EBOOK

Manufacturing
The smarter way to workflow
MANAGING THE TRANSITION

Modern manufacturing must be simple, agile, and intelligent. For years, manufacturers have been surrounded by change: automation, Industry 4.0, big data, and more. As the shift to smart manufacturing continues to accelerate, gaining a competitive advantage becomes challenging.
More disruption is on the horizon. According to the Deloitte 2020 Manufacturing Industry Outlook, the current business climate is driving manufacturing companies to build digital muscle. Shifts in every aspect of the business—including supply, demand, and labor—make digital transformation an imperative.

Today’s uncertain global marketplace and rapid shift to remote work make operational resilience more critical than ever. The last five years have seen the impact of large-scale natural disasters, trade constraints, cost volatility, and supply chain disruption due to a global pandemic.

Truly connected operations improve and maintain productivity across the enterprise—from bringing operational excellence to the factory floor, to addressing remote office workers’ needs for VPN capabilities, to addressing supply chain visibility.

Manufacturers that understand the importance of innovation to address challenges, protect against risks, and address customer needs will better compete in this changing climate.
THE CHALLENGE

Digital transformation opens up opportunities for modern manufacturing, but it also comes with major obstacles:

- Siloed legacy operations
- Supply chain transparency
- Outdated maintenance strategies
- Cybersecurity threats
- Skills gap
Siloed legacy operations

To take advantage of the many opportunities in the global landscape, all manufacturers will need to improve their agility and response rate to changing opportunities and threats. Meeting these changing needs will mean transitioning the siloed systems of legacy infrastructure and replacing them with connected systems and equipment—and automated processes—to ensure business continuity.

Supply chain transparency

From natural disasters to changing regulations, to shifting trade policy, supply chain problems can eat up time, costs, and efficiency. Supply chain resiliency is a top operational goal for many manufacturers, but many have felt the effects on COVID-19 on supply chains. In fact, according to a survey by BSI, 71% of respondents have experienced supply chain impacts due to COVID-19, with 23% stating the impacts were significant. The dynamic and evolving nature of the coronavirus outbreak has required manufacturers to reconsider how to approach sourcing and production during times of crises.

(Source: BSI, “Supply Chain Risk Insights 2020”)
Outdated maintenance strategies

Manufacturing and process industries lose an estimated $20 to $60 billion each year when they rely on outdated maintenance strategies. Recent studies also show that implementing predictive maintenance is very cost-effective for manufacturing organizations, saving them between 8–12% over preventative maintenance and up to 40% over reactive maintenance. (Source: Reliable Plant, “While predictive/preventive maintenance is still king, maintenance personnel are reluctant to use internet-based maintenance”)

Cybersecurity threats

Recent reports found most manufacturers expect more cyber attacks in the year ahead. And not just the intellectual property theft or data breaches you may first imagine, but operational attacks that can bring business to a stop. (Source: National Association of Manufacturers, “Manufacturers make cybersecurity central to industry culture”)

4 in 10 manufacturers surveyed indicated that their operations were affected by a cyber incident in the past 12 months. And, for an IoT-focused cyber incident, the average financial impact was $330,000. Source: Deloitte and MAPI, “Cybersecurity for smart factories”
Skills gap
Attracting and retaining employees with the right skillsets to manage advanced technologies is a major concern. With 2.6 million baby boomers expected to retire from manufacturing jobs over the next decade, replacing workers while retaining their knowledge is a major concern. At the same time, persistent outdated misconceptions of manufacturing jobs make hiring top talent challenging.

Manufacturing Institute estimated that 2.4 million job openings in manufacturing—accounting for half of all open positions—will go unfilled between 2018 and 2028 as a direct consequence of the skills gap.
(Source: Deloitte and Manufacturing Institute, “2018 skills gap and future of work study”)

THE CHALLENGE
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Skills gap
THE OPPORTUNITY

Despite its challenges, digital transformation is here and necessary to remain competitive. Business leaders who act quickly to harness the power of digital manufacturing will drive success across the enterprise. Innovation and efficiency opportunities lie in four key areas:

- Real-time visibility
- Product and service innovation
- Equipping current and next-generation talent
- Security as a cultural discipline
THE OPPORTUNITY

- Real-time visibility
- Product and service innovation

- Equipping current and next-generation talent
- Security as a cultural discipline

Real-time visibility
Connect disconnected systems and equipment to gain real-time visibility of productivity and your supply chain to enable better decision-making, improve response times, and efficiency. Another benefit is greater monitoring and faster notice of security threats to your system.

Product and service innovation
Manufacturers need to accelerate their transition from ideation to production in order to bring new products to market faster. Intuitive, connected, and automated workflows can enable the cross-functional collaboration required to drive this innovation, connect R&D to manufacturing, and to deliver feedback that inspires more innovation ultimately.

Through 2025, 65% of manufacturers of complex mechanical and electrical products will execute IoT-enabled product servitization strategies, up from 15% today. (Source: Gartner, “Emerging technologies: IoT platforms for digital optimization and transformation”)

65%
THE OPPORTUNITY

- Real-time visibility
- Product and service innovation
- Equipping current and next-generation talent
- Security as a cultural discipline

Equipping current and next-generation talent
Set your workforce up for success by creating programs to pass on the institutional knowledge of your experienced workers to reduce the impact of upcoming retirements and build new advanced technology skillsets through training and hiring. Another way to empower your workforce is to securely automate repetitive tasks, freeing employees to focus attention on the work that matters most.

Security as a cultural discipline
Cybersecurity must be elevated to a core value in the same way manufacturers have successfully emphasized physical safety. Build a culture—and enable processes and tools—that together make cybersecurity everyone’s responsibility.

Manufacturing firms are particularly concerned about brain drain (i.e., the loss of institutional and technical knowledge): 97 percent of firms express at least some concern about brain drain and almost half of firms indicate that they are “very concerned” about the issue.

(Source: Deloitte and Manufacturing Institute, “2018 skills gap and future of work study”)

TAKING ACTION

What can you start today to get the most out of smart manufacturing and Industry 4.0 trends? Here are four strategies you can act on now.

- Invest in production efficiencies
- Empower product and service innovation
- Harness the manufacturing value chain
- Plug vulnerability gaps

Check out the ways manufacturers are digitizing the manufacturing enterprise.

VIEW INFOGRAPHIC
Invest in production efficiencies to improve resilience and flexibility

It’s time to update and automate processes to make the most of every square foot of the factory floor. Automate repetitive tasks and incident response for greater efficiency to maximize productivity, reduce waste, and achieve higher profitability. This also includes addressing those outdated maintenance strategies with a predictive maintenance approach powered by a system of action. An efficient, intelligent approach to maintenance, repair, and operations through workflow and applications can improve overall equipment effectiveness (OEE) and avoid downtime.

To reap the benefits of IoT, it’s important to recognize that grabbing as much data as you can from your assets isn’t enough. You need an intelligent platform that can turn this information into action.

READ THE PAPER
Empower product and service innovation

Align better collaboration between engineering, customer service, and field service to build new, consistent revenue streams—and to also foster deeper customer relationships that create a feedback loop for ongoing improvement. Deliver customer feedback directly to R&D to inform product improvements and new product ideas for your company. Then, leverage a clear, visible process to connect R&D and manufacturing to get those innovative new products to market on schedule.

Learn more about growth opportunities through servitization in “Manufacturing as a Service: Achieving Growth in a Changing Economy.”

VIEW OUR EBOOK
Harness the power of the truly connected manufacturing value chain

Connect the enterprise on one platform to gain a clear process that’s visible to IT, operations, and other stakeholders, so everyone has the information they need for better decision-making and meaningful insights. Automate and simplify processes to bring efficiency to your entire value chain from supply chain management to servicing customers. Digital manufacturing empowers the whole of your value chain to work together to mitigate risks, improve productivity, and strengthen customer relationships.

You automated the factory floor, and now it’s time for everything else. Download our infographic to learn more.

FREE INFOGRAPHIC
Plug vulnerability gaps

As new technologies and systems are adopted across an organization and its supply chain, it’s difficult to have a clear line of sight into emerging risks and vulnerabilities. Keep both production and people safe and secure by getting a better handle and real-time visibility into risks and threats with a single connected platform. Use proactive operational intelligence tools to anticipate and mitigate potential failures to reduce downtime and simplify your response to threats to move faster and more effectively—and achieve operational resilience.

Identify. Prioritize. Respond. Learn more about the benefits of smart security operations and how to address threats faster.

LEARN MORE
WHAT DOES SUCCESS LOOK LIKE?

Case studies

› App4Mation
› Stone Brewing
› Jabil
App4mation

**Company:** App4mation is an innovative development partner of revolutionary workplace applications.

**The Challenge:** App4mation needed a digital workflow application for its 4Industry solution to help manufacturers: transform old, manual processes into digital workflows; leverage data from IIoT-connected devices; and enable operators to monitor and log process information using real-time data.

**The Solution:** App4mation implemented ServiceNow to power its 4Industry software suite for managing data. 4Industry provides building blocks to process and deliver data across the entire manufacturing enterprise. It includes a user interface that operators and managers can both access using desktop and mobile devices in order to leverage data from IIoT-connected devices, monitor and log process information, exchange information via photos, design drawings, and Q&A functionality, and store and retrieve cloud information. Not only does 4Industry make data management easier, but data is more visible and actionable—enhancing productivity across operations.

**The Result:** Data management and visibility was improved for 4Industry users. ServiceNow’s platform enabled App4mation to speed 4Industry’s time to market, add new features, and tailor software to client needs.
Stone Brewing

**Company:** Stone Brewing Co. is the 9th largest craft brewery in the U.S.

**The Challenge:** Disjointed workflows, maintenance requests, reporting, and analytics across multiple departments slowed down the efficiency of the company. From media requests to facility needs, every process at the time was manual. Another key process that had to be automated was safety tracking and hazards in the workplace.

**The Solution:** Stone Brewing started by replacing its IT systems with ServiceNow. From there, it was able to use different ServiceNow solutions to replace its manual processes across multiple departments, including facilities, marketing, safety, and brewing operations.

**The Result:** Since ServiceNow is a flexible solution, Stone Brewing was able to avoid onboarding four or five different systems to fix their pain points across different departments. Leveraging one system saves Stone Brewing $250,000 a year on hardware, licensing, and labor. In addition to cost savings, Stone Brewing has reduced equipment downtime by 55% and unplanned maintenance interruptions by 71%. Another perk is that the cloud aligns with Stone Brewing's environmental sustainability goals.

WATCH VIDEO
Jabil

**Company:** Jabil, a leading global manufacturer based in St. Petersburg, Florida, employs more than 200,000 employees.

**The Challenge:** Effective project portfolio management is critical to meet Jabil’s IT demands. That’s why project portfolio management (PPM) is a core focus for Jabil’s IT team. It needs to effectively manage its project lifecycle from initial demand through to resourcing and program management. Rather than accepting the status quo, IT is constantly looking to strengthen its PPM processes, driving better outcomes for Jabil’s business and customers. As part of this commitment to world-class program management, Jabil’s IT team recently decided it needed to replace its legacy PPM systems.

**The Solution:** Jabil’s IT team needed a single platform that combined demand and program management capabilities with a flexible, easy-to-use workflow engine and end-to-end reporting. It also wanted to be able to extend the platform by itself, rather than having to rely on the vendor.

**The Result:** Since moving to a unified ServiceNow PPM solution, Jabil has seen numerous benefits. To start with, they have experienced a 25% improvement in operational efficiency with one tool, and workflows are much easier to create, administer, and maintain. As a result, Jabil has been able to shift the resources it’s saved into other areas, such as organizational change management, which has had a dramatic impact on the success of their projects.

Since making the transition, the company has also seen a 40% increase in on-time project delivery. Thomas McCabe, IT program manager at Jabil, attributes much of that improvement to better data quality, saying, “When we had multiple tools tied together by manual processes, people were suspicious of the data. They just didn’t believe the information and discounted it, so project management didn’t get the right level of focus. Now, people trust the data, so they pay attention to the quality of the projects themselves and use data from the system to help solve project problems.”
GET STARTED

About ServiceNow

ServiceNow gives businesses the ability to seize the potential of the smart manufacturing revolution.

For more on ServiceNow’s manufacturing solutions, visit:

https://www.servicenow.com/solutions/industry/manufacturing.html

Additional Resources

Industry brief: The new industrial revolution: delivering operational excellence and enabling smart manufacturing

eBook: Manufacturing as a service - achieving growth in a changing economy

Infographic: You automated the factory floor. Now it’s time for everything else.

White paper: Connecting IoT data to digital workflows enables true predictive maintenance

Q&A: The benefits of a digital platform in manufacturing

White paper: Connecting IoT data to digital workflows enables true predictive maintenance

Infographic: Digitizing the manufacturing enterprise