

LANDSCAPE FORMS

Creating modern, attractive outdoor landscapes with SolidWorks solutions



The implementation of integrated SolidWorks solutions has helped Landscape Forms achieve its ambitious new product development goals.

Designing attractive site furniture—such as transit stops, benches, planters, tables, and chairs—that adds beauty and style to outdoor landscapes has helped Landscape Forms, Inc., grow over the past 40 years. Working with world-class design partners, including industrial designers, building architects, and landscape architects, the company has made outdoor site furniture fashionable. By applying stylish shapes, unique design methods, and innovative materials to product development, Landscape Forms achieves its mission of enriching outdoor spaces.

Before 2002, the manufacturer used AutoCAD® and CADKEY® 2D design tools to develop its products. However, management understood that expanding the company's product line, including the creation of entire collections, would demand the productivity enhancements of a 3D design platform. "The tools that we were using had become obsolete," recalls CAD Engineer Todd Halstead. "To work more efficiently with designers and fully attain our ambitious expansion goals, we needed to take advantage of the benefits of 3D parametric design software, such as being able to change a part and then have it update in an assembly."

Landscape Forms began looking at available 3D systems but didn't get past the first package it evaluated, which was SolidWorks® design software. "As soon as we saw the demo, we knew that we didn't have to look any further," Halstead recalls. "SolidWorks is easy to use, includes innovative design visualization tools, and provides excellent value for the price."

Since implementing SolidWorks Premium and SolidWorks Professional design software, the company has added other integrated SolidWorks solutions, including SolidWorks Simulation, SolidWorks Flow Simulation, and SolidWorks Enterprise PDM (product data management) software.

Challenge:

Develop and manufacture modern, attractive outdoor site furniture more efficiently while pushing the limits of innovation.

Solution:

Implement integrated SolidWorks development solutions, including SolidWorks Professional, SolidWorks Premium, SolidWorks Simulation, SolidWorks Flow Simulation, and SolidWorks Enterprise PDM software.

Results:

- Cut design cycles by 30 percent
- Shortened time-to-market by 15 to 20 percent
- Expanded product line by 350 percent
- Reduced file search time by 15 to 20 percent

"As our simulation and data management needs grow, we continue to rely on SolidWorks solutions," Halstead notes. "Our experience with the design package has been so positive that we are very confident going with additional SolidWorks solutions to meet all of our development needs."

Designing landscapes more efficiently

Using SolidWorks tools, Landscape Forms has expanded its product line by 350 percent, developing a range of complete outdoor furniture collections, while simultaneously reducing design cycles by 30 percent and shortening time-to-market by 15 to 20 percent. In addition to converting a designer's idea into a solid model more quickly, Landscape Forms uses SolidWorks design configuration capabilities to more efficiently create product families and maximize design reuse. For example, the Plexus™ wire grid outdoor bench comprises a total of 314 configurations.

"We use design configurations on a daily basis," Halstead stresses. "Each product group has different mounting styles. Configurations allow us to have all of these different models in one place. Tools like these are why SolidWorks is helping us get product to market faster and cleaner."

Improving quality with simulation and PDM

After adding SolidWorks Simulation, SolidWorks Flow Simulation, and SolidWorks Enterprise PDM software, Landscape Forms improved quality, reduced errors, and cut prototyping costs. The company uses simulation tools to analyze stresses, and to conduct wind and thermal simulations on shelters. SolidWorks Enterprise PDM provides the organizational foundation for managing product development. Since adding PDM, the manufacturer has reduced the time it takes to search for a design file by 15 to 20 percent.

"PDM has saved our company tens of thousands of dollars simply by controlling revisions and not allowing changes without the appropriate permissions," Halstead points out. "We do all of our own simulation work, so we don't have to rely on anyone's schedule but our own and can do many iterations on a part before creating a prototype. Our prototyping costs are down because SolidWorks visualization tools enable us to show concepts without having to create a physical prototype."

Photorealism boosts innovation

SolidWorks design visualization tools also help Landscape Forms push the limits of innovation. Using PhotoView 360 photorealistic rendering tools, the company's engineers can quickly create high-quality images of innovative concepts to facilitate collaboration with designers. This approach was particularly effective during the development and rollout of the Metro40™ line, a collection of integrated site furniture ranging from shelters, lighting, and receptacles to benches, bike racks, and bollards.

"Metro40 was a major milestone for Landscape Forms," Halstead explains. "It was our largest and, arguably, most innovative collection to date. Our products are looks-driven. Architects want to see them before deciding to use them, and they have to look fantastic. The photorealism available with SolidWorks is a major advantage. We're even using photorealistic renderings instead of photo shoots. Our products have to look good, and SolidWorks gives us the tools we need to make them look their best."

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Todd Halstead
CAD Engineer



SolidWorks design visualization tools like PhotoView 360 enable Landscape Forms to show its designs with a high degree of photorealism, making them more attractive to architects.

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