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construction industry is a severe lack of skilled workers. Over half a million workers are needed and the shortage is prompting a myriad of problems. Contractors face issues such as the lack of an employee pipeline, delays due to the labor gap, and the new reality of being selective with projects they take on.

“You can have great project management skills, but if you simply don’t have the capacity to take on the project, then you’re not going to be able to deliver it on time,” said Mallorie Brodie, CEO and co-founder of workforce management firm Bridgit.

But, that’s where tech can make a difference, say experts.

Aside from apps that manage employees and schedule workflows, experts also say that robots may become a boon to the workforce. That solution, while further out, is a field that can’t, and shouldn’t, be ignored through the coming year.

contractors work smarter, harder and more safely.

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Experts agree that one of the largest problems facing the



Robots like Spot, created by Boston Dynamics, along with other specialized machines that take care of difficult tasks like mapping and drywall, are already in use on the jobsite, and more is possible as time goes on.

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The \$1.2 trillion Infrastructure Investment and Jobs Act has opened a lot of doors for the construction industry, including an incentive for the industry to adopt more tech-enabled solutions. The legislation includes \$100 million to encourage adoption of advanced construction management technologies.

Most contractors also see software as the big stepping stone they'll need to cross as they prepare to take on these jobs.

"At the end of the day, this likely means producing more projects in less time for less cost, in which case, [technology] can help deliver much more of this IJA plan," said Matt Blake, director of VDC and BIM at Cheshire, Connecticut-based Lane Construction, in an interview with Construction Dive.

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Russia's invasion of Ukraine last year highlighted an issue that contractors need to keep an eye on — their digital security.

Even before the war, contractors were known to be among the most targeted businesses for cyberattacks. But in 2022, construction was the top sector for ransomware attacks, according to a report from encryption software firm NordLocker, which analyzed 1,200 companies across 35 industries.

"Small- and medium-sized enterprises, which contractors often fall into that realm, are among the most targeted organizations, and often that is because they're especially vulnerable to cybersecurity attacks," Raymond Monteith, senior vice president with HUB International Limited's risk services division, told Construction Dive.

The attacks themselves are simple, with ransomware and business email breaches at the top of the list, Monteith said.

These kinds of threats are only growing more worrisome as

contractors continue to adopt programs like BIM, which come with their own inherent security risks.

To avoid issues, the British National Cyber Security Center recommends that contractors avoid common passwords, enable two-factor authentication, and be careful about the information they share on social media.

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In 2023, contractors will also benefit from tech-focused financial systems that can help with everything from payroll and accounting to billing and invoices.

Software and other tech-focused tools can even alleviate one of the most frequent and disruptive issues for contractors — late payments, which cost contractors \$208 billion in 2022.

The issue has led to a flood of new providers plying solutions for all stages of the process, from material procurement to subcontractor payment.

"One of the biggest problems in construction is cash flow. That's been true for the last decade, and it's going to continue to be true in 2023," said Maria Davidson, the CEO of material procurement platform Kojo.

The issue has even grabbed the attention of bigger, more established firms. In November, Carpinteria, California-based Procore announced a payment service through a partnership with Goldman Sachs Transaction Banking.

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2023 could be the year that more pros see the benefits of leveraging and sharing the data they collect every day. From machine telematics and supply chain management to staff location tracking and payroll, the data can come together to help solve bigger problems, experts say.


For construction companies willing to gain fluency in the language of data intelligence, leveraging the vast amount of info that's already in their systems promises unheralded gains in efficiency, productivity, product quality, and jobsite safety.

"We see contractors of all sizes using data to be safer and more profitable and to win more work," ABC's Abeles told Construction Dive. "Data intelligence allows contractors to make decisions by using real insights that maximize potential for growth and improvement."

Big data can help contractors not only keep track of what's going on in the present, but look back to figure out what went wrong on past projects—and how they can do better going forward.

"How did that project go? You know, are there ways that we can improve that in the future? Are there certain projects that we simply don't have the capability to take on?" said Bridgit's Brodie. "These are all questions that contractors have been asking, but if they don't have the data available to answer those questions, there's not a lot that can be done."

That data, once elusive, is now attainable.

"The data is starting to be available through a combination of solutions," Brodie said. 



About the Author

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