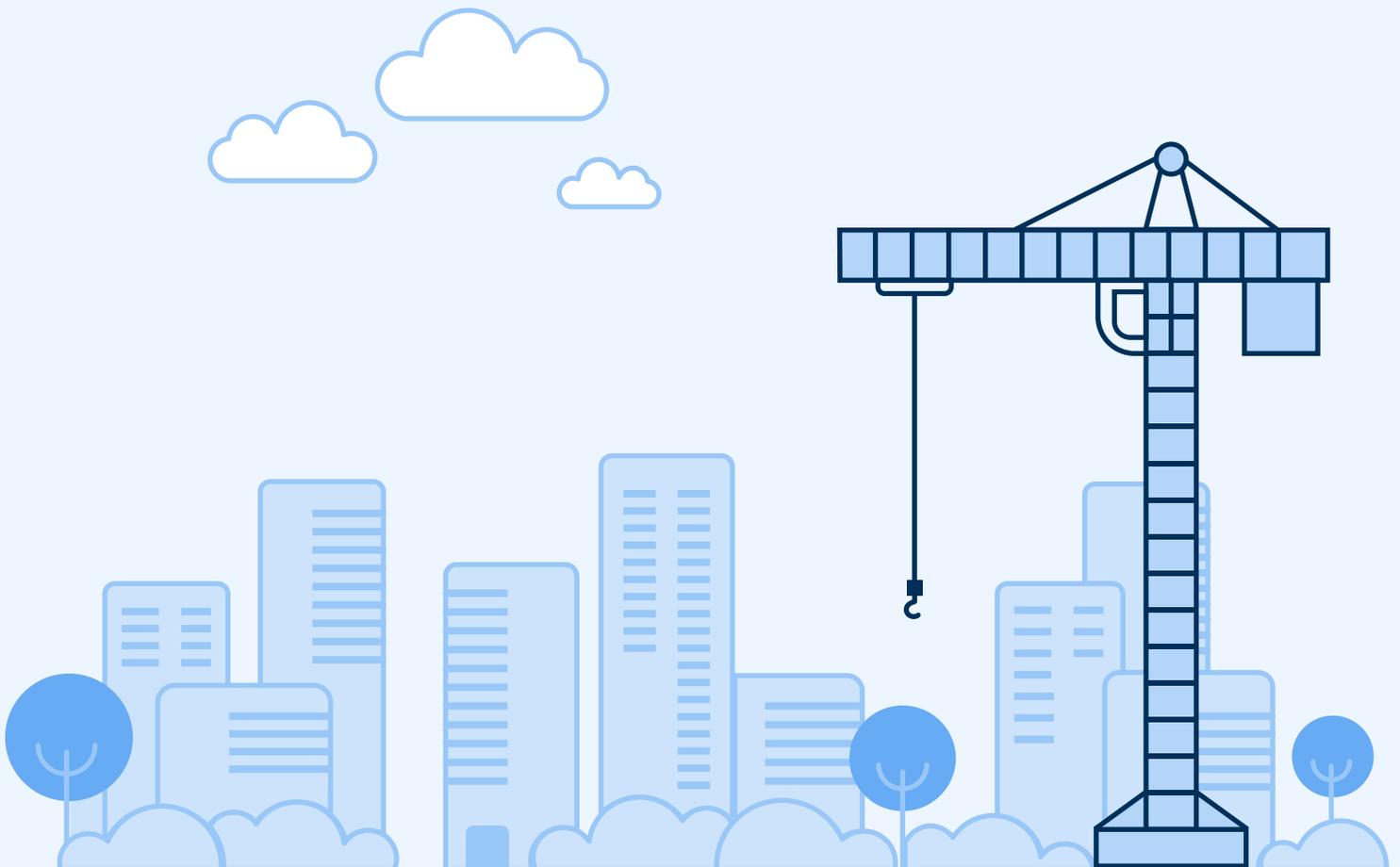smartsheet

A Digital Transformation Report:

5 Emerging Trends in the Construction Industry

smartsheet

An Industry Ripe for Disruption

The construction industry is in a moment of enormous change. Business is booming — and so is the number, complexity, and duration of projects. At the same time, a serious shortage of affordable, skilled labor (the number-one problem of 82 percent of builders, according to the National Association of Home Builders) means that many companies are operating with skeleton teams. Add to that the traditionally slow pace of change, and you have an industry that is ripe for disruption.

"The industry is at a technological tipping point," says Stephanie Viers, construction industry expert at Smartsheet. "We talk to hundreds of our customers in construction, and we hear the same story: Evolve or die. The competitive pressures are just too great to forego the advantages technology offers."

"In the past, construction companies were not battling labor shortages and rising costs of materials like we are today," says Kristopher Lengieza, director of business development, marketplace at Procore, a construction project management software provider. "Construction companies almost have no choice but to find ways to innovate and become more efficient by implementing technology solutions."

Increasingly, construction companies are turning to tech to improve their productivity, make the most of limited resources, improve safety, and document and coordinate every step of their projects. The digital transformation of the construction industry is underway.

Construction's Tech Transformation

McKinsey & Company estimates the construction industry is among the country's least digitized. Many projects are still planned on paper, creating a disconnect between the office and the field. Construction professionals are sometimes resistant to changing their processes or tools; language barriers and lack of technical skills are also factors. But as pressures on the construction industry grow, companies are transforming the way projects are planned and executed. According to McKinsey, investment in construction technology has doubled in the past decade. The most innovative companies are integrating technology into their daily processes, choosing a technology partner that provides intuitive tools that every team member can use. By doing so, these companies are able to remain competitive and grow revenue, even with today's narrow profit margins. And owners and investors are reaping the benefits of more comprehensive real-time reporting, resulting in savvier asset allocation and project planning.

Brittanie Campbell-Turner, host of the Constructrr podcast and a construction project manager, says that the industry is at the beginning of a technology revolution. And that's having an impact all the way up the chain, from the field to the office. "As an industry, we have an opportunity to help the capital investors and the property owners use the project data we are tracking during construction," she says. "This helps us manage their assets more effectively and deliver projects that are more valuable to their end use."

As the industry continues to shift, five trends are emerging that present opportunities for construction companies to improve their efficiency with the help of technology.

Increased Pressure to Finish Faster and Cheaper

By using technology, construction companies can respond to increasing demand by completing projects faster and more efficiently. As more construction companies integrate technology into their processes, clients increasingly expect greater speed and efficiency. Experts predict this cycle to continue, with timelines continuing to shorten and client expectations continuing to rise.

As the construction industry struggles with a skilled labor shortage, meeting these constantly rising expectations will become increasingly challenging. Companies not currently using technology must begin integrating technology platforms into their processes in order to remain competitive. Companies that already use technology to some degree need to look for additional ways tech can increase efficiency in order to retain their competitive edge.

Make Technology Work for You

Provide Project Visibility. Construction managers must know what is happening in the field in real time. By using a work execution platform that offers collaboration between desktop-based and mobile employees, construction companies can provide office and remote employees with the same visibility into project status — improving performance, efficiency, and transparency. The right technology also allows business owners (who do not need access to the granular day-to-day operations of a given project) the appropriate level of visibility into the project with real-time dashboards and rollup reports.

Collaboration between office workers, such as project managers, and field workers, such as foremen, is crucial. Using a tool that contributes to overall visibility into a project can dramatically improve success. In a 2018 TechValidate survey of Smartsheet customers in the construction industry, 93 percent of respondents say that the platform has improved their team's project management performance and visibility. When everyone has access to all project documents and up-to-date timelines — and can collaborate on them in real-time — construction projects are more likely to be completed on time and on budget, with the consistency and efficiency clients expect.

In a recent survey,[1] more than 9 out of every 10 (93%) people who use Smartsheet, a work execution platform, to plan, capture, track, automate, and report on their work say that the platform improved their team's project management performance and visibility.

1. 2018 TechValidate survey of Smartsheet customers and users

www.smartsheet.com/industries/construction

47%

By using Smartsheet, 47 percent of users report saving at least six hours every week.[1]

Improve Workflow. Construction projects typically go through a series of phases before completion. Timing of these phases can vary, from steps that need to be finished before another can start, to steps that must start and finish at the same time. At any point during a workflow, a bottleneck can occur when people are waiting for information or an approval. This presents a valuable opportunity to use technology to expedite processes and save time. By using Smartsheet, 47 percent of users in the construction industry report saving at least six hours every week.[1]

Streamline Scheduling. Even the slightest schedule change can affect multiple people, and they all need to be informed in a timely manner. For example, if a flooring subcontractor runs into delays on a Thursday, and the foreman's revised schedule doesn't make it to the electrical subcontractor in time, the electrical subcontractor might show up at the job Friday morning without realizing their start date has been delayed. With a real-time work execution platform such as Smartsheet, the foreman can quickly make the change on a smartphone, and all affected parties can access updated information in real time, or can be instantly notified of the change by an automated email or notification in a messaging app such as Slack or Google's Hangouts Chat.

Before You Buy

Consider the following when purchasing technology to improve construction work management:

Find a platform that delivers real-time information. On job sites, the project status changes constantly. And to effectively manage projects — whether in the field or the office — you must know exactly what is happening every minute of the day. Leveraging the power of the cloud is critical. But because job sites often don't have wireless internet access, you should also choose technology that has a strong mobile component, so you can make the best decision for your client based on the most up-to-date information.

Look for a connected platform, not a single tool. Construction projects involve many different people and processes. When companies select a single tool for a single task, they create a silo — which makes it impossible to share information across the entire project. Using a cloud-based platform that can handle work management; enable collaboration between employees, contractors, and client; automate approvals and alerts; and do all of this in real time, construction companies can see a complete picture of the entire project from one place and improve efficiency across the entire project.

> ❝
> **You can [manage work] on your smartphone, tablet, or computer...with iOS and Android apps for both Smartsheet and Procore.**
> — Jack Crane, CEO of cyberco
> ❞

www.smartsheet.com/industries/construction

Find a platform that solves multiple challenges. Make sure that the platform also solves other challenges, such as bid tracking, change orders, submittals, and safety order inspections.

Trend 2:

Focus on Proactive Safety

In recent years, the rate of safety violations and worker deaths has increased dramatically in the construction industry, partly due to the increased demand for speed (and in some cases, companies cutting corners to meet mounting competitive costs). In 2016, according to the latest data from the Bureau of Labor and Statistics, construction industry deaths rose 5 percent with 1,034 worker deaths.

Construction companies are using tech to more quickly address safety issues.

Construction companies are now spending more time and money on proactively improving safety conditions for their workers. Because 20 percent of construction worker deaths happen in the first two months on the job, construction companies are improving safety training during the onboarding process. Companies are also performing self-inspections and encouraging employees to self-report safety issues as they observe them, using technology to more quickly capture and address safety issues.

Make Technology Work for You

Shorten response time. Workers are often the ones who spot safety issues or violations. However, they may be hesitant to report them, or simply forget to make a report at the end of their shift. By placing QR codes on safety signs in strategic locations, workers simply scan the code with their mobile devices to start the reporting process using Smartsheet. After filling out a quick Smartsheet form on their device, the incident is immediately reported to the proper contacts, resulting in faster response times to correct the problem. Workers can also document potential safety issues by taking a picture with their mobile phone and then attaching or embedding it into a Smartsheet sheet directly or through a form.

Keep comprehensive logs for safety and inspection tracking. You can only resolve safety issues that you know about. Using technology, you can increase documentation accuracy during inspections, maintain comprehensive logs without additional steps, and accelerate resolution by connecting the right people at the

right time. By providing a way for workers to immediately report issues when they find them, instead of requiring them to submit paperwork and wait for a safety officer, you can significantly speed resolution and create a safer work environment. And with features that track who reported what and when — like Activity Log in Smartsheet — you can increase accountability, while making sure no open issues fall through the cracks.

By providing a fast and easy way for workers to report potential issues on their phones, construction companies can create a safer work environment.

Before You Buy

Enable reporting on the go. Safety issues typically happen on job sites. The technology that workers use to report safety issues must be easily accessible even when wireless connections are not available. By purchasing technology with a strong mobile component, employees can report issues or access training information from the job site, the office, or even a client's office.

Ensure the technology is easy to use — for everyone. All workers, even those who aren't tech savvy or who are non-native English speakers, need to be able to report safety issues. With often high turnover on job sites, the technology must be easy to learn. Make sure that people with all levels of education, language skills, and technical ability can quickly learn and use the technology tools you choose.

> As the industry becomes more digital and collects more data, we can start to use tools such as artificial intelligence to predict if a job site has a high probability of accidents based on leading indicators.
>
> — Kristopher Lengieza, Director of Business Development, Marketplace at Procore.

Improved Collaboration

Many construction companies have broadened their offerings to include additional aspects of projects for clients, and complete this work using internal teams or subcontractors. To see a project through to completion, construction managers are now dependent on more people, teams, and companies. Additionally, an over-reliance on paper for project planning means field crews don't have the same project visibility as those in the home office, creating time-consuming delays and disconnects.

To address these issues, construction companies are changing their processes and mindsets to encompass a much more collaborative approach by replacing spreadsheets, emails, and meetings with cloud-based work execution platforms that keep everyone on the same page. "There is a momentum in construction to collaborate through software," says Constructrr's Campbell-Turner. "In the industry, I see a desire to collaborate at all stages of the project — design, project management, document approval process, change orders, RFI processes."

The 2018 TechValidate survey of Smartsheet users found that before they implemented Smartsheet, 86 percent of respondents were experiencing poor collaboration across stakeholders, resulting in delays and incorrect decisions. By choosing a platform that allows everyone access to the most recent documents, data, and work status, all people working on a project — from architects to project managers to builders in the field — can instantly access information about blockers, dependencies, deadlines, and resources.

Make Technology Work for You

Real-time collaboration. By using cloud-based technology, all team members can access real-time project information, when and where they need it. Maintain comprehensive inspection logs, share project timelines, budgets, and dependencies, and make documentation easy for your team to access. All departments that are involved in a project — from HR (employee onboarding), finance (budgeting), IT, project management, and more — have the same real-time information.

Punch list and change order management. Instead of using a spreadsheet or handwritten list, move your punch list into an online platform that provides transparency, in addition to real-time information. By sharing statuses in real time, all team members are more accountable for their incomplete tasks, since with Smartsheet everyone on the team can see the status of each item and who is responsible.

Quality Control. Reduce testing and inspection errors, accelerate close-out time, and improve job satisfaction by maintaining transparency between client and site crews. By choosing a work execution platform with granular sharing permissions,

such as Smartsheet, you can easily share only the specific information you want a client or contractor to see, and keep private data private.

Collecting signatures. Many documents need signing during a construction project — subcontractor contracts, invoices, change orders, and client contracts. Physically getting each paper signed and then maintaining a physical paper trail is time-consuming and error prone. By using the Smartsheet DocuSign integration, you can collect digital signatures and then automatically update project documentation in Smartsheet.

Before You Buy

Make sure the platform offers appropriate admin controls, so you can share only the right information with the right people. Find a technology partner that enables both administrators and end-users to use granular sharing permissions to control and protect their information.

Make sure the platform integrates with your current tools. Evaluate technology options to find one that integrates with technology you already use to avoid creating more silos and barriers to collaboration. Smartsheet integrates with numerous business platforms and applications, including Slack, G Suite, Microsoft Office 365, Dropbox, Salesforce, DocuSign, Box, and Egnyte.

Trend 4:

Using Mobile for Real-Time Communication

Many construction professionals still write notes in the field, on paper or on their phones, and then log in to project management software to update status, timelines, and budgets when they have access to a computer. Others use their phones to call in status reports to construction managers. Using these methods means that some decisions must wait until a team member reports in. Because cell service is often spotty at job sites, this also means additional costly delays which can quickly add up to days and even weeks during a single project.

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> **Smartsheet is a great way to collaborate on a variety of things that are conventionally accomplished by sharing spreadsheets, which leads to errors and confusion. We use Smartsheet for managing and reporting on national project programs. It allows us to create a template that various program managers can adhere to, and which we can summarize centrally to more effectively plan resources and 'tell a story' (internally and externally).**
>
> — Engineer, large enterprise construction company
>
> "

www.smartsheet.com/industries/construction

83%

83 percent of respondents said that mobile technology was either very important or important to their construction business.

More construction professionals are now using mobile technology to provide real-time communication that vastly cuts down on this type of inefficiency. According to the JB Knowledge 2017 Construction Technology report, 83 percent of respondents said that mobile technology was either very important or important to their construction business.

Instead of waiting for people to call in, or spending time trying to solicit updates, team members can complete status updates in seconds on their mobile devices, and quickly get back to work. This increases productivity dramatically, and is a major reason that construction professionals will continue to increase the level and sophistication of mobile technology used in their organizations.

Make Technology Work for You

Receive updates from field workers. Instead of waiting for phone calls, use platforms with mobile components to empower workers to instantly provide project updates. Field workers can use their phones to update information using a mobile app. With Smartsheet, workers can provide updates by submitting a simple form, which directly updates the project sheet, eliminating errors and speeding the process. They can also take photos with their mobile devices and upload or attach them to project sheets or forms, enabling both the home office and the field to see what is happening on-site, for better, faster responses.

Automate tasks and actions. Waiting for approvals or project updates can cause costly delays. Choose a work execution platform that allows you to automate these types of requests using pre-set rules, so your team gets the information they need without delay.

Track data and financials. Instead of data being stored in various tools, on paper notes, and within diverse documents, you can improve efficiency by using a work execution platform to create a single, centralized source of truth for sharing important company and project information.

Before You Buy

Look for an intuitive platform. Construction team members may have limited high-tech skills, or some language limitations. Look for a platform with an intuitive and easy-to-use interface. Technology only improves the process if it's accessible to all team members. Smartsheet offers the ability to set a language preference, so more team members can easily share information.

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> **We track sales, production, and client billing in Smartsheet. We also use Smartsheet as our global storage for job-costing receipts ... and for tracking renovation on multiple apartment complexes, in many locations. Management can see updated unit info from their laptop or phone without having to visit the site. I would recommend Smartsheet. It is easy to deploy, easy to use, keeps everything in one location, [it's[simple to pull reports, and shows who changed or added what and when, for all those 'he said/she said' moments.**
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> — Vice President, small business construction company
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Consider wireless availability. Because your team needs to update their status even when cell or wireless coverage is not available, look for a platform that is accessible on mobile devices over internet hotspots or that offers a mobile app.

Trend 5:

Embracing Automation

The current shortage of skilled workers means that construction companies must maintain the same speed and efficiency with a smaller labor force. With the increased competition in the field, mistakes, which happen more often when teams are stretched thin, are even more costly.

Companies are now turning to automation to improve efficiency and accuracy. By automating repetitive tasks, companies can reduce human error, miss fewer deadlines, enforce processes, and collect the right data from the right people at the right time. Business owners and management can analyze their businesses and processes based on accurate, real-time information. "Automation is just going to continue to be increasingly important for construction companies," says Jack Crane, CEO of cyberco. "They need to overcome labor shortages, and other companies are increasingly going to be buying more and more solutions that incorporate automation."
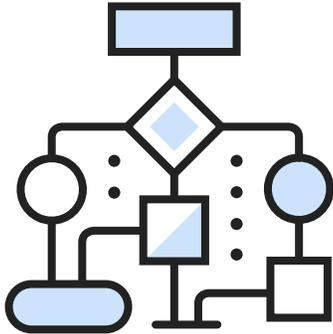
Make Technology Work for You

Automate repetitive actions by creating automated approval and update requests — without help from IT — that are triggered based on pre-set rules. The right software can speed sales discount and procurement approvals, time tracking approvals, status and schedule update requests, hiring approvals, and more. Choose technology that allows you to submit and respond to update requests and approval requests from a mobile app, desktop application, or from email. Smartsheet empowers workers to receive and reply to notifications from within their favorite messaging platforms, including Slack, Google's Hangouts Chat, and Workplace by Facebook.

Collect error-free information. A work execution platform with automation features enables you to collect error-free, consistent, and organized data from anyone via easy-to-configure forms.

Eliminate bottlenecks. With easily configured alerts, you can set up your projects to automatically notify you when a task or process is running behind schedule or over budget, speeding up the pace of important decisions — and the overall work.

Before You Buy

Empower all users. Choose a platform that allows any user to create pre-set rules that trigger automated actions — without support from IT.

Evaluate workflow. Look at your processes and determine where you can automate tasks, such as approvals and updates. Automation is most effective when it reflects how your team actually works.

Get buy-in from team. Because adopting new technology is a change, some construction professionals are resistant to automating tasks. Instead of informing the team of automation, involve the team in the process of evaluating your workflows and selecting the appropriate technology. Focus discussions on how automation will make their jobs easier by reducing errors and improving productivity. This approach develops ownership in the outcome by the team.

> " Technology allows us to automate tasks that don't necessarily add value to the project, but need to get done, such as routing documents or responding to questions. Automation doesn't mean eliminating jobs, but making tasks more efficient and controlled.
>
> — Kristopher Lengieza, Director of Business Development, Marketplace at Procore.

Building Your Business for Tomorrow

The construction industry is undergoing massive change. Technology is spurring a revolution and the industry will look very different in the next five to ten years, according to Procore's Lengieza. As technology continues to play a large role in reshaping construction, new and emerging cloud-based platforms will become a cornerstone of the industry. Says Lengieza, "Companies that build the infrastructure today by using platforms such as Smartsheet throughout all phases of the project — from bidding to construction, project management, bid tracking, submittals, collaboration, and communication — will have a significant advantage when integrating tomorrow's technologies over companies that will be starting from scratch."

As the pressure to evolve increases for construction companies, Campbell-Turner of the Constructrr podcasts says leaders in construction should focus on adopting technologies that can evolve along with them. "Lots of times, people buy solutions that are tied into the processes that we use today," she says. "Think of as many future scenarios as possible, and buy technology that grows with your company and allows for customization, " she says. By creating a technological framework today that can scale to the needs and capabilities of the future, construction companies can position themselves to be ready to capture tomorrow's opportunities.

In the construction industry, efficiency is critical to staying competitive. Smartsheet is the work execution platform that leading construction companies rely on to increase productivity and performance, enable collaboration, and track every step of every project — so they can make better decisions, faster, and say yes to more customers and more revenue. For additional information on how Smartsheet can help your construction business improve efficiency and productivity, visit www.smartsheet.com/industries/construction.