

# DAVIS FURNITURE INDUSTRIES, INC.

Facilitating furniture fabrication and design with SolidWorks Professional



*Davis Furniture relied on SolidWorks Professional design software to drive the largest product line expansion in the company's history.*

The focus on design at Davis Furniture Industries, Inc., a family-owned and -operated manufacturer of contemporary office furniture, is more than just a part of the company's marketing slogan: Design is a choice! As a leader in the contract furniture industry—manufacturing institutional furniture for universities, hospitals, and office buildings—Davis Furniture views its award-winning product designs as essential to achieving its mission, emphasizing superior aesthetics and function with an international contemporary influence.

With licensee agreements to produce furniture for major European manufacturers, as well as licensing its designs to manufacturers in Germany, Italy, Australia, Japan, and Switzerland, Davis Furniture has grown from a small upholstery shop in High Point, North Carolina, in 1944 to a global manufacturing enterprise today.

Until 2003, the furniture manufacturer used AutoCAD® 2D design tools to develop its products. However, as the company planned the largest product line expansion in its history, management believed that moving to a 3D parametric design environment would provide the efficiencies required to cost-effectively increase its design and manufacturing output, according to Product Development Engineer Jim Martin.

"Davis was embarking upon its largest product line ever, so we needed to upgrade our design and manufacturing processes both in terms of quantity and quality," Martin recalls. "While we source a lot of our manufacturing to outside vendors, we have four CNC routers for wood in our machine shop, for producing sofa frames, panels, and veneer. We believed a 3D CAD system would help us accelerate product development and production, while reducing design errors at the same time."

## Challenge:

Accelerate furniture design and manufacturing to support product line expansion while improving product visualization.

## Solution:

Implement SolidWorks Professional software to improve product development and drive manufacturing processes.

## Results:

- Cut design cycles by 75 percent
- Reduced time-to-market by 50 percent
- Doubled number of product families produced
- Eliminated paper manufacturing drawings

After evaluating the Autodesk Inventor®, Solid Edge®, and SolidWorks® 3D design systems, Davis Furniture chose SolidWorks Professional software, which the firm uses in conjunction with SolidWorks Gold Partner SolidCAM machining software. "SolidWorks stood out from the other packages that we looked at because it provides the best interface between design and machining," Martin says. "We found the software to be easy to use and also saw the potential for using design configurations for saving time and automating production."

### Faster design doubles product line

With SolidWorks software, Davis Furniture has successfully expanded its product line. The furniture manufacturer has doubled its output of product families and has cost-effectively achieved its goals by cutting its design cycles by 75 percent, reducing time-to-market by 50 percent, and automating its manufacturing processes.

"Davis' niche is to consistently deliver very high-end furniture designs," Martin stresses. "The materials that we use are expensive and our designs are innovative, such as the passive ergonomics that are part of our executive and lounge seating lines. SolidWorks has enabled us to generate greater throughput while simultaneously improving quality. We've become both faster and better, with fewer design errors, and the quality of our development effort has risen dramatically."

### Visualizing and configuring orders in 3D

Two important elements of Davis Furniture's product development success are the ability to visualize 3D designs and configure product families with SolidWorks. "We do a lot of custom development and work heavily with overseas partners," Martin points out. "With SolidWorks, we can have our customers and partners view a product or a furniture layout in 3D, and then quickly and easily address design changes, due to the parametric nature of SolidWorks. In today's market, the ability to show a product in 3D can be the difference between getting an order and not getting an order."

"Configurations are also a big advantage," Martin adds. "I can do a design table with a thousand panels in about five minutes. On the production end, SolidCAM is the only CAM system that allows you to manage machining changes by configurations. The combination of SolidWorks and SolidCAM provides greater automation, accuracy, and control in manufacturing."

### eDrawings replace paper

Using SolidWorks eDrawings® files, Davis Furniture has realized additional benefits in manufacturing, completely eliminating paper drawings from the mix. "We used to create a drawing for every panel," Martin explains. "With SolidWorks, we no longer do drawings for primary machining operations and have gone paperless. Every machine operator can access eDrawings on-screen for reference purposes."

"How we use eDrawings is an especially illustrative example of how SolidWorks helps us save time," Martin continues. "The biggest time savings relate to how SolidWorks automation replaces a lot of slow, ineffective communications or redundant effort. Our processes are more streamlined and there's less potential for error."

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Jim Martin  
Product Development Engineer



Using SolidWorks design configuration, SolidWorks eDrawings communication, and SolidWorks Gold Partner SolidCAM machining capabilities, Davis Furniture has streamlined its development processes, improved product quality, and increased manufacturing throughput.

**DAVIS®**

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