STEPS TO

JOBSITE CONNECTIVITY

A QUICK GUIDE

For any construction business, jobsite connectivity is a hot topic. Earth-moving projects are getting larger and more complex in nature and having technology in place to ensure that information flows seamlessly throughout the entire operation is critical. In fact, it's the difference between keeping projects on schedule and on budget, and not.

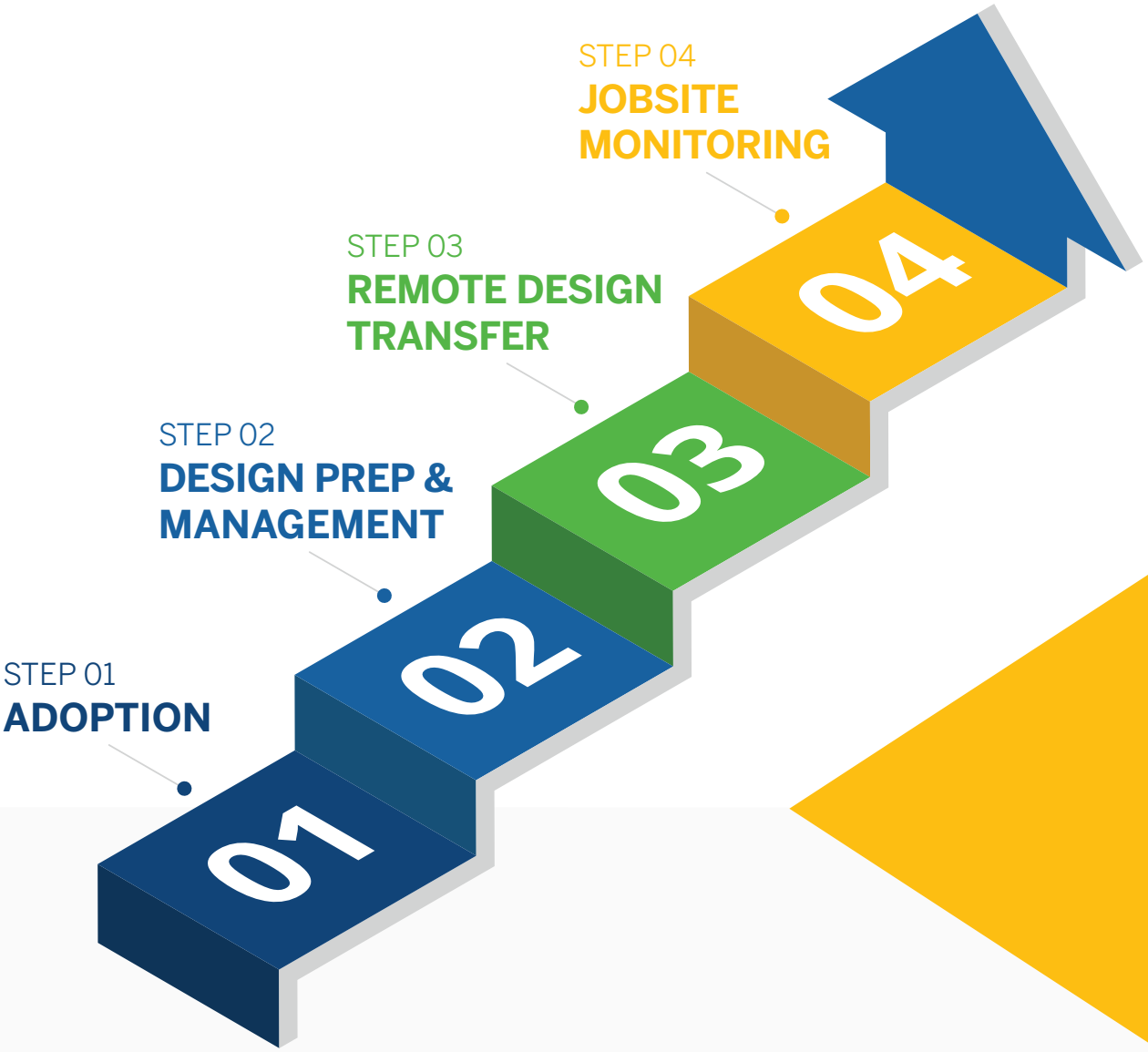
At Trimble, when we talk about jobsite connectivity, we are talking about connecting our customers with the information they need to make better decisions, connecting office workflows with field workflows, connecting the handoffs from activity to activity...ultimately connecting the digital and physical world."

PATRICK STEVENSON

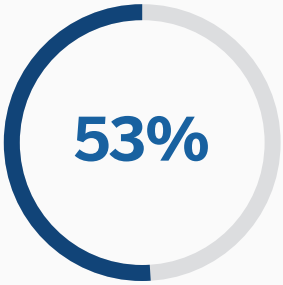
GENERAL MANAGER - CIVIL CONSTRUCTION SOFTWARE

STEPS TO CONNECTIVITY

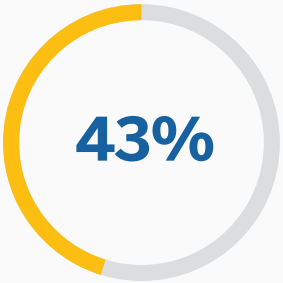
Jobsite Connectivity can be broken down into manageable steps that will transform what you get from your machine control systems and when implemented simultaneously can have a huge impact on the bottom line. When choosing your tools, it's really important to think of the workflow in its entirety. Industry leaders look for tools that seamlessly pass information back and forth automatically and without complicated handoffs.



INVESTMENT IN JOBSITE CONNECTIVITY TOOLS CAN BRING:



53% REDUCTION IN COST TO COMPLETE



43% LESS TIME TO PROJECT COMPLETION

30% INCREASE IN PRODUCTIVITY

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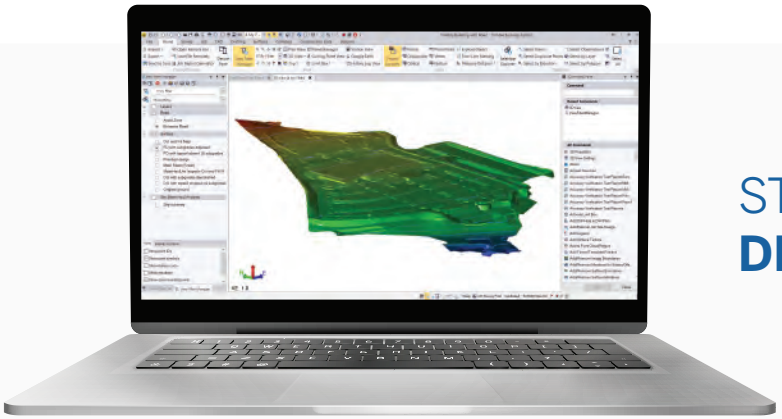
*Stats from Trimble customer case studies

STEP 01
ADOPTION

Construction businesses tend to place a lot of focus on managing heavy equipment. As more technology is introduced, the ability to keep the jobsite up and running goes far beyond keeping a machine maintained and operational. A specialized set of skilled personnel is required to ensure that both the hardware and software are operational between the office and the field. This adoption of technology within construction companies is creating new roles such as technology managers that balance field expertise with an ability to understand the software being used. This is the foundation for a connected jobsite with technology acting as the enabler.



STEP 02
DESIGN PREP & MANAGEMENT

Create and manage accurate construction-ready models

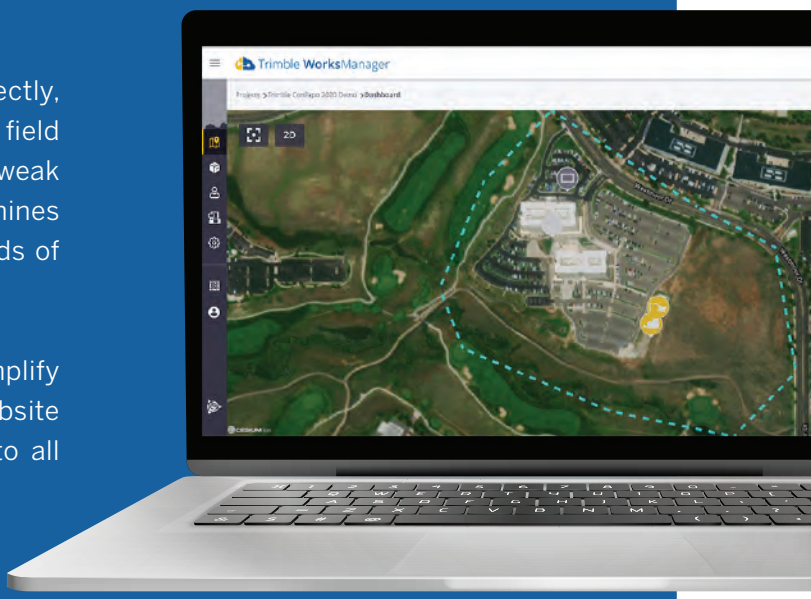
Now for the technology part. Pre-construction software that helps planners quickly and easily create accurate, integrated 3D constructible models for any kind of jobsite, is the start. When choosing a solution, you'll want a platform that can become your pre-construction hub; look for capabilities that include estimating earthwork and material quantities for bids, preparing data for construction stakeout, building 3D models to optimize machine operation, tracking productivity, and delivering first-class as-built documentation.

The ability to use 3-dimensional designs is becoming standard within construction and the benefits of using these designs for machine guidance and construction planning brings that plan into the real world. Technology, such as augmented reality and virtual reality, further the use of 3D design and visualization transforming flat paper plans and instructions.

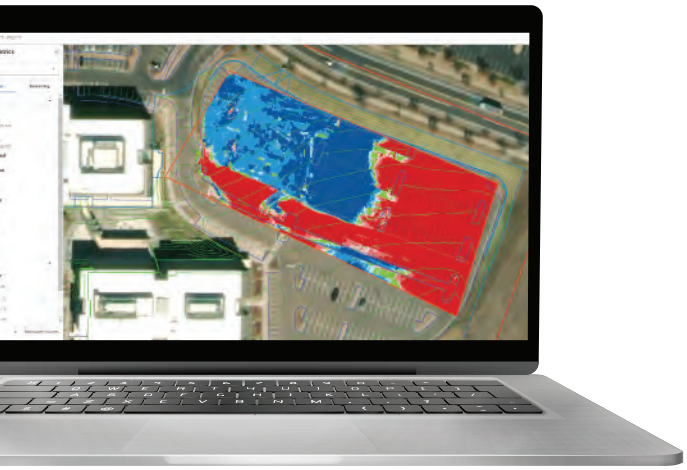
STEP 03
REMOTE DESIGN TRANSFER

Once the design is complete and formatted correctly, having the ability to dispatch that information to the field remotely is a huge time-saver. Historically, each tweak made to a design would need to be uploaded to machines manually with project managers often driving hundreds of miles to deliver these new instructions.

Choosing tools from a single supplier will simplify communication from the office application to the jobsite and offer the ability to share the same set of data to all parties that need it automatically.



Transfer and send real-time, updated jobsite design information



STEP 04
JOBSITE MONITORING

The most advanced construction operations take this one step further by ensuring that the flow of information is bi-directional. Not only can data be instantly sent to machines on the field but the data can also come back to the office to capture what is happening, in real-time, on the jobsite. Capturing digital as-builts is essential for understanding progress-to-plan and providing validation for the work completed. It is becoming more widely expected across the industry, often being stipulated by project owners on the original tender.

Monitor jobsite activity and real-time progress to plan remotely

This data is automatically organized based on location, machine parameters and the date and time that it happened. This type of feedback allows for progress tracking between and alongside traditional survey methods. A composite surface of all measured data provides an accurate timeline of what happened and gives an up to date visualization of current project progress.

This is an essential for determining how much work has been completed on a project and how much still remains. Be sure to choose a jobsite monitoring tool that can provide granular information at an individual machine level, but also delivers the information in a single dashboard so it's easy to analyse.

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WHAT RESULTS CAN YOU EXPECT FROM A CONNECTING YOUR SOLUTIONS?

DO IT RIGHT FIRST TIME

Connecting all the workflows of your construction project, from design through to construction onsite, allows data to flow seamlessly and provides transparency. Having full visibility of what is happening on site and confidence that everyone is working to the same, latest plan offers considerable peace of mind in an industry where projects are complex and constantly changing.

When changes occur, project managers can update designs and transfer them instantly to the machines. Costly rework can be avoided, as can time spent travelling between sites and machine idling. The remote insight into what is actually going on onsite, and being able to compare progress-to-plan allows changes to be verified and the back office to respond quickly to keep the schedule and budget on plan.

Connecting your operations can even pay off before the project begins. Having accurate information at your fingertips allows for better planning, scheduling and bidding. Retrospective analysis of the information is also powerful. In fact, for strategic planning and contract bidding, this can be the difference between a good business and a great one.

TIME IS MONEY

Keeping to schedule and budget is undoubtedly a main priority for construction operations. The amount of time spent travelling in between sites, fuel costs or machine idling all contribute to the bottom line, as do rework and delays. Jobsite connectivity offers a remote alternative to these issues, a benefit that is particularly impactful for construction companies that cover a large geographical area.

Action can be taken quickly to modify plans and coordinate with field operations from anywhere in the world, avoiding costly mistakes where an outdated design or the wrong coordinate system is being used. This avoids rework and keeps the job up and running.

Another example of where jobsite connectivity speeds up resolution rates is in troubleshooting or support. The ability to access the machines remotely and provide training, troubleshooting or support on the fly saves time and mileage. Operators can be more confident in using technology with remote assistance just a click away. They don't have to stop what they are doing to get the help that they need or wait for someone to arrive to fix an issue.

AVOID HAND-OFFS

Typically, construction contractors get information from their jobsite from multiple sources. It's stored and managed on disparate systems and controlled by different roles or departments within the organization. This can result in time-consuming file formatting and many opportunities for error as the information passes from one system to another.

Knowing what is happening across a variety of sites takes planning and coordination. A connected field and office team within a single ecosystem provides a consistent place to access project data. Compiling all the information into one system turns the data into actionable insights which can be accessed by everyone to make better business decisions, and quickly.

One perfect example is the invoicing process. With jobsite connectivity in place there is no opportunity for billing disputes as all stakeholders have access to the accurate productivity and as-built information in real-time.

Creating digital workflows within a company's planning and execution teams is vital to getting consistent information. Once this is achieved, the ability to bill, invoice and track costs becomes more reliable and additional integrations with other teams can happen.

THE RESULT IS

MAXIMIZED UPTIME, MINIMIZED DOWNTIME

The importance of maximizing the uptime of your jobsite is obvious; unplanned downtime is damaging. It means you're not progressing and your revenue and profit is on hold.

Connecting your jobsites and back office operations allows you to make every second count. In a competitive industry, it could be your winning edge.

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To find out more about jobsite connectivity, visit

https://constructionsoftwaremanagement.trimble.com/jobsite-connectivity-tools