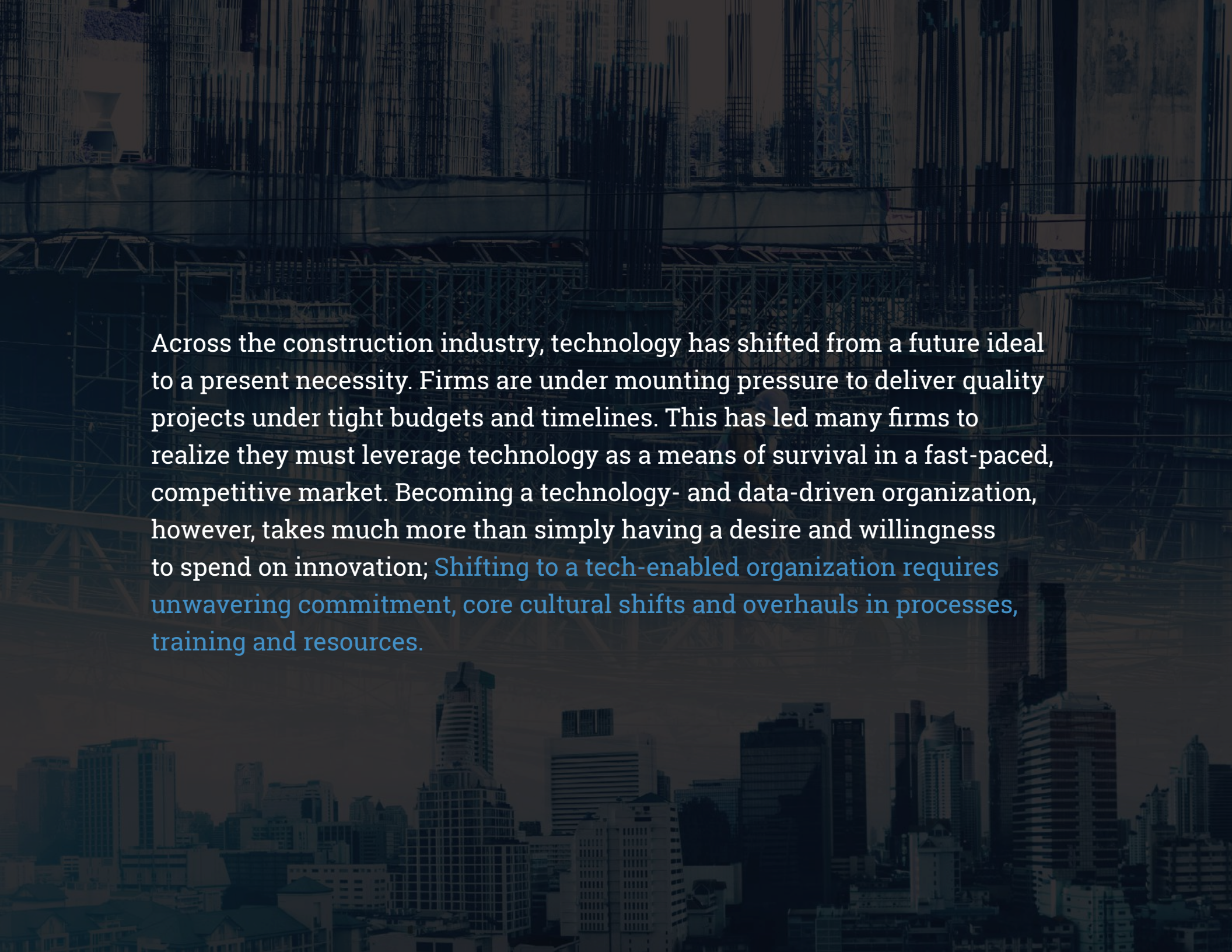




2019 Construction Technology Trends and Predictions

From data collection to business
transformation





Across the construction industry, technology has shifted from a future ideal to a present necessity. Firms are under mounting pressure to deliver quality projects under tight budgets and timelines. This has led many firms to realize they must leverage technology as a means of survival in a fast-paced, competitive market. Becoming a technology- and data-driven organization, however, takes much more than simply having a desire and willingness to spend on innovation; **Shifting to a tech-enabled organization requires unwavering commitment, core cultural shifts and overhauls in processes, training and resources.**

A recent *Engineering News-Record* article reflected on the need for firms to adopt technology or risk dying out:

*“Contractors seldom have ways to maintain any competitive advantage except for operational efficiency. At a time when construction labor productivity has actually declined over the last 50 years, construction companies are increasingly willing to make other bets to win bids. And **technology is increasingly becoming one of the main investment levers to unlock performance improvement and growth.**”*

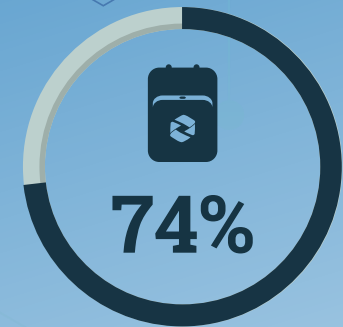
While 2018 may have been the start of the cultural overhaul required for construction contractors to benefit from technology, 2019 is the year that real change and business transformation can occur throughout the industry. Construction firms that have made the commitment to digital transformation must take things one step further, building out the internal infrastructure necessary to survive and thrive in the digital age. This includes the ability to make business decisions through a data-driven lens and investing in the people and processes it takes to collect, analyze and act upon insights gleaned from data.

In this paper, Triax shares top trends and predictions for 2019, including what must take place in order to derive real value from data gathered on the jobsite.

Multiple elements - people, processes, technology - must come together to drive real digital transformation and unlock productivity - the future of the construction industry depends on it.

According to the Q4 2018 USG Corporation + U.S. Chamber of Commerce Commercial

Construction Index (CCI), while just over half of contractors currently use technologies like drones, equipment tagging, wearable technology, and augmented/virtual reality for their projects, **74% anticipate adopting such technologies over the next three years.**



Notably, wearable technologies are expected to grow the most. While only 6% of contractors currently report using this type of innovation, that number is expected to more than triple to 23% over the next 3 years. **Contractors view wearable technologies as one of the top ways to improve safety (83%), workforce management (56%) and productivity (36%).**



What it will take to unlock the true power of data?



Embracing IoT

In 2019, construction firms must continue to invest in IoT solutions to capture data automatically from workers, equipment, tools, materials, the environment and more. By providing remote visibility and real-time insights into everything from equipment utilization and operator identity to worker location and safety incident notifications, IoT can drive improved decision-making and project management, enabling efficiency gains across the project lifecycle.

In the next twelve months and beyond, existing IoT solutions will expand to include additional hardware and sensors in order to enrich the quantity and types of data available for analysis. With even greater visibility into what's happening on the jobsite, construction firms will be able to streamline operations and drive new business efficiencies. As more use cases and applications are proven, digital adoption will accelerate.



Prediction:

IoT technologies will expand to include new types of sensors and hardware. These new technologies will deliver even greater visibility and real-time reporting across the project lifecycle.



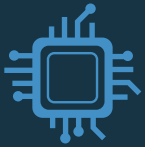
As the market matures and solutions advance, industry stakeholders cannot neglect the fundamentals that separate solutions in the long run. This is particularly important on the physically changing jobsite that presents unique technical challenges, including remote locations and interaction with heavy building materials, equipment and machinery. Successful construction technology solutions must be rugged, easy to deploy and take into account the scarcity of power and data connections that occur as new floors or structures are added. These considerations – form factor, battery life, privacy – are essential for employee buy-in in the field, and if these new tools are not utilized by those individuals who can provide the most information on the ground, construction's digital era will be stunted. **2019 will require solution providers and contractors to strike the right balance between innovation and intelligence, prioritizing tools, feature sets and integrations that add the most value.**

To that point, growing the construction technology ecosystem and enhancing the volume and type of data available, will increasingly require integrations between solutions providers (e.g. hardware and software companies) as well as providers and customers. Not only will more tech savvy customers be less willing to utilize multiple platforms on the job, but with data coming from many sources, project stakeholders and solutions providers will need to work together to integrate various data sets, make sense of the information, and unlock actionable insights.



Prediction:

The ability for organizations to integrate existing data sets and/or legacy systems with new solutions will be critical. Data comes from many places and contractors and solutions providers will need to work closely together to unlock value and drive business transformation.



Digital transformation requires organizational change at the intersection of technology, business and people.

It is estimated that while 90% of the world's data was created in the past year, only 1% of that data is being used effectively. This is a staggering statistic that won't come as a surprise to those within the construction industry. While construction firms made inroads towards automatically collecting – and even integrating – data, **2019 will be the year when data becomes king.**

Leveraging data requires the right processes and analytics tools in place, and the next 12-18 months will challenge firms of all sizes as they undergo the growing pains of having to put processes in place around data: how it's collected, stored, structured, protected and more. For many firms, this will mean additional investments in IT, including training, change to internal processes and establishing basic security policies. Building this initial infrastructure to support data may be the most complex phase of the data integration process.

In 2019, Triax expects to see a shift in the culture of construction firms as they strive to take the data they've collected and act on it. Building a culture where employees feel comfortable innovating starts at the top, and executives must be proactive and steadfast in their pledge to support the digital transformation process, embracing the idea of innovation wholeheartedly and using it as an opportunity to evaluate all aspects of their business. Hiring people outside the industry with high-tech experience, for example, or developing tech- and data-focused roles is one way that organizations can make tangible strides towards their digital goals. Only after these fundamentals are in place can real organizational transformation occur.



Prediction:

Construction firms will need to establish foundational infrastructure to harness the true value of data. This is more than an exercise in process, it's a major cultural shift that will require changing the way things have been done throughout the ages.

We are at the beginning of a seismic cultural shift where construction firms embrace technology at every stage of their organization, from hiring and worker retention to jobsite safety and insurance.

2019 will be the year that companies move from simply testing technologies and collecting data to integrating those solutions and insights across their operational processes. Firms will shift from data collection mode to data analysis mode, allowing them to make informed, fast decisions on and off the jobsite.



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Sources:

Pellen, Adrian. (2018, Dec 5). Dangers Lurk in Union of Construction, Emerging Technology. Engineering News-Record. Retrieved from: <https://www.enr.com/articles/46012-dangers-lurk-in-union-of-construction-and-emerging-technology>

Blanco, Luis Jose. Seizing Opportunity in Today's Construction Technology Ecosystem. (2018, Sept). McKinsey&Company. Retrieved from: <https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/seizing-opportunity-in-todays-construction-technology-ecosystem>

Newman, Daniel. (2018, Sept 11) Top 10 Digital Transformaton Trends for 2019. Forbes. Retrieved from: <https://www.forbes.com/sites/danielnewman/2018/09/11/top-10-digital-transformation-trends-for-2019/#2b8e8173c303>