



SITUATION

The Springfield Aluminum Company, established in 1952, makes quality custom castings for many diverse industries, pouring over 60,000 pounds of molten metal a month. In 1983, the company registered its marine product line under a company doing business as the Springfield Marine Company. Today, Springfield Marine manufactures a wide range of hardware and accessories for the marine industry, including a complete line of seats, chairs, and pedestals. To

stay competitive, Springfield Marine knew it had to reduce product development cycle times and costs, and get its products to market much faster than it had been able to with AutoCAD, its existing 2D drawings-centric design system.

OBJECTIVE

Increase market share by getting products to market faster and at less expense, so they stay among the top marine product manufacturers.

PROCESS VISION

- ✓ Ensure the new system could coexist with the company's existing 2D CAD system (AutoCAD).
- ✓ Be able to view virtual product models and perform all design modifications before building prototypes.
- ✓ Increase the effectiveness of the company's newly opened China mold-making site by getting more accurate designs to China sooner, thus reducing cycle time and tooling costs for the molds.

ACTIONS

- ✓ After extensive evaluations, Springfield Marine chose I-DEAS Artisan™ over SolidEdge, SolidWorks, and Pro/Modeler because of its superior surfacing capabilities, and because it offered more value for the price. I-DEAS Artisan was the only package evaluated that provided the ability to create complex surfaces that could then be closed up to a solid.

Springfield Marine Unseats Competition With I-DEAS®

"When I saw that the surfacing capabilities of I-DEAS Artisan was so much better than the competition, I was sold. With the other products, I was unable to create complex surfaces and then close them up into a solid like I could in I-DEAS. And for me, that was a major difference."

- Mike Mawhiney
Prototype Research &
Development
Springfield Marine Co.



Springfield Marine Unseats Competition With I-DEAS

- ✓ Using I-DEAS®, the designers create 3D models of all part components for the new product lines. All design changes are made in the software and then physical prototypes are built.
- ✓ To insure a safe product, the prototype is tested for structural stability through a series of static load, fatigue and impact tests to ensure that all products meet or exceed the proposed structure as required by the American Boat and Yacht Council for safety standards. If a problem is identified, changes are made quickly in the software and a new prototype can be built before any tooling costs have been incurred.
- ✓ Once the prototype is proven, final drawings and all required 2D views are generated automatically in I-DEAS and then sent to the moldmakers in Springfield Marine's recently opened sister company in China.

RESULTS

- ✓ Using I-DEAS, Springfield Marine designers could make recommended design changes sometimes in as fast as 30 minutes, and an hour later they were ready to cut another prototype. The company has estimated that designing in solid models has saved them between 70% and 75% of their cycle time because of the reduction in prototype creation time alone.
- ✓ On one recent project, the finished product design, which contained many small ribs, radii and blends, was accomplished in three days. This same design would have taken at least three weeks using AutoCAD.
- ✓ Because the I-DEAS system is allowing the engineers to generate more accurate and proven designs, the mold shop in China estimates savings of at least 65% in retooling costs.
- ✓ Springfield Marine was so excited about one of their recent seat designs, that they entered it into a VRML contest sponsored by *CAE Magazine*. The design was selected as the first runner up and was posted on *CAE's* web site, along with other VRML contest winners.

PLANS

The next stage in Springfield Marine's implementation of I-DEAS includes the application of the software's assembly capabilities and generative machining functions. In addition, the use of I-DEAS will be expanded to include the site in China. As users there become proficient using 3D solid modeling, Springfield hopes to further reduce, and ultimately eliminate, the need for 2D drawings.

SDRC, I-DEAS and Get There Faster are registered trademarks, and I-DEAS Artisan is a trademark of Structural Dynamics Research Corporation. All other trademarks or registered trademarks belong to their respective holders.

© Copyright 2000 Structural Dynamics Research Corporation. All rights reserved.

SDRC