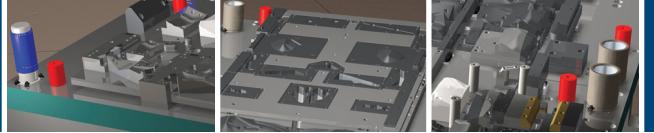


“Great stuff” for meeting ever-present cycle time pressures

Solid Edge with Synchronous Technology brings significant performance gains for die design

SUMMIT TOOL DESIGN



Siemens PLM Software

www.siemens.com/velocity

► Business initiatives

New product development

► Business challenges

Stamping die complexity

Customers' expectations for fast turnaround

► Keys to success

Direct model editing

Live rules that automatically maintain relationships

Faster file operations; changes displayed immediately

► Results

Less time spent planning and managing the part modeling process

Time to change designs significantly reduced

Better workstation performance

Speedier operations allow thought-process continuity

Trickle-down time pressure

Founded in 1991, Summit Tool Design creates designs for sheet metal stamping dies. The company's customer base consists of tool and die shops serving a broad range of industries, including automotive, agriculture/outdoor power equipment, hardware, furniture, electrical, electronics and power tools.

Summit has always been under pressure to turn these jobs around quickly, and this is a trend that doesn't seem to be letting up. "Every day, customers are pushing me to work faster," says Scott Christensen, founder and president of the company. "The push comes from the OEMs down to my customers, and then from my customers to me. We're all under pressure to deliver faster with fewer errors and oversights."

Complicating this is the fact that progressive stamping dies have become extremely complex, in part due to the greater shape complexity of the finished parts but also because manufacturers want to avoid the cost of secondary operations. With dies now performing up to 10 or more operations on multiple parts at once, Christensen must squeeze more functionality into a limited working envelope.



Boosting the benefits of 3D

Christensen decided long ago to do this work in 3D. Summit Tool Design uses the Solid Edge® design solution from Siemens PLM Software to create full 3D assemblies of the dies. "The enhanced capabilities provided by solid modeling make it easier to optimize a die and also to find potential problems before a design is released to the shop floor," Christensen says. "It is very time-consuming and costly to recover from an error in the shop. With Solid Edge, it is easier to help make sure those errors don't happen."

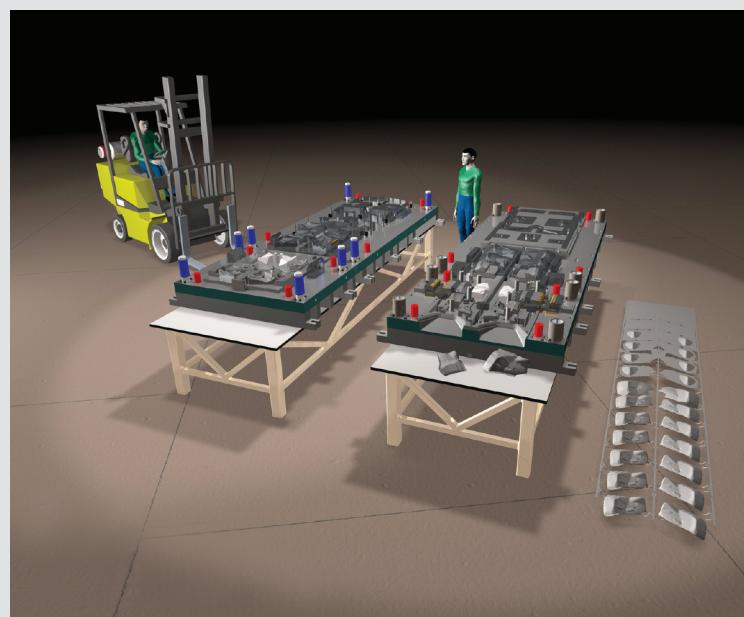
SIEMENS

Although benefiting from the proven advantages of 3D assembly modeling versus a 2D layout design for many years, the unrelenting nature of the time pressure means Christensen must always find ways to work faster. A new offering from Siemens that holds promise in this regard is Solid Edge with Synchronous Technology. "This is a big leap forward in technology, and there is definitely time savings potential here," Christensen says.

Solid Edge with Synchronous Technology combines the speed and flexibility of direct modeling with the control of dimension-driven design. After using this new approach on a project that involved two dies, Christensen sees a number of areas where it saves time over traditional, history-based modeling. The benefits begin even prior to the actual modeling process. "Normally you have to think through the direction you're taking before you start modeling," he explains. "You decide, 'OK I need to place this feature before this feature because if I need to make a change later on, I need the features to be in a certain order to recalculate properly.' That sort of planning isn't completely gone but it isn't as important with Synchronous Technology."

This is because Synchronous Technology's direct modeling functionality makes it extremely easy to change a model. For example, the second die that Christensen designed using Synchronous Technology was a variation on the first Synchronous Technology-driven die design, which is often the case in his work. In this situation, the first die had a series of 10-inch blocks, and the second die needed to have 14-inch blocks. "In the past I would have directly interacted with each one of those blocks to add two inches to the front and back sides of each block," he explains. "But with Synchronous Technology, instead of going into numerous part files and making the same two-inch change repeatedly, I was able to fence select an area and change several blocks at once, including faces in related parts. The select set solved the change and updated much faster than the history-based models would have. The new 'Live Rules' functionality in Synchronous Technology will also automatically recognize and maintain the correct geometric relationships of the faces being moved as well."

For changes such as this, the new technology provides the simplicity and straightforwardness of a fence select to modify a group of faces all at once, which provides considerable time savings. Live Rules means less time has to be spent laying out a precise 2D profile that will update properly later on. In a profile-based system, a good deal of time is spent constraining profiles that may never change. It is necessary work though, so if a change is made it will update properly. "Live Rules are available on the fly to do the profile's job of maintaining the geometric conditions," Christensen says. "A great added benefit of Synchronous Technology and Live Rules is the ability to edit foreign data as if I had created it."



Solutions/Services

Solid Edge

www.siemens.com/solidedge**Client's primary business**

Summit Tool Design provides progressive stamping die design.
www.summitsedge.com

Client location

Rockford, Illinois
 United States

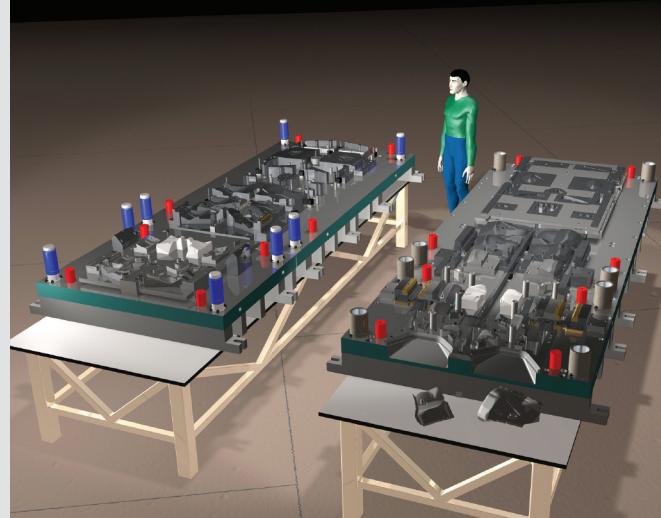
"This is a big leap forward in technology."

Scott Christensen
 President
 Summit Tool Design

That is something that was much more limited and difficult in earlier versions."

Dual performance boost

With Synchronous Technology, Christensen finds that both he and his hardware work more effectively. "Because the history of the modeling process is not maintained, file sizes are smaller, so files open quicker and save quicker. You get better performance out of your workstation. And when you make an edit, it is immediately calculated and displayed," he explains. "What that means for me is that with the faster file updates, the continuity of my thought process is interrupted less frequently."



Christensen found it easy to make the transition to Solid Edge with Synchronous Technology. "It was not a steep learning curve to become comfortable with it," he says. "With a few days of training and then exploring the software on my own, I felt quite comfortable with it.

"Overall, I'm impressed with this initial release of Synchronous Technology," Christensen concludes. "This is great stuff, and I will be using it in the immediate future."

► For more information, contact your local Velocity representative:

Contact

Siemens PLM Software

Americas 800 807 2200

Europe 44 (0) 1202 243455

Asia-Pacific 852 2230 3308

www.siemens.com/plm