

Construction Technology:

5 THINGS TO
CONSIDER
BEFORE
YOU INVEST









triax®

5 Construction Technology: THINGS TO CONSIDER BEFORE YOU INVEST

Construction has achieved countless awe-inspiring creations, from the pyramids of Egypt to the Hoover Dam to the Empire State Building. These feats of engineering, design and construction have stood the test of time, enabling the increasingly sophisticated projects under construction right now. Where construction continues to sorely miss the target, however, is its failure to harness the benefits of technology and digitization that have driven other industries forward. In fact, according to McKinsey Global Institute research, construction remains one of the least digitized U.S. industries, second only to agriculture & hunting.

A visit to any jobsite will likely support these facts. The majority of contractors still rely on manual headcounts, paper time sheets, visual safety checks, and emails or phone calls to communicate important project changes or issues across stakeholders. Despite the advent of Cloud-based document storage and collaboration tools, paper piles persist and project information is stored in physical filing cabinets, unavailable for practical reference and analysis.

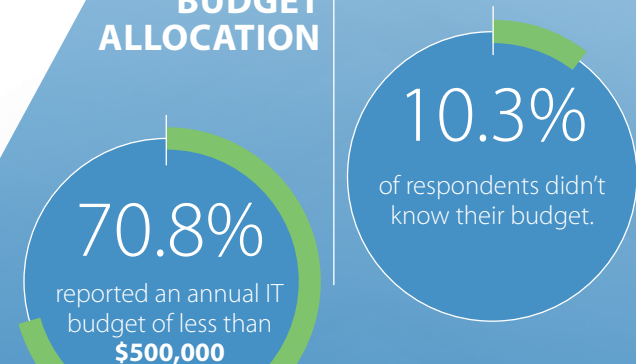
Neglecting to invest in and embrace innovation and technology, even modestly, results in mass inefficiencies, including:

-  Miscommunication
-  Lost equipment and materials
-  Outdated blueprints or documents
-  Budget discrepancies
-  Scheduling confusion
-  Stalled projects

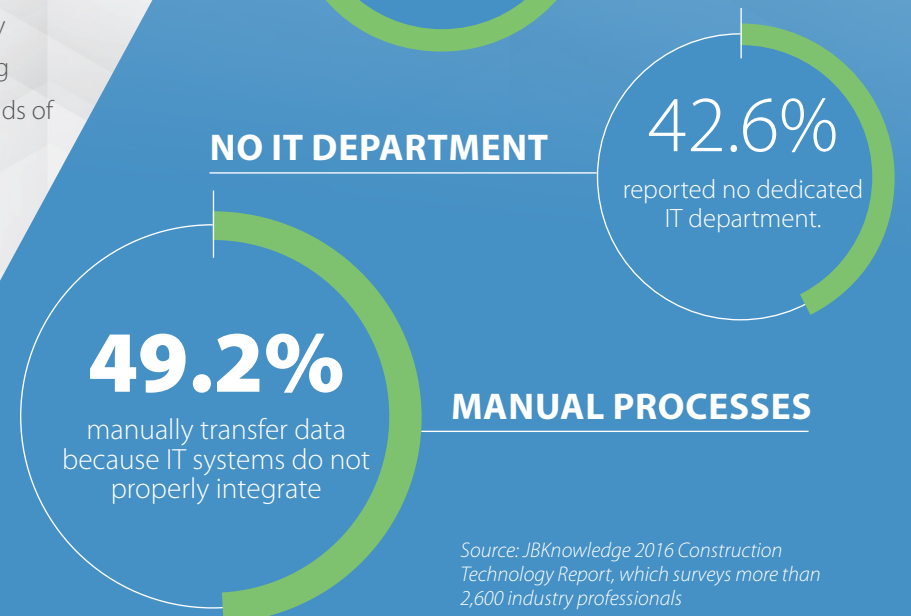
At the same time, clients today want - and expect - tailored, data-driven field reports and project updates from any device at any point in time. When it comes down to it, legacy communication, reporting, and sharing systems can't keep up with the demands of modern construction projects.

The Construction Industry & IT at a Glance

IT LACKS BUDGET ALLOCATION

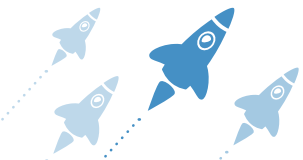


NO IT DEPARTMENT



MANUAL PROCESSES

Source: JBKnowledge 2016 Construction Technology Report, which surveys more than 2,600 industry professionals



CONSTRUCTECH:

Your Path to Future-Proofing Your Firm

The good news is that there has never been a better time to adopt construction technology. The rise of the Internet of Things (IoT) at the jobsite has resulted in a fast-moving web of interconnected devices that talk to each other and enable faster, improved decision-making. The Cloud has broken down traditional barriers, allowing on-site managers, off-site executives, and project owners to access information from any device at any point in time.

Exciting new solutions are hitting the industry at a fast pace, such as **Building Information Modeling (BIM)**, which streamlines planning and coordination across project participants. **Virtual and augmented reality** enable immersive experiences that help clients visualize proposed designs, engineers identify potential structural issues, and workers practice response to an emergency situation at the jobsite. **Drones** bring a new level of site surveying, hazard analysis and documentation to the industry, helping to capture data affordably and without the need to put workers in potentially dangerous

scenarios. And **wearable technology** collects and transmits worker location, activity and safety data, helping contractors make better, faster decisions on the fly.

More and more construction organizations understand that stakeholders today expect more, and in order to deliver more, contractors need to invest in technology tools that will catapult their businesses forward. For these leaders, the real challenge is not whether to invest in technology, but how to choose the right technologies given limited budgets and resources.

The real challenge is not whether to invest in technology, but how to choose the right technologies given limited budgets and resources.

"In construction, many minds are open to the idea of integrating technology into their operations. At a glance, construction professionals see the value. However, the challenge is that budgeting and resources need to play catch up,"
said James Benham, CEO of JBKnowledge, a company focused exclusively on providing the construction industry with strategic technology solutions. Benham is a thought leader in the industry, serving as a champion for using technology to enable business transformation.





CHOOSING THE RIGHT SOLUTION FOR YOUR ORGANIZATION

How can the construction industry address current challenges and inefficiencies with cutting-edge technology? **TAKE THESE 5 ELEMENTS INTO CONSIDERATION** to maximize your chances of successful selection and long-term adoption.

1

BATTLE-TESTED: Will the technology perform well at the jobsite?

or even 90-day return is within reach of most construction firms and projects. If you've done your due diligence, there's a high degree you'll end up better off. Even if the solution doesn't fit your specific needs, by taking a systematic approach, you will have streamlined your R & D processes and identified new areas for improvement.

When evaluating new jobsite technologies, be sure to do the following:

✓ **Research.** It sounds simple, but basic research into a solution or technology provider is often overlooked. How was the solution developed and why? What experience do they have in the space? Companies are trusted for a reason. Look for an organization that under-promises and over-delivers, not one that makes claims they cannot support.

✓ **Talk to customers.** What are others in the space saying about the solution? Ask for client references and speak directly with current users to gauge the effectiveness of the solution as well as hurdles they were able to overcome.

✓ **Test it for yourself.** Before making a larger commitment, perform a test at one of your jobsites to make sure the technology performs as you expect it to. Use the technology with one team or one project site at first to work through training, implementation, and internal processes before rolling it out company-wide.

When making any new investment, it's understandable that construction firms want to play it safe by only selecting tried-and-true solutions. Buying a product that has been on the market for years instills confidence, but this isn't always the smartest or most effective tactic. In fact, companies may over-analyze decisions regarding IT investments, causing them to stall completely. *"I see a lot of companies afraid to make a decision. They continue to wait for the latest version of the technology,"* Benham said. *"But the problem is this becomes **paralysis by analysis.**"*

So what should you do? Be strategic and start small at one site or with one project team. Once you identify a solution, write down use cases or expected results. Set specific metrics of what success looks like at the jobsite and track results. Thinking in terms of a one-year, 6-month,

"I see a lot of companies afraid to make a decision. They continue to wait for the latest version of the technology, but the problem is this becomes paralysis by analysis."

2

EMPOWER YOUR USERS: Does the solution set your workforce up for success?

✓ **Hardware, software and accessories.** Evaluate all aspects of the solution, including details like durability or power requirements. How long is the hardware expected to last? How often does it need to be charged? These are questions that will come up over the course of a project, so get ahead by asking them during the evaluation period.

✓ **Implementation.** What does implementation or installation involve and how does the solutions provider work with you to help ensure a seamless process?

employee reluctance to a new system. Set your organization up for success by choosing an easy-to-use, intuitive solution, and partner with a provider that has a proven implementation process. At the same time, create a dedicated implementation team within your own organization. Appoint crew, manager, and executive-level contacts to become experts in the system, spearheading adoption and on-going feedback and evaluation.

✓ **On-going maintenance and support.** Don't wait until an issue arises and you're under the wire to inquire about customer service and support. Who can you expect to speak with when there's an issue on site? What happens in a power outage? Look for a trusted partner, not a one-and-done transaction.



Companies need to spend more time operationalizing their technology strategy. Assign team members to serve as technology champions, seeing and ensuring that the solution gets rolled out and used properly, advises Benham. Not having a dedicated resource is the most limiting factor to adoption within the industry, aside from not carving out the budget in the first place.

In other words, if you're going to invest in technology, do it the right way by investing time and resources up-front. Give the solution the best opportunity to succeed by developing a thorough implementation plan. Check that the solution performs well in a constantly changing, unpredictable jobsite environment. The solution shouldn't encumber your workforce or add technical complexity.

3

Data can be your company's most important asset – that is, if you can glean insights from it. Until recently, important project data was manually collected and stored in physical filing cabinets or legacy, non-collaborative computer systems at the jobsite, making it unavailable for practical use and analysis.

The rise of construction technology, however, enables the automatic collection of previously unavailable data. And while more and more companies understand the value of collecting data, they struggle to derive business impact from it. Across the industry, we need to move away from the mindset that only data scientists should be able to understand and analyze data. Moving from raw data and Excel spreadsheets to powerful, Cloud-based, visual dashboards are the first step to achieving that.

ACTIONABLE: Does the solution enable fast decision-making?

- ✓ **Easily accessible.** In our personal lives, we expect data to be easily accessible from any point in time. The same should be true in business. Look for software that is easily accessible from any device at any point in time.
- ✓ **Customizable.** The ability to drill into metrics according to certain parameters (e.g. by subcontractor, project site or date range) is essential. Look for the ability to build custom reports that can be regularly and automatically delivered to you. Data is power, but it needs to be digestible and relevant to your needs and inquiries.
- ✓ **Shareable.** Solid reporting tools will drive productive business conversations. Look for reports that are easy to download or share with your team.
- ✓ **Tailored insights.** Data is just one part of the equation; context is another. How is the information captured and delivered to enable swifter, better decision-making?



4

Selecting technology that provides value to end users is critical for long-term adoption and compliance. A system is only as powerful as how it's being used, and when technology works for your entire team, adoption grows, and full capabilities are realized.

To do this, take an employee-centric approach to evaluation. How will the solution help end users do their job with the least amount of disruption? Walk through a day in their life - with input from actual end users - and incorporate their concerns into the evaluation process. For workers, a solution should streamline manual processes, reduce administrative burden, develop their skills, and ultimately make them better at their job.

MAKE IT MATTER:

Does the solution drive user interest and excitement?

✓ **Education and on-boarding.** Are you providing your workforce with the necessary training to unlock system benefits and value? Work with your tech provider to develop an implementation timeline with key milestones. Make training as hands-on and engaging as possible and develop on-boarding and system FAQ documents that are easy to share, understand, and reference in the field.

You can have the greatest technology stack out there on paper, but if nobody at your organization uses it (or knows about it), you're going to have a hard time getting management to approve future purchases.

✓ **Communicate early and often.** Tell your workers why the system was selected and communicate the thought and diligence that went into the decision-

making process. Give workers the opportunity to ask questions and answer them succinctly and honestly. If you don't know, ask your solutions provider. Technology is a two-way process that should involve decision-makers, end users, and the solutions provider.

✓ **Make it fun.** Innovation is essential to staying competitive in the long run, but it's natural to struggle with change management as an organization. Encourage your employees to think about current processes, identify inefficiencies and suggest a solution. Capture and share innovation or "new tech" success stories across your organization. Highlighting it in a monthly newsletter or morning stretch-and-flex can help boost engagement. Reward project teams that successfully adopt a new solution with a special lunch or special hard hat that goes to the most engaged crew-of-the-month.

5

TECH THAT WORKS FOR YOUR BUSINESS: How does the solution further your goals?

As jobsite technology matures and becomes more widespread, there's an increased need for solutions to "play well" (i.e. integrate) with each other. When systems can easily, automatically exchange and share information, it's referred to as interoperability. Until recently, interoperability has been a "nice to have," but as more solutions hit the marketplace, it will become increasingly important. Contractors have enough to worry about at the jobsite and don't have the time to switch between 8 different platforms.

Before adopting a system, consider how it fits your organization's needs. How does it need to communicate internally and externally?

- ✓ **Third-party integration.** As mentioned, prioritize solutions with open API (application program interface), which enables developers to work with the code, customize it as needed, and integrate with their own hardware or software. It's a bonus if the company has an existing developer portal or partner program for you to tap into as needed.
- ✓ **Scalability.** Think long term. The solution may fit your current needs, but what happens if project scope suddenly changes? Make sure the solution works before ground break through project completion for a variety of contingencies.
- ✓ **Avoid surprises.** Know what you're buying and be wary of hidden costs. Ask how software licensing works, what system upgrades mean for current clients/models, and whether or not you have to pay for "premier support." Additionally, look for solutions that come standard with the ability to customize user roles, notification preferences and more.

Welcome to the first truly **CONNECTED JOBSITE**

The right construction technology will accelerate project processes and perform well on a complex, chaotic jobsite. Triax Technologies develops and delivers IoT solutions for the construction industry. Our flagship Spot-r system connects workers, equipment and project managers through a proprietary, minimal infrastructure network, rugged sensors and a Cloud-based dashboard. By providing real-time, data-driven visibility into daily site operations and safety incidents, Spot-r is changing the way construction companies manage resources, information, and risk.

TOTAL DIGITAL VISIBILITY. Know where your most important assets are located and how they're interacting.

SAFETY FIRST. Automatic fall notifications and unauthorized equipment operator alerts keep safety personnel informed. The Spot-r Clip's self-alert button gives workers a new tool to participate in safety, and Spot-r EvacTags strengthen existing evacuation

procedures at the jobsite to reduce drill time by up to 72%.

THE BIGGER PICTURE. Spot-r's Cloud dashboard aggregates and visualizes on-going and historical workforce, utilization, and safety data for actionable insights. Build and share custom reports by zone-based location, sub, trade, worker, or incident type with just a few clicks. Triax's developer portal amplifies the power of real-time Spot-r workforce, safety and productivity data with leading industry software and hardware providers.

WORLD-CLASS SUPPORT. Your dedicated project team will take the lead by mapping and deploying your site and will work with you to ensure you are fully leveraging the system as the project progresses.



A SMARTER JOBSITE STARTS WITH SPOT-R

Contact us to learn more:

info@triaxtec.com / 203-803-9879 / www.triaxtec.com