

Steel Fabricator's Guide to Building a Competitive Advantage

Four Areas of Initial Focus
That Can Make or Break
Your Business

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Introduction

While helping new customers onboard Tekla PowerFab, we've gained a lot of insight into areas of concern for steel fabricators and how they adjusted their approach to these areas to improve financial outcomes. Over the years we've seen a trend in terms of the priorities steel fabricators are making in order to stay competitive in the marketplace and even build a competitive advantage. This eBook is our attempt to share this insight with the industry in hopes that other fabricators will find this helpful and maybe reevaluate how their team performs in these areas.

The four areas where we tend to see fabricators prioritize improving first are cost estimating, improving collaboration, creating one source for all project data and finally a renewed interest in planning for the future and investing in new tools to improve outcomes. We've watched organizations that focus in these areas make substantial improvements in efficiencies and profitability while building momentum that's carried over to other areas of concern.

The good news is there has been advances in technology that can help in all these areas, Tekla PowerFab as well as many other tools can play a huge role in automating these workflows and build new efficiencies. Of course, there is a very dark side to this advancement. Fabricators that are slow to conform to these new practices and continue to rely on manual workflows will discover the size of their disadvantage continues to grow as more of the marketplace automates and builds a competitive advantage.

4 Areas to prioritize:

- 1 Cost estimating
- 2 Improving collaboration
- 3 Creating one source for all project data
- 4 Planning for the future by investing in new tools



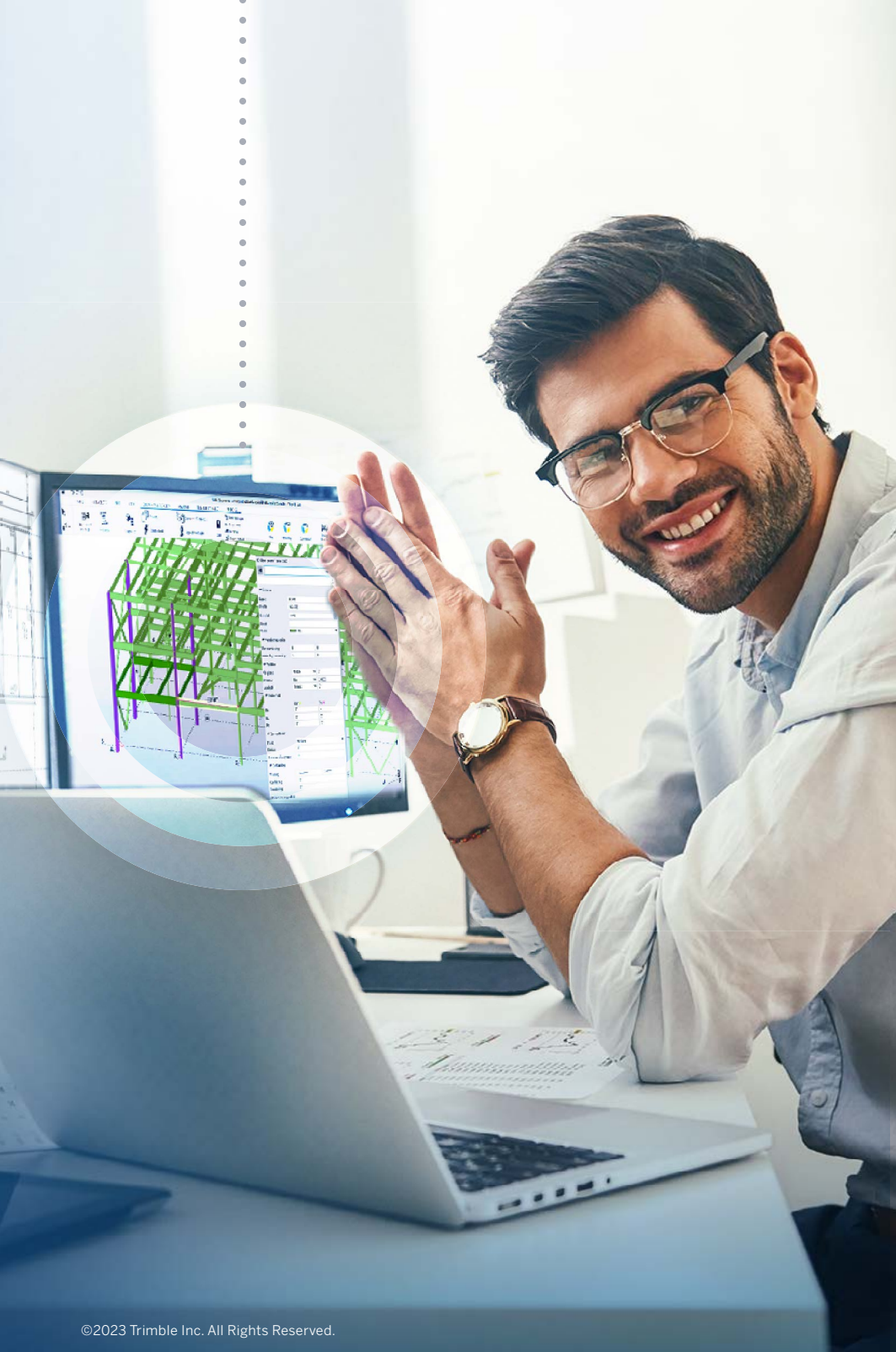
Chapter 1

Accurately Estimate Costs and Bid with Confidence

Accurate cost estimates are the foundations of competitive bids, making estimating one of the most important aspects of any project. Firms today are under pressure to deliver accurate, consistent estimates in tight timeframes, but 2D estimating processes can't keep pace. Testing different scenarios, connections or materials can be tedious and time-consuming in 2D. Not to mention, every change must be made manually, and all quantities and costs must be recalculated and double-checked.

This cumbersome process of manual entry is not only

time-consuming but also error-prone. Research shows that each cell in a spreadsheet has a one to five percent risk of containing errors. When you add up the number of cells in a single spreadsheet, it's easy to understand the pitfalls of working in 2D, especially considering that estimators often work in several spreadsheets simultaneously and must account for a multitude of factors, such as volatile material costs and mismanaged scheduling. This is a difficult task for even the most knowledgeable estimator.



With so many possible missteps, relying on spreadsheets to build estimates is unnecessarily risky. Alternatively, model-based estimating, or “estimodeling,” surpasses traditional methods and provides the ability to deliver a data-rich constructible 3D model with more robust information as part of a bid package. With estimodeling, highly accurate material quantities and detailed labor and cost data are generated directly from the 3D model. Estimators can build informed and precise estimates based on up-to-date supplier pricing and delivery details.

In addition to accelerating the estimating process, estimodeling gives estimators the confidence that costs are covered, and bids are solid, accurate and competitive. It also leverages and captures the knowledge of senior estimators, leading to more consistent estimates. This standardization allows junior estimators to work as quickly as the most seasoned veterans.

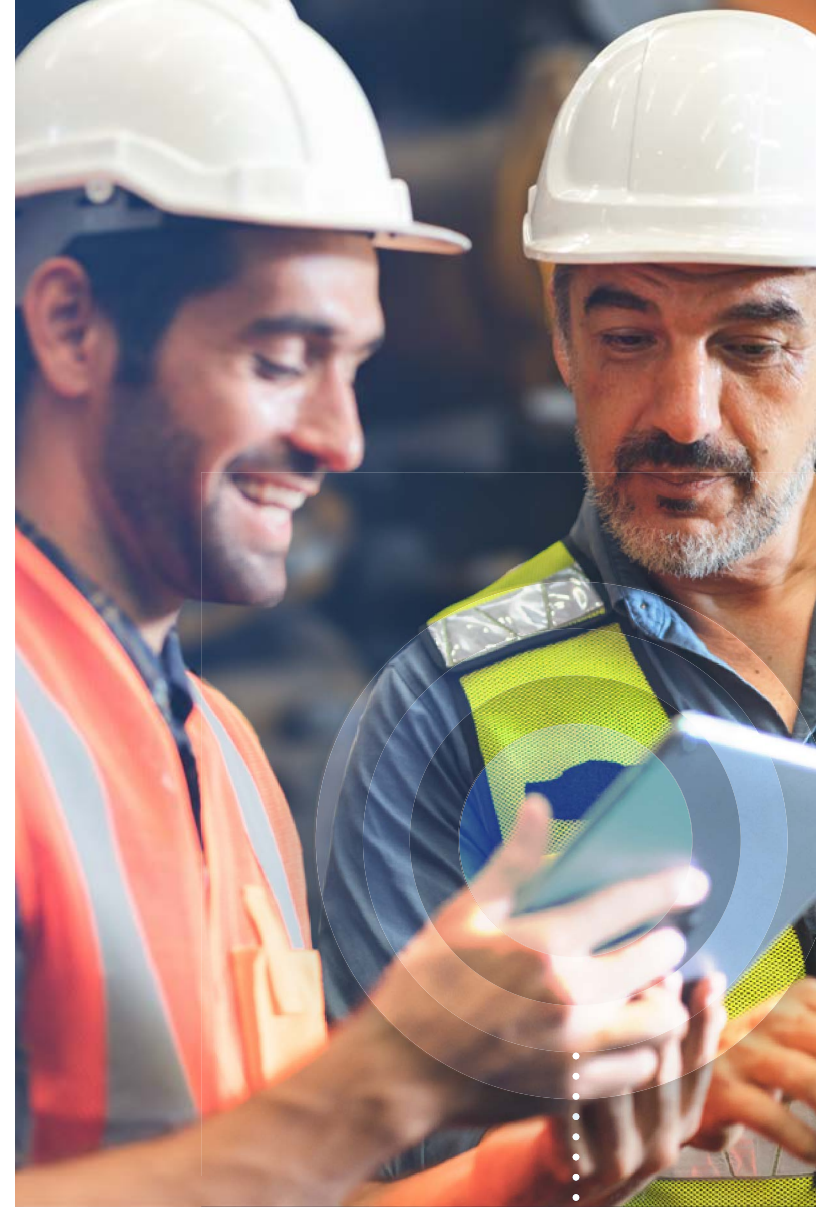
Chapter 2

Mitigate Risks Through Better Collaboration

Inefficient communications between project stakeholders who do not have the same access to data can plague a project at every phase making this an obvious area to prioritize process improvement. A key element to improving collaboration is democratizing all project data, giving all stakeholders access to everything.

Opening the door to collaboration requires a solution that seamlessly integrates estimating, detailing, fabrication and erection, making information accessible by all stakeholders at every project phase. In a model-based workflow, everything is directly linked to and calculated from the model, and everyone has access to the same version. All stakeholders stay informed, eliminating the risk of different teams working with incorrect or outdated information.

Even the most thought-out and tested workflows will break down when stakeholders aren't working from the same information. Don't focus on what information is needed and not needed for each person or group. Break down these silos by focusing on providing unlimited digital access to the most up to date information, reflective of all changes including the most recent changes.



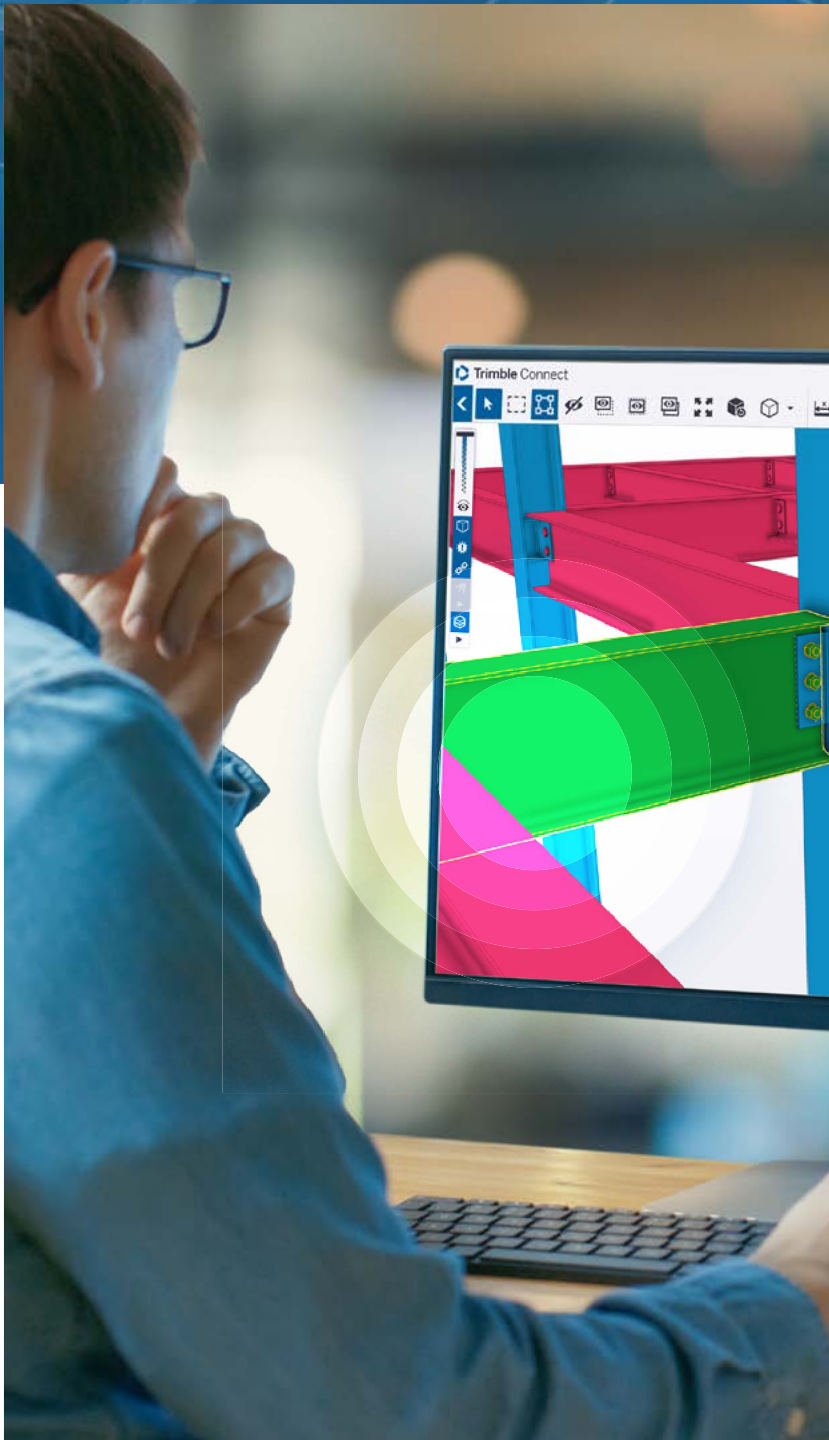
Chapter 3

Build a Single Source of Truth for All Construction Data

When projects rely on piles of paperwork and drawings, it can be difficult to legitimize one specific model as the single source of information. And it can be especially frustrating when the model changes—meaning the 2D drawing you used yesterday is probably outdated.

This of course ties into improving collaboration but when project phases and workflows are disconnected, miscommunication leads to errors that cause delays and increase costs. If workload, scheduling and external collaboration are not carefully planned, it can result in too little time, unleveraged manpower or even a late delivery. In an ideal workflow, every phase of the production process comes together effortlessly, resulting in a cost-effective outcome with fewer surprises.

By leveraging a 3D model as the central source of truth, all drawings, material lists and other information flow freely. All changes are automatically updated in the model, so no matter who's looking at it, they see the most accurate, up-to-date version.



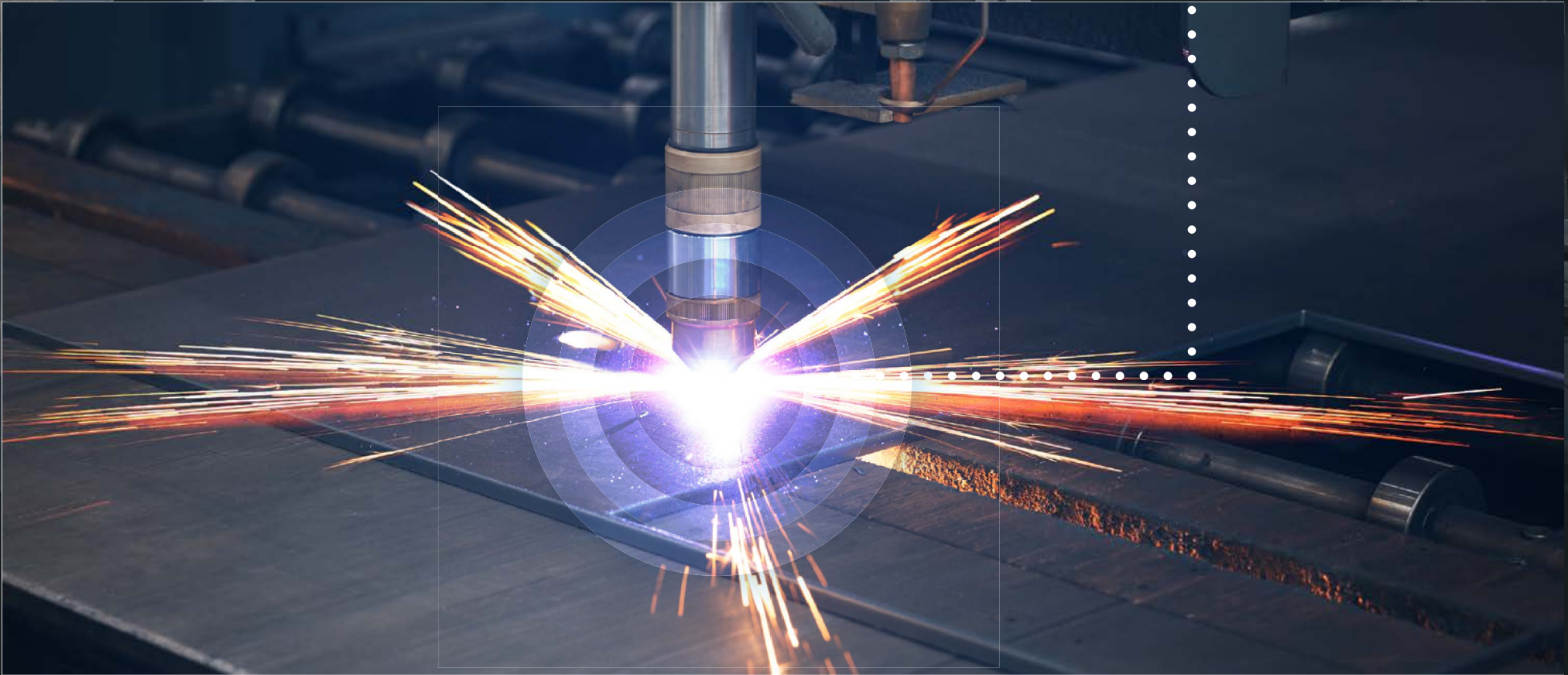
Source New Technology to Meet Future Needs

Over the last ten years we've seen rapid advancements in fabrication technology and the resulting time savings have led to tighter project timelines. With the pace of new advancements and project timelines continuing for the foreseeable future, adopting technology has become essential for staying competitive and profitable. It's even more important to invest in the right platforms that meet your needs now and into the future. This is critical for establishing a continual competitive advantage in the marketplace, you don't want to be singularly focused on creating a strategy that delivers immediate success only to quickly wain when your competitors choose to invest in better platforms.

Of course, choosing new technology that meets your needs today can be challenging enough, choosing a solution that will continue to meet your needs into the future could require a crystal ball. There is certainly no guarantee that today's best steel fabrication solution will continue to be the best option but there are a few signs to look for that will be very strong indicators of future success.

The first "future success" indicator in a steel fabrication solution is a strong track record of innovation and platform improvements. The best indicator of future performance is past performance, especially when you're measuring a platform's ability to change to meet new challenges and industry needs. Look for technology platforms that continue to evolve with time.





Secondly, look for fabrication technology platforms that have strong ties to robotic fabrication manufactures. The data requirements of this machinery is constantly changing in order to increase the speed and efficiencies of their equipment. Technology companies that have strong relationships with these manufactures are able to see these new requirements coming in advance and adjust their platforms in order to feed this needed, constructible data to the equipment in the format it's needed.

Finally, within the steel fabrication industry, it's imperative to choose technology platforms that are committed to meeting IFC standards. It is the best way to ensure future platform changes will continue to meet the needs of the industry by conforming to these standards.

Conclusion

Tekla PowerFab is a comprehensive steel fabrication management software suite which provides an organized, systematic approach to efficiently bidding, winning and ultimately fabricating structural steel. Fabricators that use this software suite are able to build competitive advantages by successfully implementing this technology into their daily operations. If the areas outlined in this ebook represent an opportunity for improvement in your organization we would value the chance to help.

Tekla PowerFab is a powerful tool which touches many aspects of your business so onboarding the software suite can be a bit intimidating but we have many ways to help. The good news is the full implementation of the tool can be staged into different phases to avoid disruptions in your operations.

Imagine how your business would be positively affected by being able to bid on new projects with confidence—confidence that all costs were accounted for and your bid is reflective of your desired target margin. That confidence allows you to bid on new work without adding the extra fudge-factor to account for the unaccountable but in the process, renders your bid uncompetitive. Imagine facilitating a level of collaboration within your organization and outside stakeholders which greatly reduces the risk of delay causing and costly errors. At the center of that collaboration is a single source of truth, one universally accessible database of constructible data that keeps everyone on the same page, working with the most up to date, real time data.



Improving workflows



More efficiency through all project phases



Reducing costs through mitigating errors



It's a beautiful vision right? The good news is it's not a pipedream, we see it every day and honestly it's what keeps us motivated to help steel fabricators build a lasting competitive advantage in the marketplace. Of course the level of this advantage will decline over time as more and more organizations adopt this technology. Now's the time to reach out to us to learn more and challenge us to prove these claims. We look forward to hearing from you soon.

Request more info

ABOUT TEKLA SOFTWARE

Tekla software, part of Trimble Inc., empowers the construction industry by providing technology that drives efficiencies, mitigates the risk of costly errors, promotes greater collaboration and ultimately delivers a measurable, competitive advantage to our users.

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