Viewpoint®

5 Ways Disconnected Data Systems Hurt Margins, Efficiency and Productivity

—and Practical Steps to Connected Construction Data

Running a Better Business Series

Trimble® Construction

How can you build a connected pipeline of information that flows to one central place?

The Answer:
Connected, cloud-based construction technology.

When it came to sharing vital job data between the office and the field, Dynamic Systems Inc. was anything but dynamic. All jobs were being managed in Excel and the accounting system was nearly 30 years old. With siloed field data and manual reporting, this $400 million Top 10 ENR company with eight nationwide branches found itself constantly mired in duplicated data entry, wasted rework and excess materials.

"There were guys in the field doing the installations and the drawings and that data just wasn't getting captured," said Randy Smith, Dynamic Systems' applications manager. "The stakeholders got together and said, 'how can we have a pipeline of information that creates one place where all the data is stored?'"

The answer: a single source of data truth from a connected, cloud-based construction management software.

While that's a simple answer, experts note the path toward a connected, construction data environment is far more complex.

Like Dynamic Systems, today's construction firms are using a vast array of disparate data collection tools, distribution and storage methods—field apps, office ERP systems, drafting software, to name a few—that make it hard to access information when and where it's needed. Even companies with updated ERP systems may still be fighting against siloed data and inefficiency because their systems and data are not connected.

The Pitfalls of Disconnected Data

The results of these disconnected environments speak for themselves. Studies show that, despite a healthy market prior to the COVID pandemic, growing at 4% in 2018 and 2019, contractors continued to struggle with tighter and tighter margins in the range of 2% to 8%, according to the Construction Industry Institute.

While other industries have seen dramatic productivity increases, reports show the construction industry's productivity has remained stagnant for the past 50 years. In fact, the Aberdeen Group, a respected market intelligence company that captures and analyzes behavior across hundreds of B2B sectors, found the following types of problems associated with disconnected data systems and the percentage of contractors reporting them in its report: "The Cost of Doing Nothing: Why You Can't Afford to Sit on an ERP Software Decision":

- 35% of Redundant data
- 33% of Business systems can't interact with each other
- 28% of Systems can't track business processes
- 23% Difficult to share data outside of the organization
- 23% Lack of collaboration capabilities
- 23% Inaccurate data

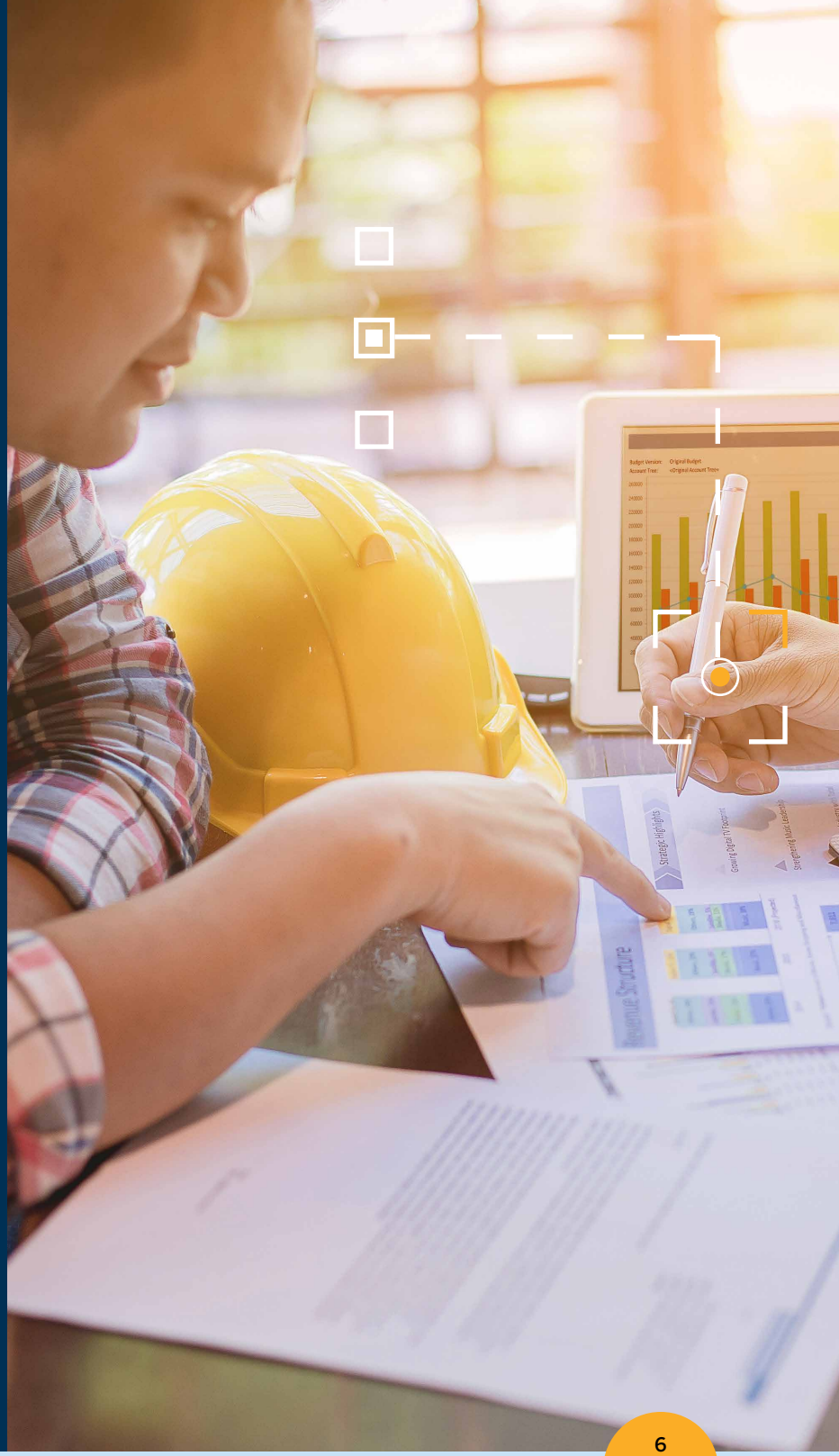
That's why more and more construction firms like Dynamic Systems are coming to believe in the power of connecting their data to make it more transparent, visible and actionable. But what does connected data really mean—and how can it be accomplished on a practical level? To answer that question, it's helpful to first look at the ways that a lack of integration is affecting many contractors.

The 5 Sticking Points of Disconnected Data Systems

1. Low Construction Profit Margins

One of the biggest causes of low margins is unnecessary rework. In fact, rework accounts for as much as 20% of project costs on average, according to the Construction Industry Institute report, "A Guide to Construction Rework Reduction." Often, that unnecessary rework is the result of someone not having the right information when they need it on the job. At the same time, when work is completed but not recorded, margin fade can occur.

> If you don't have the right answer to the question when you need it in the field, someone will do the wrong thing and then you have to pay someone to undo it.
>
> —Josh Wright, Senior Product Manager at Trimble Viewpoint



2. Duplicated Work

Without a single repository, data often gets entered multiple times between the field and office. That duplication then leads to errors and inaccuracies that produce still more work and headaches. Connected data means that once information is entered in the field or office, it automatically updates other fields or functions in the software and is shared among all stakeholders, so everyone is working from the same data sets.

As one example of how powerful this type of connectivity can be, contractors saw a 50% reduction in the amount of time it took to capture and manage field time by simply using a mobile field capture of time, labor and materials, according to the report, "Driving ROI, The Case for a Proven Construction Management Solution" from Hobson & Company, which creates ROI and TCO sales tools and processes.

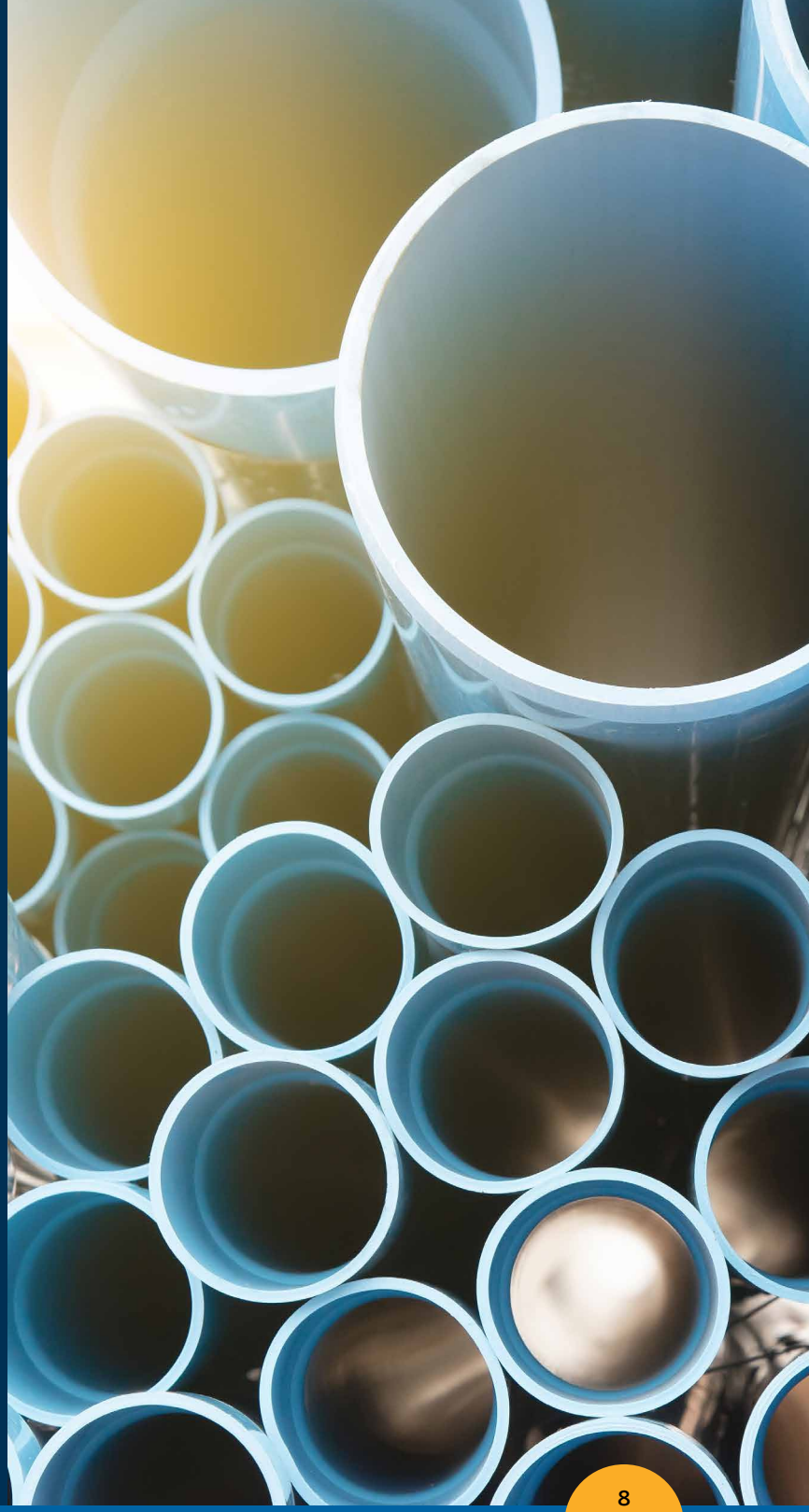
> The biggest thing is dual entry. Companies no longer want to enter data into two or three different places. It's a waste of time, it's expensive and it's prone to error. But it's hard to put an ROI on that.
>
> — John Patridge, Director of Construction Data Services for Tilson.

3. Insufficient Construction Supply Chain

Not knowing what materials are in inventory or what the supply chain contains leads to confusion, unnecessary downtime and unneeded orders that add up to lost profits.

Without proper planning and awareness of the supply chain, contractors also can't take advantage of manufacturer volume discounts. With connected data systems, contractors are always aware of what they have and how much to capitalize on manufacturer incentives. Hobson & Company's study showed a 75% increase in gross margins through improved estimating due to real-time and accurate reporting.

> Before we were able to properly connect our data, there was such a disconnect between the field and office that some materials were ordered and stored for jobs, but then they went to the wrong place or were just forgotten about. That's what started showing us we need to do something about this.
>
> —Randy Smith, Applications Manager, Dynamic Systems



4. No Single Source of Construction Data Truth

Job sites are busy places, with sometimes thousands of people managing various aspects of the work using different software tools and applications. Because these tools and applications often don't talk to each other, no one has a single source of truth to look to when questions arise.

As a result, contractors not only lack visibility into key data, they're often reacting to situations rather than strategically acting on information.

> So many people manage different aspects of the job with different tools and applications that no one knows really what the truth is. The foreman has a different understanding than the engineer and the back office because they're all looking at different information on the same job.
>
> —Josh Wright, Senior Product Manager, Trimble Viewpoint

5. Disorganized Ordering and Approval Payment Systems

Because data from work on various aspects of the job is siloed, ordering systems and payment approval processes are inefficient. As a result, workers often don't have the materials they need to get the job done and vendors aren't paid on time. But with connected construction data and real-time workflows, contractors can reduce time spent generating bills and tracking AP invoices by half, according to the Hobson & Company study.

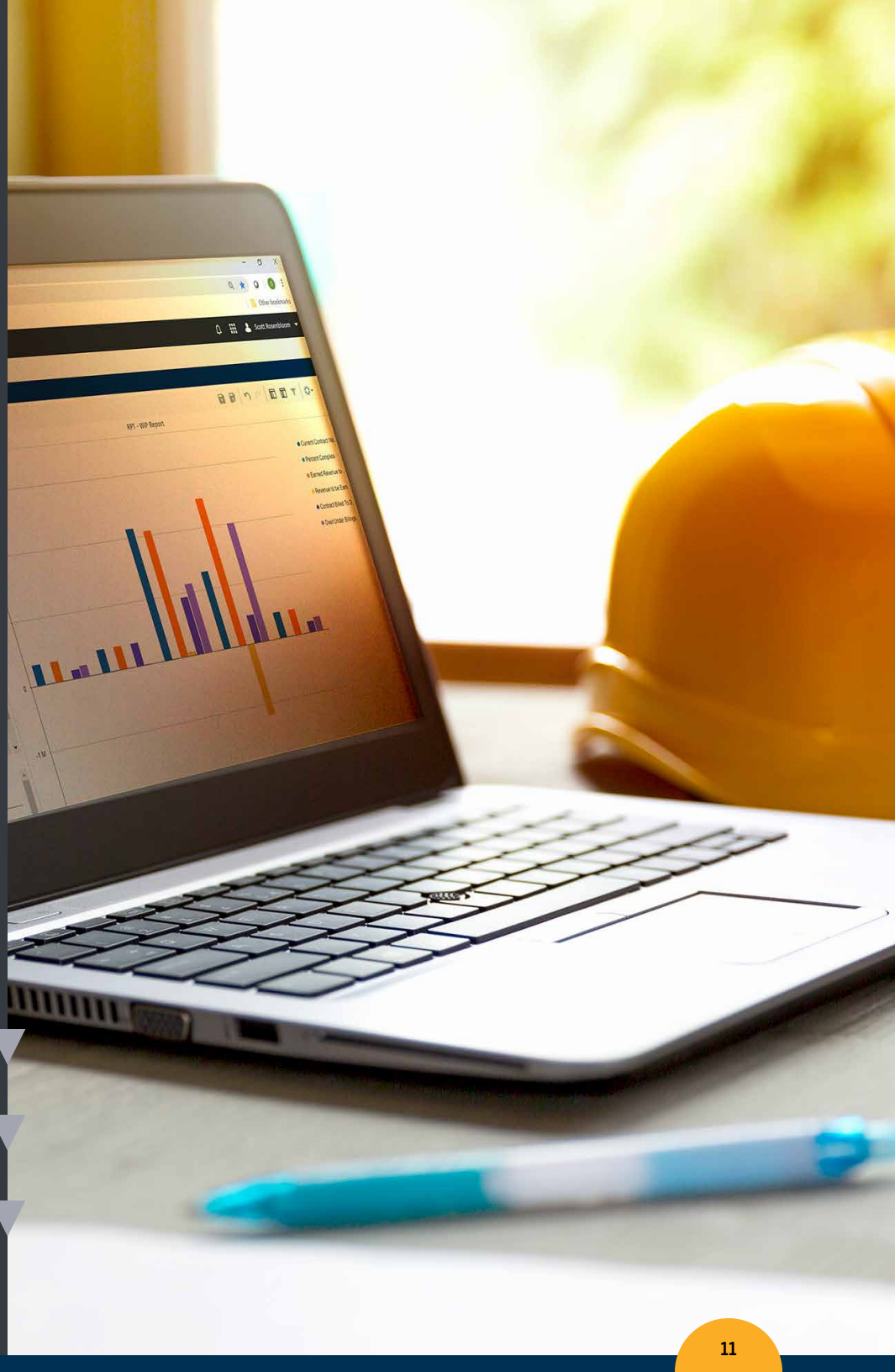
Before, we literally had to call accounting and ask for a job cost report once a month, Now we can run a report whenever we want. And the ability to make decisions based on that data has improved our efficiency tremendously. It's decreased our processing time for invoices by 50% and increased our AR collection as well.

—Randy Smith, Applications Manager, Dynamic Systems

How To Move Toward A Connected Construction Operation

Understanding pain points is one thing, but just how can a complex contracting firm begin to connect the dots with its disconnected data? That was the question Smith had to answer for Dynamic Systems. Here are the first steps he took to achieve buy-in and a smooth roll out:

- Held a meeting with all stakeholders in one room to determine where data was being siloed and key pain points stakeholders were experiencing
- Produced a flow chart of data so all stakeholders could clearly see where project hold-ups were happening and why
- Examined all systems to see which ones were producing data bottlenecks and siloed data



Once the company had mapped out these data issues, it then looked to modern technologies to help close its data gaps. First, it moved to an updated ERP system and a connected, cloud-based suite of construction solutions. Once they realized applications were easier to use, automated workflows could take away real-world burdens and they could get instant access to self-serve data, more and more employees began to buy into modernization. When the company was finally ready to move all-in with implementation, Smith took the following practical steps to make it as seamless as possible while still maintaining employee buy-in:

- Created how-to videos and instruction sheets for all data forms that walked workers through the process
- Posted all how-tos to the company intranet site for easy access
- Established a hotline for specific questions related to integration
- Visited each branch and identified an integration champion to handle training and questions
- Created weekly training sessions to engage users and further grow buy-in
- Established monthly meetings with branch managers, project managers and other stakeholders to identify and correct problem areas

As a result of these efforts toward connected construction data, Smith says the company's ability to access key job data is at least 50% more efficient. At the same time, the amount of time it takes to process invoices has been cut in half.

Everyone underestimated how helpful being able to see that data was going to be. We went from having to wait for a report or folder to where I can do this online immediately.

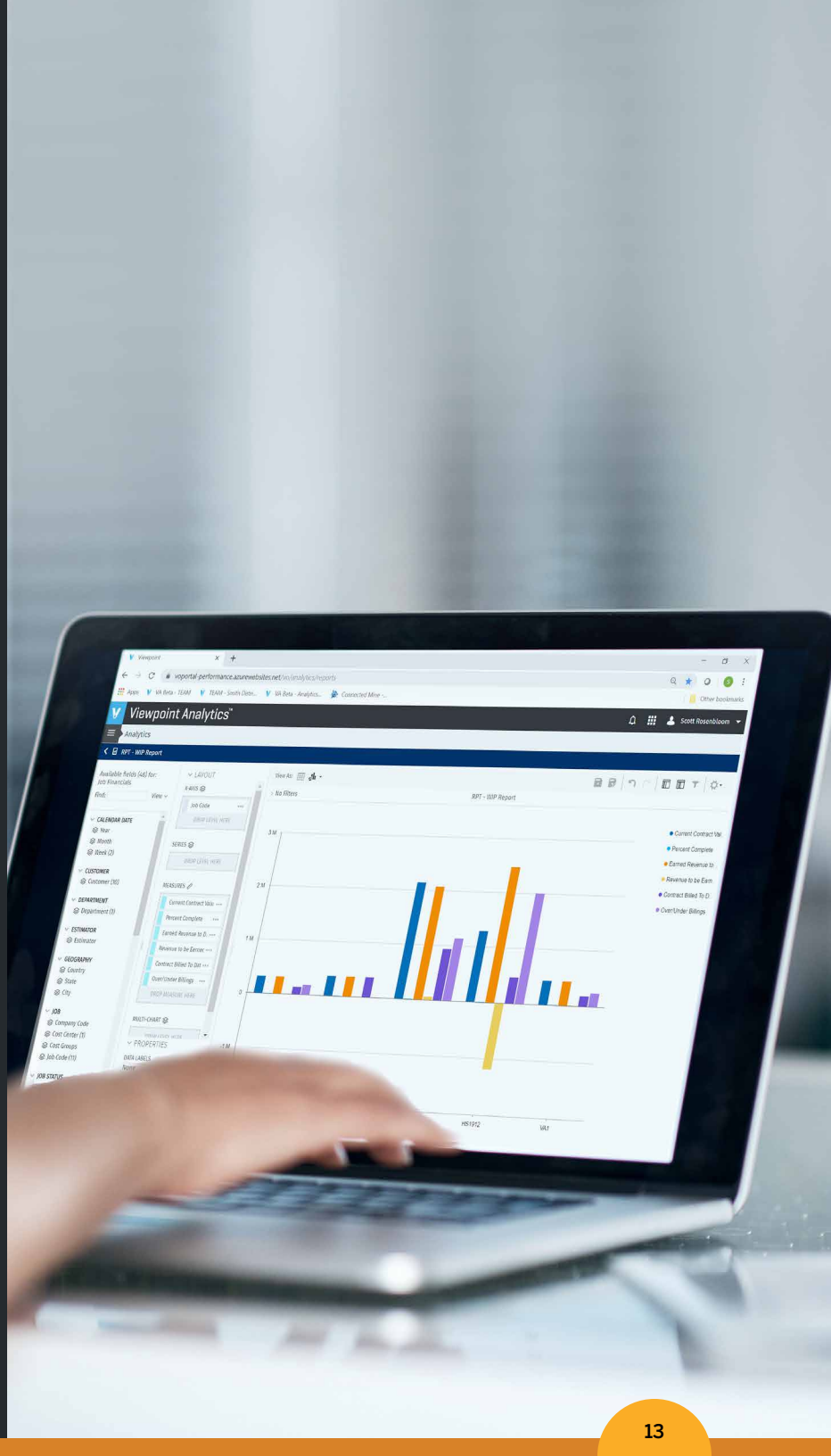
—Randy Smith, Applications Manager, Dynamic Systems

Why Change?

Clearly, disconnected data is more than just an annoyance. It is hurting margins, efficiency and productivity. While change can be challenging, contractors can take simple steps to both prepare to modernize and achieve buy-in from workers.

Those who follow this path say any initial growing pains are well worth the effort in the long run.

“Before we modernized, some people were saying, ‘It’s been working for 30 years so why change?’” Smith said. “But now everyone wants their own dashboard because they’re seeing the benefits of connected data.”



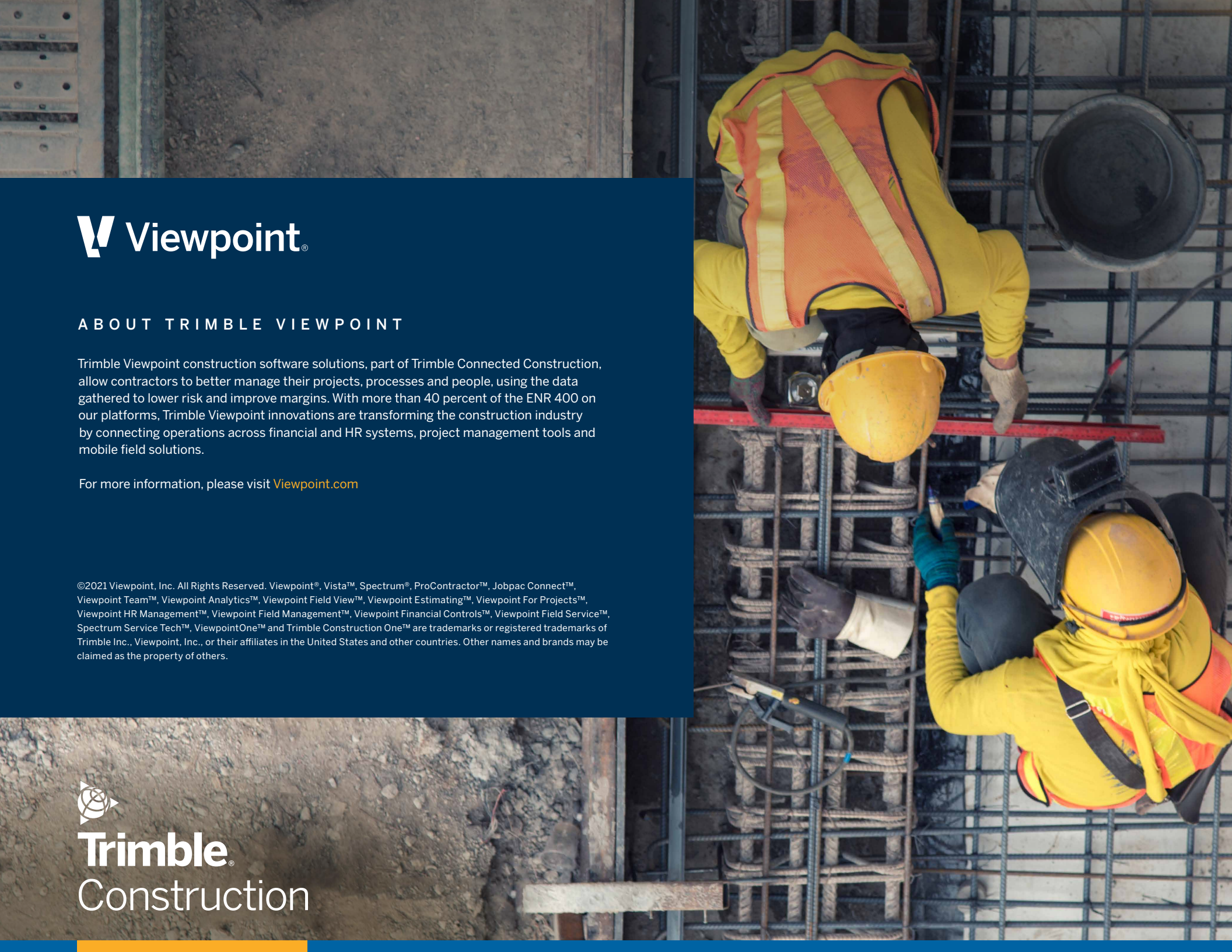
A Connected, Cloud-Based Construction Suite Drives Success

As contractors move toward more digitized, mobile operations, the cloud is serving as the vehicle for modern construction management. With construction-specific, connected solutions operating in the cloud, contractors can streamline their operations and work data in real time instead of days, weeks or even months later. This helps boost project productivity, and save costs and increase profitability dramatically.

Trimble Construction One™

Trimble Construction One is the most comprehensive set of connected construction management software applications available, providing full visibility across the construction organization and throughout the project lifecycle.

Trimble Construction One seamlessly connects contractors, people, projects and processes to help them better plan, do, and manage their business. And, it's flexible, allowing users to bundle the functionality they need and scale software to fit their needs, further maximizing contractors' technology investment.



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ABOUT TRIMBLE VIEWPOINT

Trimble Viewpoint construction software solutions, part of Trimble Connected Construction, allow contractors to better manage their projects, processes and people, using the data gathered to lower risk and improve margins. With more than 40 percent of the ENR 400 on our platforms, Trimble Viewpoint innovations are transforming the construction industry by connecting operations across financial and HR systems, project management tools and mobile field solutions.

For more information, please visit Viewpoint.com

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