

The Mechanical Contractor's Guide To Selecting Construction Software



CHAPTER 1:

Stay Competitive With the Right Software

For mechanical and other speciality contractors, the stakes are high. Deadlines must be met and budgets kept. And the perfect storm of conditions work against them: multiple, often remote work locations, specific contract requirements, typically non-standardized processes and a large cast of owners, architects, subcontractors, field technicians, vendors and more to communicate and collaborate with.

If even one job is poorly handled, it can put a contractor's reputation—and prospects for future work—in jeopardy. That's a lot for a mechanical contractor to manage, and the challenges only grow when you factor in issues like:

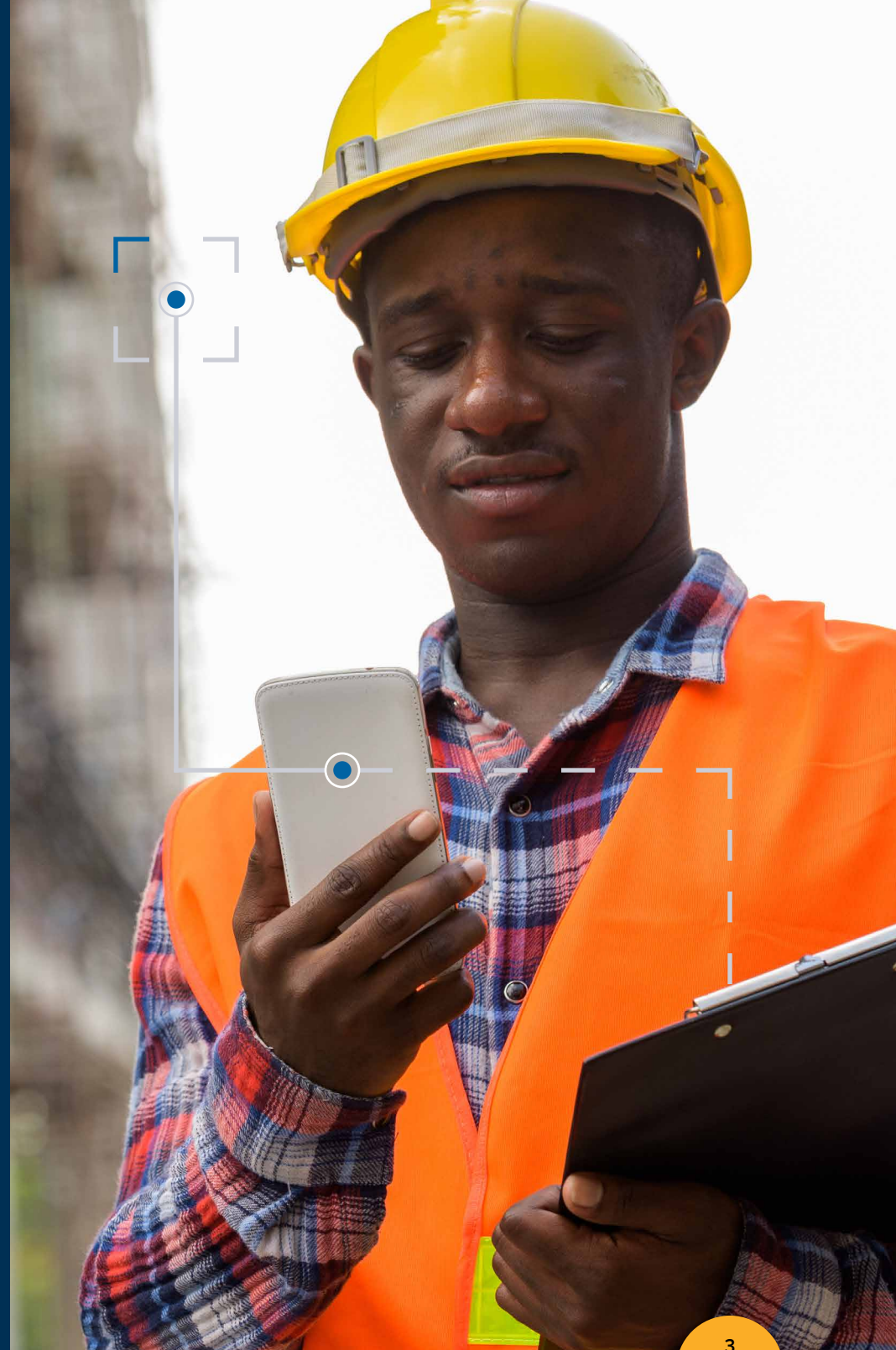
- Lack of data transparency across project teams
- Time wasted converting or reentering data from multiple non-integrated software solutions
- Manual processes that slow communication and collaboration
- Project delays due to mistakes, lack of information, weather and other factors
- Communication and collaboration breakdowns with the general contractor or asset owner
- Mismanaged service operations where technicians in the field lack real-time information and work orders



CHAPTER 1 CONTINUED:

In order to plan, do and manage these challenges more effectively, you need the right tools. One of the keys to boosting construction efficiency and productivity is finding and using the right construction software. But in the vast landscape of software options, how do you know what you really need? What functionality is best and how will it be implemented? And how do you get your teams to adapt to and use the software?

Poor technology decisions can create more headaches. This guide will help you understand how to make the right construction software decisions for your team and your business.



CHAPTER 2:

The Technology Landscape

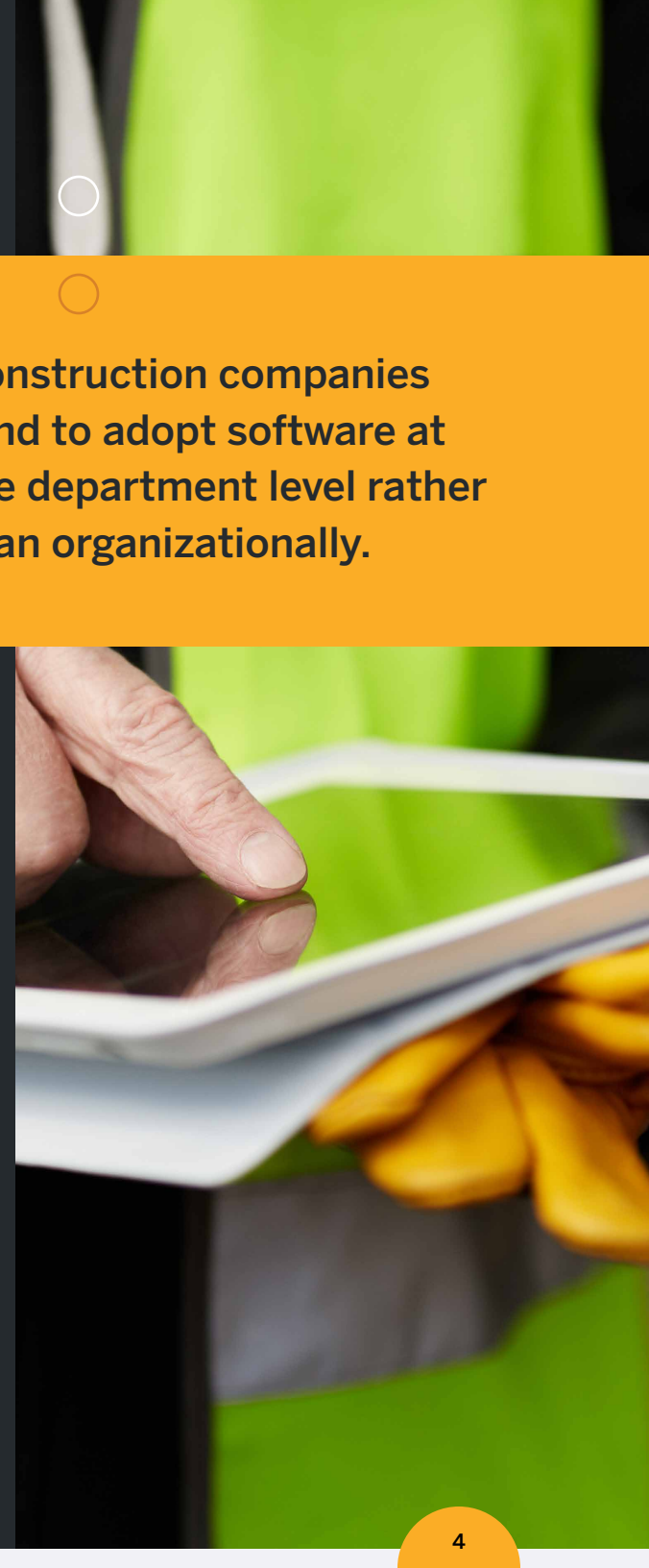
Contractors have historically underinvested in technology, which has played a significant part in hindering the construction industry's productivity growth. That isn't to say heavy/civil contractors aren't using any technology. Construction businesses quite frequently adopt software for functions like accounting, payroll, HR, CAD/BIM, estimating, project management and client relationship management (CRM).

Disconnected Software Creates Data Silos

However, many construction companies tend to adopt software at the department level rather than organizationally. And, in some cases, contractors select out-of-the-box solutions that aren't tailored to the construction industry or don't connect well with other software programs used throughout the company.

The fact that contractors are adopting software is a good thing, but software chosen by and for one department—and often not designed for the unique needs of construction businesses—often isn't the best solution for the whole organization. It's critical that the various tools used across the organization are tightly interconnected to ensure information flows easily between them. A construction-specific, unified solution provides a better foundation for heavy highway general contractors' specific business needs.

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Moving Beyond the Traditional ERP

You may have heard the term enterprise resource planning, or ERP. Enterprise resource planning is a process in which companies manage and integrate important parts of their business. In construction, this typically means having a unified software system that connects all the departments in order to streamline processes. These solutions handle functions like accounting, HR and payroll, project and equipment management, materials and inventory tracking, service management and much more—all integrated and using the same set of data throughout.

The Power of a Connected Construction Suite

Mechanical contractors need to tie the financial health of project to project execution, which means connecting accounting, operations and extended project teams and stakeholders. If these parts of a business aren't closely connected, it can lead to poor operational decisions due to lack of accurate job costing and real-time progress reports. Delays can

occur while waiting for current data. The chances of project mistakes, incorrect material orders and other challenges are higher when data has to be re-keyed or translated into separate software programs to proceed with work.

Furthermore, continual service work may be part of your operations. With disconnected systems or processes handling your dispatching, work orders and billings, it could result in significant delays in getting paid, missing payments or sub-standard work quality by technicians missing critical information in the field.

A connected construction software suite, on the other hand, automates workflows and connects disparate teams and synchronizes data so everyone is working from one source of truth. It's easier to find information when needed, and less time is wasted re-entering data or waiting for data from the field.

When these connected solutions are cloud-based, data is available and accessible in real time and can be easily shared across entire project teams. This improves collaboration and enables smarter decision making.



Why is it Important to Have a Solution Designed for Construction?

Businesses in many industries use ERP solutions. These systems are often one-size-fits-all packages not specific to any industry.

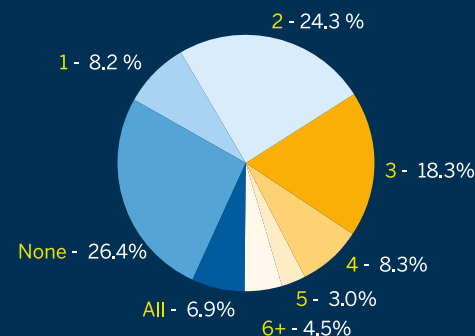
Common Problems Contractors Run Into When Using a Generic ERP Include:

- Lack of features for specific construction or service job roles
- Inadequate features for construction job cost or time and materials billing
- Inefficient approval workflows
- Reporting features not specific to construction
- Lack of applications or features accessible to technicians or field teams
- Generic fields that limit certain construction coding and naming conventions
- Lack of customization

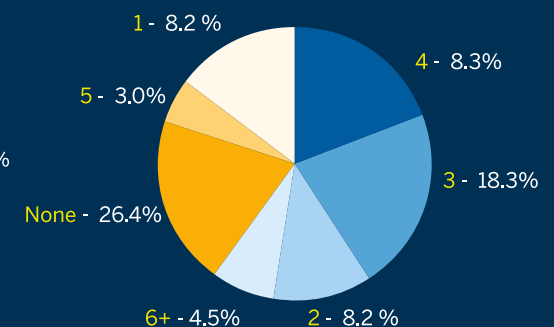
A Connected Solution Designed Specifically for Construction, on the Other Hand:

- Accommodates all types of users across construction project teams
- Has construction-specific terminology, fields, forms and processes built in
- Is designed to track and manage construction-specific items like equipment, labor and materials
- Is collaborative and allows for easy access to information and data entry in the field and sharing of data across entire project teams
- Includes functionalities like service management, dispatch and work orders tailored to mechanical contractors' needs
- Is both customizable to fit specific contractors' needs and scalable to accommodate future growth and technology advancements

Number Of Apps That Integrate Data*



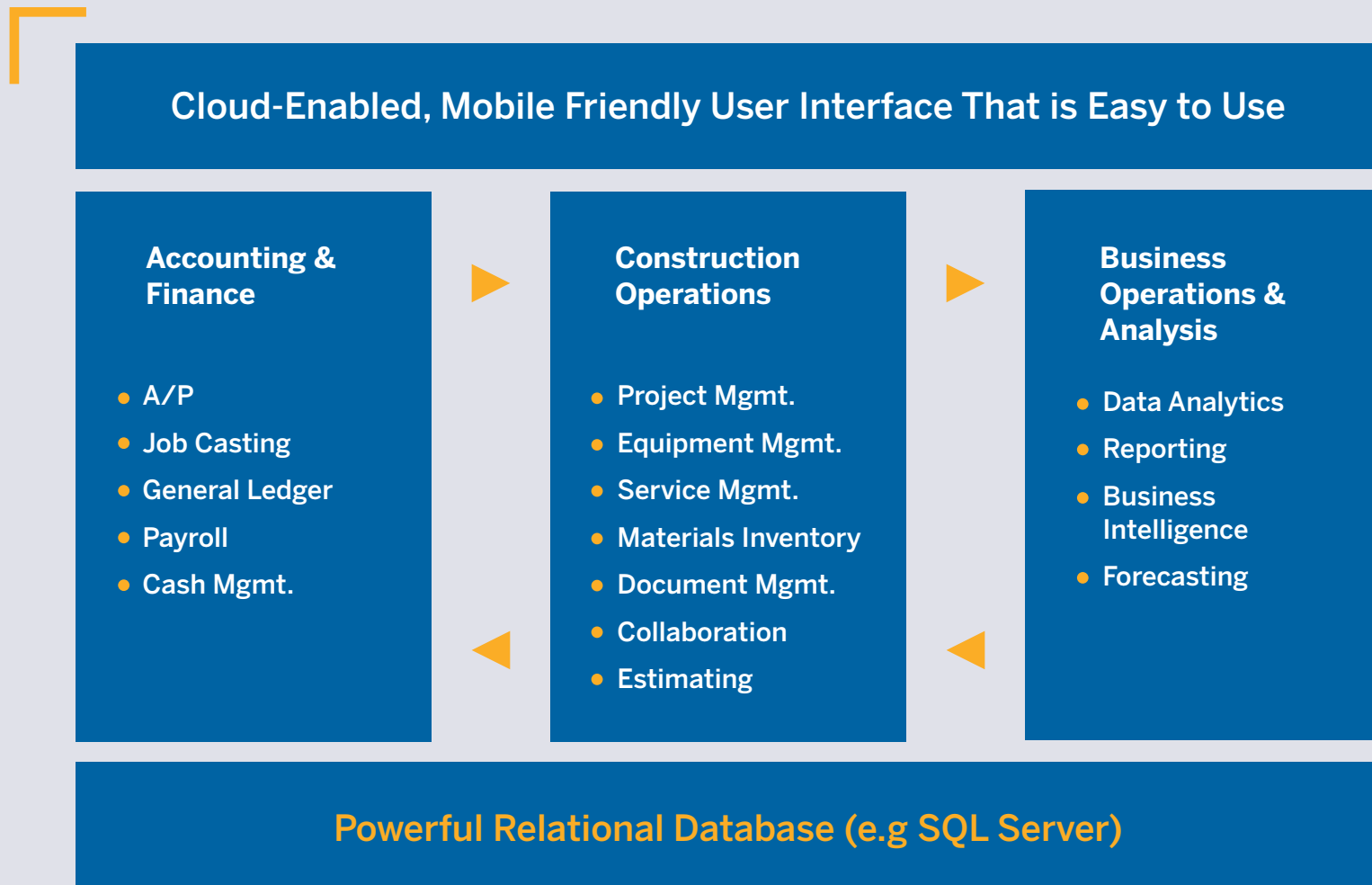
Number Of Construction Apps Used*



* JBKnowledge 2019 Construction Technology Report.

The 3 Pillars of Construction Technology

According to JBKnowledge, contractors are using fewer software applications than they were five years ago, which suggests more companies are opting for integrated solutions that handle many workflows. Mechanical contractors most commonly use software for accounting, project and service management, CAD/BIM/engineering and estimating. Having a software system that can connect these workflows improves collaboration among accounting/finance, construction operations and business operations/analysis, the three pillars of construction technology.




CHAPTER 3:

Set Expectations

It's true implementing the modern construction and service management software needed to grow at today's rapid pace isn't a snap decision. Changing software can be a significant investment in time and resources, but the benefits are often dramatic for the business. Some contractors—especially those still using manual management methods or off-the-shelf tools not connected for construction—might not be prepared for what today's connected, construction-specific solutions can do, what they cost and what's involved in setting these programs up to achieve goals of better visibility and decision-making.

Before reaching out to software providers, it's highly recommended that you have solid business goals in mind. Gather and analyze specific pain points, limitations to growth, policies and procedures in need of change and areas where productivity improvements are necessary. Articulate these to any software provider and they should be able suggest the best technology solutions to meet your needs.



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CHAPTER 3 CONTINUED:

It's also a good idea to do your homework on what types of technology advancements and features are available on the market. You may be surprised to learn that certain features and abilities exist within software today, but generic product demos or videos don't necessarily cover every feature that might be important to you and your team.

Even after software is purchased, it's not uncommon for many software tools to not be used to their full potential by end users. That's why it's smart to go into any software search with a detailed list of wants and needs, to dive deep into all potential features and functionality and to ask detailed questions during product demos and sales discussions.



Of course, the biggest question most software seekers have is, “How much will this cost?” The truth is, costs can vary significantly depending on your specific needs, company size, number of users and much more. Dedicated construction software packages range from a few thousand dollars for a small contractor with relatively simple needs to hundreds of thousands of dollars for a large enterprise organization with a high volume of users.

That said, most contractors will tell you that a connected construction-focused solution will bring about significant ROI, with notable cost savings from redundant tasks and wasted resources, increased productivity and reduced project mistakes, quicker turnaround on projects, the mitigation of risks that can significantly impact contractors’ bottom lines, increased profit margins and deeper business intelligence into projects to better forecast their health.

A recent Hobson & Company survey, “Driving ROI, The Case for a Proven Construction Management Solution,” noted that contractors using Trimble Viewpoint’s connected construction solutions experienced a 50% reduction in time spent tracking unapproved invoices, billing processes and time and material tracking. The study also noted a 75% drop in print and mail costs and a 100% reduction in redundant applications.

The real meat of the findings, however, was that integrated ERP solutions provided clients with a 3% increase in top-line revenues and a 0.75% increase in gross margins. Depending on the business size, that can mean hundreds of thousands or even millions of dollars in regained profit.

50%

Reduction in time spent tracking unapproved invoices, billing processes and time and material tracking

75%

Drop in print and mail costs

40%

Reduction in time managing change orders

30%

Reduction in project delays

3%

Increase in top-line revenues

0.75%

Increase in gross margins

CHAPTER 4:

Deployment Considerations

Beyond construction software features and functionality, contractors need to consider how it will be deployed throughout their organization.

In the past, concerns about data security and data loss led contractors to purchase and maintain on-premise servers to house data. This on-premise model often resulted in high demands on IT departments to maintain in-office workstations, high maintenance costs, limited storage space, server crashes and often complex accessibility.

Technology has evolved quickly, and many contractors are turning to cloud-based construction management platforms. Today's cloud servers no longer pose the security and data loss concerns they once did. In fact, today's cloud solutions not only provide stronger data security, storage and backup options versus on-premise systems, they also reduce hardware costs and streamline IT strategies.

With cloud-based software, many vendors offer the option to host the client's data internally or externally. With external hosting, the vendor stores the client's data in the cloud, selling them what's often referred to as "slices," or digital data storage space. This is often a far cheaper approach than the client maintaining physical servers on-site (internal hosting, sometimes referred to a "hybrid cloud software deployment")—though some contractors still prefer this approach.

Technology has evolved quickly and today's cloud solutions provide stronger data security, storage and backups, while reducing hardware costs and streamlining IT strategies.

Why? Just a Few Benefits of Cloud Hosting Include:

- Easier access to data and functions for users—no matter where they're working
- Significantly reduced IT footprint, since countless workstations won't require continual maintenance
- Simple login and interface in a browser environment for users
- Automatic software updates handled on the vendor's end so end users simply log in and start using new functionality right away
- The ability to move to software-as-a service (SaaS) pricing with maintenance and support costs rolled into the annual or monthly payments
- Lower cost of entry, as cloud-based systems allow many contractors to pay a lower up-front cost (capital expenditure) in favor of annual costs (operating expenditure)
- Greater data security
- Smoother implementations that take less time

Cloud-based software allows stakeholders to make project decisions in real time, reducing delays and mitigating risks on job sites. It also fosters true collaboration across entire project teams, letting them spot and correct issues immediately, as well as better manage processes and workflows. Meanwhile, the real-time access to cloud-based solutions allow for better data analysis and business intelligence. This means current projects can be more accurately vetted and future projects better planned.

And, when mechanical contractors don't need to worry about IT issues like software updates, server maintenance, data backups and constantly monitoring for potential cybersecurity breaches, they can put their focus where it's needed: **building better HVAC, plumbing, refrigeration and other projects, while building strong relationships with service clients.**

CHAPTER 5:

Achieve Buy-In

Perhaps one of the biggest considerations when looking at new software is how end-users will respond to it. The last thing you want is for a significant capital investment to wind up proverbially sitting on the shelf, collecting dust because no one in the organization wants to use it.

Ask yourself and other decision-makers:

- 1 Who would benefit from new software?
- 2 What are the true pain points related to your current software for people in various departments?
- 3 What needs do each department and each user have?
- 4 What processes or tasks in each department could software improve?
- 5 What communication occurs manually right now—via pen and paper, phone or email—that software could help streamline?
- 6 Are people open to using new software? If not, what would they need—training, software customizations, etc.—for them to see the value in software and use it effectively?

CHAPTER 5 CONTINUED:

When you're ready to evaluate modern software solutions, make sure you achieve organizational buy-in. Ideally, your end-users (or at least a good representation of end users) would be involved in software demos, be able to ask questions that perhaps leadership hasn't thought of and provide valuable feedback on how their teams will adapt to new solutions. Providing the opportunity to weigh in is often all that's needed to make people feel heard, regardless of the end decision. It's also very important to communicate why new software is being sought and how certain features or functionality will make their jobs easier and their work more productive along with the overarching business problems you're solving.

Especially with connected software solutions, it's important that everyone throughout the organization uses it and that manual processes and outdated systems are officially retired. Otherwise, users will still have to work through issues that originally impeded productivity in the first place, like duplicate data entry, data translation, delays and more. Technology can only do so much if it's not being used appropriately.

30% of workers' workdays is spent searching for information.

If getting buy-in from others is challenging, consider this: workers spend 30% of their workday searching for information. Almost everyone in your organization needs to consult documents and look for information at some point during the day. Having a unified software system that creates a single data source for the organization could save time for everyone. Odds are that reducing wasted time is an idea everyone can get behind.

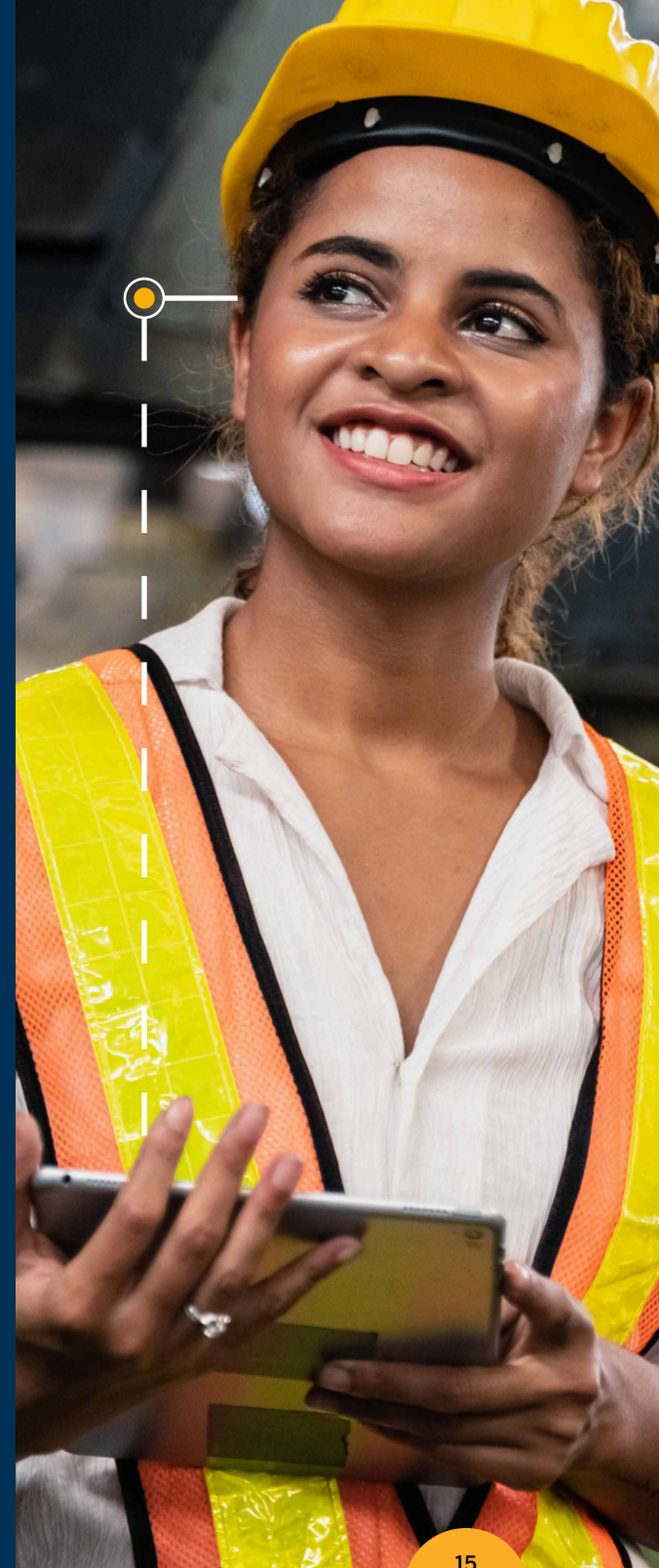
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CHAPTER 6:

Construction Software Checklist

When shopping for construction software, it's important to have a plan. You need to do research about your options, know your budget, and talk to peers and others in your industry to get their recommendations. Most importantly, know what your organization's needs are, so you can select a software solution with the right features to solve your business challenges.

- 1 Will the software reduce workloads and save time?**
- 2 How straightforward is setting up a new project? Is it easy to import estimates and get started?**
- 3 Are processes streamlined from initiation through closeout of the project?**
- 4 Are software solutions connected with shared data to allow easy flow of information between accounting, the functions at job sites and all project team members?**
- 5 Will the software help create a consistent structure across the company that allows everyone to work in real time from the same data?**
- 6 Are forms and other requests—change orders, invoices, RFIs, work orders, etc.—easily generated?**



CHAPTER 6 CONTINUED:

- 7** Is the software scalable and flexible, allowing for configuration to fit your specific business needs?
- 8** Does the software allow your organization to truly digitize data and workflows?
- 9** Are there strong data security measures in place, with automatic backups, multi-factor authentication, single sign-on and more?
- 10** Is the software easy to use? Does it have a clean interface?
- 11** Does it provide analytical and intuitive looks at data in ways that are relevant to each end user? Will it allow for users to glean true construction business intelligence?
- 12** Is the company providing the software committed to continually investing in its product and scaling it for future functionality growth?





CHAPTER 7:

Prepare for the Implementation Process

The implementation of new construction management software can take time and planning, though many solutions today have streamlined these processes. Transferring data from one system to another, ensuring all functionality is working the way it should, setting up workflows and customized features—these are all tasks that need to be properly addressed to ensure a smooth transition, and they take time and resources to do well.

There can often be momentary disruptions in business or processes while implementation occurs, so it's important to have a plan in place and work with the software provider closely during this process. Here are some general steps to consider:

1. Get a Holistic View of Implementation

Make sure you have an implementation map developed with your software provider. Consult training materials and assess your current processes. Where is data currently housed, and how can it be

imported into your new system? Find out how long the process will take (your software provider can give you an estimate) so people know what kind of time frame to expect.

2. Make a Personalized Plan

Establish a reasonable schedule for implementation with your software provider and those who will be implementing the software on your end. Ensure you have your documented list of software needs in hand when designing implementation so you know all of your customization needs are being met.

Software implementations can often take multiple months from start to finish, depending on the scale and complexity, but essential functions can often be set up within a few weeks. You'll want to ensure all steps of the process are mapped.

CHAPTER 7 CONTINUED:

3. Communicate With Your Team

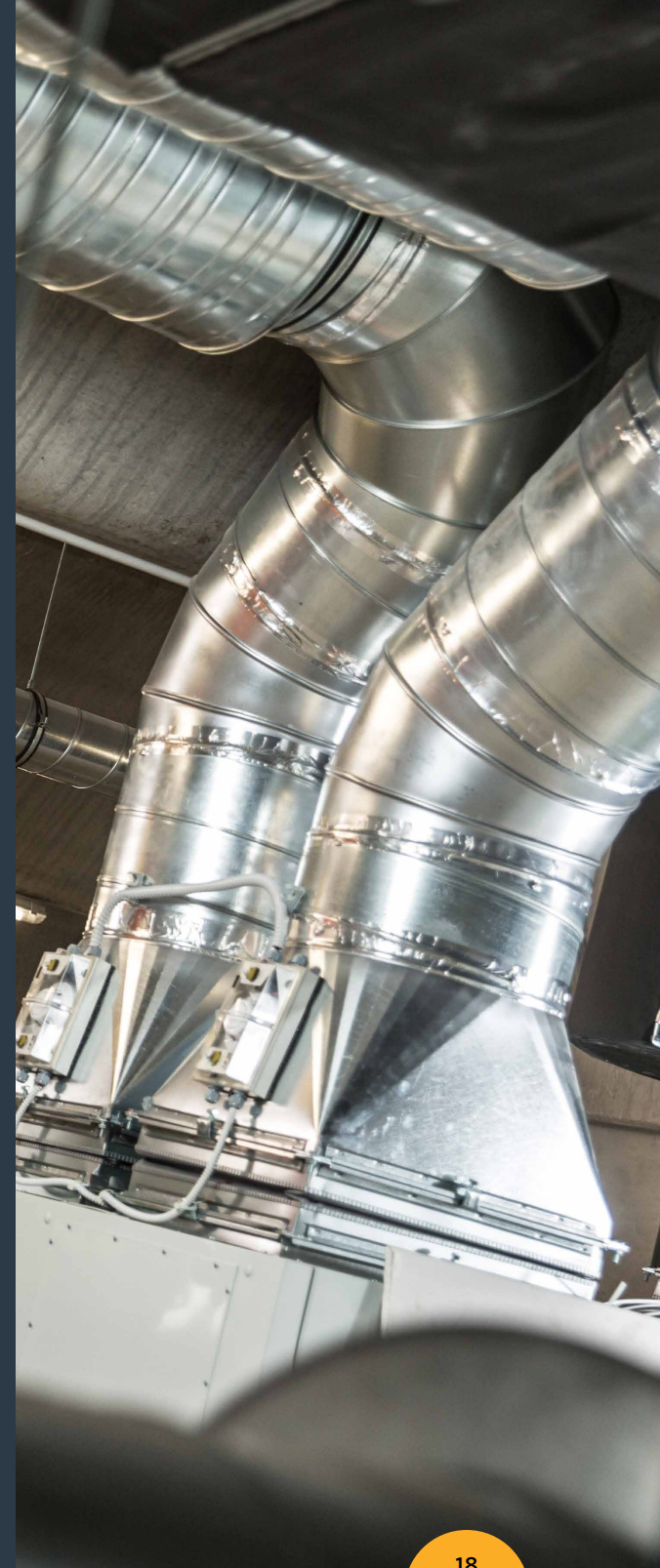
Implementation can disrupt current systems and processes, so make sure your team is on board and understands when and how to plan for delays to current workflows. In many cases, an hour or two of downtime a day in back office functions can occur while data is transferred and functionality set up. If business delays happen during implementation, keep team members consistently updated.

4. Pay Attention to Process Documentation

In any new system, you'll likely need to do some configuration. Set up workflow steps and fill out details relevant to your processes. It's best to spend time getting these things correct from the get-go so you don't have to backtrack and fix problems later.

5. Provide Comprehensive Training

All users will need appropriate training if they're going to make the most of the software and use it as you want them to. Your software provider should have training available, so ensure everyone gets the right knowledge and tools to succeed. Nominate a "super user" on your team to truly understand the software, and potentially explore additional in-depth training in order to help the rest of your team as needed.



The Solution? The Connected, Cloud-Based Trimble Construction One Suite

Now that you're better prepared to research, purchase and implement new construction management software, we invite you to learn how the Trimble Construction One suite of leading-edge construction technology software and solutions can be the perfect fit for your organization. Our cloud construction ERP, estimating, project and document management, HR, mobile field and business intelligence solutions deliver a single source of connected data truth, helping contractors like you better plan, do and manage through the complete lifecycle of their projects.

The Trimble Construction One suite streamlines workflows across the entire construction organization and provides powerful functionality to:

- Share data and collaborate across entire project teams
- Increase efficiency and productivity
- Mitigate project risks
- Save costs and boost profit margins
- Streamline service management workflows
- Achieve true construction business intelligence and better plan future work

Connect with Viewpoint to see how we can help your construction organization realize untapped potential.

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Printed reports (are) replaced by dashboards and self-serve reporting that will enable daily job cost comparison to the project estimate and production analysis to ensure projects are on schedule... The entire process is at least 40% faster.

— Alyssa D'Amico, Project Manager F+F Mechanical

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Trimble Construction One is a single system, from a single vendor, that's natively integrated for seamless accounting and operations data flow. The expectation is a six-figure saving by moving to Trimble Construction One.

— Jeff Jayne, IT Manager Precision Concrete Construction, Inc.



ABOUT TRIMBLE VIEWPOINT

Trimble Viewpoint construction software solutions, part of Trimble Connected Construction, allow contractors to better manage their projects, processes and people, using the data gathered to lower risk and improve margins. With more than 40 percent of the ENR 400 on our platforms, Trimble Viewpoint innovations are transforming the construction industry by connecting operations across financial and HR systems, project management tools and mobile field solutions.

For more information, please visit [Viewpoint.com](https://viewpoint.com)

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