

7 Tips for Mechanical Subcontractors to Improve Their Productivity Through Software

The Mechanical Contractor's guide to construction productivity software and how it can empower them on the project site.

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Introduction

Picture this: You own a mechanical contracting company with a staff of 20. You've been in industry for 30 years, as have many of your staff. When a General Contractor calls you for a bid, out come the pencils and paper. Working with your best Project Manager, you list all the project activities by hand and allocate your resources. When an activity's scope or duration is unclear, your most experienced Superintendent weighs in. The end result is a comprehensive bid, but the process is inefficient and doesn't fit with today's best practices.¹

A few days later you win the bid! The team celebrates and rolls into action. Plans are printed and distributed to your main office and project trailer. Procurement sends materials to your laydown area and the team begins coordinating your

scope of work. There are two additional Mechanical Subcontractors on site. Their work overlaps your own and there are a myriad of other trades to coordinate with. At this point, you get the inside scoop from another subcontractor that the owner is change-order happy and sends out revised plans on a weekly basis.

How on earth do you successfully coordinate everything when you can't be confident that what you install today won't require a rip and replace tomorrow?

This is where software comes into play. Construction Productivity Software streamlines document control and distribution, provides construction teams with easy access to all relevant information from any device and enables seamless collaboration across teams. With modern mobile devices, empowering your field teams through software is easier than ever before.

Mechanical Subcontractors are a large part of any construction project and their success significantly impacts the overall project delivery. This e-book will focus on how embracing the right construction software tool can impact:

- Meeting project schedules and deadlines
- Collaborating with GCs and other trades
- Managing sheets, blueprints and versions
- Preventing costly errors and rework
- Effective project closeouts
- Attracting talent as the workforce ages
- Scaling as your organization grows



Time savings in the field

Most Mechanical Subcontractors still connect with other trades via telephone, in person and through email. This makes it hard to track each decision or change that has been made. With the right software tool, you no longer have to search through files, emails or binders for answers.

For example, Mechanical Subcontractors can't install duct work until all the electrical conduits that go behind it have been installed. Armed with the knowledge of what has been completed means your team can more efficiently execute their portion of work. The right tool also allows field teams to easily manage their own work and collaborate with the other subcontractors. Removing the ambiguity surrounding your own progress versus that of the other trades gives you the confidence to plan and ultimately saves time.

Software also allows you to manage offsite prefabrication activities more effectively. The tool should centralize your drawings, data sheets and other project information. This allows you to make changes and markups on the fly while remotely monitoring the work. If your onsite team makes changes to the drawings, the tool should automatically push this data to your fabrication facility team and vice versa. This is especially critical if the facility is located miles away from the project site.

Additionally, all the project documentation such as piping/plumbing submittals and HVAC unit cut sheets will be available via that same software tool. Ideally, it should also let your team work from any device, whether they are connected to the web or working offline.

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"85 percent of the welding work and documentation is done in prefabrication, and it all lives in PlanGrid. Once the field team gets the materials, it's easy for them to log details and photos right there in the plans from anywhere."

— Kalen Wallace, Mechanical Engineer and Integration Manager, VEC Inc.



Reducing costly errors and rework

Construction sites are always changing. Subcontractors and GCs need to closely coordinate so materials are installed to meet the site conditions. That information needs to be communicated back to the home office and project trailers so changes are caught immediately. This is critical to ensure field modifications and change orders aren't needed later. Subcontractors need to recognize that the use of technology delivers ROI. These tools help reduce the frequency of rework, creating a benefit in the cost of the mistakes you don't make.²

When software tools provide a central location to collaborate—one that easily manages your own work, while providing the ability to link up the home office, project trailer, field workers and other subcontractors—it reduces both the amount of time spent on coordination and the risk of installing mechanical work to outdated specifications.

Cloud technology makes collaboration easier

Mechanical Subcontractors frequently collaborate with building owners and other design team professionals. Moreover, more than half of Electrical Subcontractors report that they collaborate directly with Mechanical and HVAC professionals on projects.³

Today's software tools are impactful when working on markups to blueprints and during RFIs. This mobile cloud-based collaboration applies to working with GCs or any other trade that may be at the project site. It means your work flows more smoothly—with teams spending less time waiting and more time doing.



Your whole team can work off the master set anywhere, anytime

Drawings are constantly updated. It can be tricky to keep up with all the changes and how they impact your work and schedule. It's especially tough when you're working alongside other specialty contractors. Software tools empower you with fast and seamless coordination. This helps your team stay on track, while ensuring everyone on the jobsite is accountable for their part of the work.

The importance of seamless coordination becomes clear when using prefabricated mechanical equipment on a project. Prefabrication requires extensive pre-planning and coordination to ensure the delivery and installation is properly timed.⁴ If a Mechanical Subcontractor doesn't know exactly when to deliver their prefabricated materials for installation, much of the cost savings typically generated using this fast track method

will be lost. Additionally, if laydown area space is limited, poorly timed deliveries can cause big headaches for the whole project when there isn't enough space to store the materials. Construction Productivity Software gives you workflows with better insight into a project, helping schedule just-in-time delivery.

Additionally, you should be sure to select a tool that stores all your project data within it. Your mantra should be "If it doesn't live in the tool, it doesn't exist!" This will ensure your teams have one place they're looking to for information. Centrally locating your documents removes the need for duplicate entry of data or an extensive and confusing search to find information.

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"Each block [of the project] has an architectural, structural, mechanical, electrical, plumbing and interior design set of drawings. That means that we have 18 different sets of drawings, all of which are continuously changing due to ASIs. PlanGrid is my favorite tool because it has completely eliminated the problems that have arisen in the past due to one mistakenly using an outdated plan sheet."

-Brett Hauser, Weis Builders



Effective project closeouts and seamless as-builts

Traditional closeout packages have been insufficient for project owners. Typically, 30% of data associated with a project is lost during turnover.⁵ A digital drawing set lasts for the lifetime of the building. When all the documentation is stored electronically, it creates an easy package to turn over at project completion. This ensures a happy owner and helps secure future projects with them. When using the right software tools, substantial data loss at turnover becomes a thing of the past. This also helps owners, GCs, and subcontractors when warranty issues arise after project closeout.

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“It used to take four to five people at least a week or more to get all final redlines and as-builts put together at turnover. With PlanGrid it only takes a couple of hours for us to ship our turnover package, but equally important is the fact that we’re confident in the quantity and quality of the data we’re sharing.”

-Kalen Wallace, Mechanical Engineer, VEC Inc.



Tech attracts younger talent as the existing workforce ages

The median age of construction workers in 2000 was 37.9, while in 2010 it was 40.4.⁶ Subsequently, the average age of a mechanical worker is also increasing. As a large part of the workforce moves toward retirement, it's increasingly important to attract young talent. Ensuring that cutting-edge technology is available to them is one way of drawing in that much-needed cohort.

"For the construction industry, an aging workforce could mean losing the experienced, older workers that the firms count on to bring new workers up to speed."

-Stephen Sweet, Scholar and Researcher at the Sloan Center on Aging and Work at Boston College.⁷

Adopting a best-in-class software tool is one way for your company to attract this younger tech-driven part of the workforce. Software tools can also facilitate the transfer of knowledge from your experienced employees through a platform that younger workers understand.

Scaling as your organization grows

When business is booming, organizations often rapidly increase in size to accommodate the new work. Growing from a small organization to a larger one can make problems in existing processes painfully obvious. This is no different for Mechanical Subcontractors. Construction productivity tools are one way to make company growth successfully scale. You can rely on paper drawings and memory for a small projects, but that's a recipe for disaster as projects get more complex and teams grow.



Mechanical Case Study - VEC, Inc.

Founded in 1968, VEC, Inc. is a total solutions provider that specializes in industrial, oil and gas, and low voltage work in the midwestern United States. With expertise in mechanical, electrical and fabrication work—VEC trusts PlanGrid on all major projects for collaboration, information sharing, and successful turnover to owners.

Ensuring teams have the right information and streamlining documentation

For years now, technology has played a foundational role in how VEC does business. It helps the company bring projects to completion faster and has become a major selling point and differentiator when bidding on new work.

For example, documentation and inspections can be particularly challenging in mechanical work for oil and gas projects due to the precision and level of detail that must be captured. For VEC, documenting everything efficiently

and correctly is important from a time savings perspective. It also strengthens their relationship with project owners, who will need access to precise as-built information for quality control and emergencies in the future.

The company knows the risks that come with having outdated information in the field. VEC's head document controller Dominique Fuentes shares, "even missing one sheet revision can cause a several hundred thousand dollar mistake that has to be redone."

Centralized project information and consistent field documentation

With PlanGrid, field documentation and as-builts at VEC have become extremely efficient and reliable. VEC owns a four million dollar prefabrication facility where the team welds pipes and prepares other materials before they get shipped out to the jobsite.

Kalen Wallace, Integration Manager at VEC, explains, "85 percent of the welding work and documentation is done in pre-fab, and it all lives in PlanGrid. Once the field team gets the materials, it's easy for them to log details and photos right there in the plans from anywhere." When unexpected conditions arise or plans need to change on the fly, PlanGrid enables the VEC team to be dynamic while communicating and documenting changes properly.

VEC also distributes information via PlanGrid during pre-construction, which makes it easier for teams to access plans and understand the scope of work. Fuentes explains that, "we'll get 13 or more revisions during the bidding phase alone. In PlanGrid we save a ridiculous amount of time by being able to easily compare revisions, especially for estimators doing takeoffs."



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Results: Increased productivity and more data at turnover

For VEC, the increase in productivity driven by PlanGrid is clear in a many ways. Chad Dager, QA and Project Manager at VEC, explains, "an inspector can now work with 12 or more welders at a time because of how streamlined the process is; before, I could manage three or four maximum."

Turning over projects is now easier, too. Because all of the work that the team does is managed and communicated in PlanGrid, there's no second guessing how up-to-date information is, or chasing down weld numbers from weeks or months ago. VEC has used PlanGrid for years and now highlights the tool as part of its "Innovation" package. This is where the company touts its use of technology on projects.

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PlanGrid empowers our projects to become digital and connected, resulting in increased efficiency, collaboration, and profitability on the jobsite. It keeps our project team on the same page, moving in the same direction.”

-Dominic R. Spelich, Executive Vice President, VEC Inc.



Mechanical Subcontractors using PlanGrid



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See a Live Demo or give us a call at +1 (415) 429-1227

PlanGrid's Construction Productivity Software is the easiest and most cost-effective way to get substantial return on your investment in construction mobile apps. By using PlanGrid you will:

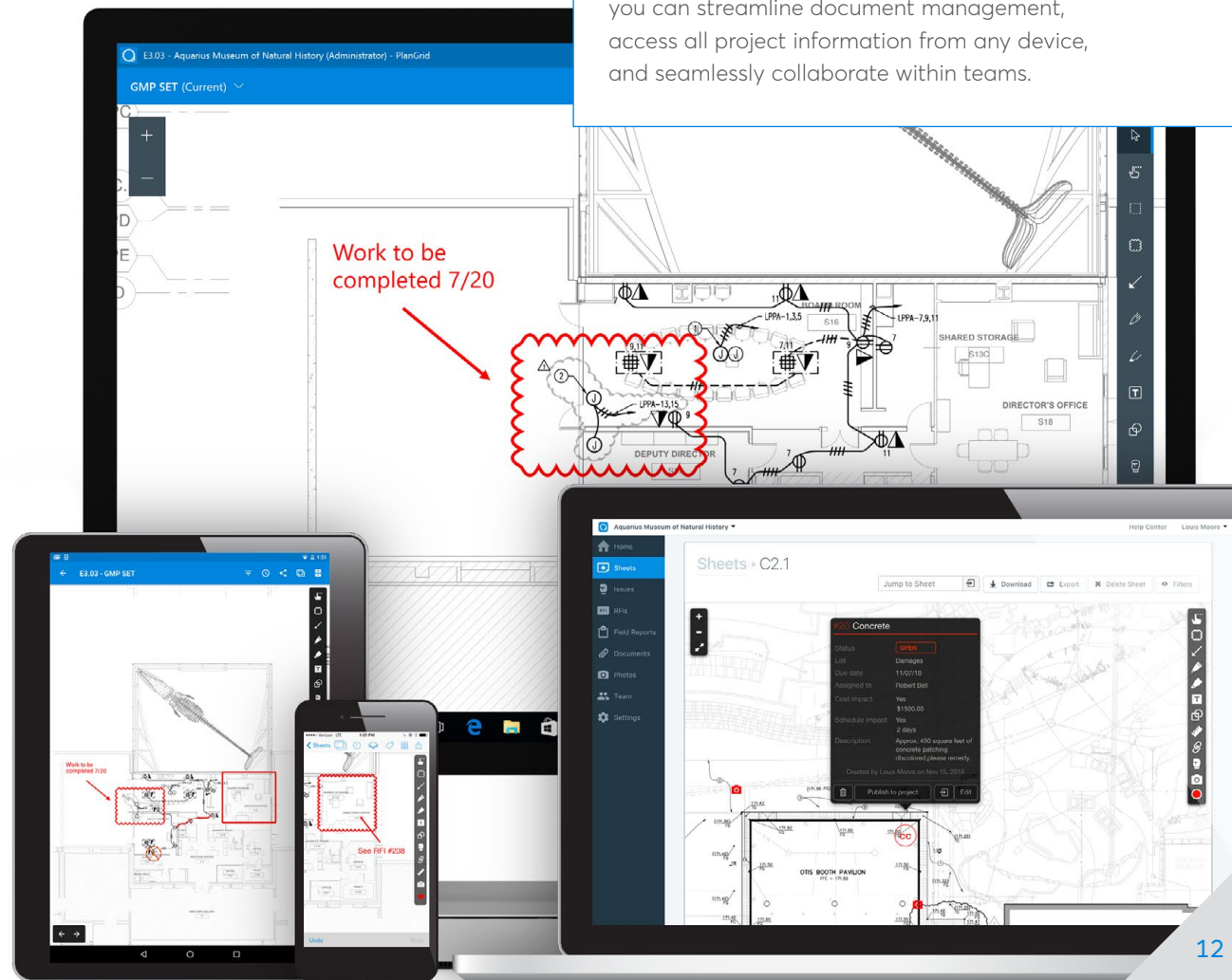
- **Complete projects faster:** 90% of project costs occur in the field and not in the office. This includes wasted time and project delays. With PlanGrid, you can reduce wasteful trips to the trailer and time delays, while eliminating costly rework. PlanGrid also allows for faster collaboration and communication.
- **Reduce costs:** PlanGrid allows you to optimize productivity in the field, which eliminates time waste that causes project overruns. By completing projects early or on time with PlanGrid, contractors will benefit from reduced costs.
- **Win more bids:** The best way to bid more competitively is not just to track costs so you can provide more accurate estimates — it's to improve your overall productivity. PlanGrid's Construction Productivity Software will allow you to increase productivity so you can reduce costs and win more bids.



Try PlanGrid for Free



There is a reason why PlanGrid is not only the #1 construction app, but also the highest rated. With PlanGrid construction productivity software, you can streamline document management, access all project information from any device, and seamlessly collaborate within teams.





Used on more than 1,000,000 projects around the world, PlanGrid is the first construction productivity software that allows contractors and owners in commercial, heavy civil, and other industries to collaborate, collect, and share project information from any desktop or mobile device through the entire project lifecycle.

PlanGrid increases project efficiency by streamlining document management, providing construction teams with easy access to all project information from any device, and enabling seamless collaboration within teams.

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