

# CENTER FOR ADVANCED DESIGN

ACCELERATING INDUSTRIAL DESIGN CONCEPT DEVELOPMENT  
WITH SOLIDWORKS INDUSTRIAL DESIGNER SOFTWARE



Using the combination of advanced surfacing and parametric modeling tools in SOLIDWORKS Industrial Designer software, CAD has realized greater speed and flexibility in the development of industrial designs, such as the motocross helmet shown here.

**Challenge:**

Accelerate industrial design development by eliminating repetitive tasks, improving flexibility for making design changes, and streamlining communication of design concepts.

**Solution:**

Implement SOLIDWORKS Industrial Designer software.

**Benefits:**

- Cut industrial design time by 60 percent
- Completed the work of three people with one person in less time
- Improved communication with customers and partners
- Accelerated handling of design changes

When Marc McCauley and Jesse Hahne founded the Center for Advanced Design (CAD), the co-owners contributed their combined experience from having brought more than 1,700 products to market to this leading product development consulting firm. Based outside Minneapolis, CAD strives to quickly create innovative design concepts and efficiently help clients marshal industrial designs through mechanical design, engineering, prototyping, and production.

In its efforts to “get the job done fast and right,” CAD had utilized a variety of design tools, including the Alias® and Rhino® surfacing packages for product industrial design, as well as SOLIDWORKS® mechanical design software for internals and production drawings. Although these industrial design and product development solutions allowed the firm to complete its work, CAD viewed the lack of integration between its surfacing and design solutions as an inefficient bottleneck in its development process.

“Bringing surface geometry into SOLIDWORKS design software required a lot of time and effort,” Hahne recalls. “We constantly had to find patches and work-arounds to create fully dimensioned solid models whenever we dealt with complex surface geometry.”

Design changes late in the development process also created extra work. “With Alias and Rhino, changing the surfacing geometry to resolve performance or manufacturability issues meant we had to redo a lot of work,” adds McCauley. “We’d have to start over, create new surfacing geometry that reflected the design change, and then bring the new surface geometry into SOLIDWORKS. We kept looking for a better solution for bridging the gap between industrial and mechanical design.”

Because CAD works closely with SOLIDWORKS reseller Symmetry Solutions, the product development consultancy discovered that a new industrial design solution—SOLIDWORKS Industrial Designer software—was in development. CAD signed up for the SOLIDWORKS Industrial Designer Lighthouse Program, which provides the opportunity to use the software in production as part of pre release testing. CAD’s involvement in early usage and testing of SOLIDWORKS Industrial Designer software exposed the firm to a better, cleaner approach for integrating industrial and mechanical design.

“We were hoping that CAD was selected for the Lighthouse Program,” McCauley notes. “Once we began working with the software, we were glad to be selected. SOLIDWORKS Industrial Designer software is so intuitive and provides the integrated industrial design solution that we needed.”

**SKETCH, SURFACE, RENDER, AND SHARE**

After installing the software, CAD realized just how beneficial SOLIDWORKS Industrial Designer software would be. Not only is it useful for quickly sketching concepts on a Wacom® tablet, creating complex surface designs and rendering high-quality photorealistic images, but it’s also perfect for sharing and communicating design concepts with clients and partners via the software’s SWYM social communications capabilities.

“The ‘eureka’ moment was when we brought a surface created with SOLIDWORKS Industrial Designer software into SOLIDWORKS mechanical design software and watched the surface thicken into a solid model,” Hahne explains. “SOLIDWORKS Industrial Designer files feel like they were born in the SOLIDWORKS mechanical package. In addition to saving us time working back and forth between the industrial and mechanical design, the software provides us with the ability to share concepts with customers via an online design community, which saves additional time and provides a more efficient way for communicating everything from quotes and scopes of work to industrial design concepts and modifications.”



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— Jesse Hahne, Co-Owner

**GREATER FLEXIBILITY ACCELERATES DEVELOPMENT**

The integrated SOLIDWORKS Industrial Designer solution provides CAD with greater flexibility for creating more industrial design concepts in less time. “With SOLIDWORKS Industrial Designer software, we have everything we need for industrial design—from sketching and Sub-D push-pull modeling to surfacing and rendering—without having to jump back and forth between applications,” McCauley says.

"SOLIDWORKS Industrial Designer software provides all of the capabilities of other sketching and surfacing packages without their limitations," Hahne adds. "The software has allowed us to cut design time by 60 percent, which gives us time to create more concepts, and we don't have to write emails, schedule a web meeting, or travel out of state to share concept ideas. We just put everything in the design community, which makes it available to customers instantaneously and available for review at any time."

## QUICK, EASY INDUSTRIAL DESIGN CHANGES

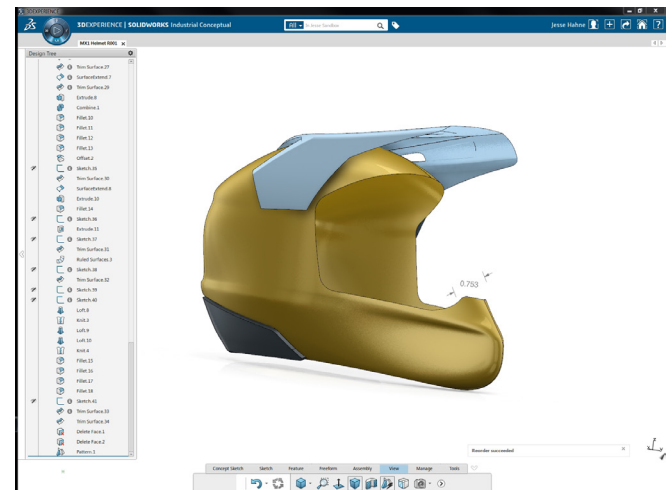
Using SOLIDWORKS Industrial Designer software, CAD can quickly modify industrial designs without having to start over. This capability was especially valuable on the first two projects completed with the new software: a snowbike conversion kit for Kawasaki KLX110/110L motorcycles, which CAD developed for Holeshot, Inc., and a motocross helmet concept.

"Industrial design concepts are essentially derivatives of the same foundation," Hahne explains. "The beauty of SOLIDWORKS Industrial Designer software is that you don't have to start over and can work backward to make changes. For example, working on the motocross helmet, we needed to change the size of the helmet. Instead of creating a new surface model, I went back to step 10 and went on from there. This type of flexibility translates into time and money. With SOLIDWORKS Industrial Designer software, one person can do in a week the same amount of work that required three people and six weeks in a nonintegrated package."

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With SOLIDWORKS Industrial Designer software, CAD can easily move back and forth between its ideation/surfacing and production modeling tools, saving the product development consultancy time and money while enabling it to maintain the industrial design aesthetic when designs move on to manufacturing.

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