In the midst of the Fourth Industrial Revolution, change is constant across ecosystems, business models, technology, customer expectations, and workforces. Industrial companies, some more than a century old, face a choice between transformation and extinction. To thrive, their leaders must embrace the technology trends that are reshaping the industry.

Focused, industry-relevant insights, from inside and outside their sphere, are critical in making this happen. This guide can help. It provides an industry-specific perspective on Deloitte’s Technology Trends 2019: Beyond the digital frontier report.

With this publication, we examine several important trends through the lens of industrial manufacturing—also touching on the macro technology forces at play and how modern businesses can navigate digital transformation. These forces are actively shaping strategic and operational transformations, redefining IT’s role within the enterprise, and forcing business leaders to reimagine what it means to operate in a digitally driven global economy.
Macro technology forces at work

Nine technology forces (cloud, analytics, digital experience, blockchain, cognitive, digital transformation, AI, VR, and the business of technology) have been the backbone of innovation past and present. These forces are critical for organizations—their controlled collision can compounding the effect of purposeful, transformational change. What is the “state of the state” of these forces today and how are organizations harnessing them?

Getting started

• Learn from the changes of the past decade. The business environment is moving fast. Consider what they mean for future trends.

Getting started

• Transform your processes. Make your processes automatable and repeatable by identifying processes (typically undertaken late in the development lifecycle) into essential framing activities (typically undertaken late in the development lifecycle) into essential framing activities (typically undertaken late in the development lifecycle) into essential framing activities (typically undertaken late in the development lifecycle) into essential framing activities (typically undertaken late in the development lifecycle) into essential framing activities (typically undertaken late in the development lifecycle) into essential framing activities (typically undertaken late in the development lifecycle) into essential framing activities (typically undertaken late in the development lifecycle) into essential framing activities (typically undertaken late in the development lifecycle) into essential framing activities (typically undertaken late in the development lifecycle).

Trends in action

Industrial manufacturing firms are spending their way to adoption of advanced technologies. As we move ahead, manufacturers continue to automate large-scale processes and enhance execution speed by building a backbone of embedded intelligence. This backbone, which combines IoT, blockchain, and cognitive, can lead to lower production costs; a stronger supply chain; enhanced operational efficiency; reliability, security, and visibility; and increased agility.

AI-fueled organizations

Leading organizations are harnessing AI’s full potential for data-driven decision making and generating valuable insights. To become a true “AI-fueled” organization, a company needs to find AI’s place in the mission, rethink its talent, focus on human and machine interaction in its environment, and deploy machine learning across core business processes and enterprise operations.

NoOps in a serverless world

Cloud providers have doggy-legged automated traditional infrastructure and security management processes. NoOps is the complexity and value of “as a service” capabilities. As a result, technical resources are interacting less and less with the underlying system infrastructure. Operations talent can shift to increasingly agile teams focusing on higher-order (and higher-value) activities that more directly support mission outcomes.

Getting started

• Decide what AI means to you. Relevant applications can vary by industry, mission, and situation.

Getting started

• Shift administration to an engineering function. Automation, standardization, and modernization can so you can apply engineering principles and automation to operations.

Getting started

• Go cloud native. Pilot and pursue technologies that don’t involve managing physical servers from containers to storage “as a service.”

Getting started

• Transform your processes. Make your processes automatable and repeatable without human intervention.

Trends in action

Manufacturers are expanding their traditionally physical product portfolios by introducing digital products and services offerings. Platform independent cloud and serverless technologies from solution providers are an example of a cloud-native application development paradigm. Manufacturers can use these technologies to develop services that can operate in a variety of “as-a-service” offerings that enable customers to select and pay for the specific services they need.

Intelligent interfaces

Intelligent interfaces combine the latest in human-centered design with leading-edge technologies such as computer vision, conversational voice, auditory analytics, and advanced visualized (AR) and virtual reality (VR). In working in concert, these techniques and capabilities can transform the ways we engage with machines, data, and each other.

Beyond marketing: Experience reimagined

Today’s astute customers expect highly personalized, contextualized experiences. To deliver them, leading chief marketing officers are looking toward to closer partnerships with their own internal teams and a new generation of marketing tools and techniques powered by data-enabled emerging technologies.

Getting started

• Go beyond the long-established standards. Imagine new engagement patterns and capabilities that go beyond “link and type” and “touch and scope.”

Getting started

• Leverage artificial intelligence in trends to the horizon. Take advantage of new ways to connect and learn.

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DevSecOps and the cyber imperative

To enhance their approaches to cybersecurity and cyber risk, forward-thinking organizations are embedding security, privacy, policy, and controls into their evolved IT delivery models. DevSecOps fundamentally transforms cyber and risk management from compliance-based activities (typically undertaken late in the development lifecycle) into essential framing mindsets that help shape system design from the ground up.

Getting started

• Integrate security. Don’t test it in at the end—build it in throughout the system and operational lifecycle, starting with requirements and design.

Getting started

• Build in testability. Don’t test it in at the end—build it in throughout the system and operational lifecycle, starting with requirements and design.

Trends in action

DevOps and security teams can work in tandem on digital supply network initiatives. By collaborating to create and implement risk strategies, visibility is increased for all supply chain team members. This approach can help manufacturers to create a stronger and more resilient network, considering fundamental sources of cyber risk in the planning stage prior to implementation.

Getting started

• Adopt an incident response plan. Make your plan concrete, achieveable, and measurable.

Getting started

• Create connections. Make your plan concrete, achieveable, and measurable.

Beyond the digital frontier: Mapping your future

Advanced connectivity offers a continuum of connectivity that can drive development of new products and services to transform efficient operating models. From edge computing and mesh networks to 5G, low Earth orbit satellites, and ultra-broadband everywhere across sectors and geographies are relooking at advanced connectivity options to design tomorrow’s enterprise networks.

Getting started

• Plan for the upcoming explosion of bandwidth. A wireless-connected world will bring changes that bring new demands and new opportunities.

Getting started

• Leverage the company’s existing well-integrated, sophisticated data. Change the way we love and use data. What changes are ahead?

Getting started

• Push the envelope on securing our connectivity. How do we push the envelope of synchronized, secured connectivity to support the next generation of connected devices.

Digital transformation has become a rallying cry for business and technology strategists. Yet too often, companies anchor their approach on a specific technology advance. Developing a systematic approach for identifying and harnessing opportunities born of the interactions of technology, science, and business is an essential first step in demystifying digital transformation, and making it concrete, measurable, and achievable.

Getting started

• Build a culture that values learning in the kitchen’; less prominent combinations of techniques and technologies.

Getting started

• Leverage the value. Organizations and companies are already moving to become digital in ways that aren’t clearly spelled out. It can help designers more quickly ideate, design, and engineer products. For customers, intelligent interfaces can provide avenues to better engage and realize value throughout the customer lifecycle.

Trends in action

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Getting started

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