



ACCURATE HOUSING SYSTEMS

A CASE STUDY BY MITEK



- IMPROVED DESIGNER EFFICIENCY AND ACCURACY THROUGH SAPPHIRE™ LINKAGE AND AUTOMATED FRAMING
- 3D CAPABILITY ELIMINATES UP-FRONT ERRORS.
- LAYOUT TEMPLATES ELIMINATES THE NEED FOR CAD
- PAIRING MVP™ SOFTWARE WITH SAPPHIRE MULTIPLIES THE BENEFITS

Accurate Housing Systems Boosts Their Accuracy, Efficiency, and Processes with SAPPHIRE™ Software



Executive Summary:

Accurate Housing Systems located in East Troy, Wisconsin just modernized its truss design and manufacturing capability by switching from eFrame™ to MiTek's SAPPHIRE™ *Structure*, realizing design efficiencies and productivity gains in the process. Today, Accurate uses SAPPHIRE *Structure*, SAPPHIRE *Viewer*, and MiTek MVP (to monitor shop-floor operations). While designing and manufacturing roof trusses, wall panels, floor trusses, and EWP for 1,300 projects annually. This case study looks at why Accurate switched to SAPPHIRE *Structure* and the benefits they are seeing from the change.



- Quantity errors are essentially eliminated with SAPPHIRE™ link to MiTek® Engineering program.
- Automated hip framing features improve designer efficiency and accuracy overall.
- 3D capability during design - and with customer collaboration using SAPPHIRE *Viewer* - eliminates many errors up front.
- Layout Templates provide a standard format, and eliminate the need for an additional CAD program and its costs.
- Pairing MVP™ software with SAPPHIRE multiplies the benefits

Switching from eFrame™ to SAPPHIRE Structure Offers Expanded Capabilities, Transparency to the Shop Floor Operations, and 3D Visualization to Accurate's 1,300 Annual Projects

Last year, Accurate provided components for 1,300 single-family and multi-family projects, taking full advantage of the Company's 65,000 square foot facility in East Troy, Wisconsin. To manage those projects, and to modernize their design and manufacturing services, Accurate recently switched from eFrame to MiTek's SAPPHIRE *Structure*. In the process they have experienced remarkable productivity gains, and productivity is what it's all about for Accurate. The Company serves an expansive geographical region, including all of Wisconsin and Illinois, where Accurate manufactures and delivers roof trusses, wall panels, floor trusses, and EWP.

"Around 75% of our business is roof trusses," said Sean Kelly, Accurate's General Manager, who has been with the Company for almost four years. He is very clear about the advantages that switching to SAPPHIRE *Structure* have brought the Company and why they came over from eFrame. "For me, the number one reason for going over to SAPPHIRE *Structure* was to have access to SAPPHIRE *Viewer*."

SAPPHIRE *Viewer*TM is a free 3D software tool, designed for builders, architects, and engineers to collaborate with component manufacturers on house designs using a shared 3D model. With SAPPHIRE *Viewer*, users can quickly review SAPPHIRE models in “plan” and 3-D views, using zoom and pan. They can also access bookmarked views, elevation drawings and isolate items to view in the model, such as a particular level or layer.



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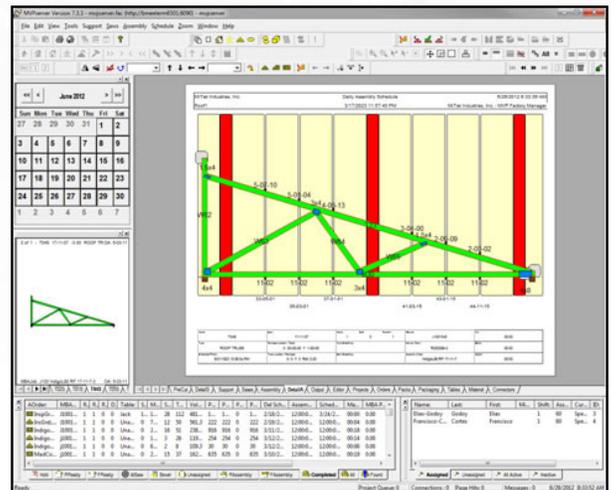
-Sean Kelly, General Manager

What’s best for Accurate is that the true 3-D design capability and the use of SAPPHIRE *Viewer* both prevent problems before components are manufactured. “We have customers who looked at an image in *Viewer*, and stopped the process to modify a design when they didn’t like what they saw,” Kelly added. “Plus, the 3D images in SAPPHIRE *Viewer* are a *great* selling tool – one we use to sell our products and services against our competitors – because we often have a contractor customer who can’t fully visualize what he’s actually ordered,” Kelly explained. “We show them their job in *Viewer*, they see in 3D exactly what they are ordering, and they in turn show it to their customers. Everyone can see the house in 3D, Accurate ends up looking great, and of course, we also end up getting the job.”

Pairing with MVPTM

Sean Kelly’s appreciation for SAPPHIRE software doesn’t stop just with SAPPHIRE *Viewer*. He also likes MiTek’s production management software, called MVPTM. With MVP, Kelly can manage cost estimates, bidding, and the shop floor in real time.

“With MVP, I can tell how long it took to build a particular job. I can tell if we are making money or not making money on a job, and MVP gives me instant access to our production line. I can look at my #1 saw line to see how it is doing. Are they behind? Ahead? Caught up? Are we in overtime? MVP provides all the production status I need. So, the MiTek software suite reaches many aspects of our operations, from selling to production.” The combination of the SAPPHIRE and MVP software multiples the benefits of each, to the business.



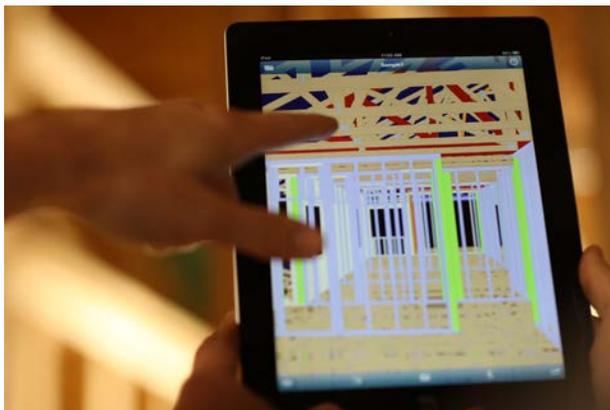
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Making the Switch to SAPPHIRE™

Before implementing SAPPHIRE, Accurate had been using eFrame™, and all of Accurate's component designers and estimators were trained on eFrame. Nonetheless, because of the added capabilities of SAPPHIRE, and Kelly's desire to use SAPPHIRE Viewer, Accurate made a switch to the SAPPHIRE platform. Justin Nagel, the Design and Estimating Manager at Accurate since 2008, managed the transition to SAPPHIRE Structure™ from eFrame.

"We actually had component designers with varying backgrounds and software expertise," Nagel explains.

"Some of them had been on TrussWall, and many more were on eFrame. After we decided to move to SAPPHIRE Structure, I put two designers on it early, so they'd set up Structure and learn it for when we all converted over. Those two designers worked out all the labeling defaults. They set up all the layout templates, the colors, the line thicknesses, and arrow sizes. That's the stuff you go deep into the SAPPHIRE Structure program to set up. Then, when they were done, we switched everyone over. So, right off the bat, we had these two guys in the office that already knew SAPPHIRE well. With those guys, and support from MiTek, which was always there, we had a smooth transition. Within two weeks, everyone was up to speed, or at least to where they were with eFrame. But there's lots more capability in SAPPHIRE over eFrame, and we've really expanded our knowledge since we changed."



With SAPPHIRE Viewer problems can be prevented before the components are manufactured.



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- Justin Nagel, Design and Estimating Manager

Does two weeks sound fast for training a team on a new component-design software system? It is, but Nagel added another interesting story: "We hired a guy last Monday, and he'd been out of the business since 2009, when he last worked on eFrame. He started putting quotes on my desk his first day, so he caught on with SAPPHIRE Structure in a matter of hours," Nagel said.

The Richness of SAPPHIRE

"SAPPHIRE Structure has a great deal to offer. As we design components in SAPPHIRE, we don't have to worry about engineering changes, so you can just focus on layout," Justin Nagel

explained. “We have essentially eliminated quantity errors, because SAPPHIRE *Structure*[™] links right up to MiTek® Engineering software. As for hip ends, we’ve eliminated errors there too, because they automatically come into the design. In fact, hip ends were one of the main reasons one of our designers wanted to switch to SAPPHIRE so quickly, because now he doesn’t have to hand calculate those anymore.”

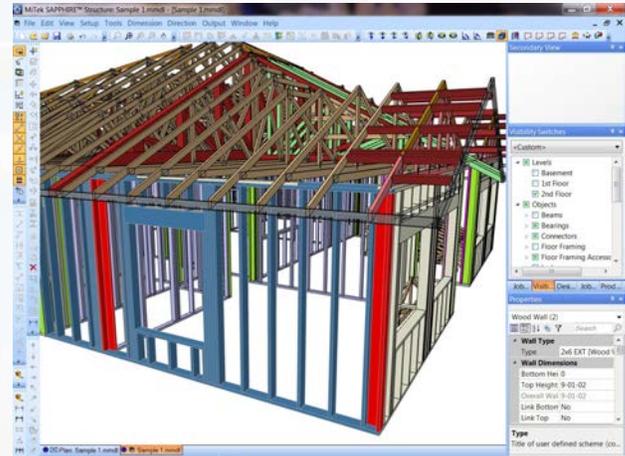
As for other SAPPHIRE *Structure* benefits, Nagel and his team also like the *universal layout template*. “When using eFrame,” Nagel explained, “we were not using any CAD program to finalize the layouts. So everyone’s layouts looked noticeably different. In SAPPHIRE *Structure*, we are able to make a layout template so that everyone’s layouts look the same, and we don’t even need to use a separate CAD program.”

3D capabilities of SAPPHIRE Structure

The 3D capabilities of SAPPHIRE *Structure* and the SAPPHIRE *Viewer* module have found another big fan in Jason Nagel. “As for 3D, overall, the 3D capabilities really eliminate a lot of errors,” Nagel added. “Since the views are in 3D, you can see if a truss is inadvertently sticking through the roof and correct it early on. With floor trusses, the 3D view allows you to see chase openings really clearly. So, 3D has real benefits to us. The cut-through views that everyone can see in SAPPHIRE *Viewer* save lots of errors. We can send customers their files to view in SAPPHIRE *Viewer*, and they spin them around to examine the structure for errors and really see how it is put together.

This practice has really taken off in the last year, as more of our customers become aware of *Viewer*. And it’s great for the more complicated structures we are working on now. Sometimes we go back to a job we did in eFrame and we really see the difference between eFrame layout and layouts in SAPPHIRE , and I say ‘Wow, we’re leaps and bounds ahead of that!’” I’m so glad we made the change to SAPPHIRE , and I’d say to any CM that it’s really worth it.”

Accurate’s General Manager Sean Kelly agrees: “SAPPHIRE is really a great program. We’d recommend it to anyone...anyone who doesn’t compete with us, that is.”



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