. Understanding the interface points and looking for any gaps or points of friction is vital. Then, companies must decide whether those gaps or points of friction are worth acting upon.

"The whole idea when you're building the business case is: What's the business value that we're driving towards?" Gross says, adding that a company needs to take stock of its current processes and identify any potential problem areas. "You need to start thinking about what's the implication of this gap or this issue. Is it minor? If it's minor, perhaps you don't dwell on it and invest in an extraordinarily risky and costly project to fix it. But if it's major, that's a different story."
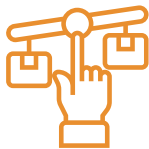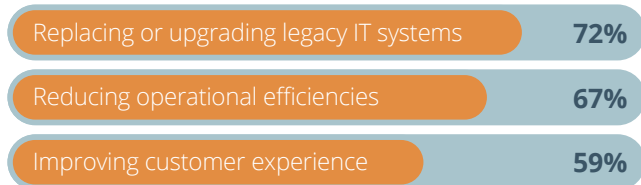
3. Present the business value for change

When it comes to arguing the case for a digital transformation strategy, focus on the potential benefits for the business, as well as the potential lost opportunities if a company were to decide not to move forward.

"That business value can be measured in terms of dollars and cents, it can be measured in terms of lead times, it can be measured in terms of waste, whatever the case may be," Gross says. "But we're not going to say we're going to integrate for the sake of integrating. We're ultimately taking this back to our strategic drivers."

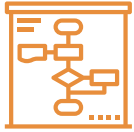## What are some of the key strategic drivers?

Short-term (12 to 18 months):

Replacing or upgrading legacy IT systems	72%
Reducing operational efficiencies	67%
Improving customer experience	59%

Long-term (18 months to 3 years):

Improving customer experience	69%
Reducing operational efficiencies	68%
Introducing new products and services	64%

BDO, Embracing Digital Transformation: Why Digital Transformation, and Why Now?

4. Map out future business processes

Mapping out future business processes is a key element to building a digital transformation strategy, because this is where companies can plan out where they are going to change, and what that change will look like.

The two categories that he considers as big hitters are:

1. The idiosyncratic features of a company that make it stand out against its competitors; and

2. Best practices

"You want to talk about how you're going to improve and adopt processes that are going to make your company more efficient, that are going to make it more cross-functionally integrated, that are going to enable visibility and intelligence," he says. "When you map your preferred best processes, do it with your company in mind. Don't just take standard best practices and swap them into a report. Understand how they apply to you, there's no one way to do things."

After mapping out those processes, the next step is to plan out the necessary technologies to achieve those goals.

5. Build your program plan

After mapping out all the necessary components of a company's digital transformation, a clear plan needs to be presented showing what steps will be taken to get a company from where it is now to where it wants to be in the future.

Your Path to Transformation

Strategy & Planning

To-be architecture
• Business
• Solutions
Program plan
• Implementation
• Governance & teams
• Total cost of ownership
• Business case & ROI

Readiness

Technology procurement
• Selection
• Contract negotiations
Foundational projects
• Organizational design
• Process disciplines
• Data governance
• Risk management

Foundational Implementation
• Change/optimize the core
• Build your digital twin

Proof of Transformation Concept

Easy win
• Efficiency
• Customer service

Transformation Leap
• New markets
• New revenue streams

Project & Change Management

Pemeco Consulting

"We need to think not just business process, not just technology. We're talking about transformation," Gross says. "If we reflect on the definition of digital transformation, it's more than just technology, it's more than just data. This is an integrated program. So, for each step, what changes do we need to make to our organizational structures? Do we need to upskill in certain areas? Do we need to create new departments? Do we need to retain new people? What business processes are going to change? What data needs to change and how are we going to ensure its accuracy? How are we going to ensure its validity? If we're exposing data to the internet that's sensitive, how are we going to ensure security and privacy? What technologies are required and when? And how are we going to manage associated risks?" These are just some of the questions that need to be addressed before you can make a solid plan.

6. Build your budget and business case, including ROI

Once all the other steps have been taken, a company can then put together an integrated long-term budget that can be broken down into each project. This budget will offer a cost-benefit analysis that reviews the costs, benefits, ROI, TCO (total cost of ownership) and the internal rate of return for the planned digital transformation strategy. It will include the technologies, infrastructure and/or networks that will need to be acquired; when and where consultants will need to be brought into the projects; which departments may need to be backfilled; and where new roles may need to be created.

In a 2018 survey by McKinsey & Company that reviewed unlocking success in digital transformation, companies that reported improved performance from their digital transformation strategies stated that implementing digital tools to make information more accessible, implementing digital self-serve technologies for employees and business partners, and modifying standard operating procedures to include new digital technologies as key factors. So, ensuring the budget includes the necessary software and other IT-related technologies for a smooth transition is vital.

7. Focus on organizational culture

It is important to note that a company's culture, and its ability to change when necessary, will play a major role in the success or failure of its digital transformation strategy.

Carlos Melendez, Forbes Technology Council Member, in a recent article writes that leaders of organizations must actively participate in digital transformation initiatives to create the cultural shift required for success. He adds that leaders need to recognize that new digital technologies need to be invested in to address significant challenges within an organization and not simply for the sake of deploying new technologies.

"This can be accomplished by surrounding yourself with technology experts who acutely understand your business and know how to leverage IT tools to bring about successful business outcomes and happier customers," Melendez writes.

Conclusion

Companies can improve their chances for digital transformation success by creating a solid strategy that starts with clear goals and a foundation of planning and industry analysis. It's important to map out the organization's current needs and gaps and plan for a bright future by building sound business processes and a clear program with the necessary budget – all overseen by the right person to lead the company's cultural shift. By following these key steps, businesses thrive – and not just survive – in the world of Industry 4.0.

Want to learn more? Watch the webinar ***How to Build a Digital Transformation Strategy*** featuring Jonathan Gross.

About SYSPRO

SYSPRO is a global, independent provider of industry-built ERP software designed to simplify business complexity for manufacturers and distributors. Focused on delivering optimized performance and complete business visibility, SYSPRO's strengths lie in a simplified approach to technology, expertise in a range of industries, and a commitment to future-proofing customer and partner success.

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