


From Field to Finance:

How Connected Job Costing
Is Changing Construction



Custom content for Trimble by studioID



Cloud-based Systems Deliver Accurate, Timely Data and Forge Strong Links Between Field and Office

Your team submitted a winning bid that met the client's priorities while also promising a solid profit margin for your firm. Work just began and is proceeding as planned. All seems on track for a successful project. A connected cloud-based job costing solution can help keep it that way.

Most construction firms have systems to track the primary components of a job's costs: labor, materials, equipment, subcontractors and overhead. However, many of these outdated and often manual systems fail to provide accurate, timely information. As a result, the office team may not be aware of things happening on the job site that can slow the project down and negatively impact its profitability, such as delays in receiving materials, equipment breakdowns and work interruptions due to inclement weather. Without that information, the office team cannot

help the project team address the issues, and it is difficult for them to account for costs as they occur and bill accurately. Thus, a job originally budgeted to be a gold mine can quickly become a money pit.

A fully digital cloud-based job costing solution can eliminate this disconnect. In connected job costing, information from the field is collected electronically using a laptop or mobile device and then synched in real time to the back office. As a result, everyone works from the same information and can be confident that the data provides an accurate and up-to-date picture of the job's progress and profitability. This helps teams keep projects on track while also fostering a culture of trust and teamwork that can help scale the business.

Pitfalls of Traditional Job Costing Systems

Traditional methods of tracking job costs are often disconnected and redundant, involving outdated systems and spreadsheets. Manually entering the same data into multiple systems is time-consuming, cumbersome and fraught with opportunities for human error. Worse still, delayed reporting means decisions are made using information that may no longer be accurate.

In many cases, disconnected systems keep information siloed. When project management, accounting, estimating, equipment management, human resources and other systems are not connected, teams focus on their individual areas of responsibility and do not have a full picture of the job and the many components that impact its profitability.

The inefficiencies, errors, delays and tunnel vision associated with traditional job costing systems can have an enormous impact on a project's profitability and a construction firm's future success. As a result, changing conditions on a job may not be noticed until it is too late to address them, leading to lost time and higher project costs. This can hamper teams' ability to make timely decisions and could lead to missed opportunities for ongoing improvement.



Mobile, Cloud-based Connectivity Compresses Timeframes and Increases Visibility

Connected cloud-based systems eliminate the pitfalls of the traditional job costing process by shrinking the amount of time required to get data into the system and making the information readily available to teams throughout the organization.

Mobile-friendly platforms and constant connectivity make submitting data easy for people on the job site. As a result, information previously reported weekly or less frequently, such as timecards, credit card charges and materials received, can be captured daily. That data is immediately integrated into the firm's construction management system and available to office teams, meaning, for example, that a controller back in the office can see a subcontractor's payroll as soon as the project manager in the field has entered it.

"You're shrinking the time it takes to get information from the job site to the back office," said Michelle Butler, Solution Engineering Manager at Trimble. "Project managers can mitigate risk because they can see when

things are going sideways. Owners can see real profit margins in real time. Everyone can make better decisions."

She continued, "You're able to run the business more smoothly and effectively. It helps you keep a finger on the pulse of the business and keep track of employee engagement and subcontractor performance. It trickles all the way through the organization."

"Project managers can mitigate risk because they can see when things are going sideways. Owners can see real profit margins in real time. Everyone can make better decisions."

Michelle Butler
Solution Engineering Manager at Trimble

Streamlining Processes in the Office

By simplifying tasks for job-site teams, connected job costing makes life easier in the office.

Connected solutions allow back-office staff to spend less time entering data for their job-site colleagues. Because systems across the firm are connected, there is no need to enter the same data into multiple systems. As a result, data is available sooner, and there is a far lower chance of errors.

These systems then allocate direct costs (such as labor, materials, equipment, subcontractors and permitting) and overhead costs (such as back-office support, health and safety and employee benefits) across jobs and codes, helping ensure accuracy and that all costs are captured.





Adapting to Changing Conditions

Weather, fluctuating materials costs, work delays and change orders are just some of the factors that can throw off the schedule and profitability of a construction job. If project managers are working from outdated information, these issues may not be noticed until it is too late to address them easily and cost-effectively.

Connected job costing brings these problems to light early. Project managers can then act quickly to solve them, helping prevent cost overruns and expensive and time-consuming rework.

“Having the daily payroll and the daily expenses captured in real time is going to lead to elevated visibility to the folks in the back office. The project manager is going to be able to very quickly identify any slip that has come up.”

Michelle Butler

Solution Engineering Manager at Trimble

Butler cited an example of a crew being sidelined by bad weather for several days. The firm could be held liable for liquidated damages if the project is not completed on time. But if the crew notes the delay in a daily log, the project manager will be made aware of it and can request an extension from the client.



Accurate Work in Progress Reports

Real-time tracking of job costs facilitates the creation of accurate work-in-progress (WIP) reports, which reveal the financial health of a project relative to its level of completion. Along with the costs incurred to date, these reports include such information as the total contract amount, estimated costs, percent completion of the project, billed revenue and paid revenue.

WIP reports can provide early warnings of problems, such as significant overspending of the project budget compared to the amount of work completed, so the contractor can take corrective action to prevent profit fade.

WIP reports also help ensure that billings align properly with the revenue earned. Overbilling (charging more than the value of the work completed) can erode client trust and may lead to profit fade and cash-flow problems if there are cost overruns or punch-list items at the end of the job. Underbilling (charging less than the value of the work completed) may cause cash flow problems and can inflate reported revenue on financial statements, potentially resulting in a higher tax bill.

In addition, a healthy WIP report helps contractors win jobs and secure funding. Lenders often look at WIP reports when reviewing an application for a line of credit. Issuers of contract surety bonds, required for many government and private-sector jobs, use the WIP report in evaluating applications and setting the terms.

Meeting Informational Needs Throughout the Organization

From the chief executive (CEO) to an estimator, different roles within a construction firm have varying informational needs. A connected job costing solution can serve all of them.

Chief Executive Officer

The chief executive officer (CEO) does not need to know the minutiae of every job, but they need to know immediately when something is off-track. An executive dashboard can offer an easily digestible overview of the status and profitability of all current jobs, providing the information needed to drive healthy, sustainable growth for the company. An executive dashboard will also flag potential issues and project risks so the CEO can dig in for the details needed to resolve them.

Chief Financial Officer/Controller

Responsible for the organization's financial health, chief financial officers (CFOs) and controllers need both a high-level view of overall revenue and performance and access to drill down into the details. Connected job costing allows financial professionals to create accurate and timely financial forecasts, tax filings and financial reports as well as manage cash flow, identify overbilling and underbilling and evaluate the performance of subcontractors and cost centers.

Project Manager

A connected job costing solution gives project managers clarity across financial and project workflows, allowing them to project costs, billing and revenue at the outset of a job and level-set those projections as the job proceeds. Using a connected system, project managers can also allocate costs, hours and revenue; review and approve invoices; track labor/timecards; monitor change orders; and calculate gross profit on the project, keeping projects on time and within budget.

Estimator

Connected job costing helps estimators create accurate, winning bids faster by providing up-to-date information, workflows with reliable version control, current materials and labor prices and historical project data. Access to real-time project data helps mitigate the risk of fluctuating costs, while the ability to compare a project's actual costs to the estimated costs helps improve future estimates.

Connected Construction Job Costing Across Verticals

The previous section discussed how connected job costing meets the informational needs of different people within an organization. It also brings unique benefits to various segments within construction, with each segment prioritizing information differently to best manage their projects' profitability and activity.

Civil Heavy Highway

A key job cost component for most civil contractors is the ability to track units, hours and dollars related to equipment and labor. A cloud-based platform like Trimble Construction One can offer companies the ability to improve utilization and equipment uptime by using preventive maintenance workflow processes. A platform like this can integrate the field and financial management, so companies can see real-time job and equipment costs for all cost types. This enables teams to better manage all sources of costs, ultimately improving the profitability of a project and allowing for more accurate estimating for future projects.



General Contractor

General contractors (GCs) are responsible for managing job costs, but doing so often includes the difficulty of juggling numerous responsibilities, from managing multiple, often remote, work locations to addressing specific contract requirements and working with a large cast of owners, including architects, subcontractors, materials suppliers, equipment suppliers and site crews. A lack of cost transparency can endanger the profitability of a project.

A construction cloud-based platform offers GCs the ability to manage all sources of costs. A GC that subs out all the work, except for general conditions, needs to know how the subs performed during the buyout phase of the contract. With a comprehensive job costing system, GCs can evaluate if they lost money at the time they signed the subcontract agreement. The platform enables GCs to compare subcontract values against current estimates and forecast the final gain or loss. GCs can then determine if they had a successful buyout, knowing what the projected over/under costs are for subs and purchase orders.

Connecting job costing from the field to the back office provides the true costs of a project in real time, allowing the project manager and other key stakeholders to know the profitability of a job at any time and make operational decisions as necessary to achieve their set goals.

Structural Steel

Structural steel contractors need a job costing system that allows them to track all sources of costs for all major functions, including estimating, detailing, fabrication, shipping and erection. A comprehensive construction platform enables all sources of job costing to be managed and tracked, from labor and materials to hauling equipment and subs. An integrated system allows steel fabricators and erectors to procure steel and replicate the purchase order information into the job cost accounting system.

Connecting the fabrication shop and erection crews to the back office results in real-time insights into job costing. Companies can use this information to better analyze, course correct and evaluate potential risks and opportunities, with the goal of minimizing the risk and maximizing the profit on every job.

Mechanical/Electrical/Plumbing

For mechanical, electrical and plumbing (MEP) contractors, current and accurate job costing is crucial to protecting a project's positive cash flow and profitability. By connecting workers in the field with the back office, a project manager has access to real-time job costing to gauge a project's profitability while staying on top of all change orders and document management. Modern construction platforms offer MEP contractors the ability to forecast cost at complete using units, hours and dollars, allowing them to understand the projected final costs based on the current unit-per-hour or hours-per-unit ratios. Having real-time job costs and billing allows MEP contractors to reduce risk and maximize profitability.



Trust, Teamwork and Transparency: The EC Electric Success Story

The experience of EC Electric, a full-service electric contracting firm with offices in Washington and Oregon, illustrates the power of connected job costing. According to Executive Vice President Jon Orrell, RCDD, it has been transformative, building trust, teamwork and a culture of transparency.

Orrell recalls the “ah-ha moment” that came when project managers gathered to be trained to use the system. Before the regional meetings, the managers completed scenario-based cost detailing exercises. Their work illustrated vastly different understandings of the direct and overhead costs that go into a job. Many significantly overestimated the mock projects’ profitability.

“They all came back with different approaches,” Orrell said. “They didn’t fully comprehend the cost structure of the organization, how we pay for everything with allocations, where all the dollars are coming from and how we get to that net-net bottom line.”

That changed when the managers were taught how to use the information provided by [Trimble Construction One](#), to create strategies for their projects and how the costs flow into a financial document they can understand.

“It was a game-changer. They began altering their behavior, and it really started changing the trajectory of the company. It was another round of trust. Trust in the numbers and understanding where they came from. They were more in control of their own destinies.”

Jon Orrell, RCDD
Executive Vice President at EC Electric

That sense of control drives competitive spirits as managers benchmark their performance against their colleagues' and strive to meet the company's aggressive goals. As a result, there is a stronger connection between the field and office as colleagues who are spread out across four regions have come to know and rely on one another.

The company also takes pride in the transparency that connected job costing allows.

Project leads present their financials monthly in what Orrell describes as "a pretty rigorous process." There are also quarterly meetings, open to all employees, during which the leadership presents the company's financials.

"There may not be a lot of companies out there that are this transparent, but we feel it's important to have that accountability to each other."

Jon Orrell, RCDD
Executive Vice President at EC Electric

Orrell concludes: "We couldn't do it if we didn't trust that the numbers are accurate and that we know all of the ins and outs of what's going out and what's coming in."

A deliberate approach was key to EC Electric's successful implementation of connected job costing. Rollout proceeded job by job as each project started so that none were impacted mid-stream. While this made the journey to full implementation a longer one, it made the process far smoother.

Orrell also stressed the importance of talking to a team before implementing a connected job costing system, telling them what will happen and why.

"Communicate your intent," Orrell said. "Prime the pump. Share the concepts, goals and objectives. Let the team absorb the information so that, when it's time for them to execute, they're ready."



Boost Profitability, Foster Teamwork and Build Trust with Connected Job Costing

Accurate and timely job cost information is essential to keeping a construction job on track toward profitability. A connected cloud-based system can deliver that information, giving teams a true understanding of a project's progress and balance sheet and empowering them to adapt to changing conditions. It can also create stronger connections between teams, providing the foundation of a culture of trust, transparency and teamwork that can help an organization chart a new and exciting path of growth and success.



Trimble is developing technology, software and services that drive the digital transformation of construction with solutions that span the entire architecture, engineering and construction (AEC) industry. Empowering teams across the construction lifecycle, Trimble's innovative approach improves coordination and collaboration between stakeholders, teams, phases and processes. Trimble's Connected Construction strategy gives users control of their operations with best-in-class solutions and a common data environment. By automating work and transforming workflows, Trimble is enabling construction professionals to improve productivity, quality, transparency, safety and sustainability and deliver each project with confidence. For more information, visit: [construction.trimble.com](https://www.trimble.com/construction).

Learn more



studio / **ID** BY INDUSTRY DIVE

studioID is Industry Dive's global content studio offering brands an ROI rich tool kit: Deep industry expertise, first-party audience insights, an editorial approach to brand storytelling, and targeted distribution capabilities. Our trusted in-house content marketers help brands power insights-fueled content programs that nurture prospects and customers from discovery through to purchase, connecting brand to demand.

[Learn more](#)