

— 2023 US

Construction Playbook: Overcoming Industry Challenges with Technology

PROCORE®



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A Letter from Our Founder & CEO

Your work is mission-critical — you build the world around us, and continue to provide our communities with new homes, hospitals, schools and infrastructure when we need them the most. When hard times hit, this industry doubles down, and is called upon to get boots on the ground and get to work.

Demand for construction already massively exceeds supply, and demand will only increase with more infrastructure-related projects coming online. **Our purpose at Procore is to partner with you** to help you meet this demand. We measure success by helping you meet this demand by **building more efficiently, safely and with higher quality**, ultimately leading to better project outcomes for your clients.

Today, you all have **more technology and data at your fingertips**—which means you are finally able to shift from playing defense to playing offense. Our connected platform, products and massive amounts of data are **empowering you to make business decisions** that will help your businesses grow and thrive.

I recognize that technology is only one important piece of partnering with the construction industry to overcome challenges and obstacles. We are **investing in programs and resources** that bring more people into the industry, educate the future workforce, upskill your current workforce, and help you retain your workforce, **because people are the backbone of construction.**

Tooey Courtemanche
CEO & Founder
Procore

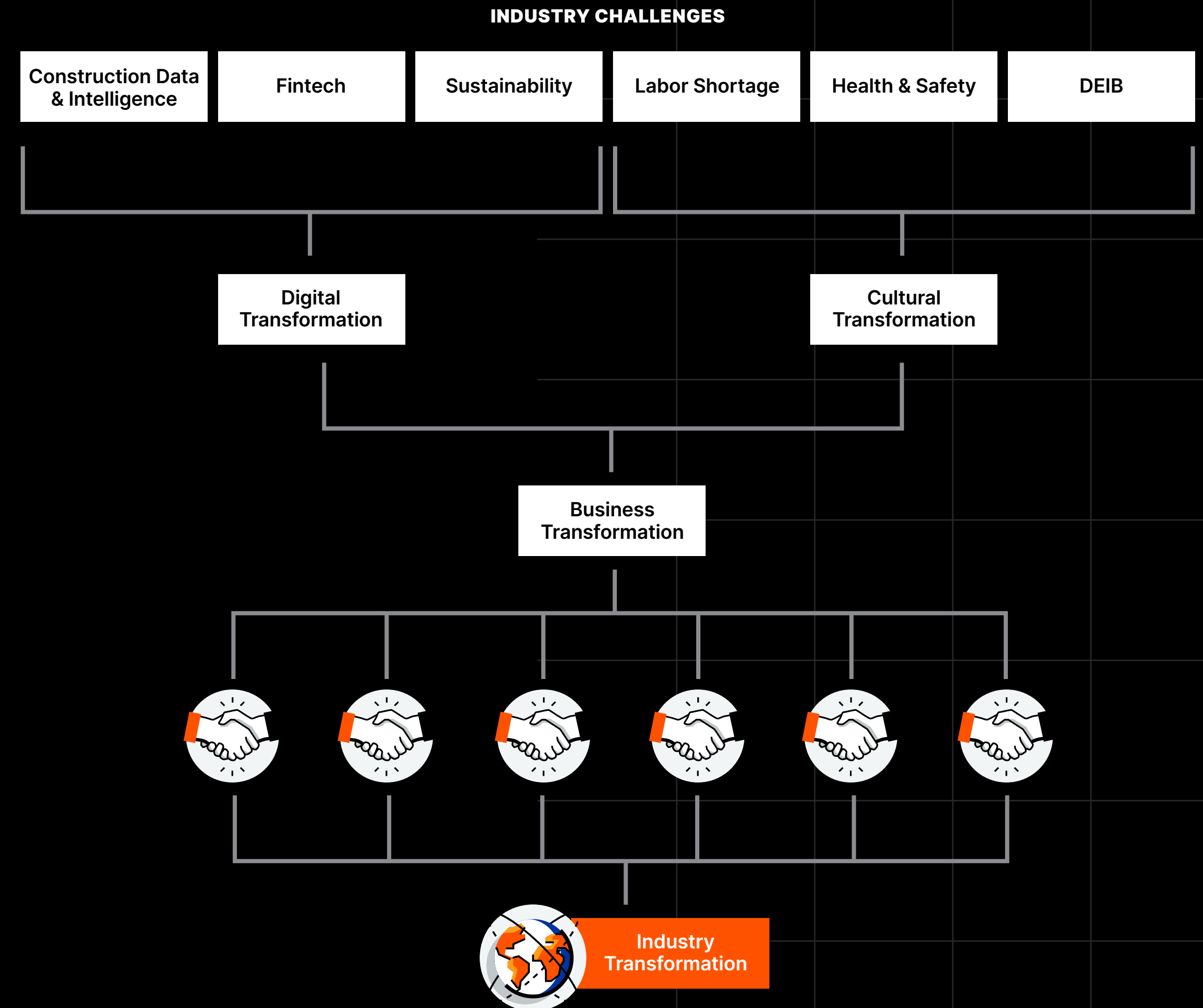


— INTRODUCTION

How the Construction Industry is Transforming

Across the globe, we've heard from our customers, partners and the industry about several areas of focus that will impact construction in 2023. In this guide, we'll dive into construction topics we've found to be top-of-mind so you can leverage the right tools for a successful 2023.

These topics are broken out into two different categories: Digital Transformation and Cultural Transformation. When successfully leveraged, the two can evolve your business. Organizations around the world are making this shift and undergoing a business transformation that will unlock new efficiencies and create a number of opportunities for construction today, tomorrow and beyond—ultimately leading to a transformation of the industry.



— CHAPTER 01

Digital Transformation

How technology is changing the way you work.

Construction is becoming increasingly digitized—but the end goal far exceeds getting your information off paper and spreadsheets and into a reliable tech solution.



Digital Transformation

The industry is continuing to digitize its processes, but digital transformation takes it a step further with cross-departmental change. Technology and people work together to deliver connected data to minimize risk, increase efficiency, improve communication between the office and field, and create real-time visibility. This transformation includes:



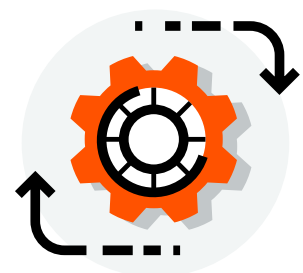
Construction Data & Intelligence:

In an industry where 96% of data goes unused, accessible data is paramount. Analyzing data on a true connected platform creates actionable insights and gets invaluable information off paper and spreadsheets and into a reliable tech solution.



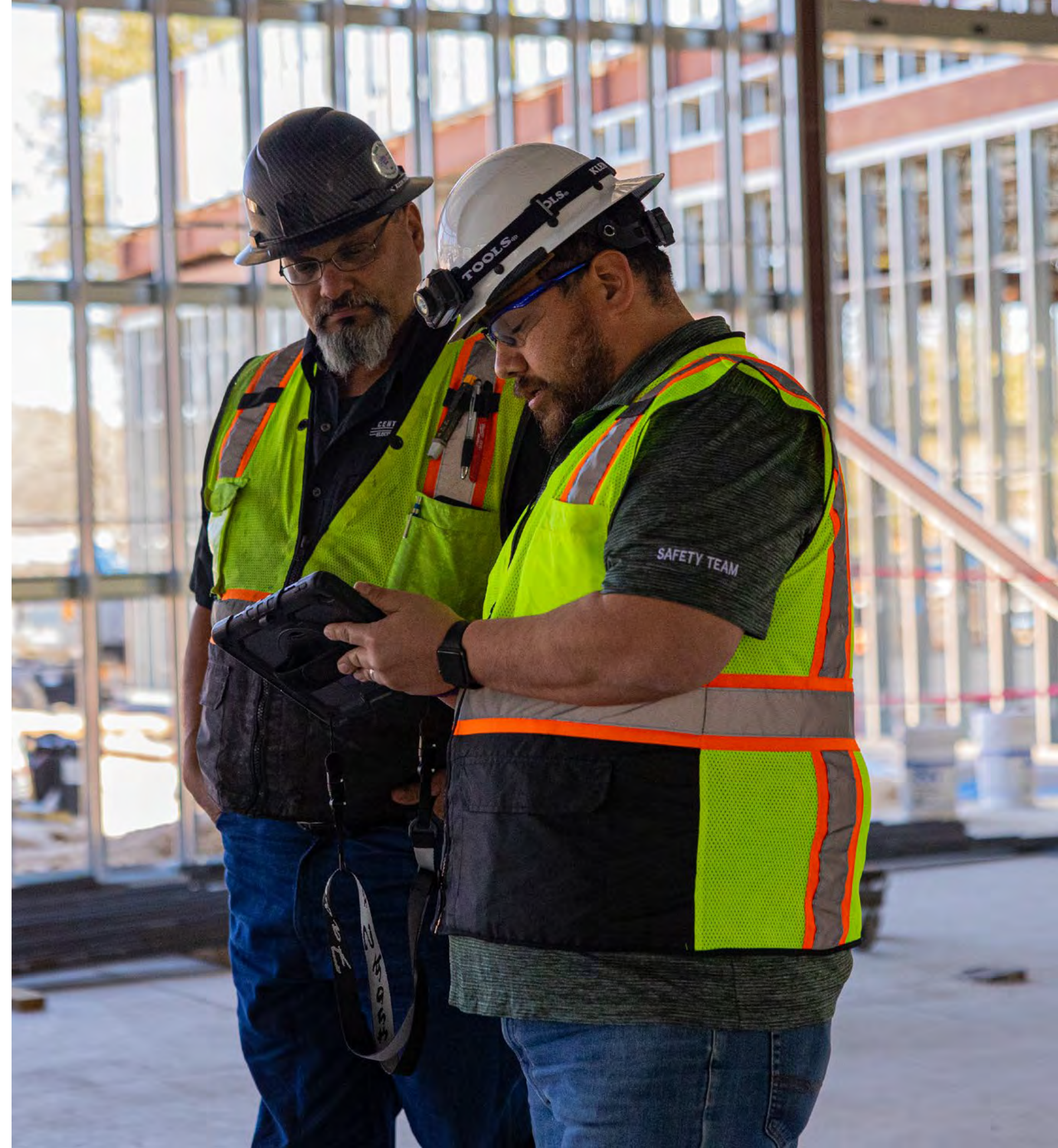
Fintech:

Delayed payments have long plagued the industry. Discover how modern, construction-specific financial solutions can improve material financing and streamline inefficiencies.



Sustainability:

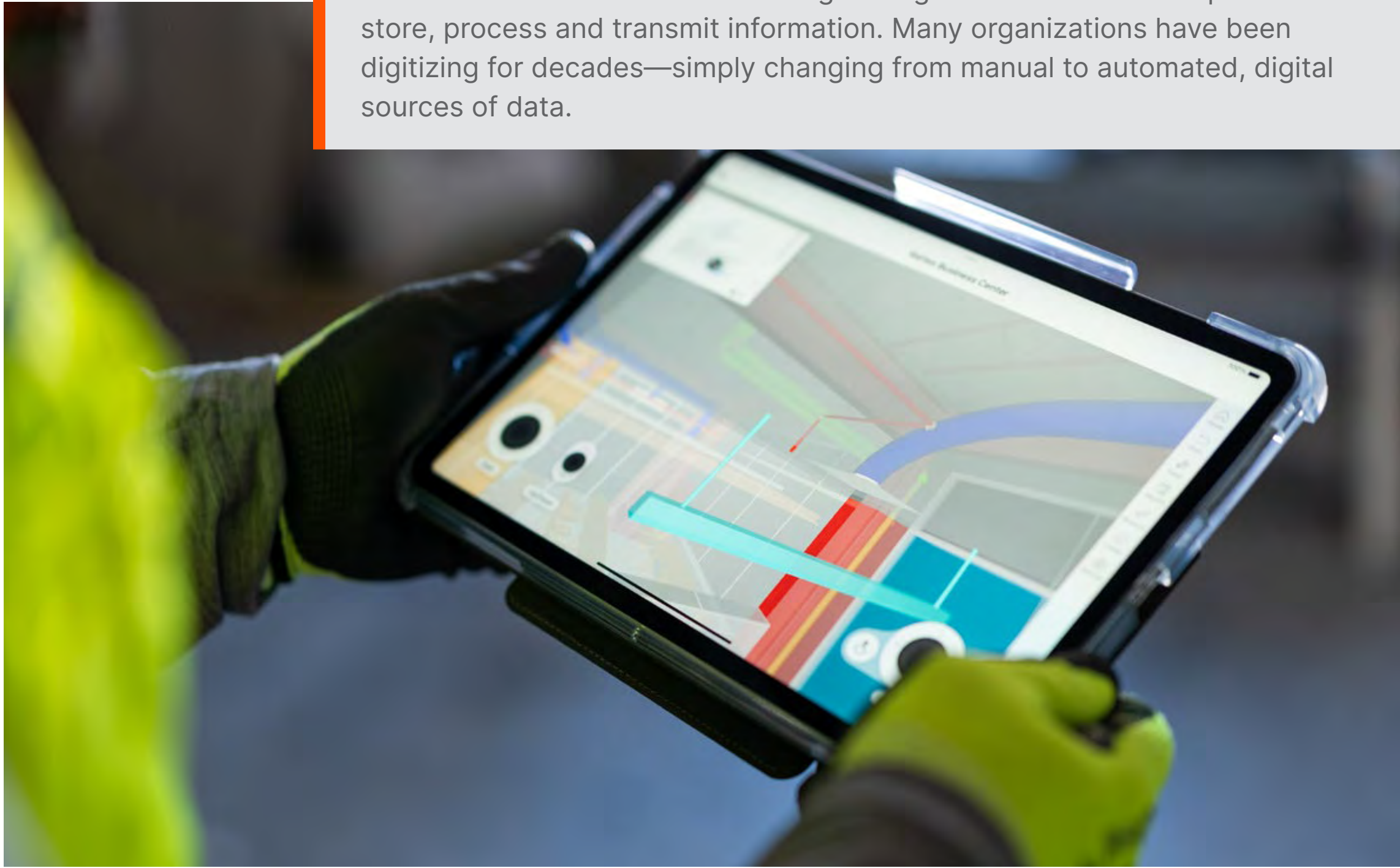
As a leader in global carbon emissions, construction has the opportunity to turn statistics around. Dive into how technology is supporting greener building.



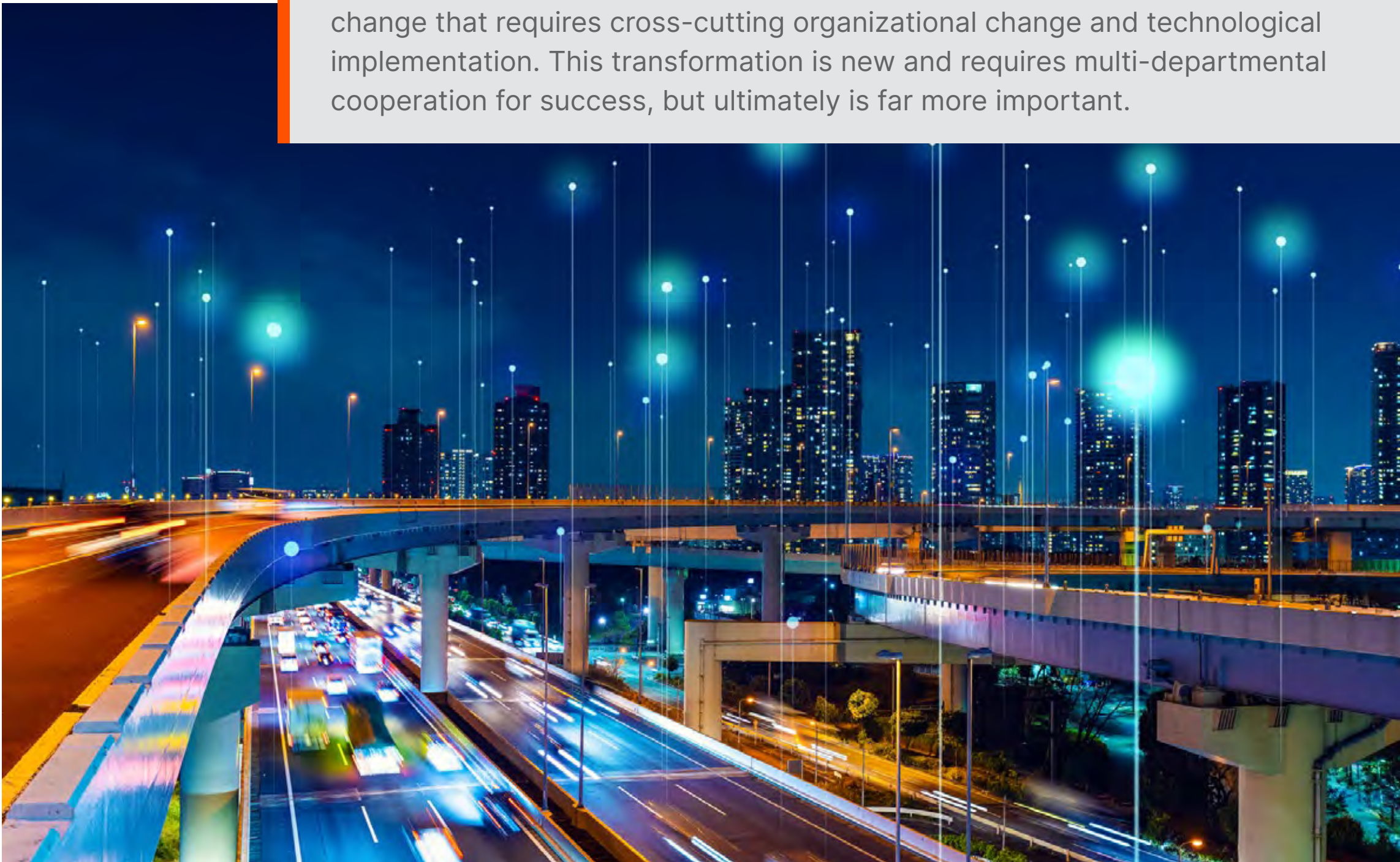
Digitization vs. Digital Transformation

Many organizations have invested in multiple digital solutions, but are facing problems like siloed information, security concerns and lack of adoption. In a post-pandemic world, making tech updates isn't just smart—it's vital. The people and processes that you build around technology are the driving forces behind successful digital transformation.

DIGITIZATION refers to transferring analog information into computers to store, process and transmit information. Many organizations have been digitizing for decades—simply changing from manual to automated, digital sources of data.



DIGITAL TRANSFORMATION is a customer-driven strategic business change that requires cross-cutting organizational change and technological implementation. This transformation is new and requires multi-departmental cooperation for success, but ultimately is far more important.



Digitally Transforming the Future

Connected data is the future of construction, and digital tools support this goal. Improving privacy and security, [managing risk](#) and growing the business can become realities with the right tech partner. Software that provides live, multi-stakeholder collaboration across field and office teams can increase efficiency, communication and visibility.

Worthwhile software encourages adoption and [mobility](#). With a host of options to choose from, it's vital to have a smart buying plan. New solutions will only continue to flood in, making it important to maintain clear objectives. Within this digital transformation, supported by modern solutions are three key focuses for success: construction data and intelligence, fintech, and sustainability.





Construction Data & Intelligence

Construction produces an enormous amount of project data, which often goes unused. How can you put your data to work?

Current State: Disconnected Data Challenges

Construction produces a plethora of data every year on every project. This wealth of information unfortunately is rarely tapped into and is often siloed, withholding helpful historical data from decision makers. Stakeholders are often left guessing or making gut-based decisions, inviting unnecessary risk.

Construction intelligence is also top-of-mind in many organizations today, with AI-driven workflows starting to make their way into projects, and the promising potential of AI-powered insights. While the industry is just scratching the surface of intelligent solutions, the future is bright as data and intelligence starts to get connected and analyzed.



CONSTRUCTION DATA & INTELLIGENCE

By the numbers:



13%

of working hours are spent looking for project data.¹



96%

of engineering and construction data is still unused.¹



70%

of projects experience cost overruns.²



44%

of companies have a dedicated IT department.³

Looking Ahead with Tech

Software that allows data to connect and integrate with other tools is not just preferable today—it's essential, as organizations with siloed data risk getting left behind. A platform provides a central source for information, empowering data-driven decisions.

Risk management tools help organizations to use their data to not only be more secure, but also to identify potential problems. With data and predictive analytics, teams are better equipped to [work offensively](#) rather than defensively. With unique insights, organizations can more confidently forecast and plan for a successful future.





Three Steps to Centralize and Connect Your Data

- 1** Avoid point solutions and opt for platforms. Seek out tools that solve multiple challenges rather than a single one to eliminate silos.
- 2** Take stock of your tech stack. Understand how each piece of technology passes on data to the next, and where it hinders this flow.
- 3** Identify internal tech champions. Get buy-in from decision makers outside of the IT department to increase adoption throughout the organization.





Fintech

Current State: Cash Flow, Insurance and Lending Woes

Cash flow, insurance and lending challenges are rife in the industry, causing project delays, decreased profits and avoidable inefficiencies. The insurance and surety industry has also been slow to embrace technology, further inhibiting productivity for construction. Every contractor wants to get paid on time, but unfortunately less than 10% say they always get paid on time. When payments are late, some firms are forced to take out loans, creating more anxiety around an already stressful situation.



FINTECH

By the numbers:



79%

of construction businesses that accept electronic payments say electronic payments has helped them get paid faster.¹



9%

of construction businesses say they always get paid on time.¹



97%

of construction businesses experience stress from slow payments and cash flow.¹



8%

average in rate increases. The fixed property insurance market continues to see upward rate pressure as well as increases on building valuation²

Looking Ahead with Tech

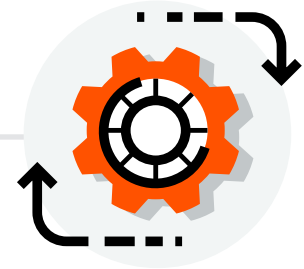
Just like other industries, construction is recognizing more and more the importance of financial services (or fintech) to mitigate material financing, lien and insurance challenges. Today more than ever, new tools are arising to help solve these problems and better support construction. Equipped with the right technology, organizations can drive more predictable profits, take control of cash flow and recognize risk before it becomes problematic.



Three Steps to Reduce Financial Headache

- 1** Leverage your data for better underwriting. If you're not using your data, it's easy to fall behind, so it's important to ensure your fintech stack is built for success.
- 2** Create a competitive advantage. Improving the payment chain within your organization and stakeholders will increase your overall wins.
- 3** Thoughtfully choose industry-specific tools. The right financial team will be able to vet software possibilities and weed out those that aren't made for construction.





Sustainability

Construction has the power to reduce global carbon emissions. How can you build greener and more sustainably?


Current State: The Chance to Make a Sustainable Difference

As a leader in global CO2 emissions, construction has work to do to make changes towards greener building. The industry has countless opportunities to build more sustainably, and the shift towards greener construction is ongoing across the globe. In recent years, more and more organizations are seeking out LEED certifications and other such sustainability assessments. New innovations have spurred unprecedented building styles that rely on renewable energy, recycled materials, and sustainably forested timber.



SUSTAINABILITY

By the numbers:




40%

of all global CO2 emissions is from the built environment.¹



27%

of CO2 emissions comes from building operations.¹



58%

of E&C firms have lowered energy consumption.²



23%

of total global emissions comes from concrete, steel and aluminum.¹

Looking Ahead with Tech

Reducing rework with technology doesn't only help with supply chain woes—it's good for the environment too. Technology maintains open lines of communication, increasing visibility and avoiding unnecessary work. Preconstruction technology can provide the minute details, allowing contractors to order supplies needed while avoiding waste. ESG (Environmental, Social and Governance) is a framework to effectively take accountability and mitigate risk related to sustainability. Having ESG in place at your organization, supported by the right software can help your organization track and set goals around reducing rework and environmental impact.

Focusing on getting LEED certifications and overall greener ways to build is important not just to the planet, but also to future employees. For the next generation of talent, a company with a strong stance on sustainability is often desirable and can impact them seeking out employment with such an organization.





Three Steps to Build a Greener Future

- 1** Create a sustainability taskforce. Heading up green initiatives is a full-time job, and finding the right people can make all the difference.
- 2** Research innovative solutions. Educating teams on what steps other organizations are taking towards greener building spurs ideas.
- 3** Track sustainability with tech. Using embodied carbon emission calculators or achieving LEED certifications and the like with the help of software can be a game-changer.



— CHAPTER 02

Cultural Transformation

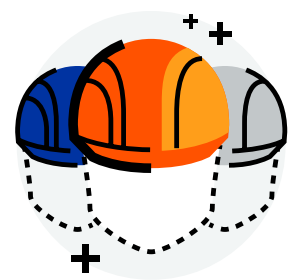
How shifts in culture are changing the way you work.

Construction's cultural transformation is an ongoing effort to create a safe community for the next generation where everyone has an opportunity to build.



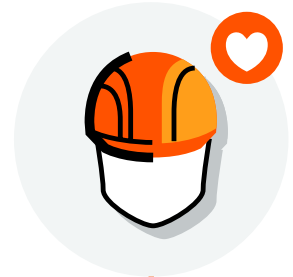
Cultural Transformation

The industry has been embracing a more diverse and equitable workplace that fosters a sense of community. Cultural transformation occurs when organizations promote safety, innovation and inclusion—in turn, attracting and retaining top talent. This transformation includes:



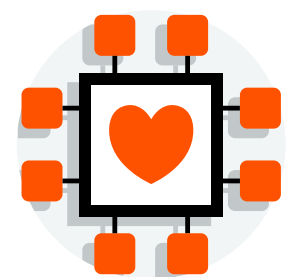
The Labor Shortage:

91% of firms are experiencing labor shortages. Workforce management software can help solve these issues and make the most of current personnel.



Health & Safety:

Safety has long been paramount in construction—but today it extends to mental wellbeing, as construction has one of the highest suicide rates. Technology can help identify risks before they become problematic.



Diversity, Equity, Inclusion & Belonging (DEIB):

Diverse, inclusive work environments foster creativity and innovation—and construction stands to benefit. Technology can support DEIB initiatives and hold teams accountable.



Taking a Closer Look at Workplace Culture

Construction has long been stereotyped for being stuck in the past and unwilling to change. However, today the industry has been making significant strides in creating an environment of belonging, safety and inclusion—which in turn has started to attract a new generation of talent.

Many firms are changing their hiring and training practices, taking a close look at how they need to update and embrace new technologies to support recruitment. The next generation expects software on any job to be a given, and often gravitate towards technology-driven careers.

In an industry vying for labor, it's important to reexamine values that interest and engage workers. Changing the culture of the organization is a [top-down process](#), requiring buy-in from executives and a commitment across the organization in both the office and field.

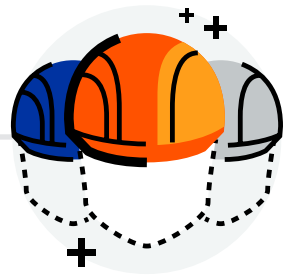


Culturally Transforming the Future

Changing—or even just honing—culture doesn't happen overnight. It takes a consecutive series of good decisions and alignment across the business to prioritize authenticity and guiding principles. Business values should be readily supported by technology and should inform how that technology is used by employees—emphasizing quality, safety or other key standards.

As we look ahead, the businesses that embrace cultural shifts in their organization also find more success. This cultural transformation is far-reaching, but some of the most important areas of focus are navigating the labor shortage, improving health and safety, and creating a diverse, equitable, and inclusive workplace that champions belonging.





The Labor Shortage

The next generation of talent can be hard to tap into. How can you attract and retain the right workforce?

Current State: Optimizing Workforce Management

As the most persistent issue facing the industry, the labor shortage is nothing new. Former recruitment tactics don't always appeal to the next generation of construction, and industry veterans are retiring without replacements. Many organizations are trying to retain their current workforce but are unequipped to do so.

Better [workforce management](#) optimizes the effectiveness and efficiency of each employee. Without a robust workforce management program, it's difficult to put the right teams to work while avoiding burnout and ensuring personnel have a chance to upskill. [Six pillars support proper workforce management](#): communication, scheduling, data management, people management, forecasting, actuals and analytics.

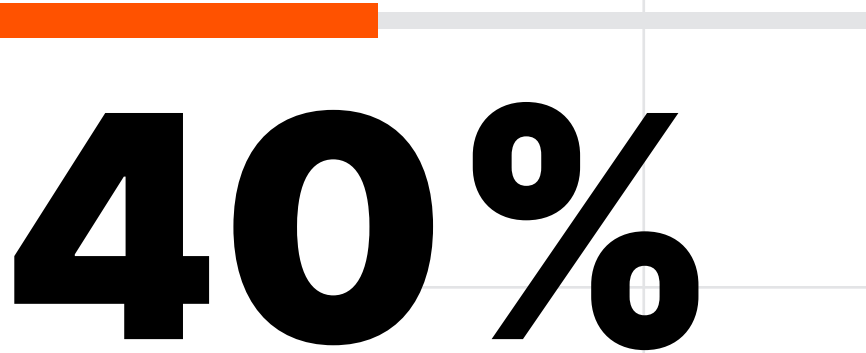


THE LABOR SHORTAGE

By the numbers:

590k

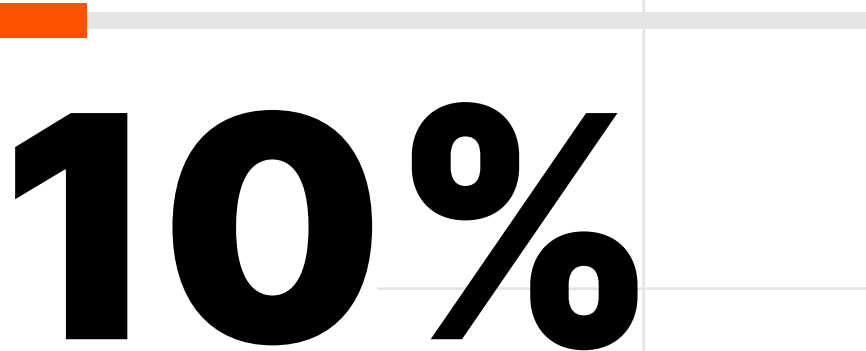
workers needed in 2023 to meet industry demand.¹



of workforce growth is low-skilled laborers.¹

42_{YRS}

is the average age of construction workers.²



of the construction workforce is women and minorities.³

Looking Ahead with Tech

While it can't replace boots on the ground, [technology can help alleviate the pressure](#) of the labor shortage. Workforce management software helps get the right person to the right place at the right time, so organizations can make the most of current employees.

Programs like [Procore.org](#) are helping educate and prepare the next generation of construction professionals in 97% of accredited construction management undergraduate university programs. Early, positive exposure to the industry through such offerings lets the workforce of tomorrow know that construction is much more than meets the eye. In addition, providing the current workforce with opportunities to upskill allows businesses to grow internally.



Three Steps to Start Tackling the Labor Shortage

- 1** Assess current workforce management practices. Determine if your organization should seek out software to help get the right person on the right job at the right time.
- 2** Encourage the next generation. Young people need positive exposure to the industry early on to realize construction is an exciting and fulfilling career path.
- 3** Upskill and value your existing team. Support your current workforce by offering ways to advance their talents in an uplifting work environment.





Health & Safety

Following a pandemic, workplace health and safety are more important than ever. How can you maintain a culture of mental and physical safety for employees?

Current State: Safety Beyond the Hardhat

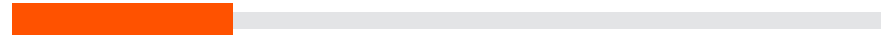
Construction has long been considered a dangerous industry—but not just physically. Construction sites can be rife with both psychological and bodily harm, and many workers don't or won't seek mental healthcare.

Construction workers often face heightened stigmas around mental health and safety, resulting in avoiding support. The industry has the opportunity to change the status quo and instead offer resources that will help their workforce process difficult challenges. Many companies are actively trying to increase safety training, build robust health and safety programs, and foster a preventative environment—and that's where technology can help.



HEALTH & SAFETY

By the numbers:



26%

of construction workers are likely to seek mental healthcare.¹

2nd

Construction had the second most occupational deaths in 2021.²



63%

have access to an Employee Assistance Program (EAP).¹



51%

report a culture of mental health care.¹

Looking Ahead with Tech

Rather than simply minimizing incidents, zero has to be the goal to truly create a culture of safety. Software can help track safety training, identify potential risk, create visibility into who hasn't had some much needed time off, and acknowledge where things went wrong on past projects—including who needs to be held accountable at every level.

The next generation of talent wants to be assured of a mentally and physically safe environment, especially following a pandemic, so creating a top-down safety program benefits both existing and future employees. Virtual counseling and other online tools can create an easily accessible avenue of support for teams seeking to amp their mental health resources.

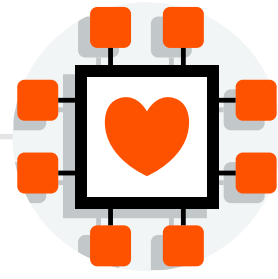




Three Steps to Foster a Culture of Safety

- 1** Recognize the problem. Change cannot happen without acceptance—and acknowledging mental and physical safety challenges and stigmas is the first step.
- 2** Create or re-evaluate safety teams. Safety from the top down is critical in creating a culture of safety that tolerates zero incidents.
- 3** Use technology for accountability. Make sure safety certifications stay up to date, note potential risks and ensure your workforce isn't getting burnt out.





Diversity, Equity, Inclusion & Belonging

A strong team is both diverse and inclusive. How can you create a more equitable future for your organization?

Current State: Construction is for Everyone

Diversity, equity, inclusion and belonging (DEIB) is crucial to building engaged and productive teams. The industry has an opportunity to create a more diverse and inclusive future that enables everyone to thrive.

- + **Diversity:** Are the full range of human needs, experiences and abilities accepted and respected in the organization?
- + **Equity:** What structural barriers need to be eliminated to create fair treatment, access, opportunity, and advancement for everyone?
- + **Inclusion:** How are we creating space for employees to contribute and participate while amplifying everyone's voices? Are people from all backgrounds being respected, supported and valued for who they are?
- + **Belonging:** Are we building a community of trust, where all voices are heard and we feel safe bringing our authentic selves to work.



DEIB

By the numbers:

87-89%

of construction industry workers identify as white and are male.

50%

of the U.S. population under 30 identifies as being a race other than white.

6.7% AFRICAN AMERICAN/
BLACK

2.1% ASIAN

A small percentage of the construction workforce is African American/Black or Asian.

10.9%

of construction workers are women.

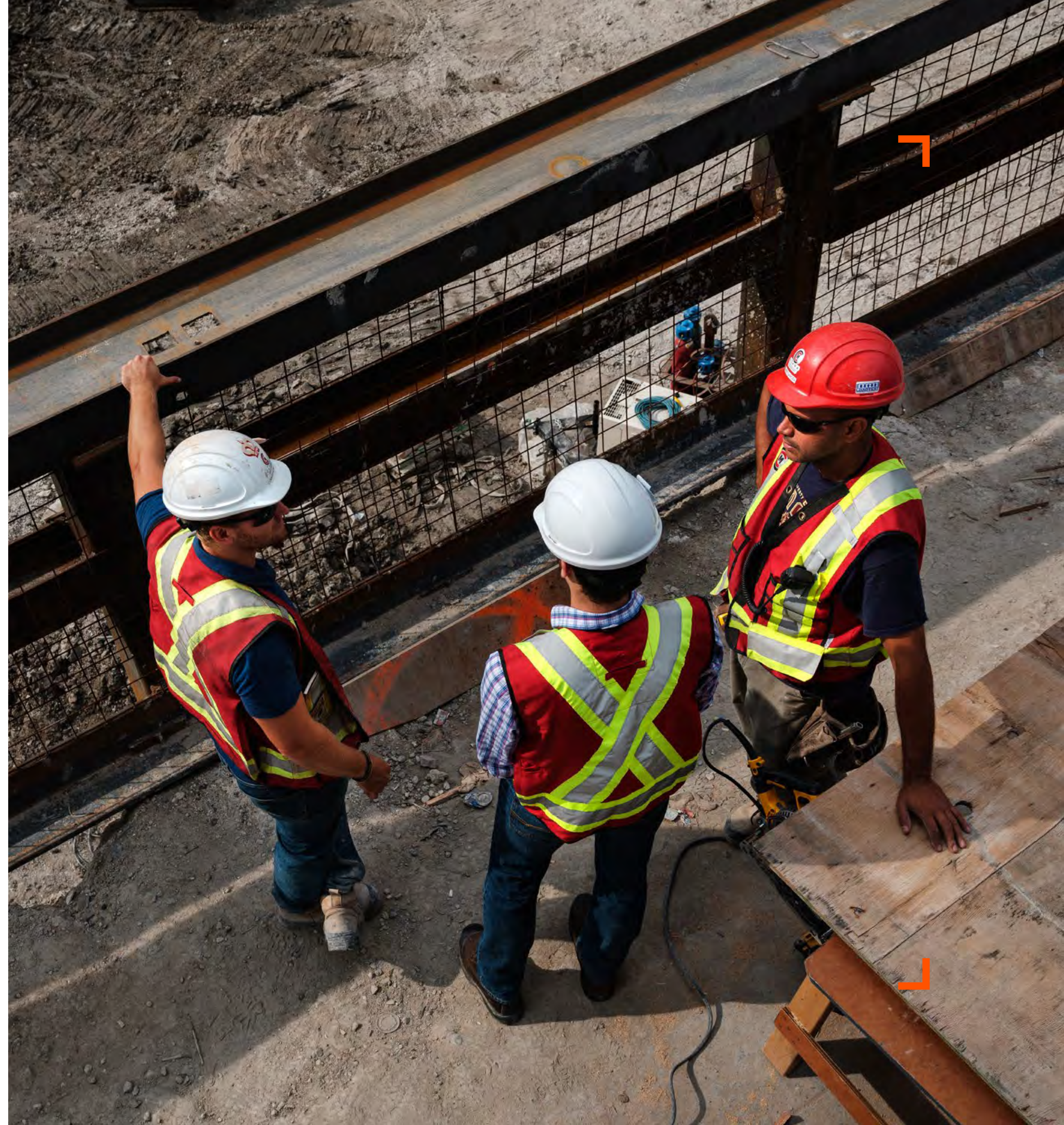
Looking Ahead with Tech

A people-first company is a strong company, and that's just one reason why it's important to foster an inclusive and diverse environment in the workplace. Creating a culture that's rooted in belonging and celebrates people's unique perspectives and experiences is a top driver for engagement and retention. In light of the ongoing labor shortage, it's critical to build an inclusive workplace that attracts and retains top talent from all walks of life. Maintaining a history of work via software allows everyone to be praised or coached as needed without falling prey to nepotism or favoritism. Mental and physical safety for all employees supports a culture of inclusion.



Three Steps to Get Started Today

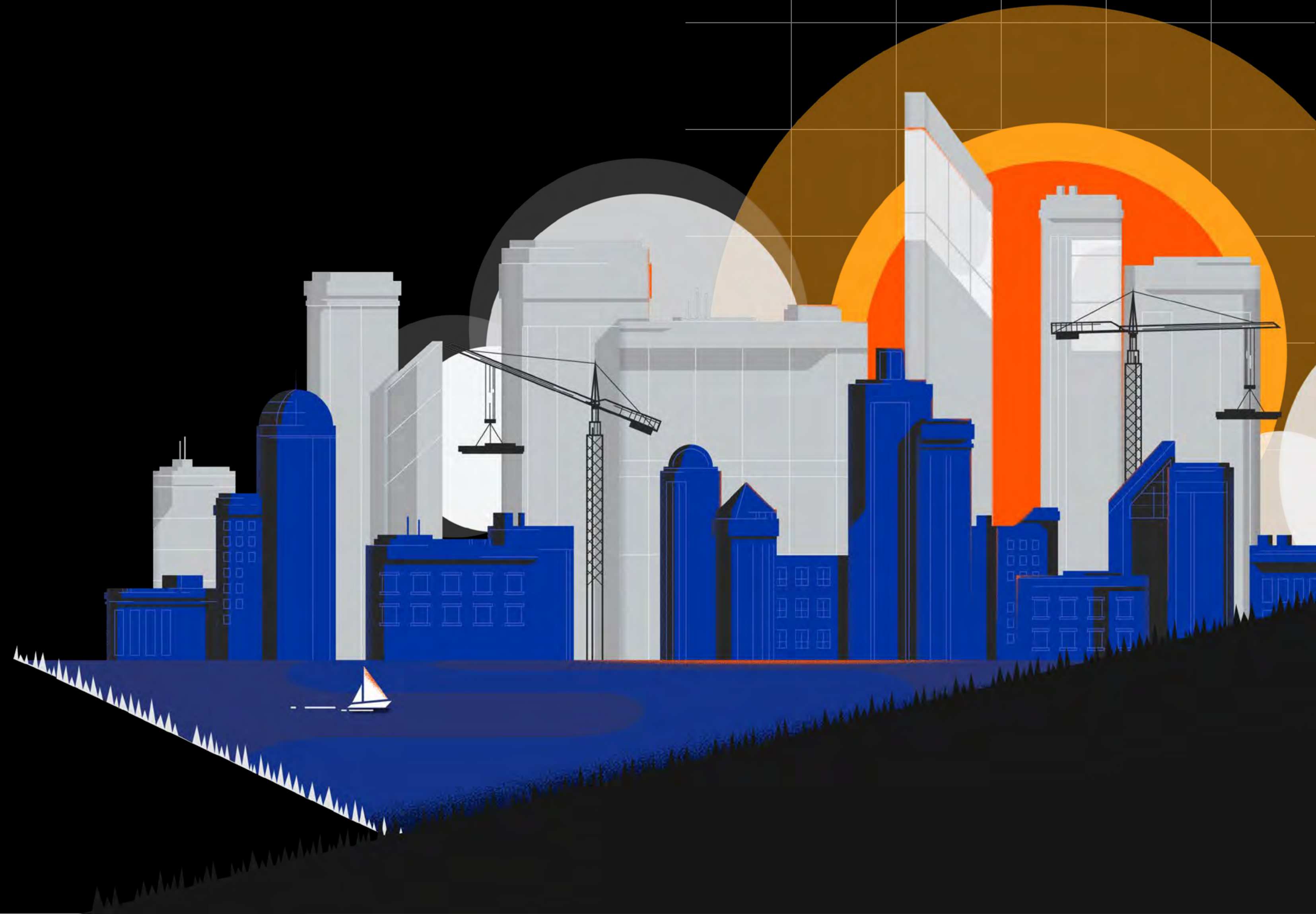
- 1 Lead with Curiosity:** Watch our [two-part webinar series](#) on facilitating belonging through inclusive conversations to learn how industry professionals and thought leaders are driving inclusion.
- 2 Listen to Employees:** Participate in employee engagement surveys and respond as openly and honestly as possible. Create a safe space for employees to have candid, open, respectful conversations.
- 3 Continue the Conversation:** Save the Date for [Construction Inclusion Week 2023](#) and join industry efforts to bring construction professionals together to drive bold conversations that inspire sustainable change



— CHAPTER 03

Business Transformation

Digital and cultural transformation changes the business.





CONSTRUCTION DATA & INTELLIGENCE

Truebeck Construction Prioritizes Data Driven Decisions

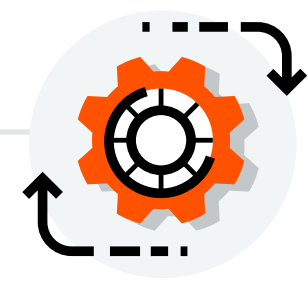
At Truebeck Construction, a Silicon Valley based general contractor, connected data is central to all they do. The team at Truebeck seeks out software that allows their data to flow and avoid silos across the organization. Their dedicated Construction Technology and Innovation department spearheads new tech adoption, leadership buy-in and seeks out new solutions—encouraging the cross-departmental cooperation necessary to instigate change.



“We don’t want to accept the status quo—we want our data—so we do a deep dive into software investments. Showing value to decision-makers and getting buy-in from leadership is essential. Meet people where they are and take incremental steps when introducing new technologies.”

Justin Porter

Construction Technology and Innovation Director
Truebeck Construction



SUSTAINABILITY

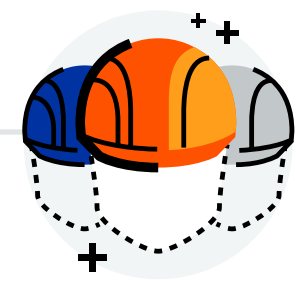
Hathaway Dinwiddie Builds Toward a Sustainable Future

Hathaway Dinwiddie, a Los Angeles based general contractor, brings a multitude of sustainable building options to their clients on every project. The GC focuses on innovative solutions on every project to build greener and analyze embodied carbon. Recently, they completed a [project](#) that fulfilled the [Living Building Challenge](#), the most rigorous of sustainability challenges—and finished on schedule and under budget.



“Start small—pick one thing to do really well and make it as efficient as possible. In the same way that everyone is responsible for safety, everyone is also responsible for sustainability. It must be woven into everything we do.”

Jessie Buckmaster
Director of Sustainability
Hathaway Dinwiddie



THE LABOR SHORTAGE

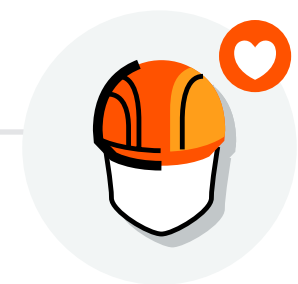
Central Electric Quells the Labor Shortage

In San Antonio, Texas, Central Electric is refining their workforce management processes to navigate the labor shortage. The electrical contractor implemented workforce management software to gain insight into certifications, accurately forecast and communicate transparently. Combined with their culture of “growing people through lasting relationships,” Central Electric is getting the right person on the right job at the right time.



“There are so many pressures in the world and around us to build faster, respond quicker—and a workforce management platform is a vehicle to do that. We’re able to have more intentional conversations about training and growing our team.”

Chris Martinez
President
Central Electric



HEALTH & SAFETY

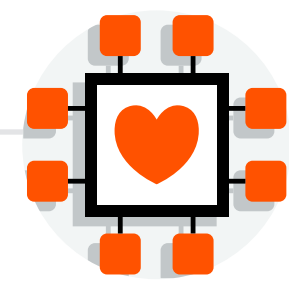
McCarthy Building Companies Prioritizes Safety from the Top Down

McCarthy Building Companies is a St. Louis-based, employee-owned general contractor passionate about their historic culture of safety. They successfully achieved a Best-In-Class Recordable Incident rate of 0.54—nearly five times lower than the industry average of 3.0. Their team encourages a personal approach to mental safety, providing counseling services, mental health helplines and a community focus to break down barriers.



“It all starts with admitting there’s a problem—you can’t communicate it enough. You have to break down those silos and help people feel comfortable to speak up when they need help. There are no trade secrets when it comes to safety, and as an industry, when it comes to mental health, we’re starting to share the same mindset.”

Robert Graham
Vice President, National Safety
McCarthy



DEIB

Building the Foundation for Inclusion

A group of construction firms, including DPR, Gilbane, Turner, Mortenson, McCarthy and Clark, are leading efforts to bring construction professionals together to drive bold conversations that inspire sustainable change – all in an effort to create a future that empowers everyone in the industry to thrive. A key part of this effort revolves around Construction Inclusion Week (CIW), an annual event that kicked off in 2021 to build awareness of the need to improve diversity, equity and inclusion in the construction industry.

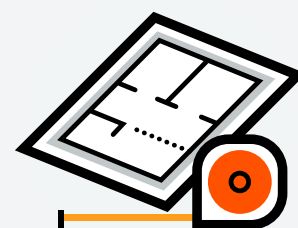
“This is a journey—we can take our time to get there. Make sure that whatever goals you set from a DEI perspective align with your core values, your mission, and your core business purpose. You don’t want to disconnect those things. The more you link your goals and opportunities to that, the more likely you are to get the engagement of all of your employees, from your leadership all the way to your brand new intern stepping into the workplace for the first time.”

Kamecia Mason
Vice President of DEI
McCarthy

BONUS CONTENT

Additional Industry Focuses in 2023

The way companies organize their people and processes to complete work is changing. The key aspects of cultural and digital transformation are important, but there are also a few other factors in business transformation that we’re keeping our eye on, including:



New Project Delivery Methods:

Identifying innovative ways to get work done that fulfills obligations and responsibilities. The right delivery choice can also help to better [distribute payments](#). Some of these [methods](#) include: Design-Build, Construction Manager-at-Risk and Integrated Project Delivery.



Supply Chain & Materials:

The rising cost of materials and supply chain disruptions continue to impair the industry’s margins. However, some material costs, such as [lumber](#), are starting to decline and stabilize. It’s important to focus on proactivity, using technology to track materials and honing preconstruction processes to avoid unneeded supplies.



Quality Control:

Creating guidelines that specify minimum quality to ensure all decisions and construction meet a defined industry standard. Quality control creates a safer environment and helps firms win more work.



Conclusion

These focus areas in construction are inextricably linked and by working on one, an organization can find a path to the rest. While these challenges are real and can be daunting, technology that both exists and will be developed is there to support organizations to navigate what's to come in 2023.

When an organization goes through digital and cultural transformation, it changes the business. When businesses continue to transform over and over again, this eventually leads to industry transformation. Whether focusing on a more sustainable or inclusive future, software can provide a single source of truth to reach these goals, connecting data and information across all stakeholders.

Connecting everyone in construction on a global platform.

Procore is a purpose-built construction management platform for owner-organizations that want to drive accountability and transparency, and more effectively manage their portfolios. Only Procore provides a highly scalable, agile platform with an open API that allows organizations to own their data, standardize and optimize their portfolio of projects, and mitigate risk while fostering collaboration at every stage of construction.

Procore covers the entire lifecycle of a project, including preconstruction, project management, resource management, and financial management—all in one user-friendly platform.

[LEARN MORE >](#)



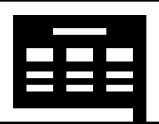
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Procore is a leading global provider of construction management software. Over one million projects and more than \$1 trillion USD in construction volume have run on Procore's platform. Procore's platform connects key project stakeholders to solutions Procore has built specifically for the construction industry—for the owner, the general contractor, and the specialty contractor. Procore's App Marketplace has a multitude of partner solutions that integrate seamlessly with Procore's platform, giving construction professionals the freedom to connect with what works best for them. Headquartered in Carpinteria, California, Procore has offices around the globe. Learn more at [Procore.com](https://procore.com)

If you have any questions,
give us a call at 866 477 6267

Or email us:
sales@procore.com

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