

# 6 STEPS TOWARD DIGITAL TRANSFORMATION IN THE CONSTRUCTION INDUSTRY

# IS YOUR CONSTRUCTION COMPANY PREPARED FOR A DIGITAL TRANSFORMATION?

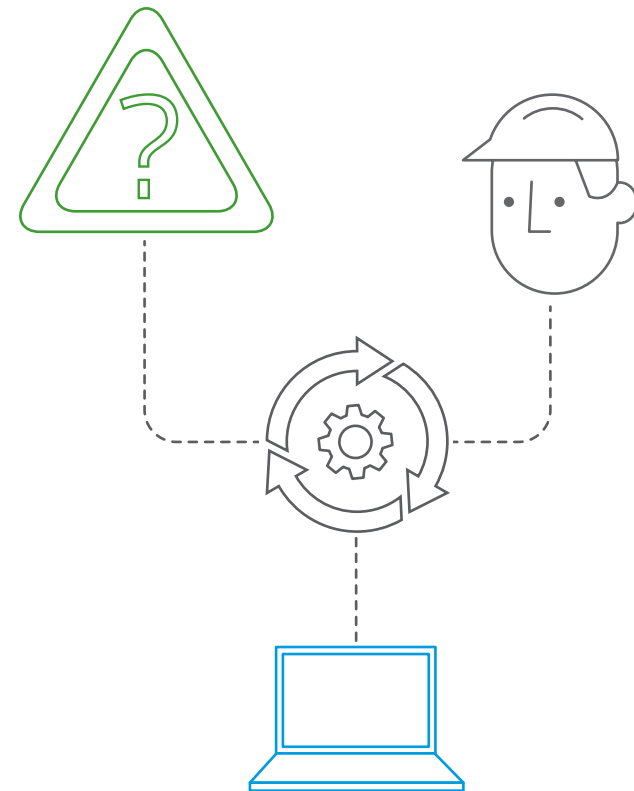
From safety standards to power tools, numerous innovations have advanced the construction industry over the years. Yet nothing has had as profound an effect as information technology.

Although leadership teams have long understood that digitization is the path of the future, it wasn't until the COVID-19 pandemic that [many companies were forced to take the leap and transform from within](#).

Hit by supply chain disruptions, lockdown orders, social distancing measures and new safety guidelines, contractors turned to virtual management tools and new on-site technologies to help maintain productivity and prevent delays at job sites. Convenience suddenly outranked quality—and companies that had been lagging in digital transformation found themselves on the losing end of the crisis.

The construction ecosystem comprises a highly integrated mix of contractors and subcontractors acting in concert to achieve a common goal: a successful, safely built project. Adopting new technologies—artificial intelligence and machine learning, robotics within workflows, 3D printing, or Internet of Things (IoT) solutions—will be critical to remaining efficient, effective and profitable. Forgoing this transformation will likely result in increased difficulty staying viable within the industry.

On the following pages, we outline six steps construction managers can take to move their companies toward a digital transformation—and a competitive advantage.



## IS YOUR CONSTRUCTION COMPANY PREPARED FOR A DIGITAL TRANSFORMATION?

- 1 | PUT THE RIGHT LEADERSHIP IN PLACE
- 2 | ENSURE TECHNOLOGY IS INTEGRATED
- 3 | CREATE AN APPLICATION ROAD MAP
- 4 | CONSIDER THE CLOUD
- 5 | LEVERAGE THE DATA
- 6 | EMPOWER EMPLOYEES | DEFINING NEW TECHNOLOGIES

# 1 | PUT THE RIGHT LEADERSHIP IN PLACE

Before any digital transformation takes place, an important question must be asked: Does the organization have the right leadership to take on this strategy? Company leadership must be on board to implement—and sustain—digital initiatives within the company, whether on the job site troubleshooting problems or in the office managing training and costs.

A knowledgeable leader must be able to create a culture of creative thinking and be willing to make capital improvements when needed. Targeted investments in IT, based on a sound strategic road map, enable the IT function to become more efficient, improve service to the organization, and open the door to future cost reductions and efficiencies across the business.

Construction companies are using technology to [improve collaboration](#), helping employees, subcontractors and other stakeholders reap the rewards of a more connected and mobile project environment. The efficiencies that technology enables can help sustain a company in good times and, perhaps more importantly, during downturns.

The cyclical nature of the economy suggests it is only a matter of time before another industry crisis occurs. Contractors should always be prepared for the next economic slowdown. Company leaders, especially those with limited resources at their disposal, should be looking at how new and emerging technologies can help their companies perform more effectively.

Bear in mind that no plan will be successful if management does not lead the charge for change.



## The right leadership can support these six characteristics of digital maturity in the construction industry:



### Speed of action

Nimble, agile responses

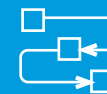


### Risk tolerance

Favoring bold, experimental, fail-fast approaches

### Effective organization

Favoring horizontal and distributed structures over top-down models



### Dynamic environment

Integrated and collaborative engagement across departments and functions



### Quality of life

Nurturing nontraditional, employee-centric environments that talent is committed to and passionate about



### Data-driven decision-making

Decisions driven by actionable data and customer-centricity over opportunism, intuition or instinctive responses

1

2

3

4

5

6

## 2 | ENSURE TECHNOLOGY IS INTEGRATED

Having the right technology in place can help a business reach the next level of growth, but technology tools must be able to coexist throughout the organization to function effectively.

To integrate technology within an organization, leadership must first put a plan in place. Basic governance ensures that everyone within the company is familiar with standard procedures and understands how a function is performed. It also means that employees can be held accountable if they do not follow the plan.

With a plan and the right technology determined, employees can be brought on board. Employees throughout the organization should be trained to use technology on a consistent platform that allows for current and anticipated tools, as well as improved connectivity and access to accurate, real-time information. Regardless of the type of technology chosen, uniform processes and procedures can have a significant impact on profitability. Integrating systems and platforms throughout the company allows management to accurately forecast profitability and manage job risk.



### Is your technology infrastructure where it needs to be?

Many construction firms struggle with technology selection, integration or usage—or any combination of the three. Have you put off IT modernization too long?

These 5 signs can help you decide ►



## 3 | CREATE AN APPLICATION ROAD MAP

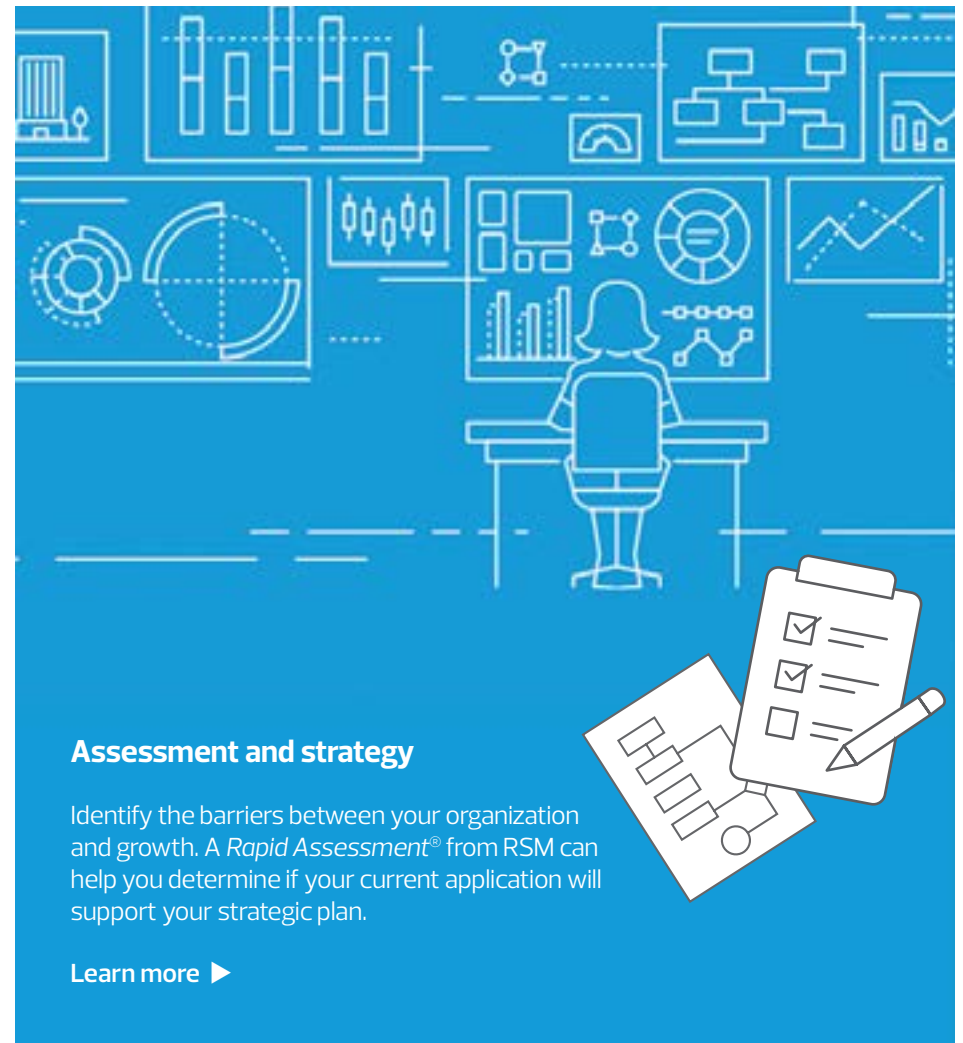
Before instituting a new technology strategy, leadership should develop an application road map to ensure that the chosen platforms and software will work together. No single program or application can manage an entire business, so management must be sure that all programs and software allow data to flow seamlessly through all systems. When creating that application road map, however, a question arises:

### Should a company purchase state-of-the-art software or an integrated system?

There are benefits and drawbacks to each option—and the answer depends on each company's circumstances. For example, with state-of-the-art systems, companies can select the products with the features and functions that perform best in their respective niche. Yet while these systems perform specialized functions better than integrated systems do, they are by definition limited by their specialties. That means that some software may not be the best choice when it comes to data flow, data integration and standardization. It may also result in duplication of data entry because the multiple systems cannot communicate with one another.

With integrated systems, management can expect better assimilation of data across the entire organization, although some elements of the system may not function as well as others. However, the integrated system might not work well with software purchased through other vendors, or even through the same vendor.

At the end of the day, it comes down to making the best choice for a company's unique business and budgetary needs, and understanding that compromises may need to be made.



**Assessment and strategy**

Identify the barriers between your organization and growth. A *Rapid Assessment*® from RSM can help you determine if your current application will support your strategic plan.

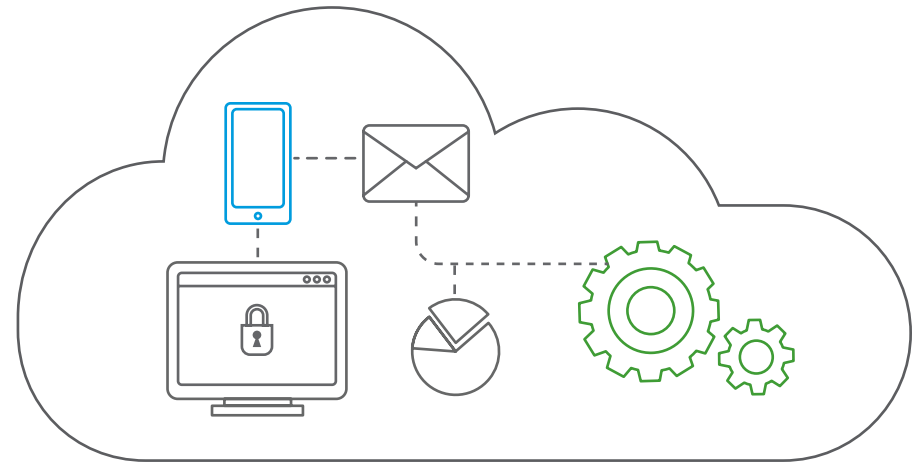
[Learn more ►](#)

## 4 | CONSIDER THE CLOUD

Part of creating a digital job site and adapting to mobile technology is embracing the use of the cloud.

Whether a construction company is working on a project across the state, the country or the globe, cloud technology is the most efficient way to keep everyone on the same page, from workers and managers on the job site to team members back in the office. The cloud improves the handling of project documents, whether change orders, time sheets or other reports, thereby saving time and money. On-site managers no longer have to drive to the office to pick up files or submit reports; office workers no longer need to meet with a worker in the field. Project management benefits greatly from the immediate access to information the cloud provides.

Cloud-based systems also help companies prepare for disasters, allowing information to be untethered from the job site—a physical location that could quickly and unexpectedly be destroyed by a natural disaster, fire or other unanticipated event. If a disaster does occur, cloud access means minimal downtime, allowing the company to get back to business faster.



### Technology tools to boost collaboration

Construction companies can use technology to improve collaboration, which can help employees, subcontractors and other stakeholders reap the rewards of a more connected and mobile project environment.

[Learn more](#) ►

## 5 | LEVERAGE THE DATA

Having the right technology in place and the ability to gather data is important, but it doesn't mean much if a company cannot use that raw data for meaningful analysis of production, profitability and other key performance indicators.

Company leadership must have accurate and timely data at their disposal in order to make sound business decisions. Once a plan is in place to capture the data, key performance indicators must be measured on an ongoing basis. The entire process—gathering data, analyzing it and exporting it into a format that can be reported—should be repeated at a predetermined, routine frequency.

Historical data can be used to write trend analysis reports, develop business projections and produce more accurate estimates. It can also be an important resource when forecasting the performance of subcontractors and determining the value they bring to the job.

When an organization can accurately interpret data, it can use that information to improve all functions and transform the business.



### Harnessing technology and data

It's critical for middle market businesses to harness the power of data into an effective strategy, while also accounting for risk and data security.

[Learn more ▶](#)

## 6 | EMPOWER EMPLOYEES

The purpose of digital transformation should be to foster a more efficient, creative and collaborative environment at your organization. This should begin with asking employees for input into solutions rather than dictating change. By involving employees early on in technology assessment, contractors can identify the actual needs versus the wants of the organization. Employee involvement also prevents waste and reduces resistance to change, fostering buy-in to new processes.

Continued communication with employees fosters essential feedback on the new technology. Oftentimes implementing a digital solution does not cure all of the challenges an organization faces. While the hope is that it helps to significantly improve efficiencies, technological improvement in one area can reveal challenges in others, and may require rework of current processes to ensure positive results.

By empowering employees in digital transformation, contractors will also see a higher level of engagement at their firms. In today's world, employees are important stakeholders in the company's future, and their voices should be heard. Having a leadership team that is inspiring and trusting and can tease out innovation and creative [thinking from all levels](#) of the organization is critical.



### How contractors can win talent and retain employees amid the labor crisis

Construction companies that empower and cultivate employees have shown themselves to be adept at winning over new talent, even in a tight job market.

[Learn more](#) ►



# DEFINING NEW TECHNOLOGIES

## Internet of Things (IoT)

IoT can mean different things to different organizations. Typically IoT tools in the construction industry are internet-connected devices and sensors able to collect specific data about activity, performance, conditions and safety on a job site and send this data to a centralized dashboard, where it can be analyzed to help inform decisions. Examples include wearables (hard-hat sensors and equipment monitors that allow project managers to see where everyone and everything is on a job site via a tablet or computer), remote equipment management systems (drones and automated construction equipment that allow workers to operate machinery remotely) and waste management benefits (sensors that monitor on-site trash).

## Robotics

Aligned with IoT, construction robots are revolutionizing the construction industry, providing intelligent control systems and helping to augment labor as the urgent need for skilled workers continues.

## Robotic process automation (RPA)

RPA is a form of technology based on software bots and artificial intelligence. This technology can replicate the actions involved in monotonous and repetitive business processes to complete them faster and more accurately than humans can manually, allowing organizations to focus on high-value activities that require more analysis, judgment and critical thinking.

## Virtual design and construction (VDC)

VDC is a technology-based solution that integrates multidisciplinary performance models of design and construction throughout the span of the project, including the product (i.e., facilities), work processes, and organization of the design, construction and operations teams.

## Cloud-based communications

In general, this term refers to a platform that bundles a suite of enterprise communication and collaboration products. The cloud replaces some or all of a company's hardware, facilities and software licensing with an outsourced provider, reducing the company's burden to house and maintain them on-premises. The cloud becomes a utility to the business, and can be scaled as much or as little as needed.



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