



# How Not Being Connected Hurts Your Business





**YOU'VE JUST BEEN BEAT OUT ON A BID** – again – by a competitor you've been paying a lot of attention to lately.

Something is different about this contractor. They get stuff done. Their field and office are in sync. Their crews always seem to know what to do next. Everyone is working on the same page.

## ***What do they know that you don't?***

### **Think Beyond the Machines**

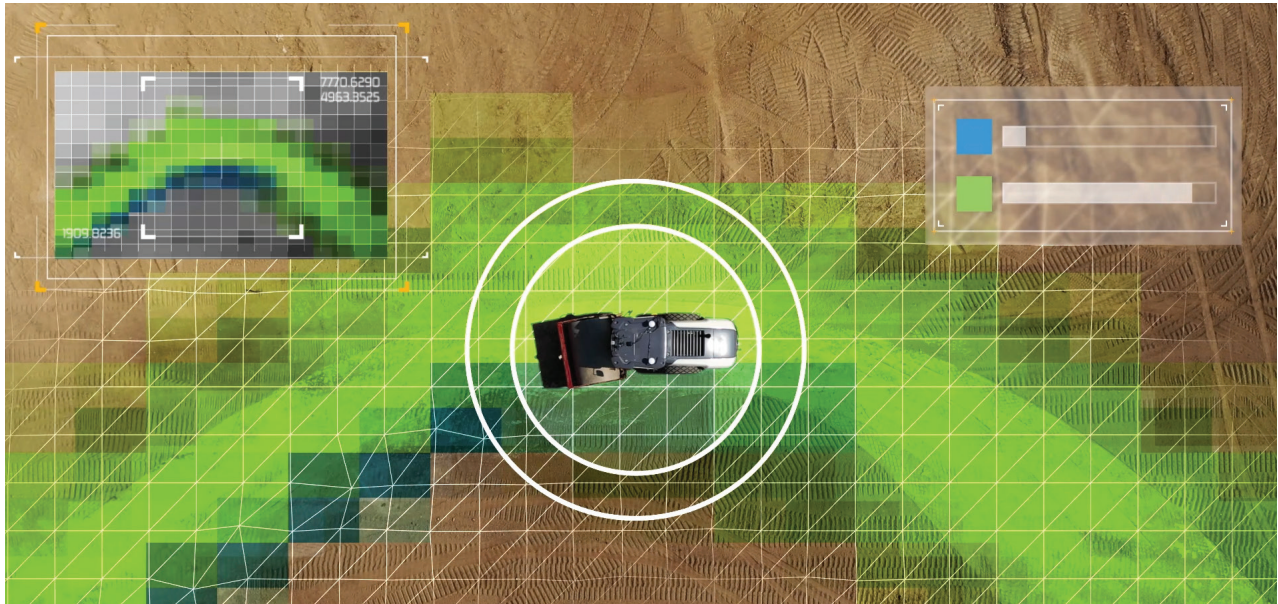
GPS-enabled grade and machine control are an essential part of earthmoving operations.

The reason is simple. The ROI on both grade control and machine control technologies is readily apparent:

A 2015 CalTrans research project on GPS grade control laid out some eye-popping numbers: up to **66% time savings in grade checking** over manual methods and up to **85% time savings in the reduction or elimination of stakes** compared to conventional staking.

Trimble conducted a 2023 study on using one type of machine control, assisted steering on soil compactors. The result, compared to manual steering: **compaction time decreased an average of 29.4%**, and **fuel consumption dropped by an average of 26.46%**.

**Editor's Note:** This is the first of a series of articles on connected construction. Two other articles in the series include **How to harness the power of connected construction** and **Taking the first steps toward connected construction**.



*Machine control technologies such as assisted steering on soil compactors yield real results, including a 26%-plus decrease in fuel consumption. Machine control technologies are a great first step, but connected construction asks the question: how can you use this data across your office and field operations?*

Machine control technologies are a great first step, but connected construction asks the question: how can you use this data to improve your entire operation?

For instance, using the above example, your estimators are seeing the real-time information coming off your assisted-steering soil compactors. They now know your soil compaction crews can accomplish more in less time using less fuel. What impact would that have on their bidding?

*That's only a small part of the possibilities.*

Model updates are part of the ebb and flow of construction projects, and making sure everyone is working off the same model is a common pain point. Getting data into the field efficiently and then getting field addendums and job changes back to the office so they can inform scheduling can be a struggle.

And that's just the data flow on one jobsite. Multiply those issues across the several jobsites that are currently in various stages of construction, and then across all the stakeholders on a project (owner, engineer, subcontractors, etc.), and the data flows – and especially the chances of disconnects – are both multiple and complex.



## Enter connected construction

Let's stop for a minute and ask what connected construction means.

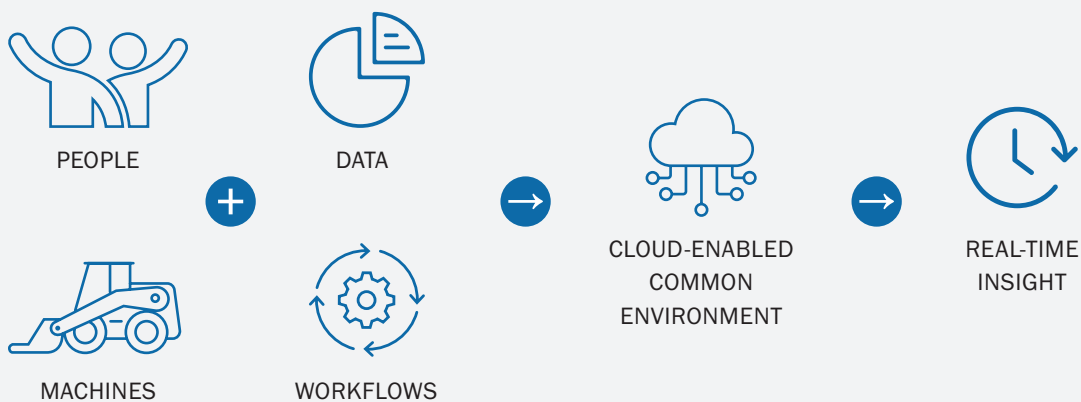
The paths are many, but the vision for connected construction is the same: to create a single source of truth in your organization, so the right people are empowered with the right data to make the decisions at the right time. No more silos.

The idea is to bring your people, data, machines, and workflows together into a cloud-enabled common environment. Everything is connected to deliver real-time data to inform your daily business decisions.

By implementing connected construction systems, Trimble customers have reported up to 50% less rework, 30% cost savings and 50% efficiency gains in various studies.

One goal of connected construction is to have data flows between departments through all phases of a project. Another goal: to make sure your team has the exact data it needs to make informed decisions now, when changes will have the greatest impact.

### How Connected Construction works





## All parties in sync

In short, connected construction is connecting people. Different shifts and crews can quickly get up to date on what has gone before.

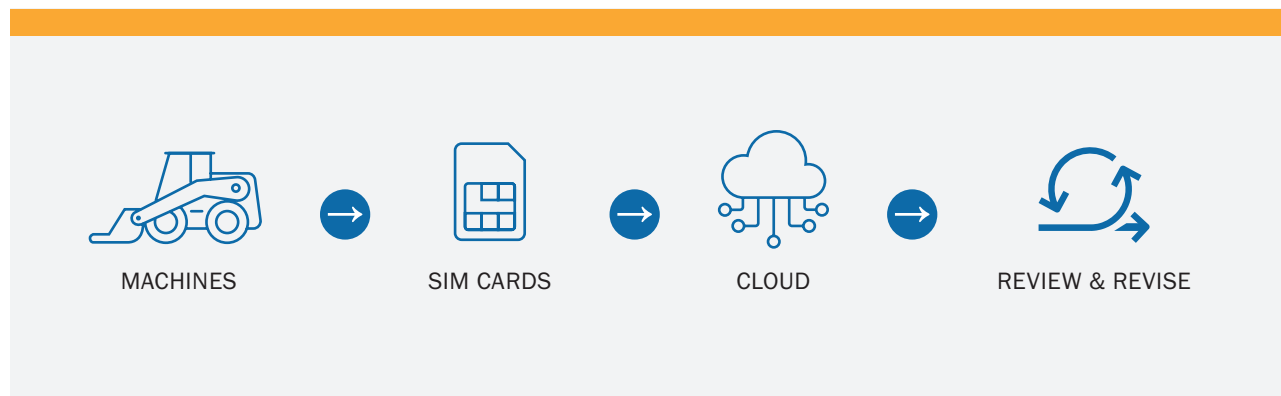
For instance, the **Peace River Hydro Partners** (PRHP) joint venture used several technologies to construct a dam and hydroelectric generating station, a project that involved multiple earthmoving shifts.

Realizing field/office disconnects, PRHP shifted away from using USB thumb drives to relay in-field scanning information to the office. Instead, it added SIM cards to the controllers so scanning data could be immediately transmitted back to the office. Equipped with grade control technology, each machine gathered survey data.

Logging into the machines via a data hub at the end of each day, the survey general foreman downloaded the data and used a project and Trimble Business Center™ to compare the work to the project's 3D model.

After confirming the work was completed as designed, he then isolated high spots and uploaded an updated excavation design. Operators could see immediately what areas needed to be addressed.

This feature became critical as work transitioned between day and night shifts; operators now knew exactly where the previous operator had excavated, and rework was reduced to a minimum. As a result, work progress was fluid and there was no confusion about where to work next. And using system reporting features, the project management team could easily keep up with the excavating crew's progress.



## Small problems don't become big ones

Connected construction also gives you the ability to recognize small problems before they become big ones.

Finding out about a cost overrun four weeks after it happens is rarely helpful. “Contractors want to know the score of the game while it’s being played,” says Casey Cyrus, product management director, civil construction, Trimble.

For example, today’s technologies allow you to track your bid estimates against real-time job performance. As a connected dozer grades, its progress can be tied back both to billables in accounting and your performance metrics. If the dozer is moving 1,000 cubic meters per hour and you bid the job at 1,200 cubic meters an hour, you can quickly address it.



Demolition and site contractor S.J. Cantwell, Newington, New Hampshire gets immediate production data directly from its machines and from electronic field logs. The information helps the company pinpoint issues early on.

“**B2W Track™** allows the guys in the office to see the production that we’re doing out in the field, which only betters their estimate,” says Codey Rich, S. J. Cantwell site foreman. “And it allows us in the field to see our numbers and productions and how we can tweak things to make it more profitable for everyone.”

Knowing what’s really happening allows quick adjustments, adds S. J. Cantwell estimator, Jeff Sparkowich, lead estimator. “Maybe the plan we thought was a great idea didn’t work last week. Let’s switch it up. Let’s move some equipment around and make a better plan.”

## Making sure what gets collected gets used

When different functions in your company have a one-track mission a lot of data is left on the table.

Let’s say your crew supervisors are feeding labor hours into payroll via paper or automated forms. Once payroll has input the numbers and payroll is processed, how else is that data used?



Look at machine hours. Using manual processes, machine hour reports could come into the office any number of ways, including emails, texts, even scraps of paper. Again, once that data is put into the main office accounting or equipment management system, who else has access to it? Can your estimators, project managers and superintendents use it?

An **FMI study** outlined the missed data opportunities in the engineering and construction community: 96% of all data goes unused, 30% of companies are using applications that don't integrate with each other and 90% of the data generated is unstructured.

It doesn't make sense to be stingy with data.

## True collaboration with owners

Construction is collaboration. Not only do internal teams need to share data, so do external entities.

When cloud-provider Box visualized **how construction companies shared data** both internally and externally the result looked like an octopus. While other industries in the Box report had large central cores of data sharing, information transfer at the construction firm branched out in several directions, including project owners.

And as digital workflows are proving their capabilities, many owners are leading the push to connected construction.

A Trimble/Dodge Construction Network survey illustrates this drive from owners: 69% of owner organizations surveyed say they require digital documentation in their contracts. These owners say, however, they have their most frequent connectivity breakdowns with general contractors and construction managers (51%) and specialty trade contractors (39%).

What if you could counter this reality? A contractor that is aligned with the connected construction journey becomes a contractor that's easy to do business with. And those contractors rise to the top when owners consider future projects.

**Next up:** How to harness the power of connected construction.

*A contractor taking advantage of connected construction tools is easy to do business with.*





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