

Tech Trends 2021 | Deloitte Insights

Tech Trends 2021

An Industrial Products & Construction (IP&C) perspective

The technologies that enhance our organizations and our lives are more powerful (and more essential) than ever before. Forward-thinking organizations understand the technological forces that surround them and look for ways to harness new ideas and technology for the benefit of customers and society alike.

Below we provide an Industrial Products & Construction view on Deloitte's *Tech Trends 2021* report, spotlighting the accelerating technology trends most likely to cause disruption over the next 18–24 months. We explore which trends may be most relevant for companies and how ready they are to take advantage of them.

From the rise of strategy and technology becoming inseparable to the rapidly disappearing boundary between the physical and virtual worlds, the trends we explore could have profound implications for industries, businesses, and end customers in the months and years ahead.

Tech Trends 2021

Industrial Products & Construction (IP&C)

Relevance and readiness scale:

We looked at each trend and assigned a value from one (low) to five (high) based on the trend's readiness and relevance of industry adoption.

Readiness:

How ready is the industry to adopt the trend?

Relevance:

How impactful would it be to the industry or companies if the trend is adopted?

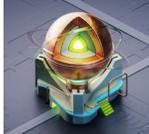
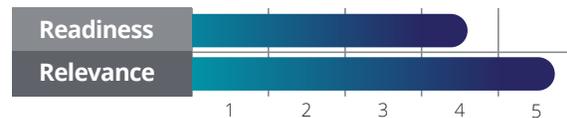


Strategy, engineered

As organizational and technology strategies become more inseparable, technology choices bear a greater role in enabling (or potentially constraining) organizational strategy. Strategy development is being transformed from a slow, infrequent process to one that's continuous and dynamic, helping strategists think more expansively and creatively about the wide range of future possibilities.

Trends in action

As companies seek digitally-enabled competitive advantages, it is imperative they use technology to accelerate and sustain underlying process-based improvements; a strategy built solely around acquiring and activating new technology will fail. Today's strategies strike a balance of process and technology.

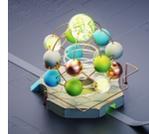
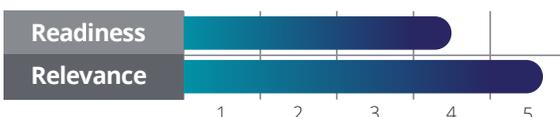


Core revival

Pioneering IT leaders are embracing new approaches, technologies, and business cases to revitalize core assets as organizations increasingly view technology modernization as an imperative to enable strategic change. In a climate defined by historic uncertainty, innovative approaches for extracting more value from core assets could soon become standard components of every digital transformation.

Trends in action

Building greenfield facilities is not always feasible; most companies are looking to unlock productivity gains from brownfield operations. To do so, companies should harness the cloud, implement Internet of Things (IoT) devices, build robotic process automations and AI/ML scripts, and/or set alerts to drive and direct action.

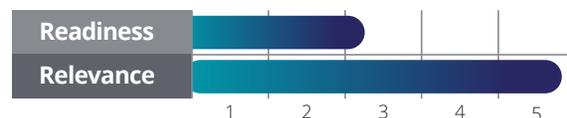


Supply unchained

Organizations are increasingly optimizing their supply chain systems and processes to make them more flexible, durable, and responsive, using advanced digital technologies, virtualized data, and physical technologies to transform supply chain cost centers into customer-focused, value-driving networks. For most, it will be an ongoing journey—one of critical importance.

Trends in action

As wireless technologies and infrastructure have expanded, such as RFID and 5G, supply chains are increasingly interconnected through digital tracking. Companies should expect to see these technologies evolve, with decreasing costs and improving security.



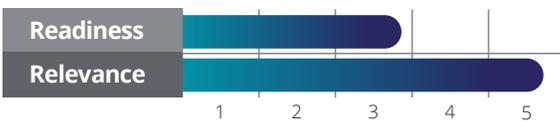


MLOps: Industrialized AI

With machine learning (ML) and AI becoming increasingly key to organizational performance, organizations are realizing the need to move from personal heroics to engineered performance. The era of artisanal AI must give way to MLOps (the application of engineering discipline to automate ML model development, maintenance, and delivery) to shorten development life cycles and industrialize AI.

Trends in action

IP&C companies are finding MLOps and AI present significant opportunities to improve operational efficiency, by automating labor and production decisions, optimizing resource deployment, and improving material utilization. Increasing AI-based automation enables clear, consistent, and standardized decision-making.

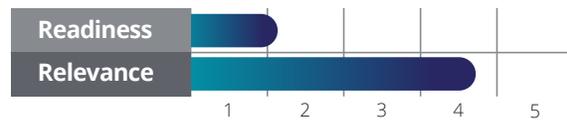


Machine data revolution: Feeding the machine

To achieve the benefits and scale of AI and MLOps, data must be tuned for native machine consumption, not humans, causing organizations to rethink data management, capture, and organization. This can help organizations turn data into a foundation for machines to not only augment human decision-making, but also make real-time, at-scale decisions that humans cannot.

Trends in action

Data is being centralized into singular repositories, often in the cloud. Cloud migration reduces data capture and storage costs, while strengthening cybersecurity measures. Once data can be centralized and secured, machine data can be collected to fuel AI/ML solutions that can provide insights to enable predictive modeling and forecasting.



Client spotlight:

Spirit AeroSystems

To minimize manufacturing span times, Spirit AeroSystems created a cloud-based, dynamic scheduling and routing application that orchestrates manual labor job assignments, machine runs, and material flow in near-real time by consolidating data from their ERP, MES, WMS, HR, and outside supplier data systems and translating it into discrete actions and next steps for the shop floor to execute.

Client spotlight:

Industrial Electrical Components Manufacturer

Integrating a global manufacturing network increases operational agility and dramatically improves the bottom line but doing so requires a tremendous amount of coordination. An Industrial Electrical Components Manufacturer redefined their Digital Product Development and Digital Manufacturing strategy by building and implementing an end-to-end digital thread that connects product development to the manufacturing shop floor.

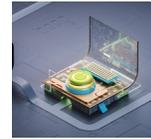
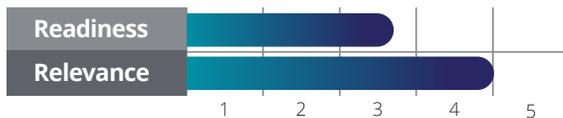


Zero trust: Never trust, always verify

A zero trust cybersecurity posture provides the opportunity to create more robust and resilient security, simplify security management, improve end-user experience, and enable modern IT practices. This shift may require significant effort, including addressing foundational cybersecurity issues, automating manual processes, and planning for transformational changes.

Trends in action

By starting with a default policy of denial instead of trust, systems can be made far more secure; however, ease of use does not have to be sacrificed. Single sign-on (SSO) and mobile-based multi-factor authentication (MFA) can protect data while minimizing clicks required by users.

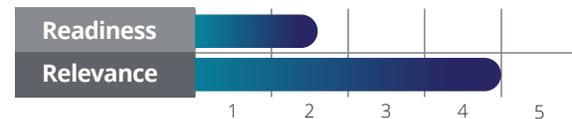


Rebooting the digital workplace

The digital workplace represents a fundamental shift in the way work gets done. Organizations are embracing technology to optimize individual and team productivity, collaboration, and the employee experience at large. As on-site workspaces and headquarters evolve, organizations can use data to create thriving, productive, and cost-effective offices that are interwoven with the remote experience.

Trends in action

By using data consolidation and analytics, basic workforce decision-making and crew management can be automated or semi-automated, freeing up capacity to focus on exception management and longer-term strategic deployment and allocation of human capital.

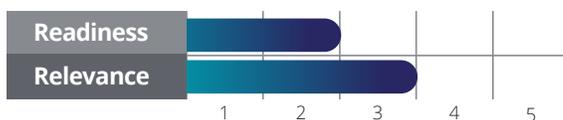


Bespoke for billions: Digital meets physical

Forced to embrace digital faster than ever, organizations are recognizing that the desired human experience strikes a balance between making traditional physical human experiences more digital and digital experiences more physical. In the near term, online and offline interactions will become more fully integrated experiences, benefiting from the best capabilities of each.

Trends in action

As the “digital-to-physical” loop becomes ever more intertwined into everyday life, user interfaces and user experiences (UI/UX) must be consciously designed and integrated into all systems and processes. End users have little patience adopting non-intuitive technologies.

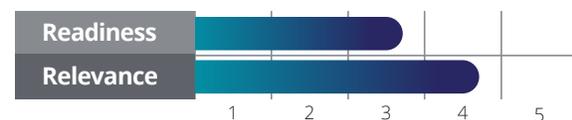


DEI tech: Tools for equity

Organizations have access to increasingly sophisticated tools to support their diversity, equity, and inclusion (DEI) initiatives across the talent life cycle. The tools seek to make DEI decision-making and processes more data-driven, but leaders must still carefully consider potential unintended consequences and carefully manage implementations to achieve their goals.

Trends in action

Supplier diversity has become increasingly relevant across industries. As companies look to invest in and contract more with diverse suppliers, data around small business certifications, minority-held entities, and other measures is becoming more available through central supplier portals.



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