

# CONSTRUCTION<sup>®</sup> BUSINESS OWNER

## ***PROJECTING EXCELLENCE***

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Navigate labor losses by investing in company culture & employee development

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How to turn telematics data into actionable information

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FREE > May 25, 2023 > 1 p.m. CDT

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## SPEAKER



John Meibers  
*Vice President &  
General Manager*  
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# FROM THE EDITOR

KATHY WELLS

While tackling tough challenges is all part of running a successful construction business, you shouldn't have to do it alone. The issues you and your teams face — small, large and everything in between — require solutions. Beginning on page 30, our Real Jobsite Solutions section highlights several key offerings from the industry's top names to help you solve your problems at any scale.

For even more problem-solving strategies, visit us at [constructionbusinessowner.com/webinars](http://constructionbusinessowner.com/webinars) to check out our collection of archived educational webinars and register for upcoming events. This month, Construction Business Owner is proud to launch a new webinar platform, and we look forward to bringing you bold and thought-provoking content and engaging with both new and returning speakers and attendees. We invite you to join us for "Adopting Labor Operations Software for Contractors" and "Get Paid Faster With Cash Flow Management," taking place May 18 and May 25, respectively. Both events are now open for registration. We hope to see you there!

Take good care,

*Kathy Wells*



CONEXPO-CON/AGG 2023, held March 14-18, was one for the record books. In terms of both engagement and scale, this year's show boasted more than 139,000 registered attendees (6% increase over 2020), and 3 million net square feet of exhibits (10.5% larger than 2020), with over 2,400 exhibitors from 36 countries, including 603 new exhibitors.

Look for full coverage of the show in our upcoming June issue. The next installment of CONEXPO-CON/AGG will be held March 3-7, 2026, at the Las Vegas Convention Center in Las Vegas, Nevada. Register at [conexpoconagg.com](http://conexpoconagg.com).

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SPEAKERS ARE SUBJECT TO CHANGE

### ► Mecalac Hires After-Sales Manager & Controller



**Amer  
Ascic**

Mecalac North America, the distributor for Mecalac compact construction equipment in the U.S. and Canada, has hired Amer Ascic as after-sales manager and Diana Lacaire as



**Diana  
Lacaire**

controller. Ascic spent more than 20 years working at Caterpillar dealers across the U.S. and Europe in a wide range of positions. He also worked as a service manager for a Mecalac dealer in the

northeast United States. In his new role, Ascic's primary responsibility is providing after-sales support to Mecalac dealers. As Mecalac North America adds new dealers in 2023, Ascic will be responsible for a smooth onboarding process on the technical side of the business. Lacaire brings more than 30 years of accounting experience to her new role as controller, offering valuable insight into streamlining internal processes and analyzing business data. In her previous role, Lacaire successfully oversaw the integration of three companies into one unit, streamlining and standardizing processes and rules. She built on the success by documenting and adding policies and procedures to grow the company and drive efficiency both internally and externally. Visit [mecalac.com](http://mecalac.com).

### ► Graycor Construction Company Promotes Brian Feckler to General Manager, Midwest Division



**Brian  
Feckler**

Graycor Construction Company announced that Brian Feckler has been promoted to general manager of the Midwest division from construction manager. Feckler joined Graycor in 1997 as project

engineer I in the Project Engineering Mentoring Committee. After several years working in the industrial business, Feckler completed his first project for the company's buildings group in 2004.

Feckler will lead efforts for developing Graycor's Midwest office-based staff in Oakbrook Terrace, Illinois, and continue growing the national shopping center, retail and entertainment markets. His clients include Amazon, AMC Theatres, Dick's Sporting Goods, General Motors, RH, Rinchem, Simon Property Group and Westfield. Feckler began working for the industrial division at Graycor after graduating from Purdue University with a bachelor's degree in construction management. Visit [graycor.com](http://graycor.com).

### ► FlowForma Advances US Growth With New York Office

FlowForma is accelerating growth in the U.S. by taking up residency in the Enterprise Ireland New York office, with plans to open its own premises in the next two years. Staff in sales and customer support will initially work out of the Park Avenue address, providing a permanent presence in one of the company's biggest markets. Last year, around 30% of FlowForma revenue came from North America, where demand has grown across every sector. The cloud-native software is proving particularly popular among U.S. construction, energy and health care companies that have struggled to digitalize their processes. This latest landmark comes after significant investment raised by FlowForma stakeholders in 2022, with an office in New York City being an integral next step on the company's planned growth journey. The business continues to scale in size with new roles added across all areas of the company to meet growing demand in overseas markets. Visit [flowforma.com](http://flowforma.com).

### ► Sunbelt Rentals Promotes Monica Ziegler to Executive Vice President & Chief People Officer



**Monica  
Ziegler**

Sunbelt Rentals, a North American equipment rental company, announced the promotion of Monica Ziegler to executive vice president and chief people officer. In this newly formed role,

Ziegler will serve on the executive committee and lead efforts to advance the strategy and the culture of the organization. Since 2021, Ziegler has been the vice president of talent and development for Sunbelt Rentals. In this position, she was instrumental in continuing the path to progression for employees by enhancing succession planning and leadership development. Prior to joining the organization, Ziegler held several leadership roles at a large automotive parts company. Visit [sunbeltrentals.com](http://sunbeltrentals.com).

### ► WD-40 Brand & OSHA Education Center Team Up to Offer Safety Courses

Continuing its ongoing commitment to supporting skilled trades professionals, WD-40 brand is partnering with Occupational Safety and Health Administration (OSHA) Education Center, an American Safety Council company, to provide construction professionals and general industry workers nationwide with courses that help them get the job done right. The affiliated courses, which include aerial and scissor lifts training and OSHA forklift certification, as well as OSHA 10- and 30-hour courses on the basics of occupational safety and health, are federally regulated and developed by American Safety Council. Additionally, a collaborative course exclusive to OSHA Education Center, Industrial Maintenance Training, provides essential training on chemical safety, product formulations and equipment/machine maintenance. These online training programs, and others offered through the partnership, can be found at [wd40.com/training](http://wd40.com/training). OSHA Education Center handles all registrations and purchases for courses offered on the WD-40 website. Participants who complete the courses will receive a certificate of completion. Those who complete 10- or 30-hour OSHA-authorized training will earn a nationally accepted wallet card from the U.S. Department of Labor. Access to these regulated certifications and OSHA-authorized courses are 100% online and

available 24/7 from any web-enabled device. This provides convenient training options for the growing number of skilled trades professionals seeking solutions that help businesses maintain safer work environments. Visit [wd40.com/training](http://wd40.com/training) and [oshaeducationcenter.com](http://oshaeducationcenter.com).

#### ► Victoria Stanley Joins Tarlton as Human Resources Director



**Victoria Stanley**

Tarlton Corp., a St. Louis-based general contracting and construction management firm, added Victoria Stanley as human resources (HR) director. Stanley, certified by the Society for Human Resource

Management, brings several years of experience in the human resources industry to Tarlton, which includes talent acquisition, training and performance management and organizational development. In her new role, she will serve as a point of contact for staff and stakeholders in providing multiple HR services and functions. She previously served as chief people experience director at Terrabis, where she developed sustainable HR infrastructure, systems, processes, strategies and policies to support a rapidly growing industry. Stanley also served as senior HR generalist at Precoat Metals in St. Louis. Stanley holds a master's degree in human resources management from Webster University and a Bachelor of Science degree in English from Illinois State University. Tarlton Corp. is a Women's Business Enterprise National Council-Certified Women's Business Enterprise that provides preconstruction, construction and design-build solutions to clients in the commercial, institutional, government and nonprofit, industrial and energy markets. The Midwest general contractor/construction manager also has special expertise in concrete construction, restoration and maintenance. Visit [tarltoncorp.com](http://tarltoncorp.com).

#### ► Powerfleet to Acquire Insurance Telematics & Sustainable Mobility Solutions Provider Movingdots

Powerfleet, Inc., a global provider of Internet of Things (IoT) software-as-a-service (SaaS) solutions that optimize the performance of mobile assets and resources to unify business operations, has signed a definitive agreement to acquire Movingdots, a provider of insurance telematics and sustainable mobility solutions based in Bremen, Germany, and a subsidiary of one of the world's reinsurers, Swiss Re. Movingdots, in partnership with Swiss Re's Automotive and Mobility unit, has spent nearly a decade designing data science algorithms with primary insurers to provide risk-based drive style analytics for fleets and personal auto risk. Backed with actuarial insights, Movingdots enables data-driven insurance propositions for insurers, car manufacturers and mobility platform players worldwide. By focusing on customers' safety and security needs, and by providing transparent and comprehensive monitoring, Movingdots combines insurance analytics with artificial intelligence (AI) technology to derive an individual risk assessment. The acquisition is expected to close in the first quarter of 2023. Following the completion of the acquisition, all Movingdots customers will continue to receive service from the Movingdots team. Visit [powerfleet.com](http://powerfleet.com) and [movingdots.com](http://movingdots.com).

#### ► OTR Engineered Solutions Announces Plan for Facility Near Monterrey, Mexico

OTR Engineered Solutions (OTR), a solutions provider of off-the-road tires, wheels, assemblies and services for original equipment manufacturers (OEMs) and the aftermarket, will initiate plans to open a new facility near Monterrey, Mexico, in late 2023 to early 2024. This move is in response to OTR's commitment to support several OEM customers that are establishing operations in Mexico. In the new facility, OTR will supply products and services such as tire mounting, sequencing,

just-in-time supply and warehousing on a local basis, operating as a leveraged resource and strategic partner for its customers. OTR's facility will provide additional space and scalability to support OEM customers that have a presence in Mexico or are establishing one there. OTR has selected the Monterrey area due to its infrastructure, availability of skilled labor, manufacturing activity and proximity to customers. The location complements OTR's global expansion plans. It also builds upon the momentum from OTR's greenfield site opened in Fort Worth, Texas, in 2021. OTR may also add wheel manufacturing capabilities in Mexico, augmenting what is currently done in Asia, the U.S., and Canada. This would bolster capacity and local supply not only for customers in Mexico but also in the U.S. and Canada. Visit [otrwheel.com](http://otrwheel.com).

#### ► McGriff Hires Araujo as Head of Projects/P3s, Construction Risk Management



**Rafael Araujo**

McGriff has hired Rafael Araujo as head of projects/public-private partnerships (P3s), construction risk management in its national construction practice. Araujo previously served as a senior vice president for another

large global broker in its construction and infrastructure practice. There, he was responsible for managing and servicing many of the broker's global contractors with major projects in the U.S. He holds a bachelor's degree in mechanical engineering and a master's degree in finance from Universidad de Los Andes. Araujo will use his extensive experience to provide leadership for McGriff's construction risk management group, focused on the service and development of its national and international contractor clients. Visit [mcgriff.com](http://mcgriff.com).

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## Todd Reeves

Vice President – Project Executive, North Texas market  
Skanska

*Building a better culture*

BY CARMEN CAPOCCIA

Todd Reeves never planned to go into construction. During his undergraduate years at Texas A&M University, Reeves dreamed of being an architect. He sought to learn more about an architectural career path, but a chance encounter with the dean of construction science changed his life. “He was able to describe what I thought sounded like a very exciting profession — building things that were there permanently and getting to be a part of that. So, I went right into pursuing my degree there,” said Reeves.

Reeves took an internship with Skanska, the company he works for today. “I just loved it. I loved the company,” he said. They were building a large retail space in Plano, Texas, and he was enthralled by the project details and flow. “I was hook, line and sinker just with the different challenges each day. There are not any two days alike. And that’s how I like the role.”

After his internship, Reeves started with Skanska as a project

engineer. He was ready to explore: “I wanted to go build the biggest and baddest buildings throughout the country, and Skanska was the company that would allow me to do that.” During this phase of his career, he worked in New Jersey, New York City, North Carolina, Utah, California and Canada.

While performing in this role, Reeves worked in a mission-critical group that built data centers. The data center projects were heavy on understanding mechanical and electrical systems, so Reeves wanted to learn everything about them. “The first meeting I sat in, it was like they were speaking a foreign language, because I didn’t know the jargon, I didn’t know the equipment types and I was writing it down on the side so I could Google it later, but it was all worth it.” His curiosity and willingness to learn served him well, and he was able to advance in the company through different roles, eventually becoming vice president-project executive. “I really wanted to learn every aspect of what we do,” Reeves said.

Of his two decades in the construction industry, Reeves’s most memorable project was a large data center project. The out-of-state project was difficult, and they had a young team — at the time, Reeves was an early project manager. Despite challenges, his team was able to complete the project on time and under budget. Their success set the company on a trajectory to build more data centers based on their positive reputation. Reeves is proud to have been part of such a complex and consequential project at a young age.

In his current role, Reeves spends significant time at the front end of projects before construction. He ensures they have the right team and that the team understands the financial and contractual goals and commitments, and he prepares his team

### PRO specs

**Founded:** 1887

**Employees:** 30,000

**Countries:** 11

**Client base:** Transportation, power, industrial, water/wastewater, healthcare, education, sports, data centers, government, aviation, life sciences and commercial development

**Purpose:** To build for a better society



for success. He also negotiates contracts and pricing with clients, and meets with stakeholders, city officials and subcontractors to make sure they put their best foot forward in a bid proposal.

Staffing and interviewing are a substantial component of Reeves's role: "I want to make sure we're picking good, solid individuals who will mesh well with the rest of the team." With current labor shortages exerting pressure on the construction industry, attracting new talent is critical. When asked what he would say to someone on the fence about a construction



career, Reeves said, "This job gives you the opportunity to do a lot of different things, whether moving geographically to places, focusing on a project that might last one or two years, but then getting to go on to something else. And pushing 'refresh' is something I hear a lot of new candidates say that intrigues them."

As someone who worked his way from an intern to the executive level at the same company, Reeves understands the importance of building a culture employees want to stay in. "We try to create a culture that keeps them here," he said. "We all can go work somewhere else. And we've seen the news where people have been resigning and going to other areas. So, how do we focus on keeping people motivated to work here?" At Skanska, employees take a yearly survey to gauge their satisfaction with factors such as stress levels, work-life balance and motivation. Then, Reeves looks at the data and tells his team what they're doing well, and they work together to create a plan to stay at that high level of excellence. And where they see areas of growth, they devise a strategy to improve. "I think it's important that we all feel like we're a part of the business, and I think that's important when talking about how you create a culture of folks wanting to be here," said Reeves.

Reeves credits Skanska's flexibility and support as he explored the different areas of the industry: "I first wanted to go build a lot of different things geographically. Then I wanted to be in the field and be a superintendent, and I got to do that. Then I wanted to go to precon. I've been able to turn and weave and try new things, and the answer has never been no. It's just, OK, let's find a pathway for you to go do that." ▲

*Carmen Capoccia is associate editor of Construction Business Owner magazine.*

# Set Your Sights on Success

Learn where today's top leaders focus their attention



GEORGE HEDLEY, CSP, CPBC, is a professional construction BIZCOACH and industry speaker. He helps contractors build management teams and get their businesses to work for them. He is the bestselling author of "Get Your Construction Business To Always Make A Profit!," available on amazon.com. Email Hedley at gh@hardhatpresentations.com to sign up for his free e-newsletter, start a BIZCOACH program, attend a Wealthy Contractor BIZ-BUILDER Boot Camp or get a discount at hardhatbizschool.com online university for contractors. Visit hardhatpresentations.com for more information.

## Just Ask George.

Send your questions for Hedley to  
Editor Kathy Wells at  
kwells@cahabamedia.com.

**W**hat's the No. 1 factor successful construction company leaders focus on to achieve results? At a recent mastermind peer group meeting attended by 20 successful construction company owners and managers, I asked: "What's the one thing you do to make sure your construction company is successful?" Their answers revealed the secrets to building great construction companies. Every top contractor invests time, effort and money in the things that matter most to their bottom line: people, numbers, systems and customers.

### Find the Right People

You can't build a successful company without talented, professional people. Focusing on people requires investments in developing talent, and making it a constant priority. Successful contractors remain focused on their people:

- *Brock Dennings, President, FED Design/Builders, Michigan* – Invest in culture. We work hard to share and align our personal, professional and financial goals and values with our employees. Then they're invested in our company growth, improvement, achieving results and our future.
- *Mark Allen, Chief Operating Officer, Watertown Enterprises, Ohio* – We foster a culture of transparency and communication. Remember, bad news never gets better with time. We

quickly address every problem as they occur and seek solutions to fix them promptly.

- *Katina Kanelos, Operations Manager, Real Services, Pennsylvania* – We proactively stay in touch with our people and make sure they are fully engaged with the entire company, managers, supervisors, subcontractors and customers.
- *Gene Nims, President, Gene Nims Builders Inc., Louisiana* – We work hard to grow our people and personnel to make sure we can take care of the business we have before we go out and get more.
- *Jeff Farr, President, Farr Construction & Resource Development, Nevada* – The key to success is having good people with good attitudes and good work ethics. We hire the best available at above-market compensation to guarantee we have the team who can perform.

When the construction workload was strong and there were more people available than required, it was easier to hire plenty of good people to build projects and produce results. Then the labor market became tight, and it was hard to find enough qualified people to produce the work available. With this reality it became evident that to find and retain great talent, it takes money, effort and a

proactive program to build a great place to work that attracts and retains a winning team. Company owners must focus on people first. Contractors must pay top dollar, offer full benefits, provide a strong talent development and training program, employ a dedicated human resources manager, stop tolerating poor performers and build a culture of winning.

## Know the Right Numbers

Contractors who make money know their numbers. They focus on their financials, collections, job costs and estimates. They meet weekly with their foreman and project managers to review their job costs versus budgets. They meet weekly with their financial manager or controller to review profits, markup, cash flow, receivables, payables, retention, billings, working capital, income statements, balance sheets, debt, overhead costs, labor costs, work-in-progress schedule and project cost-to-completes. Successful contractors are focused on their numbers:

- *Brian Boyer, President, Boyer Commercial Construction, South Carolina* – We know our numbers backward and forward. We review our financials monthly within two weeks of every month-end.
- *Brad Massad, Partner, Gene Nims Builders Inc., Louisiana* – We track and update our project numbers every week, including estimating accuracy, project management systems and deadlines to stay on budget and on schedule.
- *Bryan Young, Vice President, Cambridge Companies, Arizona* – Routine and rigor! We continuously look at our financials in depth to develop clarity and certainty to make sure they are complete and accurate.

Wise contractors keep their eye on the ball and know the score on every job, project manager, foreman, piece of equipment and player in their company.

## Enforce the Right Systems

Most contractors know they need to implement companywide systems. Many have written systems, but few actually enforce their systems and require everyone to use them. Systems must include a clear organizational chart and workflow diagram with written job descriptions detailing responsibilities and deadlines. Systems must define each employee's level of authority, identify supervisory or management tiers, and require performance reviews and compliance checkpoints. And systems must include a description of the expected results. Consider the following insights:

- *Damian Lang, CEO, Lang Masonry and EZG Manufacturing, Ohio* – Execute using the right estimates, production and people. Invest in developing, tracking and implementing estimating and productivity systems. To make this happen, you must have the right people in the right positions who produce results.
- *Jeff Wieser, President, Wieser Brothers General Contractors, Minnesota* – Communication. We make sure everyone knows what everyone is supposed to do. We communicate daily and hold weekly company meetings.
- *Mark Gilbreath, Managing Member, Caprock Building Systems, Texas* – I don't wait for results, problems or people to come to me. I seek them out and sit down with my team in their offices every day to ask questions.

The weakest move a manager can make is to tolerate poor performers. Allowing people to ignore your systems guarantees your team will produce less than expected. Systems must be created, developed and utilized to reach your maximum potential results. There are no excuses to let your team disregard your company standards. When you let bad things happen, your company loses money, and you lose the respect of others as a leader.

## Pursue the Right Clients

Not all clients are the right clients. Many may shop your bid or grind down your price, leaving no margin to earn a fair profit. Some don't pay you promptly or try to cut your change order requests to the bone. Some are not reasonable or trustworthy. Successful contractors focus on building strong relationships with the right customers. Construction is hard enough without settling for lousy clients. The problem? Many contractors are so busy chasing cheap work or bad customers, they don't dedicate the time required to focus on the right clients. It takes time and money to develop a list of client targets you want to work with. Then you must go after these targets using strategy, marketing and sales techniques.

- *Jeff Eriks, President, Cambridge Companies, Arizona* – We are 100% transparent and an open book with clients. If you are on their side, they'll be on your side. Let clients see the whole process. Show them everything, including the bidding process, estimates, project management, supervision and scheduling. Also invite them to meet subcontractors, attend your meetings and open the books to share costs with them.
- *Dave Jeffrey, President, Wolf Creek Contractors, Ohio* – We focus on projects we know we can be successful building. This eliminates the learning curve and expenses associated with attempting new projects and new customers.

Stop delaying success by bidding to the wrong clients and projects. Invest the time and money to take potential and current clients to lunch and events. Get to know them and build trust by sharing your management techniques, subcontractors, suppliers, inner systems and costs with them. Clients do business with people they trust. What are you doing to focus on the right clients? ▲

# The Foundations of Operational Excellence (Part 2 of 3)

How operationally superior organizations manage work in the field



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**F**or many engineering and construction (E&C) firms, the first area they turn to for improvement is the field, because it often seems to be the easiest place to boost efficiency. Yet, operationally superior organizations know they must implement the right practices, processes and people across the entire organization, including field teams.

Many companies do not truly understand what it means to be an operationally superior field organization. For example, many measure success on the outcome. They'll judge a superintendent or field leader on whether a project is finished ahead of schedule, safely and/or ahead of budget. What they do not realize is that an absence of injuries on the jobsite does not mean the interim processes went smoothly. By evaluating only the outcome, firms miss out on an opportunity to achieve overall operational excellence. Below, in the second part of this three-part series, we cover best practices on jobsites or in the field to improve productivity, safety and customer satisfaction.

## Evolution of Collaboration

Busy, fast-paced construction sites may include hundreds of workers and a team of field leaders who manage logistics, safety, costs and other functions. Planning — including budgets, resources and scheduling — is critical.

The best field leaders are those who serve not only as the nexus within all these arenas but also as the driver of true collaboration across a project. Whether a firm is a trade contractor that self-performs work, a general contractor that brokers all the trades, or even a combination of the two, a successful field leader is proactively pushing collaboration and thinking ahead.

Every project has a strong, realistic budget that begins with the project manager and field leader reworking the estimate for the project and assigning budget codes with the way it will be built in the field.

This is important because you can't have consistency and operational excellence without buy-in from the field. If a supervisor gets a budget and instantly knows that the task can't be completed for that amount of money, they must be able to discuss it in advance. To be clear, the contract amount is established. The purpose of this phase is to create a budget the field leader believes in.

If the project goes over budget, it was likely always going to. However, if the field leaders are encouraged to recognize and identify issues early, they can help produce better overall job outcomes. So, rather than having the budget quickly approved in the preconstruction phase, companies that take the time to carefully review them

can get an idea of overruns or underruns and come up with a plan for addressing them early.

A stopgap measure, early detection of budget problems correlates directly with improved collaboration and strategic planning on projects of all sizes. This, in turn, continues that evolution of collaboration from preconstruction right out to the field manager level. Everyone wins when this happens.

### **It Pays to Plan**

Another important part of collaboration is planning. Operationally superior field leaders plan a minimum of a week ahead, using some sort of planning tool. These tools manage resources like labor, materials and equipment, plus the activities of any trade partners.

Industry tools such as short-interval planning, lean last planners and pull planning are examples of best in class. The operative word in all of this is planning. There are also countless scheduling tools, but this is not about creating a critical path schedule — it's about thinking ahead and developing a proactive strategy.

When field leaders have a tool they can use consistently, they can lay the foundation for steady and predictable work. The tool should also be made accessible to leaders of subcontracting firms (e.g., excavators and plumbers) who can use it to communicate with the general contractor and, if applicable, with each other. This tool should be used regularly across the organization and by all stakeholders.

When projects are planned, everyone is working from the same playbook, field leaders know they have two-way communications with the head office, and construction projects run more smoothly. For operationally superior organizations, reactive, emergency calls to a central warehouse, shop, yard, etc., are truly nonexistent except for unforeseen conditions.



This is an important point for field leaders and supervisors who treat their companies' warehouses and yards like convenience stores when they should only be tapped during emergencies. Rather than stopping by a warehouse to pick up materials, supervisors should plan and only use the shop when an unforeseen issue arises (e.g., someone hits a water line while digging and needs a sump pump quickly).

After weekly schedules are made, operationally superior companies also plan daily with a focus on production targets and real-time job hazard analyses. Much like the earlier budgeting advice, these activities should be conducted collaboratively across the office, field leaders and crew.

### **Financial Acumen**

Field managers at operationally superior E&C companies are intimately familiar

with the budget for all costs, including, but not limited to, vendors, trade contractors, self-performance areas and general conditions. They always know what's going on and can intervene at any point where they see a potential problem.

They have a deep understanding of the general conditions, burn rate, utilization and other metrics that go into the financial side of project management. Historically, there has been a mindset that the financial perspective of the project was the sole province of the project manager. However, best-of-class organizations realize that you cannot expect strong financial performance when your primary project driver is removed, disconnected or disinterested in the financials.

Field supervisors understand the difference between cost and margin. If the total price of the project is reduced to meet a customer's budget, costs are not arbitrarily slashed. Methods and means

are examined for cost efficiencies, but margin is also adjusted to portray reality.

If the margin is set at 10%, for example, field leaders are ultimately going to influence whatever gain the contractor makes on the project. Margins can be improved by getting the best productivity and yields out of their existing materials, improving general project conditions or utilizing equipment better.

## **Quality Assurance vs. Quality Control**

At leading E&C companies, field leaders also understand the difference between quality assurance and quality control and make that one of their key priorities.

Quality assurance is the standard for how work is put in place. It is the playbook the organization follows every time to create a quality product.

Quality control is the testing component, which assures that the guidelines and end results meet those standards and jobs are being continually monitored. However, if a field leader focuses solely on quality control, he or she is largely playing defense and reacting to conditions as they arise.

Superior field leaders focus on driving quality every day. They have adopted the phrase “punch as you go,” which becomes the mantra for not leaving miniscule items to build until the end of the project. Quality assurance requires a strong company philosophy and married to a strong individual mindset.

## **Overcoming Obstacles**

Planning and scheduling are both important for leading organizations. All projects should have a baseline schedule, and that schedule should be regularly updated by the project teams. By using basic software tools like Microsoft Project, companies can get their labor-intensive contractors and subcontractors on a common platform and adhering to the schedule.

Any project's issues and challenges (e.g., weather, delays, shipments, etc.) should also be presented on the schedule to reflect the reality of the jobsite conditions. For example, if it's raining or if the jobsite is temporarily flooded, then the schedule should reflect the reality of the project in real time so everyone can adjust accordingly.

This also helps when presenting proof to project owners, who may not always understand why a delay happened. Too often, projects that are met with massive issues, such as claims, design issues, delays, etc., do not reflect the schedule, only to be met with legal hurdles. Field leaders understand how to portray realism to protect the firm.

## **Worry More About Dirty Than Dirt**

Construction is obviously a dirty activity, but operationally superior organizations understand the difference between cluttered, trashed and dangerous versus typical day-to-day operations. In operationally superior companies, jobsites are clean, maintained and well organized — each trade is held accountable for its own waste cleanup, and adherence is monitored daily.

The jobsite strewn with debris and litter is not only unsightly but also dangerous, a huge liability and a safety concern. You eventually must clean everything anyway, so why not clean daily to avoid a massive effort at the end of the project?

Once again, punching as you go means more than just repairing drywall and damaged concrete. Cleanliness is the hallmark of safety, productivity and field leaders who know how to get work done.

## **Managing Changes**

Change is inevitable. No job adheres directly to plans, thus requiring change orders, which can be a challenge to manage and communicate across an organization. Change orders have a defined structure and adhere to a

checklist that guarantees items, such as where a change is located. There is also backup support for the change and breakdowns of costs are all included to avoid needless delays in processing.

It's also important for change orders to be quickly processed and approved to avoid project delays. In the best companies, change orders do not linger — escalation of older change orders ensures action is taken sooner rather than later. These changes orders should have a series of gates, or specific deadlines and procedures, that ensure timely approval and payment.

Best-in-class field leaders manage change proactively and confirm that all aspects of those changes — schedules, deliveries, coordination, etc. — are integrated and communicated to all stakeholders. The project or operations manager should review, approve or reject these change orders and ensure that the project owner also agrees.

## **Productivity Counts**

A final area in which most of the leading E&C companies stand out is their focus on productivity. They're hyperaware of the connection between efficiency and labor productivity, and they take steps to maximize both in the safest and most logical manner possible. They also know there's a difference between productivity (the productive effort's efficiency, as measured in terms of the rate of output per unit of input) and production (the total output), and they understand which one most favorably impacts their profitability.

In most situations, it's productivity — and not the production itself — that delivers the best project outcomes.

So, while customers care the most about output and don't really care how much labor it takes to get the job done, top-performing, labor-intensive companies are hyperfocused on productivity: that's where the money is made. ▲

# ESOPs as an Alternative Buyer for Construction Companies

An inside look at employee stock ownership plans & their advantages in a high interest rate environment



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In an economic environment defined by ever-increasing interest rates, traditional market debt financing doesn't provide liquidity to corporations as it did in the past.

Particular to the construction industry, interest rate hikes make construction projects more expensive due to the increase in material costs, which can delay or cancel projects, or place pressure on general contractors' or subcontractors' margins.

In addition, according to a Bloomberg article published at the tail end of 2022, dealmaking dropped by approximately one-third compared to 2021, buyout volumes fell faster with each passing month, and even the dulcet tones of the opening bell lost some luster, with the fewest initial public offerings on record since 2009.

Additionally, based on industry research from PwC, also known as PricewaterhouseCoopers, the merger and acquisition market in the Americas saw deal volumes and values decline by 17% and 40% between 2021 and 2022, with a decline in deal volume and values each quarter since the start of 2021.

On a more hopeful note, Bloomberg's piece highlighted the increasing creativity of the deals that are closing, specifically the increase in equity financing, agreements that take the leverage out of leveraged buyouts and the potential for spinoffs to bring value to a struggling market.

As uncertainty reigns and a gloomy outlook is forecast to darken further, ingenuity could prove a lifeline for deals through 2023.

For certain types of construction companies — specifically those with low debt, strong balance sheets, consistent earnings and a strong management team — the high cost of debt and the reduced appetite for third-party leveraged buyouts could indicate the need for an alternative exit.

With the cost of borrowing increasing at rates not seen in over a decade, observant and astute sellers are recognizing the opportunity to capitalize and accomplish a transaction by actually taking on the role of the bank for part or all of the transaction sale price.

This exit option has garnered attention in the past few years and could present a solution for many business owners seeking to sell their companies and receive liquidity for their ownership interests.

## ESOPs: An Alternative Buyer

An employee stock ownership plan (ESOP) is a form of leveraged buyout established by Congress as part of the Employment Retirement Income Security Act of 1974, with the aim of boosting employees' economic power through a tax-advantaged sale of a business to its employees.

ESOPs are often an attractive alternative to traditional financing in a high-interest rate environment due to:

1. The option of lower interest rates

2. Flexibility in the transaction structure (i.e., a combination of external loan and seller notes)
3. Substantial income tax benefits compared to traditional merger and acquisition deals

## ESOPs & Construction Companies

Company owners preparing to exit often sell to a third party or private equity, but those options are frequently unsuitable for construction companies. Construction companies are usually poor candidates for strategic buyers due to several factors, including:

- Cultural mismatch between the buying and selling firms
- Lack of recurring cash flows, or volatile cash flows, resulting in low valuation multiples
- Low barriers to entry for construction companies seeking to enter a new location (thus reducing the appeal of an acquisition)
- The exiting owner's fear that an acquiring company will tarnish the hard-won legacy of the newly sold firm, or the fear that loyal employees may be terminated post-acquisition

Private equity firms also face significant challenges when buying construction companies. They typically lack expertise in managing a construction company and, therefore, struggle to confidently project a clear return on investment (ROI). In addition, as mentioned above, today's high interest rates are altering the economics of potential deals.

## Advantages of an ESOP

An ESOP utilizes the company's balance sheet to fund a partial or full buyout from the exiting shareholder(s).

To initiate an ESOP, a trust is formed to purchase and hold a company's stock for the benefit of its employees. A selling shareholder may thus gain the desired liquidity of their owned company shares from a "ready market" (i.e., the ESOP trust).

The purchase is then funded through certain financing alternatives (bank financing, seller financing, company cash or a combination of these).

The legacy and management of the firm remain with the people who built and maintained it over the years, which preserves company culture and leadership structure, and can be an improvement for employee morale.

From the company's viewpoint, an ESOP provides significant tax benefits at the corporate level.

Depending on the structure of the transaction, all or a portion of a company's income is tax-free, allowing it to more flexibly service the debt associated with the leveraged buyout of the selling shareholders.

Additionally, ESOPs provide significant tax benefits to the selling shareholder(s). For example, the selling shareholder can defer and/or eliminate all related capital gains tax with a 1042 rollover, a process by which owners elect to purchase qualifying U.S. securities in exchange for deferring or eliminating the capital gains tax.

## Financing an ESOP Transaction Using Seller Notes

Seller notes are a form of debt financing structured as an interest-bearing loan. Seller notes are typically subordinated to any existing or new bank loans ("senior debt") used to finance a transaction. If there is no senior debt, the seller note will not be subordinated.

Financing an ESOP through seller notes can make a transaction more viable in today's economic environment. Advantages include:

- The selling shareholder(s) may receive a higher ROI compared to the ROI generated from outside financing. This is due to payment-in-kind interest or warrants (equity participation rights) attached to seller notes.
- There is a higher degree of flexibility with seller note payments. At times, a company may need to use cash flow for other purposes. Thus, seller debt payments may be temporarily deferred, and this makes them "company friendly."
- There are typically no prepayment penalties if a corporation decides to accelerate payments (selling shareholders are paid sooner than prescribed by the structured seller note). The lack of prepayment penalties is helpful if the company chooses to exchange bank financing for seller notes at a later date, when bank financing may be more attractive. In this scenario, the seller(s) would receive the rest of their note balances (again, sooner than dictated by the original seller notes).
- Importantly for construction companies, if bonding is necessary, seller notes are at times regarded as equity rather than debt for the bonding company's debt-to-equity ratio requirement.

However, seller financing also presents some risks:

- Most seller notes are unsecured. If the business fails and the seller note

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**With persistent labor challenges and rising material costs challenging the industry, coupled with a reduction in deal activity and escalating interest rates, ESOPs are an effective tool to create liquidity in a market that is becoming more risk averse.**

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defaults, any collateral is unlikely to cover the obligation.

- The future performance of any business is unpredictable. Like any lender, the seller must understand there is a risk that the seller note may not be repaid if the company's financial performance suffers.
- Seller notes are subordinated to any senior debt. If the business is not producing enough free cash to cover its secured debt obligations, the senior lender will not permit repayments of the principal on the seller notes.
- Seller notes do not provide liquidity as quickly as bank financing, as the balance of the bank note is paid to shareholders as a structured note over the loan time period.

## Warrants

The seller may receive warrants attached to the seller notes as an additional benefit. As discussed, seller notes are subordinate to senior debt and deserve a market rate of return for the risk inherent in this type of debt.

Warrants guarantee the holder's right to buy a certain number of shares of

stock at a later date and at a set price ("exercise price")\*.

The advantage to the selling shareholder is that when the value of the ESOP shares rises, so does the value of the warrants. Additionally, the longer until expiration, the greater the value the warrant holds. Since the exercise price of a warrant is set on a post-leveraged basis\*\*, as the ESOP debt balances are paid, the warrants often present significant value to the holders.

## Capital Gains Tax

As mentioned above, an additional benefit to any ESOP transaction under a variety of financing scenarios (not just with seller financing) is that Section 1042 of the Internal Revenue Code allows for a tax-free rollover for qualified shareholders in an ESOP transaction. This provides selling shareholders the ability to defer and/or eliminate any capital gains tax resulting from the sale.

## Summary

Construction company owners face a unique and difficult environment in 2023. With persistent labor challenges and

rising material costs challenging the industry, coupled with a reduction in deal activity and escalating interest rates, ESOPs are an effective tool to create liquidity in a market that is becoming more risk averse. Like any specialized financial structure, ESOPs may not be the right fit for every company or every business owner. But they have proven to be a great exit option for owners whose companies meet certain criteria, especially for sellers looking for a tax-efficient way to sell their business while rewarding employees and maintaining the culture and legacy of the company they worked so diligently to create. ▲

*\*The set price, known as the exercise (or strike) price, is based on the fair market value of the stock of the company immediately after the ESOP transaction. The exercise price is typically at an all-time low for the company as it is set immediately after a leveraged buyout. When warrants are exercised at a fair market value in the future, the "equity kicker" is determined based on the difference between the fair market of the stock upon exercise and the pre-set strike price.*

*\*\*The exercise or strike price of any synthetic equity instrument, including warrants or stock appreciation rights, are set based on a per share price post-ESOP transaction debt. Thus, the exercise of these instruments are typically very low.*

# Addressing Mental Health Issues Among Workers at Civil Contractors

Recent findings reveal progress, gaps in employee health care



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**W**hile the COVID-19 pandemic was largely negative for the world, it appears that the construction industry has experienced at least one positive outcome from the pandemic: a more open and engaged approach to worker mental health. Attention to the mental health of construction workers did not start in 2020. The opioid crisis hit the construction industry particularly hard due to the higher level of need for pain management among its workers. Many organizations were already considering how to help address issues of addiction, depression and suicide. However, as Dr. John Gaal, director of the Worker Wellness Program at the Missouri AFL-CIO's Missouri Works Initiative, states in an interview featured in a recent issue of *Civil Quarterly*, published by Dodge Data & Analytics: "I firmly believe that the impact of COVID has provided a safer environment to discuss these difficult topics such as suicide and opioid misuse and mental health issues."

The interview accompanied research, which is published by Dodge Construction Network in partnership with Infotech and Hexagon, on how civil contractors are

currently addressing the mental health of their employees. The findings reveal that 39% of civil contractors currently provide resources to address mental health, with the likelihood that such resources are offered varying dramatically by size of firm, from 20% of small civil contractors to 53% of large ones.

However, later findings indicate that mental health resources may be more common than the initial findings suggest. When asked about resources including offering access to information on tools like mental health websites and mental health programs, and staff training on this issue, in addition to employee assistance programs, 67% of contractors report that at least one of the options is offered at their company.

These are more common at large companies, where they are offered by 86%, but it is notable that half (51%) of the small firms offer at least one option. This reveals that attention to mental health is relatively widespread in civil construction.

However, there is room for improvement even at the large companies. One major finding in the study is a mental health training gap that must be

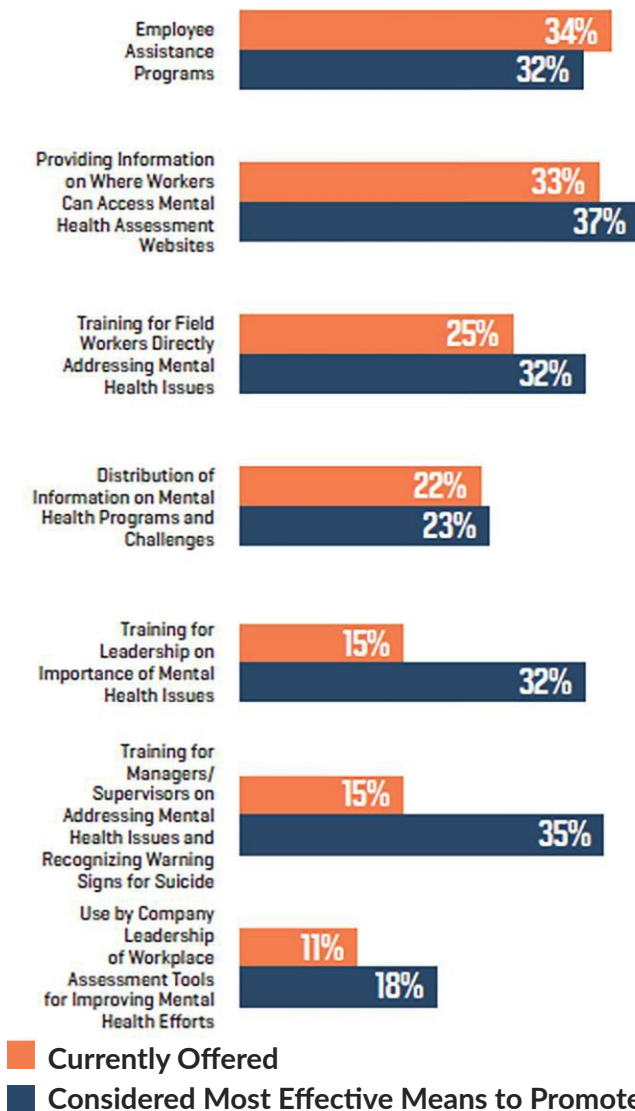
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**The other top factor for reducing stigma is having company leadership visibly prioritizing mental health. This finding reinforces the degree to which company leaders can influence the culture of their companies by clearly prioritizing factors that impact workers, such as safety and health concerns.**

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## Programs/Assistance Offered by Civil Contractors

Reported used by their companies and selected as one of the most effective means to promote improved mental health



filled. More than 30% of contractors cite training for leadership on the importance of mental health and for managers/supervisors on addressing mental health issues and recognizing the warning signs for suicide, but less than half of that share report this type of training occurring at their company.

One of the biggest stumbling blocks for improving mental health in civil construction is the stigma associated with mental illness. Gaal cites silence and stigma as two of the biggest challenges that contractors seeking to reduce suicide rates in the industry need to overcome: “Not unlike in the military or law

enforcement, expressing one’s concern about mental health on the jobsite is often used as a sign of weakness and can result in destroying one’s career progression.”

He recommends a website that can be viewed privately (the Construction Industry Alliance for Suicide Prevention website), and that recommendation is echoed in the data from the study. Civil contractors most frequently select access to tools used privately (such as webinars and assessment tools) as the top means of reducing the stigma of seeking mental health support.

The other top factor for reducing stigma is having company leadership visibly prioritizing mental health. This finding reinforces the degree to which company leaders can influence the culture of their companies by clearly prioritizing factors that impact workers, such as safety and health concerns. It is particularly important as this factor is not influenced by size of company or the number of resources that companies can provide. Creating policies that clearly support those facing mental health challenges and encouraging acceptance of these challenges as medical issues rather than a sign of weakness is something companies of any size can embrace, because it is not dependent on having resources to dedicate to these challenges.

Perhaps the most striking finding, though, is that more than twice as many of the contractors surveyed believe that the state of mind/mental health their organization is better than it was five years ago than those who feel that it is worse. This is despite the stresses created by worker shortages, pandemic challenges and the other obstacles that have emerged recently. This finding may suggest that the increased attention being paid to mental health since 2020 is having a positive effect, and it suggests that continued attention to this issue can help yield a happier, more productive workforce. ▲

# Understanding Termination for Convenience

Study this construction contract clause & learn how to protect each party

BY CHADD REYNOLDS

**P**arties enter into contracts to memorialize the terms of an agreement reached with other parties. Each contract should outline the responsibilities and duties of each party in order to hold each contracting party to the agreed-upon terms. Construction contracts are no different and generally contain certain essential terms that include price, scope of work and time for performance. But construction contracts often go beyond these essential terms to include clauses for when a party can terminate the contract.

Historically, parties to construction contracts could only terminate their contract when the other party materially breached it. This “termination for cause” or “termination for default” clause allows a party to terminate the contract upon the occurrence of certain “default” events, such as the other party’s failure to pay, delays, or defective or incomplete work. Termination for cause is often the most utilized clause for terminating a contract, but it is not the only method a party may use.

Construction contracts can also contain a “termination for convenience” clause that allows a party to be terminated in the event a material breach has not occurred. This clause was first introduced by the federal government to allow it to terminate its contract in the absence of a contractor’s default. The “termination for convenience” clause has grown in use and has now migrated to private construction contracts. But unlike termination for cause, which can often

be utilized by any party in a construction contract, termination for convenience is usually only a contractual right given to the upstream party of a contract, i.e., the owner in a prime contract, the general contractor in a subcontract and so on.

## What Does a ‘Termination for Convenience’ Clause Look Like?

The termination for convenience clause is designed to give the terminated party a more fair and equitable result than if it were terminated for cause since the termination does not result from its wrongful conduct — a breach of the contract. A typical termination for convenience clause should entitle the terminated party to receive the costs for the work it completed on the project, and maybe a portion of its lost profits or overhead, up until the date of termination. These types of costs might include the value of all work satisfactorily performed and material stored on-site, or actual, direct costs plus an allowance or percentage of profit and overhead. Whatever the types of costs the terminated party is entitled to receive, they should be determined during negotiations and clearly stated in the contract so there is no dispute once termination occurs.

The termination for convenience clause should also list what the terminated party’s obligations are once termination occurs. The terminated party should be required to protect any incomplete work and any material or equipment left on the project to

be used by the terminating party or a replacement party. The clause should also discuss whether permits should be assigned to the terminating party or a replacement party, and if copies of as-built documents and operation and maintenance manuals should be turned over to the terminating party.

## When Are ‘Termination for Convenience’ Clauses Utilized?

Termination for convenience can be used when the upstream party is uncomfortable or would like to sever ties with the downstream party but does not have a reason to terminate for cause. Terminating for convenience often arises when continuing with the project is not financially feasible or desirable. Many contracts also use termination for convenience as a backup to a termination for cause, in which case, if the termination for cause is held to be improper by an arbiter or judge, it is automatically converted to one for convenience.

## Considerations for the Terminating Party

If you are an upstream party, there are certain considerations that should be given before deciding whether to utilize termination for convenience. Inspections should occur to document the status and quality of the would-be terminated party’s work prior to termination. Because the terminated party should only be paid for work it has performed, inspections will confirm whether



incomplete work is included in the costs sought by the terminated party. Having a detailed as-built record of the work performed is also important to ensure that amounts claimed by the terminated party do not exceed the cost to perform the completed work.

The terminating party should also inspect the would-be terminated party's completed work for any defects. Failure to check for defective work may result in the terminating party paying for unforeseen repair costs once the terminated party has left the project, likely been paid, and potentially received a release for all claims related to its work. If defective work is evident, then terminating for cause may be more appropriate if substantial repair costs are anticipated.

### **Considerations for the Terminated Party**

If you are the downstream party who has been terminated for convenience, other types of consideration should be given. When a party has been terminated for

convenience, the amount of its recovery will heavily depend on the level of supporting documentation kept during the project. Generally, the terminated party has the burden of proving its costs. The failure to keep and maintain adequate records could complicate its claims for recovery. Key support documents include, but are not limited to, pictures of all work performed, invoices and worker time sheets. Documentation is essential for a terminated party because anticipating when a termination for convenience will occur is difficult. The party with the better record-keeping habits will always be in a better position when a termination dispute arises.

### **Financial Considerations**

Terminations for cause are often fought by the terminated party and can result in lengthy and costly legal disputes. These costs can be largely reduced under a termination for convenience because the termination does not require a fact-intensive inquiry into whether the terminated party's conduct or omissions

constituted a default. But, on the other hand, termination for convenience will often result in the terminating party paying some premium related to profit or overhead in addition to the cost of the completed work.

Determining when to use termination for convenience is fact specific and depends on the circumstances of each case. Often, termination is as much a business decision as a legal decision. Therefore, understating the purpose, general terms and risks involved with a termination for convenience is essential to ensure that each party is adequately protected, and costly disputes are minimized. ▲

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# Automating Construction Workflows Builds Trusted Relationships

How integrated tech can improve information, processes & sharing

BY PEG LANDRY

Communication, transparency and open sharing of project information are essential to building successful relationships across all stakeholders on the project team. However, the shared information must also be trusted. If incomplete, inaccurate or untimely information is sent, relationships and trust can quickly erode.

Newforma, in conjunction with the Dodge Construction Network and the Construction Progress Coalition, conducted a new study, “Finding Common Ground: The Future of Project Information Management,” to gain deeper insights into how the flow of project information impacts the architecture,

engineering and construction (AEC) industry and successful project relationships.

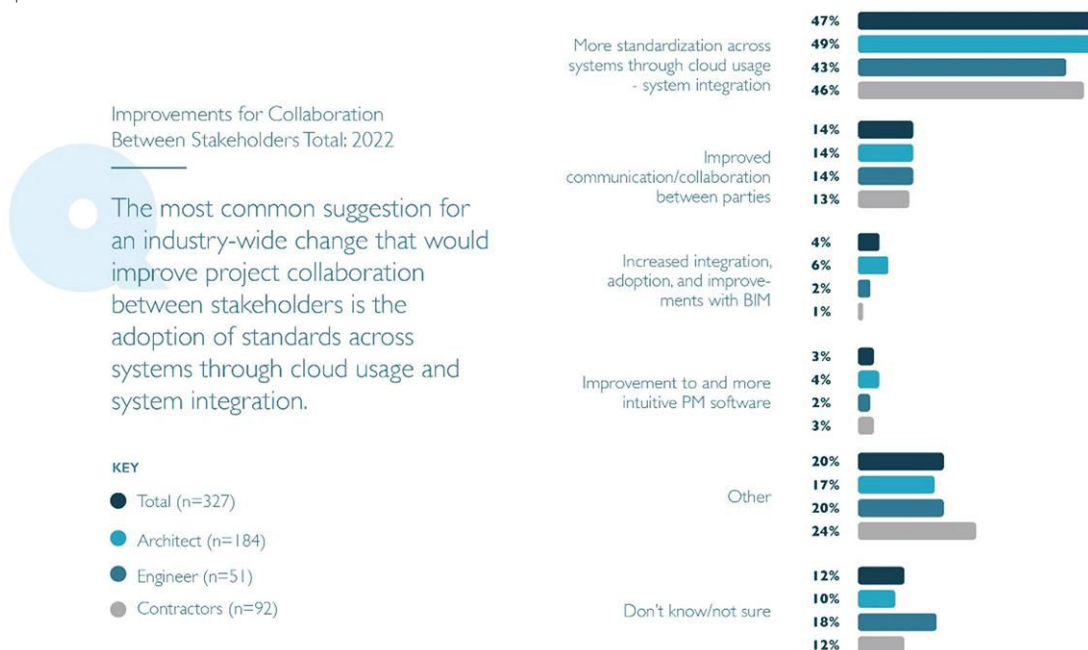
## The Paradigm Shift Needed

Survey participants were asked “What paradigm shift would do the most to improve collaboration between project stakeholders?” Responses were almost unanimous across general contractors, engineers and architects, who suggested that more standardization across systems and systems integration would be the most helpful. Responses from this open-ended question were consistent: “Interoperability of competing software so that no matter which provider

firms choose to work with, they can all communicate easily,” and “If all project management software systems could communicate with each other.” See Figure 1 for more insights.

The industry is moving in the standards direction with efforts such as the International Organization for Standardization (ISO) 19650, which seeks to provide guidance regarding the processes required for effectively sharing data between all parties throughout the life cycle of the project. In many countries, such as the United Kingdom, public contracts are already subject to ISO 19650. However, the U.S. is not there yet.

Figure 1. Improvements for collaboration between stakeholders



## Challenges to Project Information Shared Externally 2022

What are the main challenges you experience with project information that has been shared outside your organization?

### KEY

- Total (n=327)
- Architect (n=184)
- Engineer (n=51)
- Contractors (n=92)

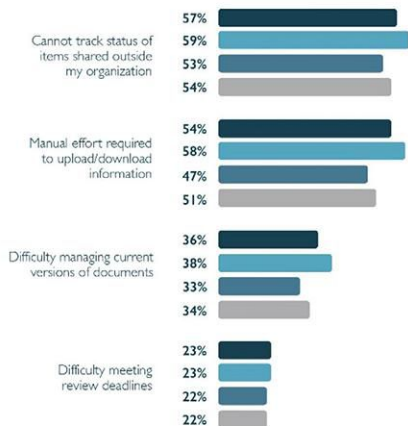


Figure 2. Challenges to project information shared externally

## Timing Is Everything

When survey participants were asked about their main challenges regarding sharing information outside their organization, more than half of all respondents (57%) said that once information was shared with external parties, they lost visibility of the project status. This lack of visibility can lead to communication issues and also impacts trust. Refer to Figure 2 for additional data.

Almost as many respondents (54%) struggle with the manual effort required to upload and download information between systems. Human error and delays in communication can be introduced when workflow processes are inconsistent and different platforms used by external teams involve the manual upload and download of information.

This year's survey also revealed that email is a primary communication vehicle between external parties for sending and receiving submittals and requests for information (RFIs). If the email is not forwarded in a timely manner, or team members are out of the office, days could be lost in the review process. Given that submittals and RFIs usually have contractual response times, a few days can have a major impact on the project. Software solutions for managing

email can alleviate some of these problems. An automated system for filing emails to the project enables all project team members to access important emails regardless of who the email was initially sent to. Figure 3 shares more information.

## Improving Accuracy & Consistency

Another factor that impacts building trusted relationships is the accuracy and completeness of the information being shared. Over half the architects and engineers say one of the main challenges with communication between firms is receiving incomplete information. Almost as many also state the information

received is unclear or is not received in a timely manner. More contractors (61%) cited receiving incomplete information as a major challenge. In addition, information not sent in a timely manner ranked almost as high.

During the construction administration phase of a project, submittals can be rejected or RFI responses can be delayed due to incomplete information. Many construction administration workflows require several manual administrative tasks to move data from one system to another. For example, when submittals and RFIs are transferred via email, an administrator must download the information from their system and reenter it in the email. This introduces a level of inconsistency as individuals are making decisions about what information to include. Once the email is received, this information must then be manually extracted from the email and entered into the design team's system of record. These manual processes introduce a host of delays and human error.

During the construction phase, effective communication of project decisions is essential to building trust across the team. If information is incomplete, inaccurate or not received in a timely manner, mistakes will be made (see Figure 4). Mistakes often result in

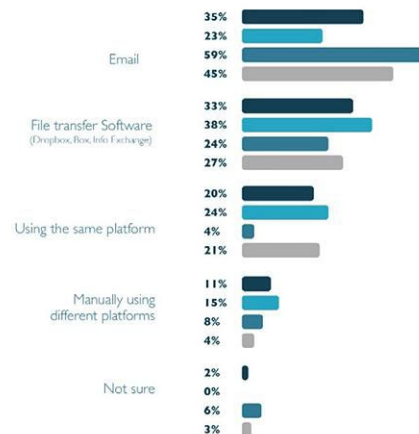
Figure 3. Methods of exchange submittal and RFI information

## Methods of Exchange of Submittal and RFI Information 2022: Total

For most projects, how is your firm exchanging submittal and RFI information?

### KEY

- Total (n=327)
- Architect (n=184)
- Engineer (n=51)
- Contractors (n=92)

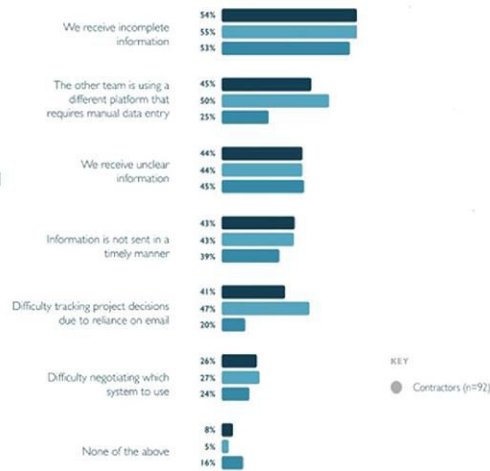


#### Top Challenges to Managing Project Information 2022: Total

**For Architects and Engineers:**  
What are the main challenges you have with communications between your firm and external parties?

#### KEY

- Total (n=327)
- Architects (n=184)
- Engineers (n=51)



#### KEY

- Contractors (n=92)



Figure 4. Top challenges to managing project information

rework, schedule delays and increased costs. The bottom line is that it impacts all parties' profitability.

### Technology in Relationships

An automated approach for transferring data between systems provides the

guardrails necessary to ensure data sent between parties is accurate and complete. Automation of workflows also provides standardization of processes in support of efforts such as ISO 19650. Today, interoperability between systems is accomplished

through standard application programming interfaces (APIs). The required information to be transferred between systems is mapped through the API to ensure information is complete and accurate. However, the industry continues to struggle with software



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integration and interoperability issues. Some suggest that having everyone on the same platform using the same set of tools will resolve issues, but it may not be practical. Integration of applications does not necessarily require all project stakeholders to use the same centralized system. Stakeholders prefer to use the platforms and tools that best suit their needs. ISO 19650 defines a common data environment (CDE) which is considered the “single source of information used to collect, manage and disseminate documentation, the graphical model and nongraphical data for the whole project team.” There is often confusion around the meaning or intent of “single source of information.” Although technically this could be accomplished in one physical environment, ISO 19650 3.3.15 states “information exchange involves the

sharing and coordination of information through a CDE, using open standards whenever possible and clearly defined operating procedures.” In effect, a CDE can be considered as a digital hub where several different environments are connected through APIs using open standards.

Architectural firm BWBR was able to streamline its construction administration with contractors using a construction management software platform. By implementing a project information management (PIM) connector, the contractor was able to work in their preferred environment while BWBR continued using its PIM software. The connector, built on standard APIs, automated the transfer of submittal and RFI information between systems. This made collaboration easy building trust and strengthened the

team relationship between BWBR and the contractor.

Integrated software solutions can provide standardization and consistency in how information is shared. It can also eliminate manual data entry processes that are prone to errors and delays. Technology can play a major role in improving the quality and timeliness of shared information, and in turn, can build trusted relationships across project stakeholders. ▲

As the lead content strategist for Newforma, Peg Landry combines her knowledge of the AEC industry and technical knowledge of project information management solutions to provide AEC companies with thought leadership, industry research and best practices for success. Landry is the author of Newforma's 2021 and 2022 thought leadership for the State of Project Information Management. Visit [newforma.com](http://newforma.com).



## Maximize Your Construction BIZ

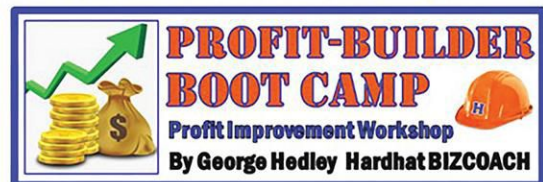
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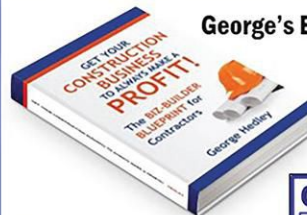
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# Proactively Protect Your Bottom Line & Position Your Business for Success

5 risk management areas you should focus on this year & beyond

BY MICHAEL TENG

The last several years have been challenging for contractors as they face mounting pressures from inflation, labor shortages, rising capital costs and continued supply chain interruptions. As you navigate these pressures, be sure not to ignore the many risks that could adversely affect the business you've worked so hard to build and maintain. Proactive risk management puts you in a better position to protect your business and employees: It should be a key aspect of every business plan.

Here are a few tips to strategically reduce your risk in the areas of safety, theft, cybercrime, motor vehicle use and employment practices.

## 1. Safety

The risk of injury in construction is high. There's always room to improve the safety of your construction sites and operations. As a business leader, that directive starts with you. Work with your most experienced employees to lead by example to foster a culture of safety, with every employee acting as a contributor. Have a plan. Communicate it. Celebrate success.

When deciding how to put your risk management plan in place, consider the following:

- *Property condition assessments* – Conduct inspections of your property, including building history, age and preexisting problems, to

identify potential risks.

- *Hazards* – On a regular basis, evaluate your machinery, work environment and working conditions on- and off-site for potential hazards. This includes industrial hygiene, such as sound exposure and ergonomic issues, and environmental safety, like exposure to chemicals including asbestos, lead fumes, spray paint, carbon monoxide and silica.

Once you've determined the areas needing attention, it's time to put a plan into action and implement your safety practices through in-person consultations, safety training sessions and the distribution of additional resources to your employees. Work with your insurer to develop a proactive safety culture and to choose insurance coverages that best fit your unique needs.

## 2. Theft

Given the nature of construction work sites, it's imperative that you strengthen security to help reduce your losses and prevent costly delays. Include the following steps in your risk management plan:

- *Assess before you construct* – A preconstruction security assessment should include location-specific exposures, project type, socioeconomic factors and the level of public support or resistance

surrounding your project. It will give your team a better idea of the external site risks.

- *Minimize entry points* – After your assessment is complete, secure the perimeter. This requires perimeter fencing, warning signage, camera systems, and permanent and motion lighting.
- *Deter equipment and material theft* – Lock up tools, equipment and materials when possible; disable and remove batteries from equipment when not in use; equip vehicles with GPS and geofencing alerts; and limit the amount of time valuable materials are freestanding at the jobsite.
- *Implement breach protections* – Incorporate alarm systems and motion sensors that alert those in the surrounding area of a breach through lights and sound, or a silent alarm system that alerts local authorities and the construction supervisor.
- *Limit after-hours threats* – Don't overlook your employees' safety; encourage them to walk to and from jobsites in groups for additional security.

For an added layer of protection, your insurer may offer contractor's equipment insurance. This coverage typically includes valuation options, whether for replacement cost or actual cash value of the equipment. The right insurance can also provide coverage for hired equipment, additional acquired property, and employees' tools and clothing.

## 3. Cybercrime

Cybercrime continues to rise significantly. Ransomware, in particular, continued an upward trend in 2022 as the share of data breaches caused by ransomware grew 41%, according to a study by IBM Security. There is a considerable financial cost to these breaches: In this study, it was estimated

that a ransomware attack cost a business an average of \$4.54 million.

A cyberattack on your business's software or equipment could cause project delays, reputational damage, loss of bid data, cyberextortion and litigation. There are several ways to help protect your sensitive data, including:

- *Identify sensitive data and ensure proper controls are in place* – Look for any personally identifiable information, and evaluate and implement proper controls to secure the data, comply with regulations and reduce privacy risk.
- *Back up data* – Ensure any data critical to your company's existence is secured and copied to a separate storage site.
- *Bolster your information technology (IT) systems* – Make sure your antivirus package is current and able to block attacks.
- *Educate employees* – Teach workers to recognize and delete potential risks like phishing emails.
- *Find an expert who can help with your specific needs* – Have a software/hardware security expert check your system for strong encryption and authorization protocols.

Construction is a lucrative target for cybercriminals. As an added layer of protection, use multifactor authentication mechanisms to protect your sensitive information. Make sure you also require strong user passwords and reset them at regular intervals. Similarly, using a password manager such as LastPass or RoboForm and disallowing apps and websites to retain your passwords can help combat cybercrime.

Cyber liability insurance is another opportunity to further help protect your business, and can assist you with privacy breach response services, such as:

- Computer specialists
- Legal advice
- Public relations expenses

- Notification costs
- Credit monitoring services

#### 4. Motor Vehicle Usage

Depending on the scope of your projects, your employees may be at an increased risk on the road. They may have to travel between construction sites, work with a variety of vehicles from cement mixers and excavators to company trucks, or even perform roadwork. According to Cambridge Mobile Telematics, drivers were 30% more distracted in February 2022 than they were in February 2020, just prior to the pandemic. And while distracted driving used to have seasonal peaks, it's now considered a constant risk throughout the year.

With the most distracted drivers more than two times more likely to crash than the least distracted drivers, it pays to proactively mitigate your risks. More frequent crashes can increase your insurance costs, and litigation targeting accidents involving businesses can further drive up costs for everyone. You can help counter this by establishing a detailed risk management plan that includes:

- *Background checks prior to employment* – Assess motor vehicle reports (MVRs) prior to hiring an employee. If you put a driver who has an unsafe driving record on the road in one of your vehicles and they cause an accident, it could be a catastrophic loss for your business.
- *Employee training* – As part of your overall safety plan, motor vehicle training can help keep your employees, and those on the road with them, safe.
- *Telematics in vehicles used by your employees* – You can monitor driving behaviors in real time to encourage safe driving.

Tailor insurance coverages to the types of driving tasks your employees undertake. Your insurer can help you

choose the options best suited to your needs.

#### 5. Employment Practices

Effective hiring practices are a key element of success for any business. There are three steps you can take to improve your hiring practices and add a layer of protection:

- Establish and follow written employment guidelines and job qualifications.
- Consult a legal expert to review your company's recruitment and hiring processes, and make sure they're compliant with state and federal laws.
- Perform background checks as part of your hiring process, including checking references from past employers.

Employment practices liability (EPLI) coverage is also important to consider. EPLI helps protect you and your business if an employee claims employment-related issues like discrimination, wrongful termination or harassment.

#### Protect Your Hard Work From the Unexpected

You've worked hard to build your business, and risk management is an essential part of protecting your employees and bottom line. Every business is unique, so take the time to find an insurer who knows your field and is familiar with your needs. Talk with your insurer, your team and local experts to identify your risks, find solutions to your safety and security gaps, and ensure your business has the appropriate coverages in place to help you recover if the unexpected happens. ▲

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Michael Teng is assistant vice president of products and pricing at Sentry Insurance. Sentry provides property, casualty, life insurance and retirement products to construction businesses. Visit [sentry.com](https://sentry.com).



# Improving ROI on IT Spend in Uncertain Economic Times

How to leverage tech so your company survives & thrives

BY RAHUL KEJRIWAL

**T**he construction industry has faced significant challenges in recent years, with economic uncertainty and fluctuating demand exerting pressure on budgets and resources. As we come to terms with a difficult economic forecast in the coming months, it is more important than ever for leaders and managers to ensure that every dollar spent delivers maximum return on investment (ROI), including information technology (IT) investments. Companies that can leverage technology to improve

their operations, reduce costs and enhance productivity are more likely to survive and thrive in a challenging economic environment. This article will discuss key best practices Hexagon's global user base employed to reduce project risk and drive tangible outcomes.

## **Prioritize Investments Based on Business Needs**

General contractors face an almost impossible challenge with the number of variables they deal with every day.

By identifying areas of business that benefit the most from IT investments and prioritizing those investments accordingly, companies can ensure IT spend is targeted at areas of greatest return.

For example, if a company is struggling with complex construction management orchestration, investing in an advanced construction management software may yield high ROI. A strong solution can help participants at all levels access data and information anytime, from anywhere



— from 2D drawings and 3D models to work packages, detailed instructions, point clouds and as-built measurements, to project progress and deviations from plan. This real-time visibility and transparency can clarify, connect and simplify the construction management process.

## Embrace Automation & Move Toward Autonomy

Automation is another powerful tool for improving ROI in the construction industry. By automating repetitive and manual processes, both in the field and in the office, companies can free up valuable time for employees to focus on more strategic tasks. Technology-enabled, integrated jobsites improve efficiency and profitability of construction businesses and help attract and retain key talent.

For example, 3D laser scanning is a recent innovation in the construction world but has already permeated throughout the industry. Contractors, foremen and other decision-makers can use measurable 3D images to direct field teams, document progress and plan for next steps before crunch time starts. Significant development is underway to produce machine learning use cases to reduce labor hours, accelerate project timelines and prevent thousands of dollars in unnecessary rework.

Construction cameras offer another excellent example of automation at the jobsite. Keeping project records is more than a compliance or customer-enforced rule. It's how contractors can show progress and roadblocks, protect themselves from disputes and prevent miscommunication.

Project managers and main contractors have a list filled with tasks and small details — and documenting what happens on the jobsite can be a time-consuming part of their day. Construction cameras help automate this process, capturing the big picture and key details about what's

happening on a project, creating an unbiased record that teams can rely on for information.

## Leverage Cloud Computing

Cloud computing has revolutionized the way businesses approach IT infrastructure, providing a cost-effective and flexible alternative to traditional on-premises solutions. In the construction industry, where projects are often distributed across multiple sites and locations, cloud-based solutions can be particularly valuable. By leveraging cloud computing, companies can avoid the need to invest in expensive hardware and software licenses while also benefiting from the scalability and agility of cloud-based solutions.

For example, cloud-based common data environment (CDE) software can be accessed from any location, allowing project teams to collaborate and share information more effectively. An effective CDE can also help streamline document approval processes, reducing the time and resources required to manage project documentation.

## Invest in Training & Development

By investing in training and development, companies can ensure employees are able to use IT systems effectively and efficiently, reducing the risk of errors and delays. Construction companies often rely on specialized software and systems to manage projects, and ensuring employees are fully trained and proficient in using these tools is essential for maximizing the value of IT investments. Additionally, providing training and development opportunities can help boost employee engagement and retention, contributing to the overall success of your business.

For example, if an investment in a new construction management system does not see expected improvements in project timelines, investing in additional

training for employees is often the key to unlocking the benefits of the platform.

## Monitor & Measure Performance

Finally, it is important to monitor and measure the performance of IT investments to ensure desired ROI is being achieved. This means tracking key metrics, such as productivity, efficiency and cost savings, and comparing these metrics to investment costs. By monitoring performance, companies can identify areas where improvements can be made, and IT spend can be adjusted accordingly.

Regular monitoring and measurement of IT performance can also help to identify areas where additional investments may be needed to address specific business needs.

In conclusion, improving ROI in construction will require a targeted and strategic approach. By prioritizing investments based on business needs, embracing automation and autonomy, leveraging cloud computing, investing in training and development, and monitoring and measuring performance, construction companies can maximize the value of their IT investments and stay competitive in a challenging economic environment. By taking a proactive approach to IT investments, construction leaders can ensure their companies are well positioned to succeed in the long term, regardless of economic fluctuations. ▲

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Rahul Kejriwal is CEO at Bricsys, part of Hexagon. In this role, he is responsible for developing and executing strategic plans to advance Bricsys' mission and objectives. Previously, Kejriwal worked both as a technology investor and investment banker, working with and investing in fast-growing technology companies globally. Kejriwal started his career as a cybersecurity management consultant. He holds a master's degree in finance and economics from the University of Oxford (United Kingdom) and a bachelor's degree in electrical engineering. Visit [bricsys.com](https://bricsys.com).



# REAL JOBSITE SOLUTIONS

While tackling tough challenges is all part of the job, you shouldn't have to do it alone. The issues you face in running a successful business – small, large and everything in between – require solutions. In this section, we highlight several offerings from the industry's top names to help you solve your problems at any scale.

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# United Rentals

*Telematics solutions drive jobsite efficiency & save companies money*

Most construction contractors are keenly focused on preserving or growing their profit margins. To do it, they need to make their equipment work harder for them. They also need to shrink the amount of unproductive time spent by managers and crew members. Leveraging telematics can deliver results on both fronts, enabling companies to work faster and return money to the bottom line.

Here's a look at three ways telematics technology, paired with a cloud-based fleet management solution such as United Rentals' Total Control, can improve jobsite efficiency.

## LOCATION TRACKING

Construction equipment has a way of hiding, especially on large jobsites. Crews hoard it, or they leave it where it doesn't belong — and out of sight is out of mind.

Telematics solves the problem. Companies that own or rent telematics-enabled equipment can pinpoint every piece of it on a map accessed from a phone, tablet or computer. A quick glance eliminates time-wasting hunts and saves managers from renting more equipment when they already have what they need. Total Control allows companies to see all their equipment, rented and owned, on the same map.

When users configure geofences in Total Control, telematics also reduces equipment theft and "borrowing."

## UTILIZATION TRACKING

Right-sizing a fleet can be challenging, but it's essential to right-sizing a project budget. To know how much equipment they need,



contractors must first understand how much they use. Telematics devices installed on owned and rented equipment produce data that populates easy-to-generate utilization reports. These reports let companies understand and optimize their utilization.

If a piece of owned equipment is underutilized, renting make may more sense financially. If it's overutilized, purchasing or renting additional equipment can help ensure jobs are completed on time. Visibility into utilization can even boost revenue by helping contractors make more accurate bids.

Utilization reports on rented equipment reveal how many pieces are on rent, how long each piece has been on rent, how much it's being used and when it's due back. If the equipment is sitting idle, it's time to return it and stop the rental clock. United Rentals customers who use Total Control to manage their rental fleet cut their annual rental costs by up to a third.

## IMPROVED MAINTENANCE

An effective preventive maintenance program improves equipment performance, reduces breakdowns and prolongs the life of machines.

Companies can optimize their maintenance schedules with the help of telematics data. For example, they can use engine or usage hours to drive just-in-time maintenance, which avoids under-servicing heavily utilized equipment and over-servicing equipment used less often. Data-based maintenance can also facilitate more accurate maintenance budget forecasts.

Users can create alerts that notify them when fuel or fluid levels are low or when the engine temperature rises. These help companies minimize downtime and catch small problems before they become bigger ones.

United Rentals is committed to enhancing customer performance through technology. Telematics devices installed on rented and owned equipment and leveraged through Total Control enable data-driven decisions that save time and money, putting contractors ahead of the curve.

**United Rentals**  
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# AIA Contract Documents

*Key contractual risks in construction that should be carefully considered before any work begins*

Construction projects are complex endeavors that involve many different parties, including owners, design professionals, contractors, subcontractors and suppliers. With so many different parties involved, there are a variety of potential risks associated with construction contracts. Here are some of the key contract risks in construction that should be carefully considered before any work begins.

## SCOPE CREEP

Scope creep occurs when the scope of work defined in the contract expands beyond what was initially agreed upon. This can lead to delays, cost overruns and disputes over payment.

## DELAY & DISRUPTION

Construction projects are often subject to delays and disruptions, which can be caused by a wide range of factors, including weather, labor disputes and changes in design. These delays and disruptions can have significant financial consequences for all parties involved.

## PAYMENT DISPUTES

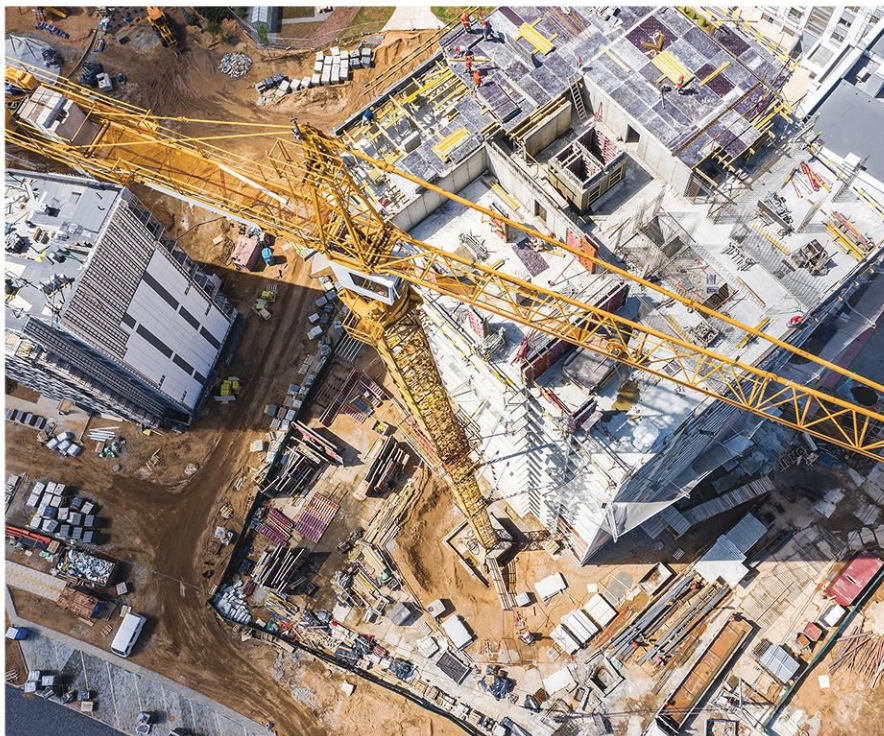
Payment disputes are common in the construction industry, particularly when subcontractors are involved. Disputes can arise over issues such as work quality, delays and changes to the scope of work.

## DESIGN & SPECIFICATION ISSUES

Design and specification issues can arise when there is a discrepancy between the design and the specifications outlined in the contract. This can lead to delays, disputes and even legal action.

## HEALTH & SAFETY RISKS

Construction projects involve a variety



of health and safety risks, including falls, electrical hazards and exposure to hazardous materials. These risks can result in injuries or even fatalities, which can lead to legal action and financial liability.

To mitigate these risks, it is important for all parties to carefully review and negotiate the terms of the contract prior to signing the contract. This should include a detailed scope of work, a clear payment schedule and provisions for handling delays, disputes and changes to the scope of work.

It is also important to ensure that the contract includes provisions for health and safety, such as requirements for protective equipment and procedures for handling hazardous materials. The parties should always be aware of their rights and remedies under the contract.

Ultimately, the success of a construction project depends on effective contract management and a commitment to open communication and collaboration between all parties. By taking steps to mitigate contract risks, construction projects can be completed on time and on budget, with minimal disputes and legal issues.

\*AIA Contract Documents has provided this article for general informational purposes only. The information provided is not legal opinion or legal advice and does not create an attorney-client relationship of any kind. This article is also not intended to provide guidance as to how project parties should interpret their specific contracts or resolve contract disputes, as those decisions will need to be made in consultation with legal counsel, insurance counsel, and other professionals, and based upon a multitude of factors.

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**AIA** Contract Documents

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in the year \_\_\_\_\_  
(In words, indicate day, month and year.)

BETWEEN the Owner:  
(Name, legal status, address and other information)

# JCB North America

*The world's largest privately owned manufacturer of construction, agricultural & defense equipment*

## A CRITICAL PERIOD IN CONSTRUCTION

Construction exploded in the 1940s. WWII sparked a great deal of engineering innovation, and when the war ended in 1945, there were finally enough resources and an eager workforce ready to put the latest technology to practical commercial use.

## ENTER MR. JCB

It was during this time that engineer Joseph Cyril Bamford began inventing new construction equipment in a garage in Uttoxeter, England.

Right from the start, his concepts were innovative. That innovative edge became apparent in 1949 with the launch of the JCB major loader, which revolutionized agriculture. What started as a one-man team grew into a successful business that would deliver innovative products for decades to come.

Bamford's motto was "jamais content," which means "never content." For him, innovation was never a one-time endeavor. It was an eternal journey, and he kept it at the forefront by continually reinvesting in research and development, production processes and customer care.

## THE DRIVER OF GROWTH

An innovative approach to building construction machinery has grown this family business from a one-man experiment to a global company of 22 manufacturing plants across four continents, with more than 750 dealers around the world.

JCB's machinery operates on six continents, and the company is constantly evolving its range of over 300 machines. Pushing the boundaries comes naturally to JCB, but they don't just do it because it's



exciting or edgy; they do it because that's what their customers need. And frankly, it's what they've come to expect.

## THE PEOPLE

While JCB is proud that its pioneering spirit has made the company a global force in manufacturing, they acknowledge they could not have accomplished any of it without their people — a 12,000-strong, worldwide workforce that makes up the JCB family.

## INNOVATION MILESTONES

- 1949: JCB Major Loader revolutionizes agriculture
- 1952: JCB Backhoe Loader is born with Mk 1 excavator
- 1971: JCB 110 Hydrostatic Crawler loader proves JCB's pioneering spirit
- 1977: JCB 520 Telescopic Handler, a new concept is introduced
- 1980: JCB 3CX marks the industry's largest investment in a single machine
- 1990: JCB Fastrac becomes the world's first fully suspended, high-speed draught tractor
- 1993: JCB skid steer loader sets new standards for skid steer safety
- 2006: Two JCB 444 diesel engines power the JCB Dieselmix to the diesel world land speed record
- 2010: JCB Eco machines take machine efficiency and productivity to new class-leading levels
- 2013: The millionth JCB machine is built
- 2015: 3CX Compact offers big performance in small areas
- 2016: JCB Hydradig reinvents the construction industry with its ground-up, innovative design
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- 2016: New JCB Fastrac 8000 series tops the JCB tractor lineup
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- 2017: JCB Teleskid's innovative design revolutionizes the skid steer market
- 2018: JCB unveils its first-ever electric mini excavator, the JCB 19C-IE
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In fact, propane plays an important role in permanent and temporary microgrids, working in tandem with wind, solar PV and battery systems to generate clean, cost-effective and

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For businesses, a reliable propane standby generator is a key part of resilient design. When the power is knocked out, standby power kicks in almost instantly, so there's no disruption in heating or cooling, lighting, refrigeration and other critical building systems. These units can keep operations running for weeks until power is restored. It can prevent thousands of dollars in losses for a business and help keep the doors open.

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With industry-specific functionality, Acumatica Construction Edition was made expressly to empower general contractors, subcontractors, home builders and land developers to gather and analyze their project information and data from a single, centralized platform.

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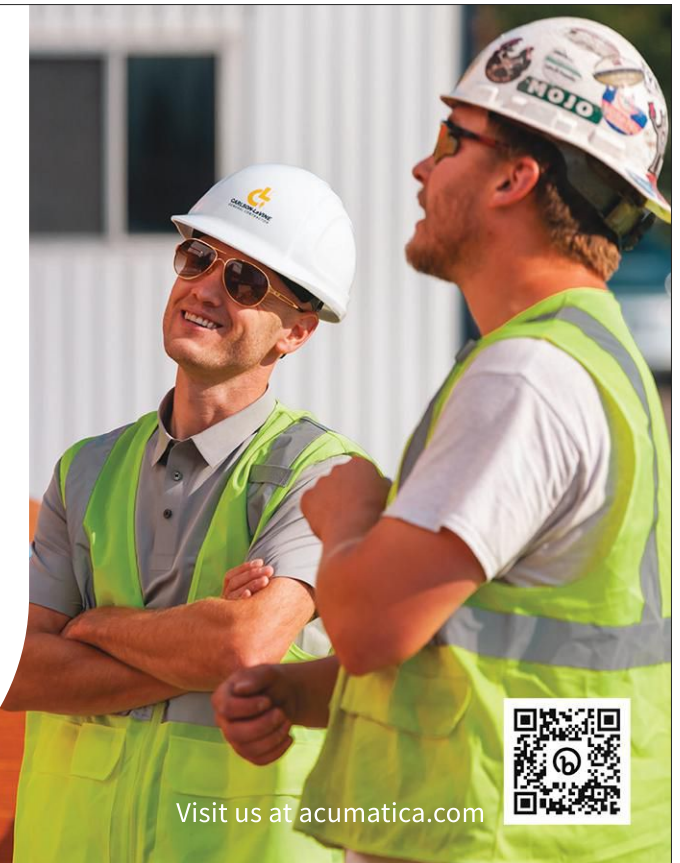
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# B2W Software

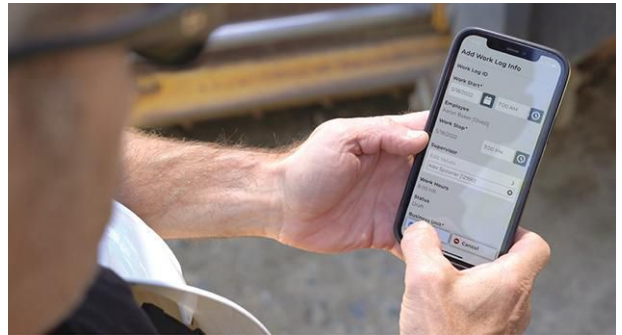
*Giving contractors a unified platform to manage heavy construction estimating & operations more efficiently*

As contractors across heavy construction sectors adopt technology to win more work and complete it more profitably, B2W offers a unique option: a unified platform for managing estimating and operations. The company's ONE Platform keeps people, workflows and data connected in real time and includes specialized applications to manage estimating, resource scheduling and dispatching, field tracking and equipment maintenance as well as enterprise e-Forms and reporting.

A single database for operational data — such as employee, equipment and job lists — is a differentiating aspect of the platform. The operational elements of the platform

use and update this data dynamically, ensuring accuracy and efficiency. This unified approach eliminates redundancy and delays inherent in managing and syncing disparate software applications. As a result, employees can collaborate across workflows in real time. Enterprise-wide communication, reporting and analytics also enable them to make timely, data-driven decisions.

B2W platform applications can be adopted all at once or over time. The applications provide full mobile capabilities, and they are easy and intuitive to deploy and use in



construction environments.

B2W Software was founded in 1993 and acquired by Trimble in 2022. The company is headquartered in Portsmouth, New Hampshire, and has customers in every U.S. state and Canadian province.

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With the passing of the Infrastructure Bill, nonresidential construction is seeing an increase in project demand, meaning more construction companies will likely bid on these projects.

Did you know that when a contractor wins a government-funded prevailing wage project, they earn additional fringe dollars that can be used to subsidize employee benefits such as a 401(k), medical plan or paid time off? With project demand comes employee demand, and with a construction labor shortage, many employers are looking for ways to implement retirement and healthcare

plans to attract and retain employees.

However, prevailing wage compliance and plan design can be tricky business, and only a few providers know how to adequately manage the needs of government contractors.

That's where Beneco steps in. With 35 years of experience addressing the unique needs of the construction industry under its belt, and a client retention average of 15+ years, its clients and future clients come to Beneco when they are looking for answers to their prevailing wage and Davis-Bacon-related questions.



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# Fringe Benefit Group (The Contractors Plan)

*How Imperial Electric Service stays compliant on prevailing wage jobs while employees grow retirement accounts*

Imperial Electric Service is highly regarded for its expertise in the design and installation of utility infrastructure for electric vehicle (EV) stations and renewable energy projects. The company has designed and built over 100 EV sites in California's Central Valley for school districts, universities, airports, shopping centers, corporations, government agencies and more.

Many EV projects are prevailing wage jobs — meaning they are subject to complex government regulations, such as the Davis-Bacon Act or state prevailing wage laws. The Contractors Plan team understands the challenges

that contractors face when creating and managing a bona fide employee benefits plan. The Contractors Plan specializes in prevailing wage benefit plans and compliance, offering a flexible, easy-to-use solution that reduces a contractor's workload while offering great employee benefit options.

Imperial Electric Service Founder and President Windell Pascascio said, "I learned about The Contractors Plan from my previous employer who also worked on prevailing wage jobs. I recognized the value it provides to the business as well as to the employees, so I immediately enrolled when I



started my company. The employees love it — they see the money being put toward their retirement and the growth in their retirement accounts. For a small business like ours, it's a competitive advantage. The Contractors Plan helps us stay compliant with prevailing wage laws, which gives us peace of mind."

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# Insite Software

*Hook Construction relies on Elevation Pro to help value engineer jobsites*

Kyle Kopp and Bill Estell, owners of Hook Construction LLC, have found the sweet spot of success in just five short years. The company specializes in earthwork, storm sewer and heavy civil concrete work, servicing all of Oklahoma and parts of Texas.

They are committed to ensuring that the projects they bid on are competitive and bring the best value to their customers. To remain successful, they rely on InSite's Elevation Pro.

One feature they use to value engineer jobsites is the Dynamic Site Balancer. This feature won them a \$700,000 contract. The job required a significant import, but there wasn't enough money in the budget to bring in material. Using the Site Balancer, Estell showed the developer that if he lowered the site by 3.25 inches, the site would be balanced. They won the job.

Estell also relies on Elevation Pro's 3D views, contour cut and fill map, and KMZ export to Google Earth. "It gives me a competitive edge," says Estell. "Showing up at the contractor's office and showing them the 3Ds and overlays really impresses them."

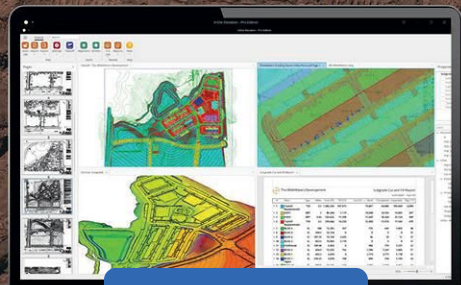
In addition to takeoff, Hook Construction also builds models. Kopp says building models is a simple process using Elevation Pro. "We used to farm models out," says Kopp. "We do an average of 45 models per year and were paying about \$1,500 per model. Using Elevation Pro for model building saves over \$60,000 per year in fees."

Says Kopp, "Elevation Pro is an incredible value. It more than pays for itself over and over again."



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# The Infrastructure Law Problem Only Human Resources Can Solve

5 ways of addressing the labor shortage to recruit & retain staff

BY STEPHEN H. LEWIS

**T**he Bipartisan Infrastructure Law provides an opportunity to change the landscape of America. Federal spending to build and repair U.S. infrastructure is expected to increase by over \$550 billion. Government contractors, especially those specializing in heavy civil construction, could receive substantial amounts of economic stimulus if they effectively prepare and have the right talent at the ready. I regularly hear from architecture, engineering and construction (AEC) businesses about how the labor shortage is making staffing projects incredibly challenging.

According to the 2023 Construction Hiring and Business Outlook from the Associated General Contractors of America (AGC) and Sage, respondents are most optimistic about infrastructure categories. The study showed “positive readings of 42% for both highway and bridge construction and transportation projects such as transit, rail and airports.”

As reported by the American Road and Transportation Builders Association (ARTBA), the value of state and local contract awards increased 25% in 2022; I can only hope 2023 will continue to see this type of growth. But that brings us to the pressing question on everyone’s mind: Does our firm have the right staff to bid on and perform the work?

The labor shortage is by far the largest challenge for most contractors, according to Ken Simonson, AEC’s chief economist. With that in mind, how can you adapt your workforce strategy today? Here are five practical steps.

## 1. Step Up Scenario Planning

The pandemic underscored the need for a deliberate, focused and thoughtful scenario planning process.

Scenario planning requires development of short- and long-term strategies to ramp up (and sometimes ramp down) the size of a team, projects or full staffing model, depending on the expected workflow. Develop contingency plans to adapt to external threats, such as requests for accommodations.

## 2. Enhance Workforce Utilization

Job candidates currently have substantial labor-market power. They are demanding greater flexibility in where, when and how they work. While the level of flexibility depends on the particular job, responding to these new expectations requires thinking differently about staffing, as well as having a well-defined employee value proposition (EVP). Your EVP explains to job candidates why working for you is more attractive than working for your competitors. Promote your EVP as you promote open positions to attract the best talent.

Mentoring programs are an effective method for creating a talent pipeline. When I was involved in AGC’s Construction Careers Center charter high school in St. Louis, Missouri, I saw firsthand how mentors inspire students to choose construction-related careers. Your firm can also get involved with similar nonprofit organizations, such as Helmets to Hardhats, to create a talent pipeline from veterans. To expand candidate

pools, develop “upskilling” programs that provide training and certification to candidates who may not have the full range of skills needed to qualify for existing positions.

### 3. Increase DEI Efforts

Disadvantaged business enterprise (DBE) contractors and diverse workforces are critical to the construction industry based on the guidelines of the infrastructure law. Diversity, equity and inclusion (DEI) efforts often make the difference between being the apparent low bidder that loses the work and being the creative, inclusive contractor that wins the work. Recruiting efforts should include programs that attract women and people of color.

Offering thoughtful employee benefits can be a competitive advantage in attracting women to the industry. Improved benefits can directly impact job performance, well-being and overall happiness. In 2023, a year where companies will need to compete on a budget, this may be the best dollar-for-dollar investment construction companies can make in their workforce. The National Association of Women in Construction is an example of one organization creating awareness about meaningful careers and offering support for women in construction.

Keep in mind that both the Federal Highway Administration and Federal Transit Administration programs will give contracting agencies expanded flexibility to use hiring preferences to enhance workforce development opportunities for those in economically or socially disadvantaged communities.

### 4. Design Compensation for Your People

There is no substitute for programs personalized for your company to optimize your workforce. Compensation is a pressing issue. If one firm is offering \$15 per hour and another is offering \$12 per hour, that makes a significant difference to job candidates. AEC companies have turned to consulting firms to address their compensation challenges, such as:

- Developing a total rewards strategy and compensation philosophy
- Conducting a labor market assessment of total direct compensation
- Creating salary ranges to assist with pay management, career-pathing and emerging regulatory requirements
- Designing an enhanced long-term incentive plan for executives
- Pay equity analysis

### 5. Be Strategic About Medical & Mental Health Benefits

To help attract and retain key talent, and keep that talent healthy

and productive, instituting thoughtful medical and mental health benefit programs is essential. According to the Centers for Disease Control and Prevention, more construction workers die by suicide each year than by all other construction-related fatalities, as reported by ARTBA. Unfortunately, construction industry suicide statistics are jarring:

- 45.3 suicides per 100,000 workers
- Estimated more than 5,500 suicides each year
- Construction worker suicide is 3.5 times the national average

The industry has begun to recognize the need for additional mental health and substance use disorder support. Some AEC firms have added employee assistance programs to their coverage when traditional mental health care has been proven to not provide enough support. Plus, people on a jobsite cannot always easily get to a medical facility nearby, so there is an uptick in AEC companies offering group and individual counseling sessions available via phone. Preventing opioid overdose and suicide among construction workers, as well as supporting workers' recovery and reintegration into the workforce, is key to helping employees succeed. Since there are quite a few programs in the marketplace, it can be a challenge to evaluate which ones are right for your staff, so consider hiring a consultancy to assist with this process.

Taking the time to shape the right health plan for your specific workforce will go a long way toward supporting your talent and managing expenses. Make an informed decision when choosing vendors, such as a pharmacy benefit management provider. Comparing and contrasting telemedicine and digital therapeutics point solutions can be challenging, because the health insurance marketplace is flooded with choices. Employers who ignore these complexities and continue with legacy health plan design and delivery approaches will miss significant opportunity gains.

One last thought: Be sure to have attorneys on your team or staffed within your consulting firm who can advise you on how to effectively comply with local, state and national employment laws. As you set up your current and future workforce for increased success, keep in mind that even though many construction businesses are feeling pressure when it comes to recruiting and retaining staff, there are solutions available as we head into this exciting new era. ▲

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# At a Crossroads: The Best Path Forward for Construction Recruiting

Navigate labor challenges by investing in company culture & employee development

BY BRYAN MAY

**2**023 is shaping up to be one for the record books. It's a perfect storm of a workforce shortage that's been years in the making coupled with historic planned infrastructure work plus other megaproject spending. The numbers are significant.

According to Associated Builders and Contractors (ABC), on top of normal hiring the construction industry needs to attract over 500,000 new workers this year to meet demand for large-scale building jobs. That's a tall order, considering ABC says the industry averaged more than 350,000 job openings each month in 2022, with unemployment rates just a tick above the record low of 4.5% in 2019.

## An Employee Pool That Has Dried Up

Despite career and pay opportunities in construction and other hands-on technical fields, for years students have been conditioned to consider a four-year degree as the gold standard for success. In a Harvard Business Review article, Cengage CEO Michael Hansen said, "The U.S. may be one of the only countries where a stigma around vocational and technical training still exists." That point of view has had an outsize impact on the construction industry.

However, as investment in a four-year college education shows less return, other career options have become more viable.

Considering the potential burden of student loan debt, trade education and apprenticeships are increasingly enticing. In fact, while college enrollment has increased since 2000, so has the number of students attending trade school.

But even with millions of potential new employees in training, it's still not enough to cover the shortfall left by experienced workers retiring or leaving the industry. A recent survey by Procore, in partnership with Dodge Data & Analytics, found that a hefty one-third of specialty contractors worldwide are planning to retire in the next five years.

Add in the half-million-worker deficit, and you can see why companies are looking for even a few good men and women.

## Considering the Options

No construction business owner I've ever met has said, "Sure, I'm OK just treading water." Universally, businesses are looking to bolster their bottom line and grow stronger and more successful. That's especially true when there's so much opportunity out there.

Construction companies are effectively facing three potential organizational directions:

1. Surrender to the reality of a limited workforce, turn away potential projects and accept slow or no growth.
2. Overcommit and stretch while facing the possibility that projects won't be delivered on time or within budget.
3. Focus internally to maximize recruiting and retention, and enhance the productivity and engagement of existing workers.

I would argue the third option is the path of highest positive impact. It not only works in the short term, but it also has the added advantage of setting companies up for longer-term success with a solid workforce foundation. Great employees are an asset, and their value can't be overstated. All the technology and equipment in the world is useless if you don't have anyone to operate it or enough people to do the work. That's why it's vital to cultivate the employees you do have, helping them grow and advance and keeping them on your payroll. (Because you know your best people can easily get another job.) And it's equally important to continue to attract new talent.

## The Importance of Company Culture

A company's culture is a strong factor in both recruitment and retention. According to a recent article in NAWIC Today: "All

other things being equal — like pay, hours and the type of work — a company's culture can often mean the difference between high turnover and open positions and an engaged and productive workforce." There is a direct and measurable correlation between recruiting and retention and culture. A Glassdoor study reported the following findings:

- Almost eight out of 10 people consider a company's culture before applying for a job.
- Just under two-thirds of employees say company culture is a main reason they stay in their job.

Of course you want experienced new hires, but recruiting emerging talent matters, so you need to understand what younger employees want. According to Gallup, younger millennials and Generation Z are looking for very specific culture attributes:

1. An employer that cares about employee well-being
2. Ethical organizational leadership
3. An employer that is diverse and inclusive of all people

You may not have thought much about culture or employee experience, a hot topic for human resources (HR) in the corporate world. Employee experience in construction may differ from office-based companies, but it's worth thinking critically about what it's like to work for your company. Do you have strong supportive supervisors? Is your environment safety first? Are career development and skills training part of the equation? Do you offer feedback and performance incentives? Are managers expected to treat employees with respect, and are disrespect and harassment unilaterally unacceptable?

This all adds up to culture, and it's a strong lever to encourage people to join your company and entice them to stay. As a bonus, when you have a positive culture employees feel comfortable acting as recruiters, connecting you with others in the industry.

## Expense or Investment?

Construction companies have significant expenses, including equipment, technology and, of course, people. But just like buying a new piece of equipment is an investment in working cost-effectively and potentially expanding your business, developing employees is also an investment. Commenting on the value of training, Randy Blount of BuildWitt said, "If [employees are] better trained, then they're going to be safer, they're going to do higher quality work, be more productive — all of this drives down cost." The hidden side of training is retention, also a big cost saver. Replacing an employee is expensive — if you can even find a replacement. It's much cheaper and more efficient to keep the employees you have and enhance their skills and productivity. According to LinkedIn, more than 90% of

employees would stay at a company longer if it invested in their learning and development. Offering skills and career training not only attracts more skilled, productive employees, but it also gives you a competitive advantage over companies that don't.

## Don't Reinvent the Wheel

You might be one company among thousands, but you aren't alone. Construction associations are hard at work on a national, state and local level to encourage new people to enter the industry and to help members recruit and retain them.

Among other initiatives, ABC offers a robust apprenticeship program and has student chapters across the country helping to create the next generation of construction leaders.

Another example is Associated General Contractors of America (AGC). AGC holds an annual workforce summit where construction workforce development experts share new ideas and best practices. The results are published in a report intended to help construction companies leverage the group's work.

At a more local level, several state AGC chapters have established resources and programs that educate young people and parents about opportunities and connect potential employees to open positions with member companies.

"Given the current challenges, it's clear that partnership is important to bring the next generation of the workforce into construction," says Kris Lengieza, vice president of global partnerships and alliances at Procore. "As an industry, we need to work smart and work together."

## Move in the Right Direction

The construction workforce shortage can seem daunting if you look at the raw numbers. But break it down to what you can do in your own company, and it's more manageable. Understand what drives today's employees and potential hires, and create a viable plan to make your company one people want to work for. Your culture and your workforce development approach are entirely within your power to create and maintain.

And you don't need to go it alone. The industry has strong associations that work hard to cultivate interest and training in construction and connect prospective workers with open jobs. If you identify and take advantage of resources and programs available to you, you are more likely to find those few good people you need to grow your business. ▲

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# Turn Real-Time Data Into Actionable Information

Understanding telematics monitoring services & how they can improve projects

BY STOJAN AREZINA

**A**s a business owner, you do more than look after the equipment: You also purchase products and talk to vendors. Since your role is cross-functional, there is a benefit to understanding the technology at your disposal that can help relieve some of your day-to-day tasks.

In today's equipment landscape, there's no shortage of technologies, like telematics machine monitoring services, available to help you improve your operation, enhance safety and make your

business run smoother. We'll discuss telematics and how a fleet monitoring service can help you stay focused on the business while it works to protect your construction equipment.

## What Is Telematics?

Today's heavy construction equipment and mini excavators are likely already equipped with onboard fleet tracking technologies, called telematics, to track and report data in real time. Many industries, including the construction

equipment industry, use telematics to collect data on their machines. Telematics systems can provide you with a better understanding of how, when and where construction equipment is being used. The location is provided in longitude and latitude, and the mapping software automatically changes to the closest address.

Many fleet tracking technologies use a terminal that is installed on equipment to gather and communicate data wirelessly via cellular or satellite service.

The machine's data is then sent to a website where you, your operators and your equipment dealer can monitor the machine's performance, operating hours, fuel usage, engine idle time and work time. You can also monitor engine/hydraulic oil temperature and view fault and warning codes via a computer or cellular device.

## How Do Telematics Fleet Management Systems Work?

Using a machine's telematics data, employees of the fleet management system will monitor a subscriber's machine remotely from a machine monitoring center for critical machine fault codes, upcoming and overdue service and warranty expirations. When a machine alert is triggered, the telematics system will send two messages via email — one to you and one to the dealer — and push notifications.

The email notification will alert you to any immediate action that needs to be taken to prevent potential machine damage. For example, your operator may need to shut down an excavator or wheel loader until a critical issue can be fixed. Some simple issues can be addressed by an operator at the jobsite, meaning the machine has little or no downtime and you can stay on schedule.

A machine utilization report will be sent for each machine subscribed to the service. Recommendations for how to improve fuel efficiency and reduce machine wear may be included. The report will also indicate upcoming machine maintenance needs.

Your dealer will also have access to the machine reports. Their service department can identify upcoming machine maintenance and contact you to schedule a convenient day and time to perform the service, minimizing any schedule disruptions.

To activate the service, you'll likely pay a monthly fee per machine. Some manufacturers offer a special trial of the

service when you buy a new machine. Check with your local dealer for more details.

## How Can Telematics Monitoring Services Help You?

The information gleaned from a telematics monitoring service can be used to help you and your business in a variety of ways. Here are a few examples:

- *Better allocate resources* — Telematics data can show you exactly where and how often your equipment is being used. By analyzing this data, you can determine if you are underusing your assets or whether it is time to invest in adding to your equipment fleet. Adjusting your fleet size to meet your needs can also help reduce equipment costs.
- *Fine-tune bids* — If you want to create accurate estimates on future projects, telematics can help by providing you with data on machine hours and fuel usage to determine operating costs and labor costs for more accurate billing.
- *Promote better operator behavior* — Data collected through telematics systems can be used to solve business challenges and improve operator performance, such as reducing prolonged idle time or improper use of equipment on the jobsite. By monitoring this data, you can correct these issues to promote a more productive and safer jobsite. You can also identify areas where you can reduce operating costs to extend component life cycles and reduce the frequency of unplanned maintenance.
- *Save on downtime* — Your dealership may be able to diagnose a problem without physically being in the same location as the machine for faster response time. This will help save unnecessary machine downtime and reduce travel time for your dealership's service department. When a technician does need to visit your jobsite, they will be better prepared to fix your issue

because of telematics data shared with the dealership.

- *Improve fuel efficiency* — Telematics data can help you improve equipment fuel usage and efficiency. The system monitors equipment idle, helping you identify machines that are working under or over capacity. Reducing idle times can also extend engine life and reduce repair and maintenance costs. And you can monitor power mode operation and adjust the power mode to do the same work while using less fuel.
- *Help prevent unauthorized operation* — You can use telematics history reports to keep a close eye on your machine and see where it's been operated. A geofence or an invisible/virtual boundary can be created through the machine's GPS system. If your machine leaves the virtual fence, it will send a notification and can alert the authorities about possible equipment theft. A time fence or curfew on each machine can also be created. If the machine is operated outside of working hours, an email or text notification can be sent to you. This helps prevent unauthorized operation and potential vandalism to the machine and jobsite.

Since telematics monitoring systems are unique to each equipment manufacturer, schedule a demo with your local equipment dealer to have them explain in detail how to use the system. These systems have a variety of benefits to help you make smarter decisions about how to manage your fleet as well as increase efficiency on the jobsite. ▲

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# ESG Standards: Here for the Long Term, but Still Evolving

## How to meet & exceed environmental, social & governance goals

BY STEVE MASON

**E**nvironmental, social and governance (ESG) standards have become essential to many companies' long-term competitive success. ESG goals are crucial to set and adhere to because they represent how focused an organization's interests are on sustainable and ethical impacts. They also help stakeholders understand how a business manages risks and opportunities around sustainability issues. According to PwC, also known as PricewaterhouseCoopers, nearly 80% of investors use ESG to influence their decision-making heavily, and 49% reported they would pull out of an investment that wasn't making appropriate

strides toward ESG goals. Because ESG has become so important, professionals in all fields are eyeing these goals. Many are improving their equity, diversity and governance while reducing emissions. Companies must be able to have tangible proof of this, as well as reports that show transparent communication, to keep investors engaged.

## Aiming for Sustainability in Construction

Reducing carbon emissions is an issue many fields are already addressing. However, field service operations, including the construction industry,

contribute heavily to a carbon footprint. Approximately a quarter of U.S. greenhouse gas emissions come from the transportation sector. Because construction companies rely heavily upon fleets to execute field operations, they must consider how that impacts their ESG goals.

Though it can be daunting to try to determine the best way to reduce emissions, there are specific and targeted tools construction companies can utilize to do just that, ultimately making strides toward ESG standards. We know businesses are on the go every day visiting construction sites. But are all these trips

necessary? Eliminating just one on-site visit per day for a year could reduce the amount of carbon equivalent to what 5.5 acres of American forests absorb in the same amount of time, according to Sustainability Magazine.

## The Tools to Meet ESG Standards

When a construction company can utilize a field service management (FSM) tool, it grants them the means to lower emissions, reduce waste and guarantee they meet superior ethical standards.

An FSM tool can eliminate lost revenue by taking over and managing all the time, effort and resources dedicated to driving sustainability. It's a way to please all customers and stakeholders while prudently making a construction company more efficient in a way that will generate a substantial return on investment.

An FSM tool can help companies drive sustainability in many ways. For instance, augmented reality can eliminate many in-person visits and give workers virtual access to troubleshoot problems or evaluate an issue. It's a more innovative way of working that reduces human error and prioritizes safety.

It also supports the creation of the most optimal schedules. With smart scheduling and route optimization tools, dispatchers and planners can quickly do this by having critical information like a worker's skills, job, travel times and customer priorities at their fingertips. Workers' drive times and mileage per job are reduced when they have more optimal schedules. This frees them to do other jobs during the day while eliminating unnecessary emissions.

A GPS tracking solution within an FSM tool can also assist in monitoring and analyzing a field service fleet's efficiency, decrease excessive idle times and improve driving behavior. These factors work together to promote reduced emissions and fewer incidents for the company.

When managers implement and utilize these advanced tools, it can increase

first-time fix rates by getting the appropriate employee with the necessary assets to complete the work on the initial visit — eliminating a future visit that would have created unnecessary emissions.

Plus, with the additional digital office tools and work order management tools, a job can be documented accurately and quickly with one-touch data collection while making data entry much easier for the worker. Employees have more accessibility from wherever they are but still have field engineer communication tools, mobile apps and predictive analytics that can make an in-person visit more efficient.

When a construction company can utilize every one of these tools within an FSM solution, along with other offerings like self-service technology, artificial intelligence and 5G technology, unnecessary visits are reduced, and sites can be monitored remotely.

## Measuring ESG Improvements

More construction businesses will find it easier to succeed at ESG standards when they can normalize reporting and generate common metrics to measure sustainability improvements. When fleet data merges with field data, it creates data that can be converted into high-level reporting and provide insights into the business across an entire organization. While conveying this information to investors is of the utmost importance, it's also crucial to communicate these sustainability measures to employees and customers. Not only will it improve a company's image and be a solid selling point for potential hires, but it will also help the brand's growth.

An FSM platform measures all of these efforts, providing in-depth analyses that are part of successful ESG programs. Software capable of bolstering ESG measurement, reporting and action will soon become standard in companies across all fields. A recent survey of

field service leaders showed that 35% currently use software specific to ESG reporting, and about half plan to adopt this type of software soon. These tools will continue to provide management and their teams with all the data they need to develop plans for key ESG issues.

## Finding ESG Success

When a company tackles ESG goals with intention and thoughtfulness, it creates value in a way that can do so much for business and improve lives.

Those in the construction industry should consider how vital organizational sustainability efforts are. This journey is evolving, but many fields have already utilized technological investments to measure key sustainability metrics. An all-encompassing tool like an FSM platform is already helping organizations to lessen fuel consumption and waste, and to collaborate on sustainability with supply chain partners.

Plus, it possesses all the essential elements to support the documentation of how a company meets ESG goals with transparent reporting to provide interested investors.

ESG standards are here to stay and will become even more relevant as time progresses. The sooner management can utilize a tool to help them reach those goals, the stronger their appeal will be to investors, customers and potential talent for the foreseeable future. ▲

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Steve Mason is vice president of customer success at GPS Insight, where he leads a multidisciplinary professional team that is focused on delivering excellent customer experience from implementation to value realization across customers' key stakeholders. Mason has nearly two decades of experience in the field service management industry, and holds an MBA from the University of Sunderland London Campus. Visit [gpsinsight.com](https://gpsinsight.com).





# How Tech Can Help Contractors Win the War for Talent

Modernizing the back office for a competitive advantage

BY JIM CAMPBELL

**W**hile already fighting to keep up with its typical hiring pace, the construction industry will need to draw more than 500,000 additional workers this year to meet rising demands, according to recent data released by Associated Builders and Contractors (ABC).

It's not an easy task, as contractors are looking to accommodate an 18% projected increase in spending on construction projects while dealing with an unrelenting

labor shortage that threatens their ability to complete projects on time and take on new ones. The rapidly dwindling labor pool that continues to vex firms is largely tied to its aging workforce. According to the U.S. Bureau of Labor Statistics (BLS), the percentage of construction industry workers who are 55 and over has nearly doubled, and as workers retire or leave for other industries, construction firms are scrambling to find replacements while

also shoring up their workforce to capture new opportunities.

Construction laborers and skilled workers top their hiring lists, as do professionals on the management, business and financial operations side — a segment that BLS estimates to account for 20% of the construction industry's total workforce.

As firms fight to secure the talent they need amidst the pressures of supply

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**It's expected that as younger generations replace the older workforce, they'll expect technology in the workplace. In fact, a study from the Workforce Institute found that one-third of Generation Z professionals expect their employer to provide modern technology, and one in five wouldn't accept outdated technology at work.**

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chain shortages, volatile pricing and a potentially looming recession, they need to rethink how they operate in the back office. In doing so, they have a powerful opportunity to increase their efficiencies and mitigate risks while giving employees what they want, and technology plays a part in this equation.

### **Rethinking the Construction Industry's Back Office**

The back office is the hub of operations for firms, as staff in this department are responsible for handling the complex finances of construction. Back-office employees must confirm that contractors and suppliers are accurately paid and properly manage cash flow to ensure business continuity and growth. Yet despite its critical importance, the back office is often overlooked when budgeting for technology.

As a result, processes like navigating invoices or paying bills remain paper-based and inefficient. Employees are tasked with mundane work, such as chasing approvals on invoices, cutting paper checks and following up on outstanding lien waivers. As firms take on more work, so do back-office staff — making manual and burgeoning workloads more taxing and hindering to talent efforts, including retaining staff or attracting new hires.

Automation can help modernize the back office by reducing paper processes while streamlining invoicing and payment routines. For example, automated accounts payable (AP) software might free staff for more rewarding work and

provide greater visibility into payment statuses with contractors and suppliers, empowering employees to add more strategic value to their firms by spotting opportunities and insights that can be used to guide important decision-making.

### **Offering Flexibility to Aid Retention & Hiring**

Among the greatest waves of people leaving their jobs since the pandemic are those in construction and finance, according to data from BLS. Many got a taste of remote work during pandemic lockdowns and resigned to take jobs with more flexibility, including remote or hybrid work setups.

However, back-office staff in construction firms have largely been tethered with inflexible employment options. Many of their daily routines have been tied to a physical office location, making employees dependent on file cabinets, printers and the mailroom to get their work done.

Through innovative technologies like cloud-based AP solutions, firms can enable staff to do their work from anywhere, at any time, including on jobsites or at home. Staff can remotely process and oversee invoices and payments from a centralized platform. They can take advantage of electronic payment options — rather than cutting and mailing paper checks — while incorporating an even more robust payment approval process.

### **Providing a Competitive Advantage to Future-Proof Hiring**

Modernizing the back office provides

construction firms with an immediate return on their investment, helping staff do more with less while making their work more flexible and enjoyable. It also reduces expensive overhead costs including paper, postage and supplies, and eliminates the need for additional head count.

Investments in technology also position firms to better compete for their future hiring needs. It's expected that as younger generations replace the older workforce, they'll expect technology in the workplace.

In fact, a study from the Workforce Institute found that one-third of Generation Z professionals expect their employer to provide modern technology, and one in five wouldn't accept outdated technology at work.

To meet this shift, construction firms need to invest in technology to hold onto their staff, drive career satisfaction and continue to attract new talent. If not, they risk losing them to competitors who have already invested in modernization. ▲

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*Jim Campbell is the vice president of construction at AvidXchange, an industry provider of automated invoice and payment processes for midmarket businesses. Campbell joined the company in 2016 after decades in the construction software industry and is now responsible for driving buyer growth in AvidXchange's construction vertical. Campbell began his professional career in 1979 with Timberline Software Corporation, a pioneer in the development of application software for the construction and real estate industries before it was purchased by Sage Software in 2003. Visit [avidxchange.com](http://avidxchange.com).*



# New Products to Watch

Selected by the editors of Construction Business Owner, these new-to-the-market products are just a few of our favorites recently released to the construction community. Stay tuned in every issue to find out what you need to know about the latest gear, solutions & industry-leading innovations.

## BFGOODRICH ▶ HD-Terrain T/A KT tire

Released: 4/1/23

Availability: U.S. market

**What's new?** The HD-Terrain tire is engineered for intense conditions and tested in the most punishing environments for tires. Purpose-built for heavy-duty trucks that have high torque. This tire includes an all-new tread compound designed to resist chipping and tearing. With "mud-phobic" bars and a serrated shoulder design, the tire will allow you to plow through gravel and mud and then take the pavement home at the end of the day.

**Specs:** The tire also features CoreGard technology, which offers toughness against sidewall splitting. Drivers will be able to reduce downtime because HD-Terrain is engineered to be long lasting and durable both on and off the jobsite.



## ◀ ASV

### VT-100 compact track loader

Released: 3/28/23

Availability: North American market

**What's new?** The new VT-100 compact track loader is a vertical lift machine that excels in loading and grading applications in landscaping and construction. Includes elevated comfort, visibility and performance features. Self-leveling technology uses dual-direction capabilities to automatically level the load both while raising the loader arms and while lowering them. Speed-sensitive ride control offers operators the convenience of enhanced material retention at higher speeds without needing to actively switch the feature off while switching to more slow-moving applications, such as grading.

**Specs:** Equipped with a 103.5 horsepower Tier 4 Final Yanmar diesel engine and standard 40 gpm high flow. The VT-100 features a 3,500-pound rated operating capacity and 10,286-pound tipping load. Includes 360-degree visibility and a 7-inch color display for improved convenience on the jobsite. The color display provides vital monitoring tools, shows the view from the backup camera, and integrates with service schedules and history for added convenience. Operators can work longer days in comfort with a standard fully adjustable suspended seat.



## STELLAR ▶

### TMAX 1-13 Aluminum Mechanic Truck

Released: 3/7/23

Availability: U.S. market

**What's new?** The new 13-foot aluminum body offers additional compartment storage and is intended for a 108-inch cab-to-axle chassis with 22,000- to 22,900-pounds gross vehicle weight rating, such as the Ford F600 or Chevrolet 6500. The TMAX Series features the crane carrying reliability of the Stellar Torq-Isolator torsion box understructure and crane compartment. This feature isolates the crane's lifting forces into the stabilizers and chassis frame, rather than into the storage compartment, avoiding unnecessary twists to the truck's body and doors.

**Specs:** Features aluminum extrusion compartment tops with two built-in accessory mounting rails. These mounting rails eliminate the need to drill holes in the compartment tops, allowing for easier and faster mounting and relocating of accessories. In addition to ease of installation, aluminum truck bodies have an overall reduced weight in comparison to their steel counterparts, allowing for more payload for the operator.



## WESTERN GLOBAL ▶ Top Tote storage solution Released: 3/21/23

Availability: Global market

**What's new?** The Top Tote can be attached to the top of a TransCube Global fuel tank for a convenient, 2-in-1 diesel and diesel exhaust fluid (DEF) solution.

Provides a commercially available universal solution for DEF storage and a convenient option to help operations meet DEF requirements for Tier 4 Final engines. The Top Tote has a low-profile design to keep the overall height below 6 feet to eliminate the hassle of using a ladder or harness to access the ports. This DEF storage solution has a capacity of 110 gallons and can attach to three models of TransCube Global fuel tanks: the 20TCG, 40TCG or 50TCG.

**Specs:** Can be daisy-chained on the 40 and 50 TransCube Global to maintain the proportional relationship of approximately 10% of DEF per gallon of diesel. The Top Tote also includes a reusable nylon Micro Matic RPV valve. This valve is designed to pair with RSV/RPV couplers to provide closed liquid transfer. Ideal for use in DEF closed loop systems, the valve automatically closes once disconnected, keeping the fluid in the hose as well as sealing the Top Tote against contamination. The Top Tote comes preassembled so it's ready as soon as it hits the jobsite.



## ◀ GENIE 13-foot platform for boom lifts Released: 2/13/23

Availability: North American & European, Middle Eastern, African & Indian markets

**What's new?** The 13-foot platform for boom lifts boosts productivity on jobsites, increases operator comfort and adds more than 60% additional space in the platform for work at height. Compatible with Genie S-45 XC, S-65 XC and S-85 XC boom lifts, the platform is especially well-suited for tasks that involve an extensive working area, as well as jobsites with limited space to maneuver on the ground. In addition to increasing operator comfort, the extra space in the platform also allows workers to do more, faster, by providing access to twice as much work area with the same number of boom movements compared with a standard sized 8-foot platform.

**Specs:** The platform can take up to two workers to height and deliver a 600-pound lift capacity. Because the platform is compatible with multiple boom lift models and can be swapped out with the machine's standard platform on the same day it is needed, it is a cost-effective, simple way to increase the versatility of the boom lifts in a fleet. An off-center transport lock allows the machine to be transported on a standard trailer in most countries, keeping transport costs comparable to a boom lift with a standard-sized platform.



## PETTIBONE ▶ Extendo 1544X telehandler Released: 3/30/23

Availability: U.S. market

**What's new?** Pettibone brings its X-Series telehandler lineup to the 15,000-pound lifting class for the first time with the introduction of the Extendo 1544X telehandler.

The added load capacity is ideal for material handling tasks in highway construction, pipe yard applications, and for extended load requirements on traditional building sites. The 1544X is powered by a 117-horsepower Cummins QSF 3.8 Tier 4 Final turbo diesel engine. Mounted onto a side pod, the engine offers easy accessibility to components and daily service checks, while still allowing for curbside visibility and a ground clearance of 19 inches. The 30-gallon fuel tank provides ample volume for a full day's work at 100% load. The telehandler comes standard with foam-filled tires.

**Specs:** The 1544X offers a maximum lift height of 44 feet, a maximum forward reach of 29 feet and a maximum load capacity of 15,000 pounds. Formed boom plates provide the boom structure with greater strength while reducing weight. The design also minimizes boom deflection for better control and accuracy when placing loads. The drivetrain and axles are optimized to provide greater tractive effort with minimal tradeoff on top-end speed. A pintle-hitch mount adds versatility for towing. Built for use on rough terrain, the machine offers full-time 4-wheel-drive with a limited-slip front-axle differential. Tight-steer-angle capability provides an efficient turning radius. The Dana VDT12000 Powershift transmission offers three speeds, forward and reverse.



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| Machined point  | <input type="checkbox"/> | <input type="checkbox"/> |
| Long lasting    | <input type="checkbox"/> | <input type="checkbox"/> |
| Won't bend      | <input type="checkbox"/> | <input type="checkbox"/> |
| Won't mushroom  | <input type="checkbox"/> | <input type="checkbox"/> |
| Won't split     | <input type="checkbox"/> | <input type="checkbox"/> |

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| City/State/Country/Zip/Post |         |
| *Phone                      | *Email  |
| *Signature                  | Date:   |

### 1. Your company's primary business is:

(Check only one)

- ☐ 12 General Contractor – Commercial
- ☐ 02 General Contractor – Residential
- ☐ 10 Construction – Special Trade Contractors
- ☐ 03 Highway and Street Construction
- ☐ 04 Water, Sewer and Utility Construction
- ☐ 05 Heavy Construction
- ☐ 06 Concrete Work
- ☐ 07 Excavation Work
- ☐ 08 Wrecking and Demolition Work
- ☐ 13 Architecture, Engineering and Construction Management Services
- ☐ 11 Consulting Contractor
- ☐ 99 Other (please specify)

### 2. Your primary job title is: (Check only one)

- ☐ 10 Owner, Partner, President, CEO, CFO, COO, Vice President, Director
- ☐ 11 General Manager, Manager, Foreman, Superintendent, Purchasing Agent, Controller, Accountant
- ☐ 12 Engineer, Architect
- ☐ 06 Consultant
- ☐ 99 Other (please specify)

### 3. Approximate annual contract sales volume:

(Check only one)

- ☐ 01 Less than \$500,000
- ☐ 02 \$500,001 – \$1,000,000
- ☐ 03 \$1,000,001 – \$2,500,000
- ☐ 04 \$2,500,001 – \$5,000,000
- ☐ 05 \$5,000,001 – \$10,000,000
- ☐ 06 \$10,000,001 – \$20,000,000
- ☐ 07 \$20,000,001 – \$50,000,000
- ☐ 08 More than \$50,000,000

### 4. Which of the following products/services are you planning to buy during the next 12 months?

(Check all that apply)

- ☐ 01 Earthmoving Equipment
- ☐ 02 Trucks, Trailers and Accessories
- ☐ 03 Compact Equipment
- ☐ 04 Lifting and Hoisting Equipment
- ☐ 05 Safety Equipment and Apparel
- ☐ 06 Attachments
- ☐ 07 Concrete and Paving Equipment
- ☐ 08 Survey and Site Prep
- ☐ 09 Compressors, Generators and Pumps
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- ☐ 12 Insurance and Bonding
- ☐ 13 Training and Education
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- ☐ 16 Greases, Lubricants and Filters
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- ☐ 18 Building Supplies
- ☐ 19 Rental Equipment
- ☐ 21 GPS Equipment and Security

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## Annual Value of Construction Put in Place

### February 2021/2022/2023 Annual Rate Comparison

This chart compares the two previous years' total value of construction put in place to an annual forecast based on February 2023 figures. (Millions of dollars. Totals may not add up perfectly due to rounding.)

|                                   | 2021             | 2022             | 2023             |
|-----------------------------------|------------------|------------------|------------------|
| <b>Total Private Construction</b> | <b>1,165,721</b> | <b>1,353,670</b> | <b>1,453,153</b> |
| Residential                       | 717,912          | 850,625          | 852,130          |
| Nonresidential                    | 447,809          | 503,046          | 601,023          |
| <b>Total Public Construction</b>  | <b>351,206</b>   | <b>350,713</b>   | <b>390,953</b>   |
| Residential                       | 9,508            | 9,257            | 9,810            |
| Nonresidential                    | 341,698          | 341,456          | 381,143          |
| <b>TOTAL Construction</b>         | <b>1,516,927</b> | <b>1,704,383</b> | <b>1,844,105</b> |

\*Seasonally Adjusted Annual Rates. Source: U.S. Census Bureau

# \$1,844,105

FEBRUARY 2023 TOTAL ANNUAL VALUE OF  
CONSTRUCTION PUT IN PLACE

**“The combination of an unsettled economy and high interest rates is causing investors and property owners to take a closer look at their plans for construction projects,”** said AIA Chief Economist Kermit Baker, Hon. AIA, Ph.D. **“While this is producing delays for some projects under design, architecture firms are reporting that prospects for future project work remain generally positive.”**

## AIA Architectural Billings Index (ABI)

| National |          |           | *Regional - Billings |         |       |      | *Sectors - Billings     |                       |               |       |
|----------|----------|-----------|----------------------|---------|-------|------|-------------------------|-----------------------|---------------|-------|
| Month    | Billings | Inquiries | Northeast            | Midwest | South | West | Multifamily Residential | Commercial/Industrial | Institutional | Mixed |
| Sep-22   | 51.7     | 53.6      | 54.6                 | 52.1    | 51.7  | 51.6 | 47.9                    | 49.6                  | 58.9          | 50.3  |
| Oct-22   | 47.7     | 52.3      | 50.3                 | 50.8    | 50.6  | 49.6 | 46.1                    | 45.9                  | 54.3          | 50.8  |
| Nov-22   | 46.6     | 52.0      | 42.4                 | 47.6    | 50.5  | 45.8 | 46.1                    | 44.2                  | 47.7          | 51.5  |
| Dec-22   | 47.5     | 52.3      | 46.5                 | 49.4    | 48.6  | 45.5 | 44.3                    | 45.2                  | 47.3          | 54.8  |
| Jan-23   | 49.3     | 55.2      | 50.9                 | 51.6    | 46.9  | 51.3 | 45.9                    | 46.8                  | 48.6          | 56.0  |
| Feb-23   | 48.0     | 55.0      | 48.4                 | 48.8    | 47.3  | 50.4 | 46.2                    | 45.8                  | 46.9          | 57.0  |

For more information on the index or to subscribe to the complete historical data going back to 1995 for your internal analysis, **please contact [economics@aia.org](mailto:economics@aia.org)**. The ABI presents monthly construction billings data, using a base score of 50. A score of more than 50 indicates a growth from the previous month, and a score of less than 50 indicates a contraction from the previous month. A score of 50 indicates no change. Source: The American Institute of Architects (AIA), Architecture Billings Index (ABI).

\*Regional and Sectoral indexes are three-month moving averages, due to small sample size. All data is seasonally adjusted.

\*\*Every January, the AIA research department updates the seasonal factors used to calculate the ABI, resulting in a revision of recent ABI values.

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