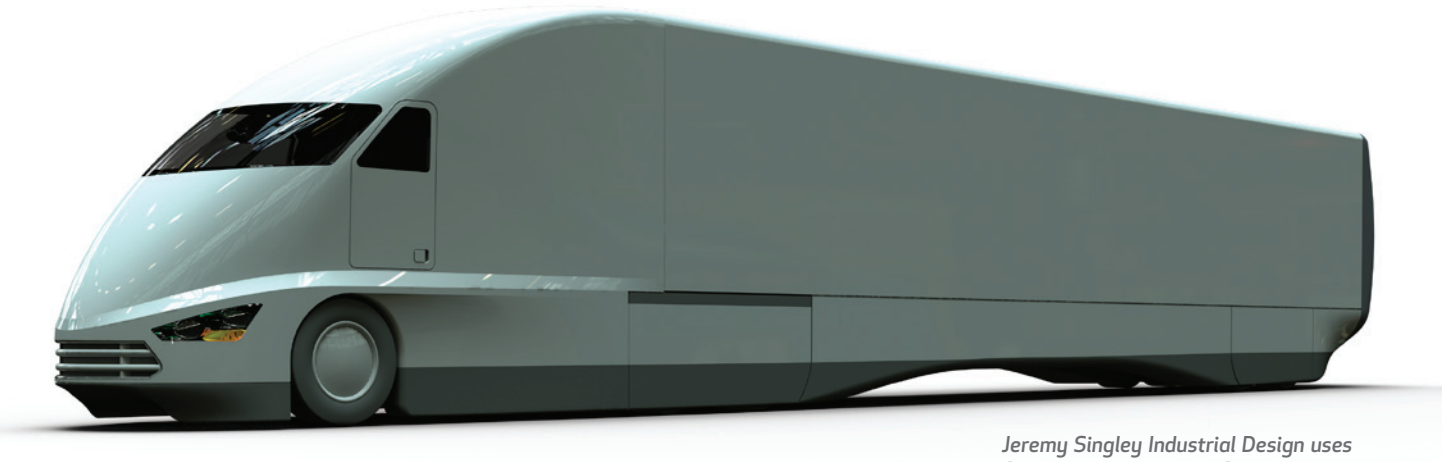
JEREMY SINGLEY INDUSTRIAL DESIGN

Innovating cutting-edge, manufacturable industrial designs with SolidWorks



Jeremy Singley Industrial Design uses SolidWorks design and SolidWorks Flow Simulation CFD analysis software to create innovative designs, such as the FutureTruck, a new tractor-trailer platform concept that boosts fuel efficiency by 35 percent.

When Jeremy Singley founded his industrial design firm in 2004, choosing the right design package was critical. He wanted Jeremy Singley Industrial Design to stand out from conventional industrial design consultants not only by developing innovative industrial designs, but also by providing added value through the delivery of design concepts in the form of parametric solid models.

Instead of solely creating artistic representations of new product concepts using traditional industrial design tools, Singley wanted to take the extra step of evaluating the manufacturability of a product design, so he could deliver industrial designs that clients could then produce efficiently and cost-effectively. "By minimizing feature creep and delivering production-ready concepts, I could provide a level of service far above the competition," Singley explains. "Achieving the company's industrial design and manufacturability goals required a 3D parametric CAD system that included modeling, surfacing, visualization, virtual prototyping, and design communication tools."

Singley had used Autodesk Inventor® software in college, but was uncertain as to whether it was the right package for his consultancy. So he sought the advice of a trusted professor, who had taught him Autodesk Inventor. The professor recommended that Singley use SolidWorks® 3D design software.

"Once I started using SolidWorks, it became clear that it was a superior package," Singley recalls. "SolidWorks is smarter software. It's almost as if the software has built-in intelligence and anticipates what you want to do. If you're not setting up a feature correctly, the software makes suggestions on how to make it work."

Jeremy Singley Industrial Design chose SolidWorks Professional design software as its design platform. The company later added SolidWorks Flow Simulation computational fluid dynamics (CFD) analysis software to support aerodynamic design validation needs. Singley values the SolidWorks solution because of its unique blend of surfacing, modeling, visualization, virtual prototyping, and communication tools.

Challenge:

Launch a trendsetting industrial design firm by efficiently creating outstanding, innovative, and manufacturable designs.

Solution:

Implement SolidWorks Professional design and SolidWorks Flow Simulation computational fluid dynamics (CFD) analysis software to blend the power of industrial design, solid modeling, and virtual prototyping.

Results:

- Shortened client time-to-market by 50 percent
- Decreased design time by 20 percent
- Cut number of prototypes by 50 percent
- Reduced design errors by 60 percent

SOLIDWORKS

"By choosing SolidWorks software, my company is compatible with the majority of potential clients," Singley says. "Using SolidWorks for industrial design provides me with a definite advantage."

Industrial designs infused with manufacturing data

With SolidWorks software, Jeremy Singley can design faster—20 percent faster than when he used Autodesk Inventor—and can evaluate the manufacturability of concepts more thoroughly and cost-effectively, reducing the number of prototypes required by 50 percent.

"With tools like interference checks for assemblies and undercut, minimum wall thickness, and draft analysis for molds, I've been able to reduce design errors by 60 percent," Singley explains. "I can create cutting-edge designs that are profitable to manufacture because the SolidWorks model supplies all of the engineering data required for production. SolidWorks also helps me condense multipart assemblies down to single parts, eliminating assembly costs without sacrificing design intent, as well as avoiding expensive side actions from molds."

Singley adds that because he can deliver industrial designs as SolidWorks models, his clients can move new products into production more quickly. Overall, he estimates that customers have shortened time-to-market by 50 percent because of this approach.

Creating innovative concepts

Singley says that working in SolidWorks gives him the freedom to play around with "blue sky" concepts while keeping one foot firmly planted in production realities. "I live in a wonderful world of industrial design, where I can really tap into my imagination and have fun in a virtual design playground," Singley says. "But ultimately, I need to bring concepts down into the manufacturing realm. SolidWorks allows me to do both."

Using SolidWorks software, he has developed many innovative concepts, ranging from more fuel-efficient trucks to a new line of titanium flutes. For example, working with the AirFlow Truck Company, Singley used SolidWorks Flow Simulation software to optimize the aerodynamic design for a new class of fuel-efficient tractor-trailers. The SuperTruck design—built on an existing truck platform—will reduce drag by 55 percent and increase fuel efficiency by 25 percent. The completely redesigned FutureTruck will reduce drag by 63 percent and increase fuel efficiency by 30 percent.

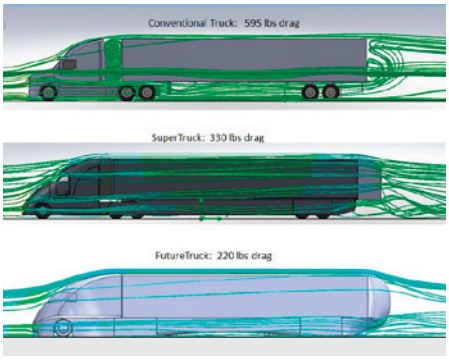
Visualizing designs, communicating with clients

Singley says that SolidWorks software makes it easier to conceptualize and visualize designs, as well as communicate concepts to customers. "I live by the surfacing, modeling, rendering, animation, and communication tools provided by SolidWorks," Singley stresses.

"I have not actually met 70 percent of my clients," he adds. "With PhotoView 360 and SolidWorks eDrawings® software, I can send both photorealistic renderings and accurate 3D models of the design. That's a lot better than working with hand sketches or Adobe® Creative Suite® illustrations that are far from production-ready."

"I CAN CREATE CUTTING-EDGE DESIGNS THAT ARE PROFITABLE TO MANUFACTURE BECAUSE THE SOLIDWORKS MODEL SUPPLIES ALL OF THE ENGINEERING DATA REQUIRED FOR PRODUCTION."

Jeremy Singley
Owner



SolidWorks Flow Simulation CFD analysis software enabled Jeremy Singley Industrial Design to not only work with the existing tractor-trailer platform to develop the 25-percent-more-fuel-efficient SuperTruck design, shown above the fluid-flow illustrations, but also create the 35-percent-more-fuel-efficient FutureTruck.

Jeremy Singley Industrial Design
P.O. Box 687
East Middlebury, VT 05740 USA
Phone: +1 802 352 4427
www.jeremysingley.com
VAR: Computer-Aided Products, Inc.,
Manchester, New Hampshire, USA

Dassault Systèmes
SolidWorks Corp.
300 Baker Avenue
Concord, MA 01742 USA
Phone: 1 800 693 9000
Outside the US: +1 978 371 5011
Email: info@solidworks.com
www.solidworks.com