

# Maximising the value of digital in manufacturing

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Technological advances have long helped manufacturers keep production lines running smoothly and efficiently. While that continues to be true, it takes more than a singular focus on production efficiency to thrive in a global economy. To remain competitive, manufacturers must accommodate change that extends well beyond the production line.

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Trends that affect the entire value chain present producers with both complex challenges and exciting new opportunities. To excel, they must adopt new practices and products that boost innovation and improve information sharing throughout the value chain. Manufacturing has to go beyond better, cheaper and faster. It must also be smarter.

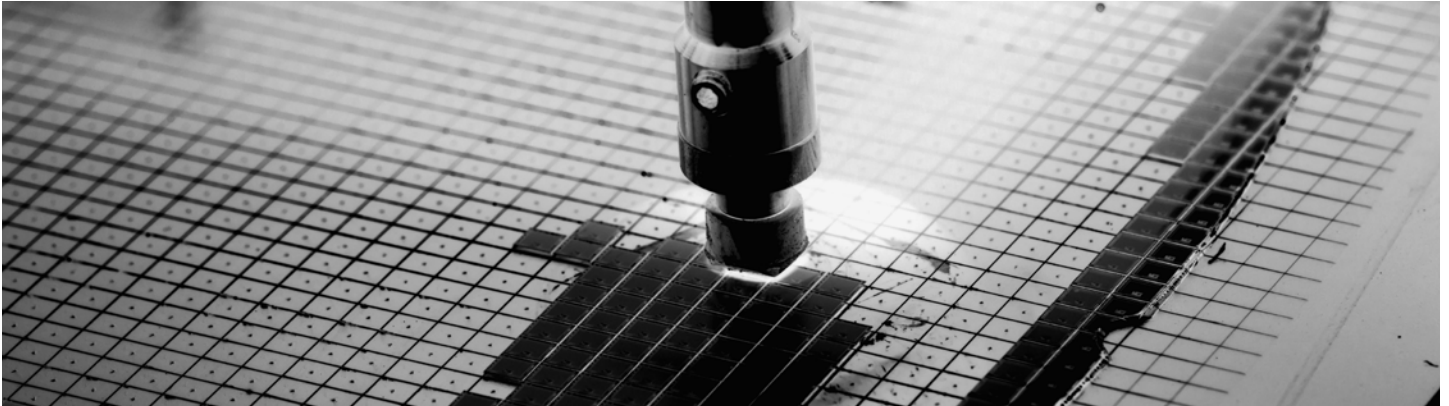
Some trends and their impact on manufacturing have been well documented, such as the shift in consumer demands and expectations, aka the “Amazon Effect.” Smaller product runs, greater variety and customisation, more packaging options and shorter lead times are challenging manufacturers to work in a more agile manner.

Other trends generate fewer headlines but are well known to manufacturers themselves. Productivity gains that once maintained a steady upward trajectory have flatlined or fallen in recent years as production technologies have matured and existing facilities have aged. Labour shortages and the inability to hire workers with advanced skill sets not only hamper the ability of manufacturers to meet current demand, they also increase the imperative to adopt new automated methods to address the labour gap.

## How digital delivers

With the right approach, digital transformation can help manufacturers address these challenges. An Economist Intelligence Unit (EIU) survey in October 2018 of more than 600 executives in global companies — including manufacturers — found that more than two-thirds of respondents say their organisation’s profitability has increased over the past 3 years thanks to its digital strategy. And nearly three-quarters expect profitability to rise in the next 3 years.

Industrial digital technologies enable manufacturers to capitalise on the value of data generated in all areas of operation. This data can be used to improve decision making at all levels, enhance supply chain efficiency, boost operational efficiency and focus innovation in the most promising areas. Digital transformation can help companies identify and understand the root causes of issues and generate data-driven insights to improve critical processes.



But the shift to digital is about more than reacting to known issues. Digital transformation helps manufacturers realise new opportunities and implement new business models. Rolls-Royce, which once generated revenue by selling aircraft engines and maintenance contracts now offers a servitisation model dubbed “power by the hour” for which companies consume a service and pay for the value they receive.

“Pay per lux” lighting as a service from Philips offers customers the option of renting light fixtures and paying a fixed rate for what they use. Philips retains responsibility for the lighting and is motivated to offer the most efficient product possible. Customers get the benefit of a predictable price over the life of the contract.

Servitisation can even be an effective model for products such as chemicals used in manufacturing and service businesses. Safechem rents solvents used in dry cleaning and surface cleaning businesses. Belgian recycler Indaver has created a closed-loop system for the steel industry that captures and recovers hydrochloric acid, which is sold on a pay-as-you-use basis.

## Transformation obstacles

Of course, there’s a catch. The same EIU study that documented the impact of digital transformation also identified the challenges companies face in making the shift. Most organisations, the study shows, are still in the early stages of adopting such a strategy. And fewer than one in three respondents say their business units are “digitally enabled.”

Those challenges have been particularly acute in manufacturing and have contributed to the slow uptake in digital technologies. The 2017 Made Smarter review, an independent study compiled with contributions from over 200 organisations across business and academia, found that UK manufacturers faced a range of challenges to adopting digitalisation in support of their business strategy.

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Among the report's detailed findings, a few key barriers stood out:

- Concerns about security and the loss of intellectual property led many companies to take a go-slow approach to digitalisation.
- Companies often confused the narrower concepts of lean manufacturing with the broader aims of holistic digital transformation.
- Companies cited a critical shortage of skilled workers who have the expertise needed to implement, operate and maintain digital systems.

In addition to the points raised in the study, experience shows that other important issues exist. Pilot proliferation is a common issue found in many companies, with pockets of implementation scattered throughout the enterprise that are not tied to an overall digital strategy.

Using a return on investment (ROI) model typical of IT investments (1 to 3 years) can be misleading in a manufacturing environment. More appropriately, a model that spans the life of the equipment should be used when calculating the payback of digital investments for assets that will operate for many years. Businesses may also be unclear about how to use or integrate sensor technologies or identify the benefits.

Perhaps most importantly, manufacturers report they don't have a clear understanding of their deficiencies and what opportunities they could realise from digital transformation. And, even if they did understand where they needed to improve and what the potential was, they lack the trusted advice needed to create and execute a realistic strategy.

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## Breaking through

Our digital diagnostic structured approach will help break this impasse. A diagnostic is delivered in workshop format for a client team that includes senior leaders with operational knowledge and the ability to make decisions. The goal of the digital diagnostic is simple. Working through a series of industry-specific exercises helps a manufacturer define an overall approach to digital transformation that is compatible with its business strategy.

It helps identify focused, high-value opportunities that support the transformation vision. It also helps the company deliver quick wins that demonstrate real value while minimising the risk and expense that often accompany large-scale transformation efforts. To create these outcomes, the diagnostic addresses the key barriers manufacturers face in developing an effective digital transformation strategy.

**1.** The diagnostic helps manufacturers understand the current industrial technology landscape and how they use it (or don't), and compares that to their stated strategy. Putting it in these terms helps contextualise a company's challenges and opportunities. It also helps the company understand its maturity relative to goals it has set.

**2.** The programme offers a view of the kind of opportunities and initiatives that might exist for a manufacturer in areas that are most relevant to it. This gives the company insights into what digital could mean for it in its environment and helps the company rethink what's possible. It addresses areas of critical concern such as security and protection against intellectual property (IP) theft.

**3.** The skills shortage is a critical factor in the success or failure of transformation initiatives. This segment identifies the capabilities a company needs to achieve its vision (people, process and tech) and assigns relative priorities to help it focus on the most critical gaps.

**4.** The outcome of the diagnostic is a roadmap of change that can be used to drive strategy and measure progress. The roadmap consists of a prioritised set of initiatives, capabilities and opportunities to help the manufacturer realize its strategy. It clearly delineates areas where changes to process, people and technology will contribute the most value to the business. The roadmap defines a series of sprints needed to create a pipeline of minimum viable products (MVPs). According to the priority set by the roadmap, each MVP is elaborated and scaled out in turn. Examples might include a smart factory MVP, MVPs that demonstrate smart design or an improved value chain, or MVPs that focus on aftermarket engagements such as smart technicians or field force engineers.



### About the digital diagnostic approach

DXC's digital diagnostic approach is a two-day workshop delivered with DXC and the UK-based Manufacturing Technology Centre. This intensive programme helps manufacturers formulate and execute a digital transformation strategy from the combined expertise of the MTC and DXC manufacturing experts.

The struggle that most manufacturers have with transformation can be traced to a lack of comprehensive strategy and capability review and the absence of a prioritised list of strategic initiatives that target the most valuable opportunities.

Digital diagnostics help companies create this kind of structured, strategic approach, putting transformation in its proper perspective and in context for the organisation. Digital diagnostics accelerate transformation by identifying the most significant capability gaps to be addressed and the most relevant opportunities. They help companies apply transformation at points that deliver real value. Perhaps most importantly, they minimise the risk and expense of digital transformation while increasing the chances of success. Manufacturers from a variety of sectors have deployed these diagnostics, leading to strategies that have helped them implement smart factory deployment programs, supply chain improvements and analytics initiatives.

## Schedule your diagnostic

Digital transformation is helping manufacturers realise their goals for efficiency and agility, but transformation brings its own challenges. Understanding the possibilities and charting a clear course require insights and experience that meet at the intersection of digital technology and manufacturing. These are the resources brought to bear by the Manufacturing Technology Centre (MTC) and DXC Technology in the digital diagnostic workshop.

To learn more about the digital diagnostic approach or to schedule an event, contact:

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### About the MTC

The Manufacturing Technology Centre (MTC) develops and proves innovative manufacturing processes and technologies in an agile, low-risk environment, in partnership with industry, academia and other institutions. MTC offers a unique, federated environment of industry and digital expertise that manufacturers often lack and frequently works with companies such as DXC Technology that have direct experience in developing digital transformation solutions for industrial clients.

### About DXC Technology

As the world's leading independent, end-to-end IT services company, DXC Technology (NYSE: DXC) leads digital transformations for clients by modernizing and integrating their mainstream IT, and by deploying digital solutions at scale to produce better business outcomes. The company's technology independence, global talent, and extensive partner network enable 6,000 private and public-sector clients in 70 countries to thrive on change. DXC is a recognized leader in corporate responsibility. For more information, visit [www.dxc.technology](http://www.dxc.technology) and explore [thrive.dxc.technology](http://thrive.dxc.technology), DXC's digital destination for changemakers and innovators.