



HOW - TO GUIDE

# 8 ways to create a more productive, safe, and agile workforce

CONSTRUCTION AND ENGINEERING

---

By 2030, the worldwide market for construction services is expected to grow by 85% to \$15.5 trillion.<sup>1</sup> This will present huge challenges for the entire ecosystem, both in ensuring a sufficient supply of skilled labor and adopting new technologies to drive productivity and innovation. Here are eight opportunities construction and engineering companies should embrace to jumpstart productivity and stay competitive as the industry expands:

## 1. Digitize your workforce

A twofold challenge for construction and engineering companies today is the retirement of employees with years of knowledge and expertise, combined with a new generation of workers who are less inclined to embark on construction careers. As the industry rapidly expands, it's becoming more crucial than ever to attract and retain new talent with the skills to operate in a more digital, technologically advanced environment. By embracing emerging technologies such as building information modelling (BIM), internet of things (IoT) sensors, big data and analytics, 3D printing, virtual construction, and autonomous equipment, companies are more likely to attract and retain skilled talent, and can better equip their workforce with the tools they need to be more productive, safe, and agile.

## 2. Optimize project planning and execution

Planning and scheduling are important first steps of any construction project, but the reality is: No project will go perfectly to plan during the construction phase. In many cases, the project schedule soon becomes a statement of progress to date, and no longer a key tool for managing the most optimum, economical utilization of the resources available in the least possible time. When executing on a project plan, construction companies often struggle to manually gather and analyze the vast amount of information collected across their various systems. To tackle this challenge, leading construction and engineering companies must take an integrated project delivery approach. By integrating people, data, systems, businesses, and practices into a collaborative process, companies can drive better project outcomes, increase value to the client, reduce waste, and maximize efficiency through all phases of design, fabrication, and construction.

## 3. Leverage big data insights

It's no secret that the construction and engineering industry is overwhelmed by data. The magnitude of information that comes from a single project is immense, and without the right digital technology, this information can be incredibly difficult to manage. Today's construction firms are beginning to adopt cloud-powered analytics platforms to identify key data that enables a swift reaction to potential problems. For example, by analyzing productivity of key resources such as labor and equipment, big data solutions can inform the project team of potential delays, possible fatigue, and overall project time and cost overruns. The benefits of big data are too good to ignore. By leveraging technology to take control of that data, companies can expect to mitigate project risks, eliminate material waste, improve plant and equipment productivity, protect workforce health and safety, and so much more.

**“ Technology is having an unprecedented impact on the E&C industry. From robots to connected job sites, these inherently disruptive technologies have the potential to provide the efficiency, productivity, and safety breakthroughs the industry has sought for decades.”**

Deloitte, 2020 Engineering and Construction Industry Outlook: A midyear update<sup>2</sup>

## 4. Improve collaboration across the supply chain

With increasing volatility around material prices and availability, combined with a shortage of subcontractors, the drive to embrace smarter and more efficient ways of working with the supply chain has never been so relevant. Whether it's embracing fintech concepts, lean construction principles, or adopting modern methods of construction (MMC) to deliver a collaborative and innovative ecosystem, implementing appropriate digital technology is essential to ensure positive outcomes for all stakeholders. By taking an outside-in approach and using BIM as the enabler for collaboration, construction and engineering companies can create a digitally connected ecosystem that connects the supply chain, clients, stakeholders, and the wider communities across the entire lifecycle of a project, from day one through to decommissioning and demolition.

## 5. Eliminate asset downtime

Construction projects are only as successful as the tools and assets used to create them. In order to meet project deadlines, ensure safety, and eliminate downtime, your equipment, vehicles, and machines must operate at maximum efficiency. Effectively managing the built asset once constructed is equally important. Enterprise asset management (EAM) solutions help you keep a constant watch on your asset conditions and performance, evaluating data to find key trends and anomalies, and make better decisions based on real-time information, while reinforcing your safety programs and maintaining compliance.

## 6. Learn from the experience of other industries

It's well documented that productivity in the construction and engineering sector lags behind all industries except one—agriculture. A recent report by McKinsey & Company suggests that construction sector labor productivity growth averaged 1% a year over the past two decades, compared with 2.8% for the total world economy and 3.6% for manufacturing.<sup>3</sup> The construction and engineering industry clearly has a thing or two to learn from these similarly complex industries, starting with a willingness to embrace digital technology and modern processes. Design for Manufacture and Assembly (DfMA), offsite manufacture, and standardized and repeatable business methods have the potential to transform the industry, but modern technology must be in place to execute successfully.

## 7. Leverage the power of technology

Digital technology is at the center of all opportunities available to the construction and engineering industry today. Despite the resistance to change that has been present in the industry for decades, construction companies are beginning to realize the unquestionable impact digitization can have on productivity. Companies that choose not to embrace it put their businesses at risk of failure. Digitization plays a key role across many aspects of business including managing day-to-day operations, competing for work, executing projects, and ensuring the health, safety and wellbeing of personnel. Technology is no longer a nice-to-have but instead a critical element of executing business strategy successfully.

## 8. Make it measurable

Digitization projects can be daunting, especially when previous investments have failed. The truth is, most digitization failures aren't due to poor technology, but due to poor project execution, an ill prepared process, and the lack of defined measurements of success. Digital technology is a massive investment, so it's crucial to determine from the get-go how success will be measured. Project goals and desired outcomes should be clearly defined at the start of the project, and all key stakeholders, including senior management and the vendor, must be aligned.

### References

1. Global Construction Perspectives and Oxford Economics, [Global Construction Market to Grow \\$8 Trillion by 2030: Driven by China, US and India](#).
2. Deloitte, [2020 Engineering and Construction Industry Outlook: A midyear update](#), Dec 2019.
3. McKinsey & Company, [Reinventing construction through a productivity revolution](#), Feb 27, 2017.

LEARN MORE →

Follow us:    



Infor builds business software for specific industries in the cloud. With 17,000 employees and over 68,000 customers in more than 170 countries, Infor software is designed for progress. To learn more, please visit [www.infor.com](http://www.infor.com).

Copyright© 2020 Infor. All rights reserved. The word and design marks set forth herein are trademarks and/or registered trademarks of Infor and/or related affiliates and subsidiaries. All other trademarks listed herein are the property of their respective owners. [www.infor.com](http://www.infor.com).

641 Avenue of the Americas, New York, NY 10011

INF-2367540-en-US-0820-1