

DAUPHIN NORTH AMERICA

Accelerating ergonomic seating design with SolidWorks software



Dauphin North America uses SolidWorks software surface-modeling capabilities to generate the curved surfaces that are common to the company's ergonomic seating products.

Since seating standards and requirements differ across countries and markets—for instance, US office furniture must be larger than European seating—Dauphin North America modifies and adapts furniture designs, which are originally developed at the company's headquarters in Germany, to serve the needs of its diverse markets. The company also creates original furniture designs that are specific to North America, such as lounge seating, which are not sold in other countries.

For many years, Dauphin North America used AutoCAD® 2D software to modify and create furniture designs. But when the German design group migrated to Autodesk Mechanical Desktop® software, the North American division needed to move to a 3D CAD solution in order to remain compatible, according to Jake Hawkes, product designer. “When I approached our Autodesk® reseller about acquiring Mechanical Desktop, they convinced me that we should implement Autodesk Inventor® software instead because it's a 3D parametric modeling program,” Hawkes recalls. “They told me that Inventor would still be compatible with Mechanical Desktop and could handle our legacy 2D data as well, so we made the switch.”

Hawkes says that he encountered compatibility and stability issues working in Inventor. “While I was able to open some Mechanical Desktop files, I could not open all of them. As a result, I had to work through many software crashes. A colleague at our sister company, Bosse, was using SolidWorks® software, and could open the files that I could not. Before I could work on the files in Inventor, I had to first open them in SolidWorks software and then save them as Inventor files.”

That time-consuming experience, combined with a lack of effective support, prompted Hawkes to further investigate SolidWorks software. At the same time, the German design group was also evaluating SolidWorks software. Dauphin North America chose to migrate to SolidWorks Professional because of its ease of use, advanced surfacing tools, configuration capabilities, responsive reseller support, and compatibility with Mechanical Desktop and AutoCAD legacy data. The German design group also made the move to SolidWorks software.

Results:

- Cut design cycles by 50 percent
- Substantially reduced design errors
- Developed product families from a single design
- Improved data compatibility with partners worldwide

Improved compatibility and performance

Since implementing SolidWorks Professional, Dauphin North America has completely resolved its data incompatibility issues. Now the company is enjoying smooth, problem-free interaction with partners, while at the same time improving performance. Hawkes estimates that the company has cut its design cycles by 50 percent since moving to SolidWorks software.

"The change in performance has been dramatic," notes Hawkes. "In SolidWorks software, I was able to model a part in about 10 minutes. In the past, I would spend a day and a half to draw the same part in Inventor. SolidWorks software is so easy to use that I end up working at least twice as fast as I did in Inventor."

"It's also easier to make design changes and fix errors in SolidWorks software," Hawkes adds. "Because it's parametric, I can correct an error in a part. Then the entire assembly updates itself, which substantially reduces the number of design errors."

Robust surfacing tools and configurations

Dauphin North America's implementation of SolidWorks software supports more innovative furniture designs because of the software's robust surfacing capabilities. "In designing furniture, you are not always working with simple planes and curves," Hawkes explains. "With SolidWorks software, I can generate complex surfaces and curves using lofts and sweeps. We need surface-modeling capability, which is certainly much better in SolidWorks software than it was in Inventor—and I expect surfacing to be even more powerful in the next version of SolidWorks software."

The company also uses the configuration capabilities of SolidWorks software to create entire product families from a single design. "Most of the lounge pieces we develop are single-, double-, and triple-seated sofas," says Hawkes. "Using configurations, I can design one seat and extrapolate that design to create the others."

Enhanced design visualization and presentation

SolidWorks software also provides Dauphin North America with more capable design visualization and presentation tools, which are becoming increasingly important in the furniture business. The company uses PhotoWorks™ software to create attractive renderings, and plans on deploying the animation capability in SolidWorks software to produce instructional animations for assembly processes.

"Our customers typically want a variation on our products," Hawkes explains. "With PhotoWorks, I can send them a rendering with lighting, fabric or leather upholstery, and a chrome finish. I can combine the rendering with a 3D layout, save it as a PDF file, and email it to the customer, which makes for a professional presentation."

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Jake Hawkes
Product Designer



SolidWorks software has helped Dauphin North America improve its design visualization and presentation capabilities through the use of PhotoWorks software.

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