



# How Tech Will Help E&C Weather the Coming Downturn

By Jay Snyder

**How E&C can use technology to get a second wind and keep the momentum going.**

While the future economic performance of the engineering and construction (E&C) industry is in debate, we can all agree that the industry has been in a prolonged state of growth and enjoying revenue performance beyond pre-recession levels for nearly two years. This was no small feat, considering that we have a labor force with roughly 500,000 fewer workers.<sup>1</sup>

As economic indices start to bob around, E&C leaders should be thinking about whether the industry growth curve is at the top of the cycle and, more importantly, if their companies are at or beyond the growth curve tangent. This would signify steady performance, albeit at a reduced rate.

Even for those companies that are still reveling in rocketing growth, the time to plan for economic softening is not once the downturn starts. But what if there is a way to stretch the growth curve a little further to maximize performance and position the company with more options as you look toward the future? Perhaps the last bastion of opportunity that remains untapped (or barely exploited) is technology.

---

<sup>1</sup> "Careers in construction: Building opportunity." Bureau of Labor Statistics. August 2018.

## Tapping Into the Technological Lifeline

Industry technology solutions have been discussed ad nauseum over the last three to five years. We know that as an industry, all project stakeholders can improve how they embrace technology and innovation to complete projects safer, leaner and with better outcomes for all. At this point, no company has completed its digital transformation. In fact, the word “completion” doesn’t exist in that realm. Instead, digital transformation is a process of iteration, continuous improvement, and process and systems optimization.

If a company claims to be at the tail end of its technology journey, find someone else to spend your time with because that statement is just a straight-out illusion. In fact, even those who respect the digital transformation journey will admit to losing traction, stagnating, lacking focus or running into technology or change management fatigue. Resting is essential because this isn’t best done as a steady pace marathon. Instead, it is best approached as an ongoing cycle of sprints. Otherwise, a company never recovers from the disruption that is inherent to onboarding any technology or optimizing processes.



Likewise, employees need the opportunity to perfect new changes in their workflow and take the time to appreciate the successes that technology drives—as well as any lessons learned along the way. But most companies in the industry aren’t yet there. In fact, most are on their second or third major technology or innovation initiatives; but the majority of those initiatives have been broad programmatic improvements (e.g., adopting lean construction, creating VDC or BIM capabilities, deploying an enterprise resource planning [ERP] platform or new project management software solutions).

Put simply, we’ve barely scratched the surface of digital innovation in E&C. Some companies are slightly ahead, having developed an organizational structure that supports a technology and innovation team or setting up steering committees or user groups. However, most companies still don’t establish a mature financial budget for technology. That’s because they lack the necessary technology and innovation road maps as well as technology-minded leaders who are capable of developing comprehensive technology budgets and associated strategic plans.

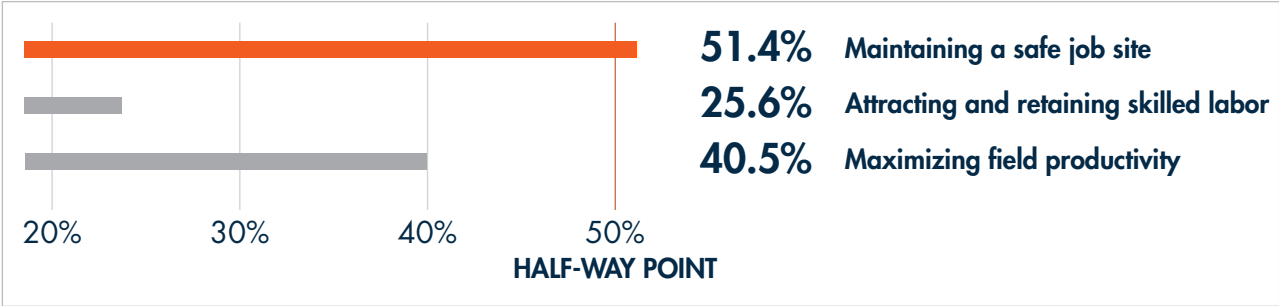
## How to Truly Leverage Technology

The question is, how do we take this opportunity to leverage technology and extend the company growth curve. First, let’s review the greatest concerns that E&C firms have as a collective. In our recently published [research for Procore](#), executives cited these four major pain points:

- Safety
- Talent Retention
- Productivity
- Schedule Performance

This same [study](#) found that less than half of the industry has adopted technology to address these concerns. In fact, only 25% of companies have considered technology as a tool for attracting and retaining talent (**Exhibit 1**). Financial resources are available. So while firms aren't yet dealing with the chaos of an economic event, it's time to get serious about the role that technology can play in alleviating these concerns.

**Exhibit 1. Most firms are using construction software to help maintain a safe job site: 51.4%. But less than half are leveraging technology to address their other top priority concerns:**



Source: Procore/FMI 2019 Industry Survey

Through our research, we also learned that the idea of looking at technology as an asset rather than an expenditure requires a mental mind shift for E&C companies. Specifically, firms are still choosing technology solutions based solely on cost (it is one of the top three influencers when deciding on tech solutions). We also know that—based on a [2018 FMI study for PlanGrid](#)—decision-makers aren't listening to the voice of the end user when making technology choices. In this particular study, 75% of companies reported consistently deploying mobile devices to the field, yet at the same time stated a low (18%) usage rate of mobile apps on projects.

Additionally, while 58% of companies placed the field's needs as a top priority for tech investment, only 28% of them considered user feedback when buying new technology. This is an ineffective way to pursue the right technology initiatives, achieve maximum adoption and drive performance. If E&C wants to leverage technology as part of its growth, it needs to start thinking and acting differently.

That mindset shift begins by taking a more sophisticated approach to technology in your business. Assess where you are today, and then determine where you need to be at various points in the future. If we look at the widely accepted digital transformation, most companies in E&C are in the “business as usual” stage with some moving toward “present and active.”

Over the next two to three months, E&C companies should conduct a simple assessment of their tech maturity using a tech matrix. Developed by [Archetype SC](#), this matrix is a healthy start to understanding the company's current state of tech sophistication. Secondly, it's imperative that the company develop a more detailed road map or action plan and then use it to carve out a deliberate path forward. The following section describes how to get started in this process.

## Key Recommendations

FMI's technology and innovation practice tells companies to use a process similar to its tech readiness assessment model, which includes:

- Aligning executive management on what technology and innovation mean to the business and rallying around general goals for the future digital state of the company.
- Assessing the company's technology stack to determine how well data is integrated across solutions, how well data is collected and managed, what tech capability gaps exist, and where the company has multiple technologies collecting the same data.
- Capturing user feedback on satisfaction and pain points and improving performance by leveraging opportunities to further embrace technology.
- Developing a technology and innovation road map that harvests the items above into an approved and prioritized set of initiatives over a two- to three-year time frame.
- Finding technology's place in the organizational design of the business, including the leadership and human capital necessary to support initiatives and end users.
- Understanding and planning for an appropriate technology budget that's based on the envisioned future state and technology initiatives in the road map.

Let's not forget that the purpose of these exercises is to continue generating company growth at the top of the business cycle. Companies that understand where they are on the tech maturity spectrum complete a deliberate tech-readiness assessment and road map, and then allocate the resources to successfully execute that plan will see the best results. The impact can be significant, as evidenced by the percentage of survey respondents who placed significant importance on the role that technology, the right technology partners and deliberate planning played in their success:

- ***Talent retention and employee engagement***
  - Increase employee engagement/job satisfaction – 62%
  - Help attract the best talent – 47%
- ***Market performance***
  - Better anticipate/respond to customer needs – 63%
  - Create new customer opportunities – 45%
- ***Financial performance***
  - Sustain superior financial performance – 68%
  - Exceed financial goals – 59%
  - Achieve financial goals ahead of schedule – 57%

As you finish out 2019 and you consider the company's focus on 2020 (and how to continue maximizing favorable industry and economic conditions), be sure to catch that "second wind" by leveraging technology not only to address concerns and inefficiencies but also to extend the performance cycle.



**Jay P. Snyder, MBA, CHC** is a technology practice leader with FMI. Jay has been in the engineering and construction industry throughout his entire career. He has industry experience as a construction project executive; corporate director of planning, design and construction for a health care system; founder and managing partner of a risk management tech startup company; and as a valued business consultant. He can be reached via email at [jsnyder@fminet.com](mailto:jsnyder@fminet.com).

# Who We Are

FMI is a leading consulting and investment banking firm dedicated exclusively to the Built Environment.

We serve the industry as a trusted advisor. More than six decades of context, connections and insights lead to transformational outcomes for our clients and the industry.

## **FMI** CONSULTING

FMI has more relationships in the industry than any other consulting firm. We leverage decades of focused experience and expertise to advise on strategy, leadership and organizational development, performance, technology and innovation.

### **PRACTICE AREAS**

#### **Strategy**

- Market Research
- Market Strategy
- Business Development
- Strategic Planning

#### **Leadership & Organizational Development**

- Leadership & Talent Development
- Succession Management
- High-performing Teams
- Corporate Governance
- Executive Coaching

#### **Performance**

- Operations
- Risk Management
- Compensation
- Peer Groups

#### **Technology & Innovation**

- Tech Market Accelerator
- Tech Partner Program
- Tech Readiness Assessment
- Tech Sourcing & Adoption
- Integrated Business Intelligence

## **FMI** CAPITAL ADVISORS

FMI Capital Advisors, a subsidiary of FMI Corporation, is a leading investment banking firm exclusively serving the Built Environment. With more than 700 completed M&A transactions, our industry focus enables us to maximize value for our clients through our deep market knowledge, strong technical expertise and unparalleled network of industry relationships.

### **SECTOR EXPERTISE**

- Architecture, Engineering & Environmental
- Building Products
- Chemicals
- Construction Materials
- Contractors
- Energy Service & Equipment
- Energy Solutions & Cleantech
- Utility Transmission & Distribution

### **SERVICES**

- M&A Advisory
- ESOP Advisory
- Valuations
- Ownership Transfer

### **EXECUTIVE EDUCATION**

- Acquisitions in the Construction Industry
- Ownership Transfer & Management Succession

## TRAINING PROGRAMS

Over 10,000 industry leaders have completed FMI training programs, which span the entire management spectrum, from new managers to senior executives.

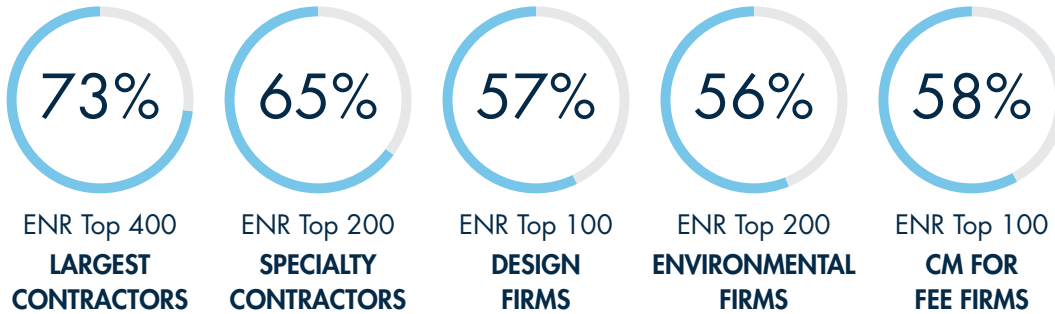
- Emerging Managers Institute
- Field Leader Institute
- Project Manager Academy
- Construction Executive Program
- Leadership Institute
- Leading Operational Excellence
- Construction Selling Skills
- Market & Selling Strategies
- Ownership Transfer & Management Succession
- Acquisitions in the Construction Industry

## FMI PEER GROUPS

FMI manages nearly 50 individual peer groups across the industry. Connecting businesses through networking, expanding visions and providing feedback.

- Organizational Structure and Development
- Human Resources
- Business Development
- Information Technology
- Operations Management
- Financial Management

## FMI CLIENT HIGHLIGHTS



**Denver**  
210 University Boulevard  
Suite 800  
Denver, CO 80206  
303.377.4740

**Edmonton**  
Edmonton, AB  
780.850.2693

**Houston**  
1301 McKinney Street  
Suite 2000  
Houston, TX 77010  
713.936.5400

**Phoenix**  
7639 East Pinnacle Peak Road  
Suite 100  
Scottsdale, AZ 85255  
602.381.8108

**Raleigh** (headquarters)  
223 S. West Street  
Suite 1200  
Raleigh, NC 27603  
919.787.8400

**Tampa**  
4300 W. Cypress Street  
Suite 950  
Tampa, FL 33607  
813.636.1364



for the Built Environment

[WWW.FMINET.COM](http://WWW.FMINET.COM)