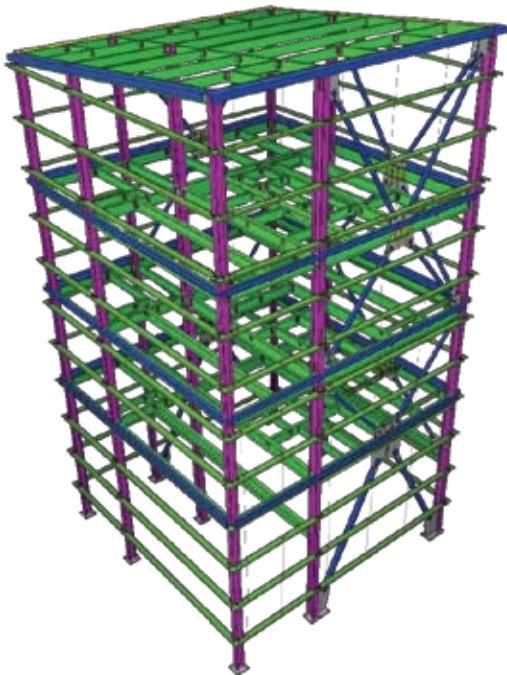


TEKLA STRUCTURES – INTELLIGENT 3D MODELING

> Tekla is a leading international software company whose innovative software solutions make customers' core businesses more effective. Tekla's software products and related services are used mostly in building and construction, but also in energy distribution and by municipalities. Tekla Corporation has area offices and partner organizations worldwide. International operations account for 85% of net sales. Founded in 1966, Tekla is one of the oldest software companies in Finland.

WHY TEKLA STRUCTURES?

> Tekla Structures software is a BIM (building information modeling) tool that streamlines the delivery process of design, detailing, manufacture, and construction organizations. While integrating openly with architectural models, the strength of this single-model environment lies in the contractor end of the process. Thousands of Tekla Structures software users in more than 80 countries have successfully delivered BIM-based projects across the world.



Tekla Structures' ability to process extensive amounts of data enables the creation of detailed 3D models that apply to every stage of design and construction. From planning and design development thru to fabrication and installation, Tekla models naturally develop in parallel, representing the "as-built" condition of a building.

Tekla Structures effectively integrates into any best-of-breed software driven workflow, while maintaining the highest levels of data integrity and accuracy. Such collaborative workflows are the cornerstone to minimizing errors and maximizing efficiency, resulting in high profitability and on-time project completion. Tekla Structures encompasses specialized configurations for structural engineers, steel detailers and fabricators, precast concrete detailers and manufacturers, as well as contractors.

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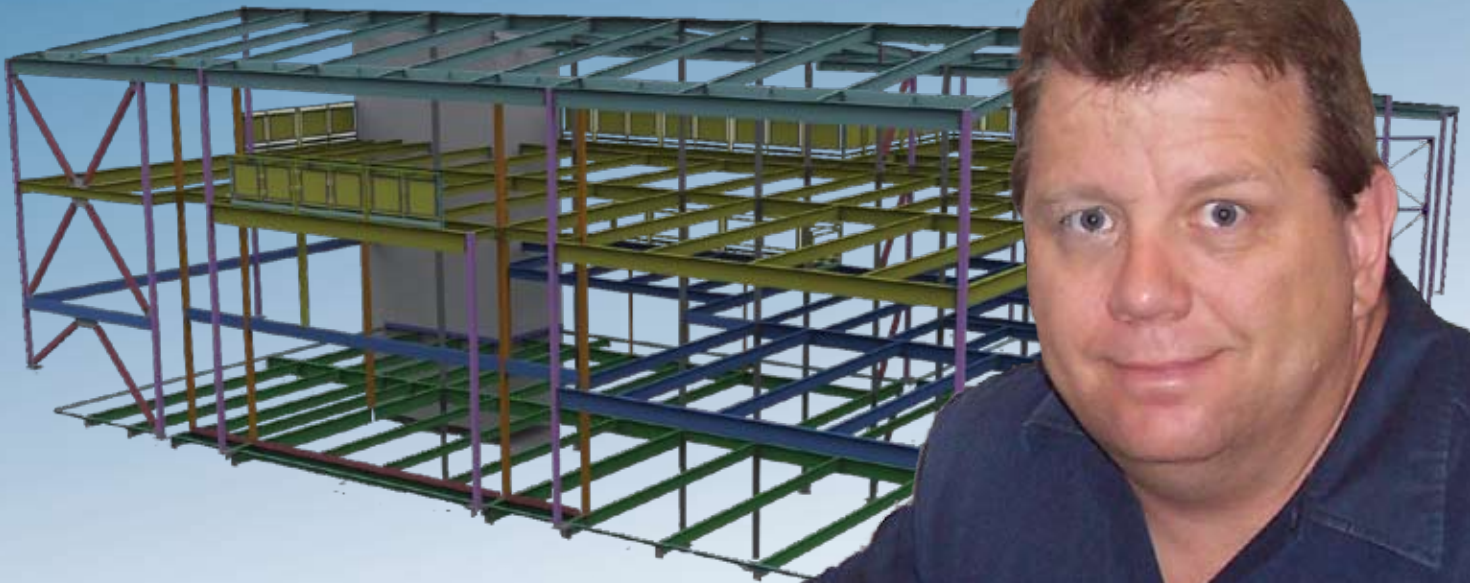
TEKLA® Structures

FOR STEEL
DETAILING

IN PRACTICE:



DAVID SONGER,
DAVID SONGER DETAILING



"The visual process is much more intuitive than the more traditional 2D approach. The Tekla Structures 3D model really is worth a million words."



TEKLA Structures



RAISING THE ROOF: DETAILERS 3D TECHNOLOGY EDGE TRIPLES BUSINESS OPPORTUNITIES

> Transitioning a 15-year old steel detailing company best known for its work on small single-story structures into a leading multi-story commercial and residential detailing service provider might seem like a challenge best handled by more staff, increased marketing and a good deal of luck.

> Yet for David Songer, owner and sole detailer of David Songer Detailing based in Albuquerque, New Mexico, the transition was simply a matter of finding and implementing the right tools to facilitate his unique skills and the needs of his customers.

Five years ago, Songer transitioned from 2D CAD to 3D building information modeling (BIM) technology, putting him in position to handle larger projects and complete three times the amount of work in the same timeframe with better quality and improved communication with his customers.

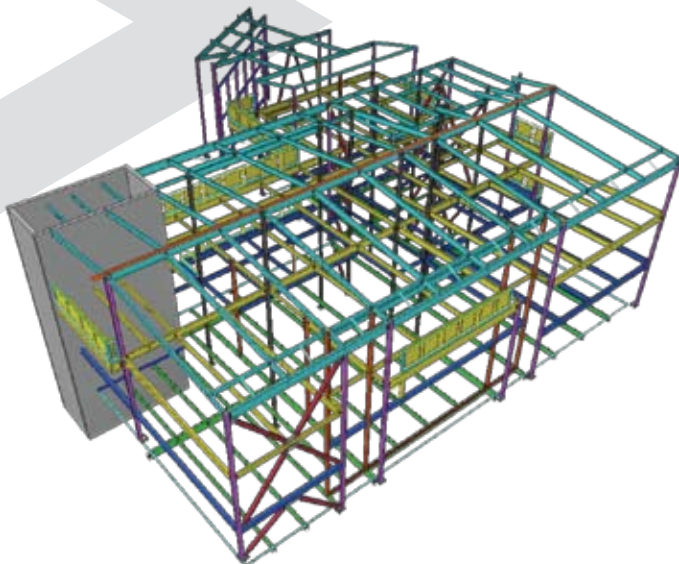
MULTI STORY MAGIC

> Since first forming his company in 1994, Songer focused on detailing architectural plans for office buildings, strip malls, single-story buildings and industrial projects. He'd always relied on 2D CAD because that was the tool of choice.

Songer says, "Unfortunately, detailing in a conventional CAD system is much the same as drawing on paper. The process is still very tedious and laborious. I kept my eyes out for a technology that could really streamline the process, speed my project delivery and offer visual evidence that my final product would exactly meet my customers' expectations."

In 2004, Songer transitioned to Tekla Structures, Steel Detailing BIM software, a tool designed to facilitate the design and detailing of structural steel models in 3D.

> *"BIM was the edge I needed. I found that I could quickly model a structural system and identify any design issues early in the project, saving me, my clients and the stakeholders significant money and time."*



"BIM was the edge I needed," says Songer. "Without any formal training, I became a self taught user of Tekla Structures. I relied on training videos, articles on the Tekla extranet and networking with other Tekla users. When there was a rough spot, I called on trained detailers within Tekla Support who understood what I was asking and knew how to help."

Songer was able to quickly model a structural system and identify any design issues early in the project, saving me, my clients and the stakeholders significant time and money.

"Every model is a real representation of the project – and better yet I can create a model in hours instead of days," says Songer.

Beyond speed, Songer believes the two most appealing aspects of the steel detailing software is its ability to see design and fit problems in the model and the seamless connection between the model and the fabrication drawings. If the design changes, the fabrication drawings are automatically and intelligently linked to the model and updated to the most current design model.

"These two features save me a lot of time as the drawings are updated in the background while the model is revised to meet the new design requirements. Bottom line, my 3D model is an accurate representation of the design concept. With Tekla, if it fits in the model, it will fit in the field," says Songer.

The BIM functionality recently proved invaluable to Songer and the architectural design team of the Truro project in Santa Fe, New Mexico.

DIGITAL RESOLUTION

> The 17,500 square foot Truro Building, located in the Santa Fe Railyard development, is two-story contemporary gallery and office steel structure that rises to 34 feet at the peak and includes a mezzanine and attached pavilion.

DNCA Architects of Albuquerque, New Mexico, charged with the design of the unique structure, relied on 3D modeling to better reflect form, space, and structural opportunities and implications.

Deirdre Harris, a project manager with DNCA, says, "We produce a 3D model to study every project during very early design phases as a sales tool and help us describe the building to the public and permitting agencies as we move through various levels of the approvals process."

However, when it comes to detailing and construction documents, DNCA reverts to 2D for consistency. Therefore, once DNCA completed the Truro design, the firm passed the

> *David's RFI process has gone almost entirely to a 3D visual evaluation format*

digital 2D documents and 3D model to Songer, who in turn modeled the steel components in Tekla.

"While we did not ask for the detail model from Songer to be delivered in 3D," recalls Harris,

"we were happy that he chose to provide it in this format as the building has a fair amount of complexity that is difficult to comprehend in 2D."

During the detailing process, Songer was able to show the architects and engineers critical areas where fit up issues were solved in the model and not in the field. This 3D model approach during the detailing process allowed the whole team from the steel erector to engineers to have visual input on the model to provide solutions in a true collaborative fashion.

"Tekla Structures really shines in its ability to show a structure's steel framing and other building systems as well. In fact, my request for information process has gone almost entirely to a 3D visual evaluation format," adds Songer.

When a fit up issue becomes visible, a snapshot of the actual model is taken and annotated then transmitted to the engineer for review and resolution.

"The visual process is a much more intuitive than the more traditional 2D approach. The Tekla 3D model really is worth a million words," concludes Songer.

For more information about David Songer Detailing or the company's use of Tekla Structures, contact David Songer at davesonger@gmail.com.

