DASSAULT SYSTEMES

SOLIDWORKS

INERTIA ENGINEERING + DESIGN

DEVELOPING INNOVATIVE INFANT AND CHILD SAFETY PRODUCTS WITH SOLIDWORKS INDUSTRIAL DESIGNER

With SOLIDWORKS Industrial Designer software, IE+D has realized important productivity gains related to better collaboration between industrial design and mechanical engineering, enabling the firm to more easily and efficiently develop, engineer, and render innovative designs, like this handle for an infant and child safety product.

inertia

Challenge:
Make product development more efficient by facilitating collaboration between industrial design and mechanical engineering.

Solution:
Add SOLIDWORKS Industrial Designer software to its SOLIDWORKS design, SOLIDWORKS Simulation analysis, SOLIDWORKS Plastics injection-molding simulation and analysis, and SOLIDWORKS PDM Professional product data management software installation.

Benefits:
- Eliminated half-day of industrial design planning per project
- Created freeform concepts more quickly
- Improved collaboration between industrial and mechanical design
- Reduced mass and volume of infant product during industrial design

Inertia Engineering + Design, Inc. (IE+D) is a leading supplier of fast-tracked, streamlined product design and engineering services to the medical, defense, and consumer product industries. When company founder and President Ray Minato established IE+D, he based his business model on serving clients better by quickly facilitating collaboration, efficiently handling product data, and effectively managing projects. Minato realized that helping start-ups and manufacturers maximize their return on investment required the speed and accuracy of a fully integrated product development platform.

The firm has relied on SOLIDWORKS® design and engineering solutions—including SOLIDWORKS design, SOLIDWORKS Simulation analysis, SOLIDWORKS Plastics injection-molding simulation and analysis, and SOLIDWORKS PDM Professional product data management software—since its inception. However, as IE+D's business has expanded, so has the consultancy's need for an integrated industrial design, surface-modeling tool, according to Industrial Designer Randy Yang.

"Until recently, we used a combination of pen and paper, Adobe® Illustrator® and Photoshop®, and Rhino® surface-modeling software to create industrial design concepts," Yang explains. "We ultimately detail, engineer, and manufacture designs using SOLIDWORKS software, and have routinely encountered issues during transitions between industrial design and mechanical engineering that required a good deal of model cleanup that had to be factored into our initial planning. We also had no way to incorporate parametrics during industrial design."

When IE+D heard from its SOLIDWORKS reseller about the development of a new integrated subD surface modeling package called SOLIDWORKS Industrial Designer, the product development firm jumped at the chance to use an early version of the software. IE+D signed up for the SOLIDWORKS Industrial Designer Lighthouse Program, which provides the opportunity to use the software in production as part of prerelease testing.

FAST, EASY INTEGRATION OF SOLIDS AND SURFACES

After using SOLIDWORKS Industrial Designer, IE+D realized important productivity gains related to better collaboration between industrial design and mechanical engineering. For example, because the software provides for fast and easy workflows between SOLIDWORKS Industrial Designer and SOLIDWORKS software—without losing parameters established during industrial design—the firm no longer has to make iterations and transitions between the two functions part of its initial planning on a project.

"I used to spend a half-day planning how we would move industrial design concepts into SOLIDWORKS, accounting for model rebuilds and fixes," Yang points out. "With SOLIDWORKS Industrial Designer, we've cut out that planning phase because of the ease in going back and forth between the two applications. I can roll parametrics into my freeform concept models, which allows me to roll back the industrial design CAD model as far as necessary to make the frequent changes required to support manufacturing."

"Using SOLIDWORKS Industrial Designer on the infant and child safety project, I was able to focus on the design aesthetic while simultaneously addressing mass and volume concerns. The product is designed for travel so it needs to be with the child and parent most of the time, so creating a design that would be as light and compact as possible was an important consideration during industrial design."

— Randy Yang, Industrial Designer

INNOVATIVE INFANT AND CHILD SAFETY PRODUCT

The first project that IE+D used SOLIDWORKS Industrial Designer for was the design of an innovative infant and child safety product for a major manufacturer. The software allowed Yang to create freeform concepts more quickly without having to worry about the transition to engineering. In addition to enabling Yang to create an industrial design without a single flat surface, SOLIDWORKS Industrial Designer allowed him to address mass and volume requirements during initial concept development.

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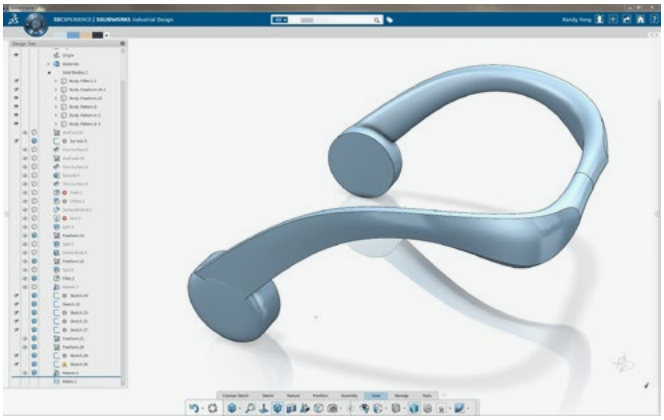

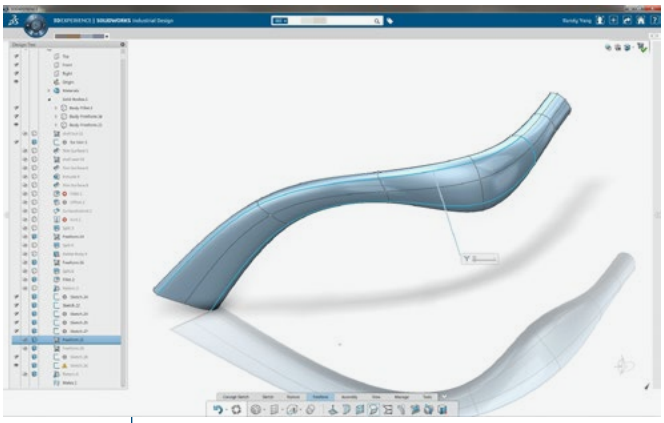

"At IE+D, we view form to be just as important as engineering," Yang notes. "Using SOLIDWORKS Industrial Designer on the infant and child safety project, I was able to focus on the design aesthetic while simultaneously addressing mass and volume concerns. The product is designed for travel so it needs to be with the child and parent most of the time, so creating a design that would be as light and compact as possible was an important consideration during industrial design."

TAKING ADVANTAGE OF CREASING TOOL

Yang also utilized a unique creasing tool in SOLIDWORKS Industrial Designer to efficiently refine the product's handle. "While I was working on the handle design, which was initially an amorphous shape of all round surfaces, I wanted to refine the area where the hand is positioned so a user's hand would naturally settle there," Yang says.

"I used the creasing tool to add a hard-edge return back down the rest of the handle with a flat round on the other side to define the handle grip area," he continues. "That would have taken extra steps in Rhino, and I wouldn't have had the parameters that will save time down the line. The ease of moving back and forth between SOLIDWORKS Industrial Designer and SOLIDWORKS design software makes the solution infinitely more efficient."

Because SOLIDWORKS Industrial Designer software supports faster, easier workflows between industrial design and mechanical engineering, IE+D no longer has to make iterations and transitions between the two functions part of its initial planning on a project.

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