IndustryWeek

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FAQ

IoT and Digitalization Strategy

The industrial Internet of Things (IoT) is transforming the manufacturing industry from end to end. No matter what competitive advantage you think you have—in customer service, operations, technology, people or something else—companies deploying IoT are changing the terms of competition. The stakes of sitting on the digitalization sidelines are rising. **The time to create an IoT-based digital strategy is now.**

Consider that in 2014, PwC found that Industry 4.0 "was on the radar for many companies—but relatively few were actually in the process of implementing it," according to the consultancy's 2016 research report. Noting the dramatic change from 2014 to 2016, the report declared: "Industry 4.0 is no longer a 'future trend'—for many companies, it is now at the heart of their strategic and research agenda. Companies are combining advanced connectivity and advanced automation, cloud computing, sensors and 3D printing, connected capability, computer-powered processes, intelligent algorithms and 'internet of things' (IoT) services to transform their businesses."

Fast forward to the consultancy's 2018 survey results, and the accelerating trend toward digitalization becomes clear. The report highlights the emergence of "Digital Champions," those companies furthest along in digitalizing their business. PwC defines this group as companies "with an established digital product and service offering and multichannel integration in their customer solutions ecosystem. They have also integrated and aligned their operations, technology, and people ecosystems with their customer solutions ecosystem."

The report found that only 10 percent of companies meet these high standards. However, another 27 percent merit "Digital Innovator" status, PwC's name for companies ranked in the second of four tiers.

As the research indicates, IoT in manufacturing has moved beyond the early adopter phase. With the trend toward digitalization accelerating, it is more critical than ever for companies to go digital before they lose their competitive advantage. Companies that have mastered digitalization are now defining manufacturing competitiveness.

For manufacturers that have embraced digitalization, what are the primary benefits they are realizing?

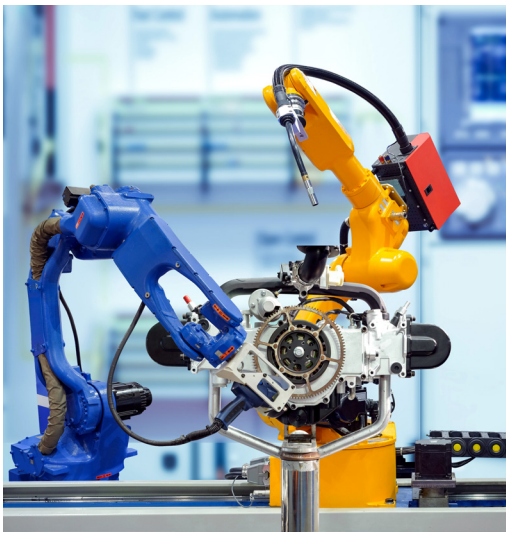
The benefits reported by early adopters run the gamut from using resources more efficiently and decreasing maintenance costs to transforming customer relationships and creating new business models. With end-to-end connectivity, manufacturers gain transparency of operations. Such visibility enhances collaboration across the enterprise, so leaders and operators alike can make informed, data–driven decisions and act more quickly.

The impact on revenue and efficiency gains is equally significant. The PwC report says that Digital Champions "expect their Investments in new technologies and in improving their digital ecosystems to result in revenue increases of 15 percent over the next five years." Meanwhile, Digital Novices, those least along the digitalization journey, project top-line growth of 9.5 percent.

Similarly, Digital Champions expect to achieve efficiency improvements and cost reductions of 16.2 percent, while Digital Novices forecast 10.5 percent.

How has the adoption of the IoT impacted competitiveness?

As manufacturers deploy the IoT – connecting plant, machines, devices and people to achieve end-to-end integration – they set new standards for competitiveness. By optimizing extended value streams and workflow processes, the IoT gives rise to entirely new ways of thinking about and executing every business and operation process. Additionally, it transforms the interplay between functions in the extended value stream.



Further, the PwC report notes that enhancements from technology compound over time "because technology benefits tend to be continuous, iterative, and cumulative." The report asserts, "These benefits create a virtuous circle—each digital advance can be the starting point for additional technology improvements that accelerate digital maturity."

How does the IoT fit into a digitalization strategy?

You cannot have a mature digitalization strategy without the IoT. By connecting to the IoT, you can automatically gather, compile, share and act on real-time data from every element in the industrial environment to boost operational efficiency and production.

The IoT forms the foundation of a digitalization strategy by enabling you to connect your physical machinery and infrastructure to the digital world. With such IoT integration, no part of your manufacturing operations remains siloed, whether existing or legacy assets.

Where should manufacturers start if they want to gain immediate benefits from digitalization?

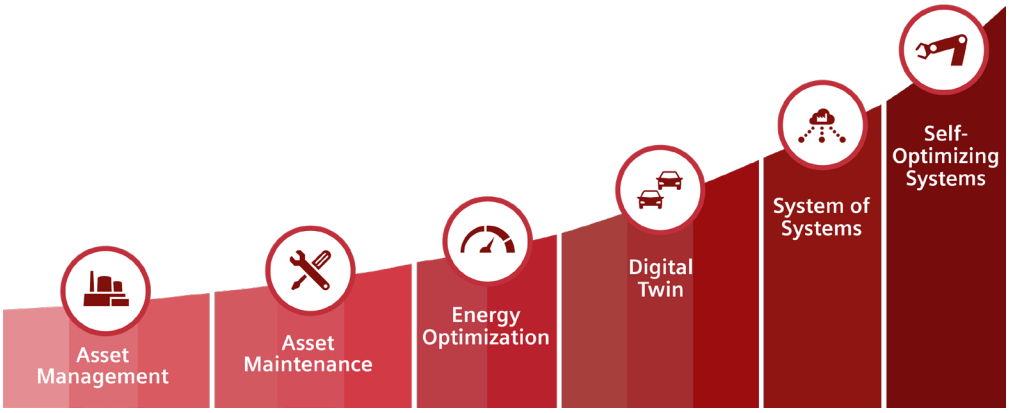
Because unplanned downtime and asset failure are the main challenges affecting profitability in the manufacturing industry, industrial organizations find that predictive maintenance delivers the fastest return on investment. The U.S. Department of Energy (DOE) reports that predictive maintenance can achieve the following benefits:

- 25 percent to 30 percent return on investment through lower maintenance costs
- 70 percent to 75 percent decreases in failures
- 35 percent to 45 percent reduction in equipment downtime

The DOE estimates that reactive maintenance costs four to five times as much because failed equipment reduces overall plant productivity, causes inventory backups and reduces overall efficiency.

How do I get started in building my roadmap for digitalization?

As with any journey, getting started begins with knowing where you are and where you want to go, along with information about the path others have taken. Begin with an assessment of your current physical and digital assets and digital connectivity capabilities. Then, determine whether you want to boost a current or create a new competitive advantage. You can start by reviewing some common industry use cases and industry maturity models. For example, the Siemens Digital Maturity model, a phased, planned approach to IoT adoption that provides targeted outcomes for organizations on their digitalization journey.



This content was developed together with Siemens Digital Industries Software.