

THE 5 SECRETS TO JOBSITE PRODUCTIVITY

A practical guide for construction workers and teams
to improve jobsite productivity today



FIELDWIRE



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Introduction


Even in an age of uncertainty, [the global construction market](#) is set to grow by \$8 trillion by 2030, reaching a total size of \$17.5 trillion and contributing 14.7 percent of the global GDP. Despite the obvious optimism this creates for construction workers, the sectors annual productivity growth has only [increased by 1 percent in the past 20 years](#). For owners and contractors, the ability to deliver more successful projects and programs has never been more complex or competitive. Increasingly sophisticated owners are demanding a greater certainty of outcomes, while contractors continue to adjust and differentiate their services to meet various demands. It is clear the industry has trade-specific problems to resolve, but the biggest challenge moving forward for the industry as a whole is resolving a 20-year productivity lag to progress into the future.

This ebook outlines five secrets to jobsite productivity improvement. Each on its own is a meaningful step forward in improving productivity on both present and future construction projects. Fieldwire recommends using all five together to ensure jobsite productivity continues to grow at a much faster rate than the industry's status quo.

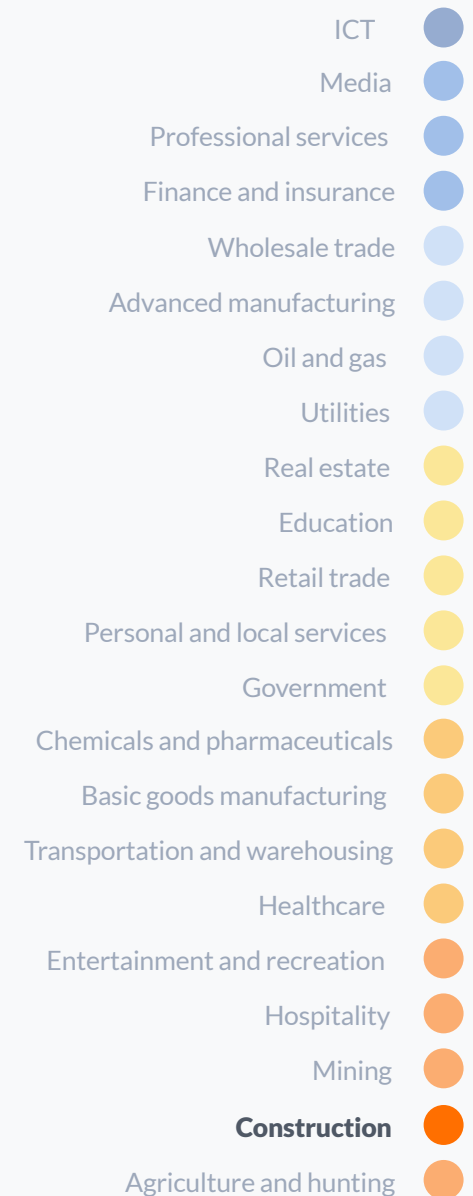
1 Go paperless

According to [Mckinsey's Global Digitization Index](#), the construction industry is one of the least digitized in the world.

One reason for this, according to the [2018 ConTech Report](#), is that forty percent of construction companies still use paper and pen onsite. This suggests that companies are reluctant to move away from older methods of communication and into the Cloud, where real-time sharing of information between disparate teams boosts collaboration, transparency, and ultimately, productivity. Instead, [Mckinsey reports](#), construction companies rely on paper to manage processes and deliverables such as blueprints, design drawings, daily progress reports, and punch lists. As a result, information sharing is delayed, important data is lost, and time is wasted looking for the answers required to progress real work; in turn, stunting productivity.

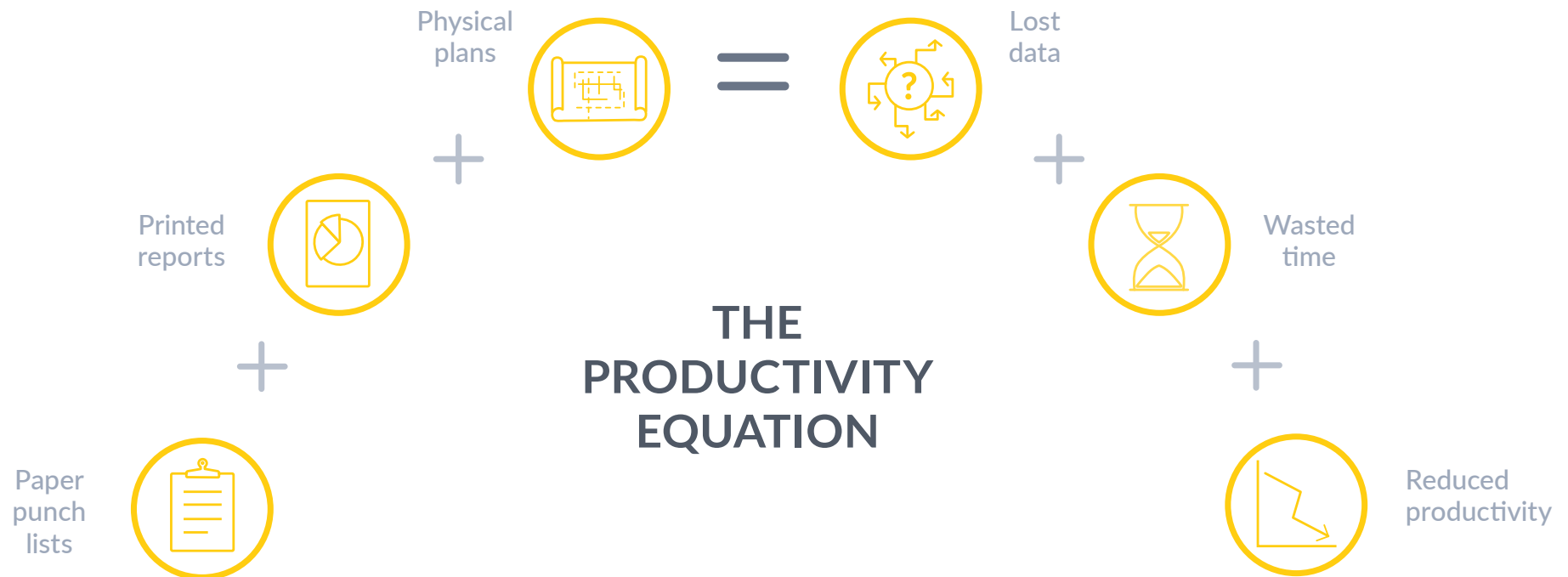
Most digitized  Least digitized

Overall digitization



Source: Mckinsey

However, the digitization of workflows and processes is reinventing construction, so much so that Graham Group, a \$2.2 billion dollar company in Canada, broke away from traditional habits to embrace technology and improve productivity. Graham was able to eliminate paper copies of plans in the field, which saved them \$35,000 in printing costs on a single project. Now, instead of manually updating plans and reprinting them when a change is made, Graham can make markups on the fly and access the most recent set of drawings from any mobile device in the field; a huge-time saver for jobsite teams and a simple way to improve productivity.



Coordination

Successful construction projects inherently require that multiple organizations or functional groups ‘play nice together,’ which is easier said than done when not every person or team on a jobsite uses the same software to collaborate. Greg Lynn, architect, professor at UCLA, and co-founder of Piaggio Fast Forward [says](#): “On the jobsite there is a real disconnect. Some people are working from phones, some from drawings, and some are working from 3D files on the back of trailers. As a result, waste, budgets, and schedules have increased to more than it was in 1960.”

Project success is, therefore, the ability to assemble owners, general contractors, subcontractors, suppliers, and specialties around shared knowledge and common goals to create an environment of mutual benefit. This coordination of professionals must exist across all lifecycle phases of an asset — from design, through construction, operations, and maintenance — for project success to be achieved.

It’s important to note that a lack of coordination has real costs and that the extent of these costs is much worse than many construction companies realize. For example, [up to four hours](#) are lost to rework activities incurred from poor coordination each week, and, according to [constructionpros.com](#), 90 minutes per person per day is wasted ‘looking for stuff.’ This annualizes to about to about 18,000 hours spent looking for information such as phone numbers, misplaced tools, parts, and jobsite directions; information that is easily accessible when everyone is working from the same place.

Communication

Engineering and construction professionals communicating via paper plans, physical notes, emails, or calls in the field are not only stunting productivity but hurting profitability. In the U.S. alone, \$31 billion is wasted on rework due to miscommunication and having inaccurate data onsite, [according to a study lead by FMI Corporation](#). To reduce this waste significantly, craftspeople should embrace [mobile construction technology](#) that supports real-time communication between jobsite and office teams. With projects becoming more complex and schedules running tighter, the need for fast and effective communication has never been greater. Having the ability to capture and catalog communication in real-time not only keeps production moving but enables workers to resolve issues more efficiently should they arise.

Traditional command and control frameworks can set the contractual tones for communication, but they can also limit the jobsites agility in identifying and managing issues towards resolution. Integrated Project Delivery ([IPD](#)) and New Engineering Contract (NEC) methods, however, integrate people and practices to optimize for improved collaboration and project results. Both frameworks are yet to be fully saturated across building types or adequately digitized at the jobsite level.

“\$31B was spent
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in 2018.”

FMI Corp



Consistency & compliance

[JBKnowledge](#) reports that nearly 50 percent of craftspeople still manually prepare and process reports, meaning digitization must ultimately serve multiple masters, and all project assets - reports, documents, regulatory requirements, and plans - must exist within a lifespan both contractors and owners are a part of. Unlike a contractor, an owner needs assets to exist beyond the completion of a single project or date, and that's exactly why digitization matters. According to [Andy Holtmann](#), collecting physical copies of requirements or regulations often leads to a loss of information and communication delay — not to mention the fact that paper documents rarely get updated.

In the event that compliance issues arise, owners need instant access to the right information in order to respond quickly

and confidently. If this information is scattered among various folders, spreadsheets, or physical files, it's going to take them much longer to find what they're looking for. Bottom line, the owner needs to ensure that no matter what stage of the lifecycle their project is in, the necessary insight into digital information can be readily retrieved and acted upon.

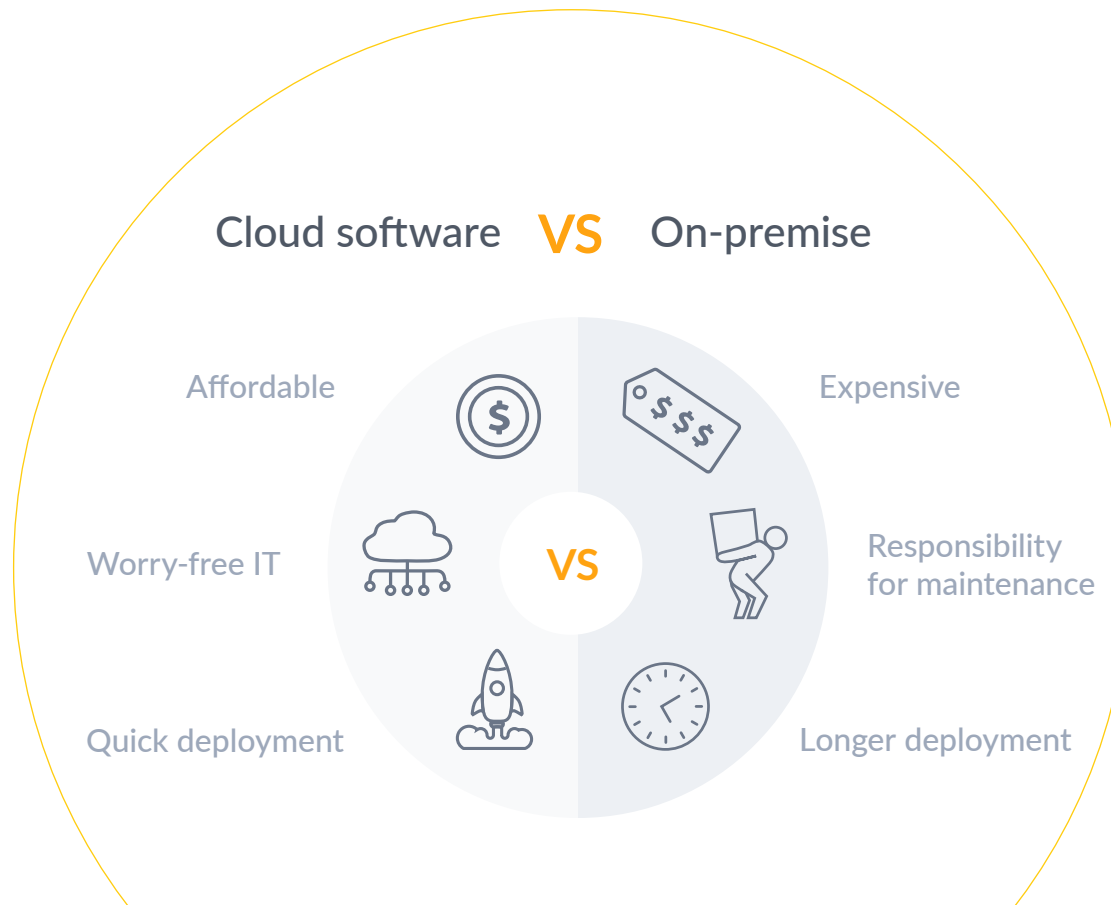
Contractors, on the other hand, exist within a shorter project lifecycle, but should still focus on delivering consistent and repeatable outcomes. By templating their jobsite intellectual capital, they can institutionalize best practices to scale their organizations — either in the existing markets they serve or in adjacent markets where their services could be of value.

Secret #1

Going paperless is the foundation of a digital transformation. Digital formats have many benefits; they can be shared, searched, and stored easily. It's the first step to making information accessible to everyone and enabling real-time collaboration. However, beating paper is hard and can only be achieved with tools that produce a higher benefit for the end-user.

2 Leverage the Cloud

We've all heard about the benefits of 'operating in the Cloud,' but it's important you understand what the Cloud is before trying to leverage it for instant productivity gains. As [Xperience Group](#) puts it, "Cloud software removes the hassle of maintaining and updating systems, allowing you to invest your time, money and resources into fulfilling your core business strategies." Compared to on-premise software, Cloud software has zero upfront costs and can be quickly implemented, so it's no surprise that ENR Top 100 contractors like [Webcor Builders](#) are switching to Cloud software to improve productivity on \$500 million dollar projects.



In addition to being affordable and flexible, [McKinsey reports](#) that Cloud-based software is particularly beneficial for construction companies and teams — increasing jobsite productivity by as much as 50 percent. Yet 40 percent of construction firms [surveyed by JBKnowledge](#) say new technology has not been implemented due to lack of support, budget concerns, and overall employee hesitance.

With that said, there is no guarantee that ‘lifting and shifting’ your organizations IT footprint into the Cloud will trigger a spike in productivity; you need to understand who the Cloud is built to serve before ‘going all in’. Once implemented, Cloud-based technology should be prioritized to help craftspeople operate more efficiently in the field, says [McKinsey](#), as 80 percent of all construction work is done onsite. Whether the worker moves through the work (traditional construction production) or the work moves to the worker (manufacturing and/or pre-fabrication production), the Cloud must meet the craft at the work-face itself.

The Cloud you’re on matters

Not all Cloud-based software is the same, and careful consideration should be taken to ensure that the selection ultimately made satisfies the needs of jobsite teams. According to [TINYpulse’s survey](#), 26 percent of construction workers are frustrated by a lack of tools required to do their jobs better. They need fast, simple Cloud software that helps them coordinate work and communicate in real-time. Even more, they need [field management software](#) that empowers them to disconnect from the trailer while still being able to communicate with the office.

For adoption to stick, field teams must utilize simple, adaptable, and deployable solutions that don’t disrupt the flow of work. When careful consideration is taken and the right Cloud investment is made, jobsite productivity will increase and users could save an average of five hours each week.

Secret #2

The Cloud is one of the wonders of the internet age. SaaS has produced off-the-shelf, ready-to-go solutions that solve most of the common problems many companies face. These solutions are quality, secure, and come at a price that custom-developed software simply cannot match. Every company should leverage Cloud software to improve productivity and save on resources.

3

Look beyond wrench time

McKinsey & Company also estimate that large construction projects are typically completed 80 percent over budget and take 20 percent longer than originally scheduled. This is due to many factors, one being the need for rework caused by poor coordination of tasks. We already know that a staggering 70 percent of a craftsperson's day is spent preparing for tasks, gathering equipment and materials, transitioning from one area to the next, or waiting to be told what to do next. But this no longer needs to be the case.

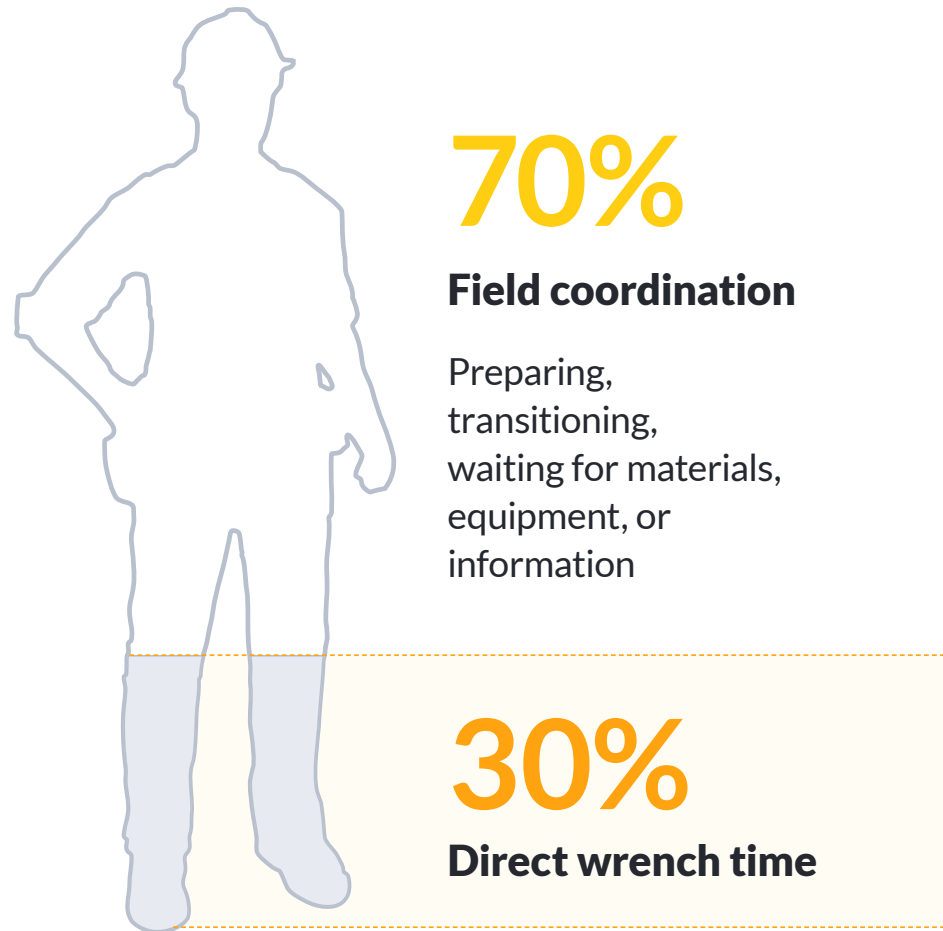
The right [task management software](#) can help combat this inefficiency by putting work in the pockets of the people in the field. From any device - iPhone, Android or tablet - craftspeople can access their list of tasks for any given day and coordinate work in real-time. Being able to instantly communicate the scope of work, responsible person or trade, location, and timeline will help projects continue to progress without waiting around for information to arrive.

Coordination
consumes
70% of a
craftperson's
time onsite.



Secret #3

It's important to optimize all work, not just the work you can see or the work that has a name. On the jobsite, most of the time is not spent swinging a hammer (wrench-time) meaning that the rest of the time spent on site (moving equipment, materials, or simply coordinating information) needs to be optimized as well. This "forgotten work" is often heavily under-optimized and can represent massive productivity gains.

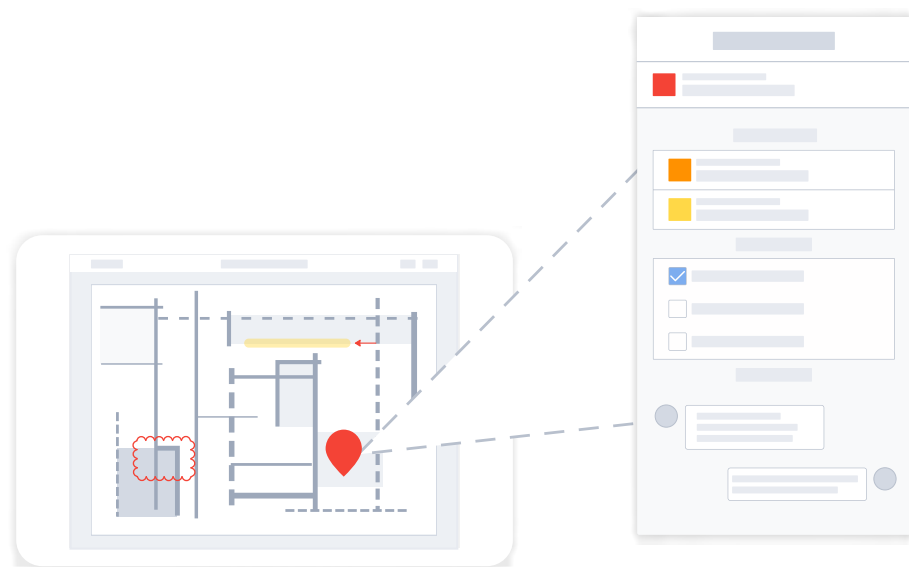


A CRAFTSPERSON'S DAY

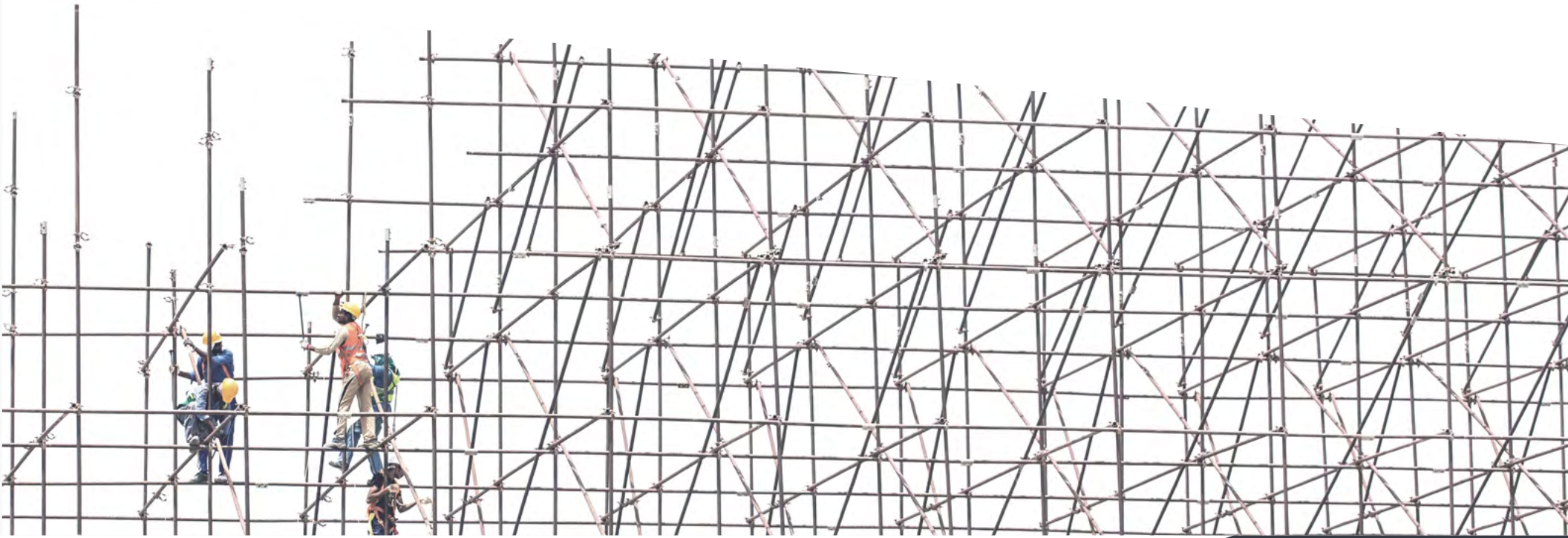
4 Connect data to work

With task work clearly defined, enriching a task beyond its core components adds the situational awareness that field teams need to properly coordinate work, communicate issues, and increase production flow. Tasks belong in the field and should be placed in workers' pockets to help them understand their to-do's for a given day, week, or month. Context, most importantly, must be added to tasks so that jobsite teams can complete their to-do's in the most efficient way possible.

Take plans; while plans (drawings) are an essential part of any project or program, plans alone don't drive work — context does. When tasks are connected to plans, the location of work (plans), combined with the 'what I need to do' (tasks), gives field teams the improved contextual benefit of understanding both where they need to go and what needs to be done when they get there. Put simply, the more context, the less operational waste, and the better productivity on the jobsite becomes. The ability to enrich a task with files, forms, or photos that he or she may need to complete work are simple capabilities that could improve construction productivity and save the industry [\\$1.6 trillion dollars](#). In order to claim some of those cost saving, large subcontractors like Colt Builders are leveraging modern, task management software.



The ability to pair relevant tasks and files with corresponding plans streamlines Colt's daily workflows by reducing the number of information sources down to a one handy tool: Fieldwire. Instead of lengthy back and forth emails and binders onsite, all pertinent details are shared with everyone via Cloud syncing directly through Fieldwire — so any of the 800 specialty contractors working for Colt always have an accurate grasp of the progression and future scope of a job. Phil Blake, a senior project manager and preconstruction director for Colt Builders, said: "You can't really do this in other programs. That's the main strength that Fieldwire has. It's very valuable having a list of tasks for everyone, which they can check each morning so that they know what the expectation is. It lets them know what they need to accomplish today and eliminates a bunch of handwritten notes, phone calls, and emails."



Secret #4

Connecting data to work is about bringing data back to the craftperson or operator. Data is valuable and should be made accessible to all, not just something management report on. It will help craftspeople perform better while also providing means for management to align with the true situation faced on the ground.

5 Change the rules

Gone are the days when workers could rely on verbal communication to understand work, especially in an industry with varying ethnicities — making it harder for owners, general contractors, and trades to communicate effectively.

[The Bureau of Labor Statistics](#) reports that among all men employed in construction (2016), 20 percent were Hispanic or Latino and 13 percent were white, suggesting that English may not be the primary spoken language. Similarly, [Casey Mowery's research](#) found that the English-Spanish language barrier is one of the greatest challenges facing the construction industry today. [According to this survey](#), 70 percent of the Hispanic construction workforce was not born in the U.S., which indicates that 70 percent of the workforce could speak a language that is not English. Furthermore, 95 percent of workers surveyed confirmed that the English-Spanish language barrier does exist, resulting in jobsite miscommunication and difficulty giving instructions.

Field management software that provides context around tasks, supports offline plan viewing, and allows for instant messaging can help workers overcome this barrier. Even more, having the ability to communicate via pictures rather than words is a surefire way to connect foreign workers. In an [exclusive survey for ENR](#), McGraw-Hill found that 84 percent of general contractors and 77 percent of subcontractors prefer to use photographs (captured on mobile devices) to communicate jobsite conditions in the most efficient way possible. Seventy percent of the same contractors said using mobile devices to communicate changes to plans in real-time was favoured onsite. For example, if a project plan changes, everyone working from that plan will receive

a notification on their phone so that work can proceed without costly mistakes being made. While these types of notifications help reduce risk, they do not eliminate it entirely.

Change will happen, and the rules we enlist to respond to change deserve our collective inspection. But is an ever-increasing number of documents to defend our interests the answer? Or, could we ‘break the rules’ of communication by empowering those who are closest to the actual problem? Industries outside of engineering and construction may hold the answer. In a letter to his employees in early 2018, [Elon Musk](#) said: “Communication should travel in the shortest path necessary to get the job done, not through the chain of command.” He continues with the advice that the way to resolve poor communication between groups is to “allow the free flow of information between all levels.” In an industry still heavily dependent on email and phone calls for transferring information, it’s time to think differently and streamline communication.

Let’s start and conclude with messaging. Messaging is a ubiquitous form of communication that works across organizational boundaries. To make it an effective form of communication within construction, context must be provided. Having the ability to attach an image or video to a message, and link it to a task or location on a plan will dramatically reduce the communication cycle; enabling jobsite teams to respond quickly and resolve issues in a timely manner should they arise.

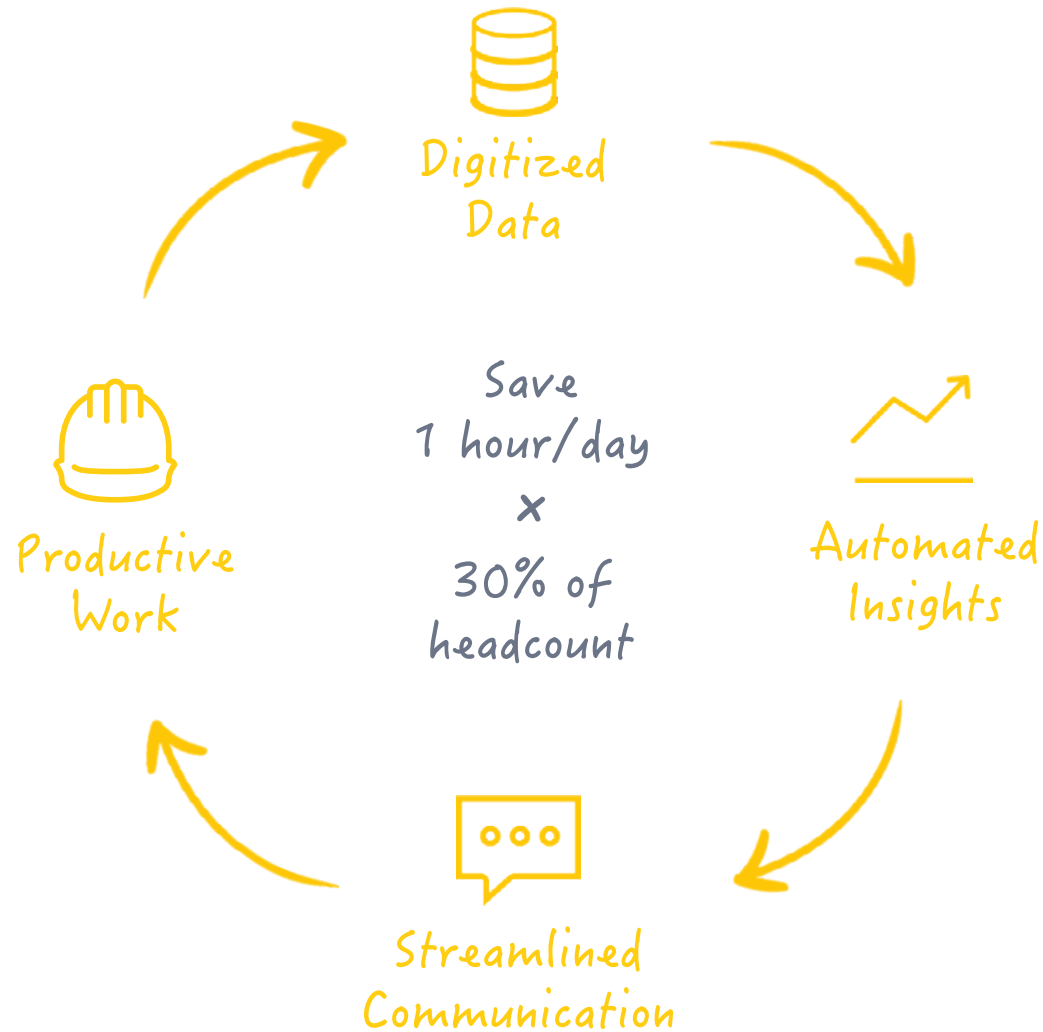
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Secret #5

Most processes on site were built defensively over the last decades and are the reflection of a paper-driven, pre-digital age and often the barrier to reaching higher levels of productivity. Once your company or project has reached high levels of productivity through a variety of digital or organizational means, it is finally ready to challenge the established order and ask why processes are the way they are, and, in some case, define better ones.

STEPS TO IMPROVE JOBSITE PRODUCTIVITY



* Based on Fieldwire 2018 user survey.

Conclusion

These five secrets to jobsite productivity improvement are yours to carry forward into the future. First, digitize information that improves coordination, communication, consistency, and compliance. Second, do this by adopting Cloud software that focuses specifically on tackling where productivity matters most: the jobsite. Third, focus on tasks and provide context around them. And finally, break the rules of traditional communication to accelerate jobsite production. The world's critical infrastructure deserves our collective best efforts to work productively in concert and challenge the status quo. Remember, the partners you choose on this journey matter; let's think smart and go build it together.

