

TEAM EFFORT YIELDS BIG SAVINGS

ABOUT LAKESIDE PRODUCTS. Lakeside Products is a small manufacturer in Polk City, Iowa, with 10 employees. They manufacture pet doors and other pet products.

THE CHALLENGE. "Our injection molding partner has had some challenges with the quality of a part they make for us," said Bruce Beguhn, who owns the Polk City-based Lakeside Products. "They suggested a design change to improve the quality and reduce scrap and secondary labor, but we needed to know if it was truly going to be better than what we already have."

Lakeside turned to the team at CIRAS, part of the MEP National Network™. Beguhn shared the new design with Chris Hill, CIRAS engineering services director. Hill, who has extensive experience in injection molding, made some suggestions on changing the configuration of the design. He then brought in his colleague, John Roberts, CIRAS project manager, who did a Finite Element Analysis (FEA) of the new product to determine how it might behave.

MEP CENTER'S ROLE. Roberts first completed FEA simulations of the existing door to use as a design standard. He applied various loads and constraints to determine the door's stress conditions. The same loads and constraints were applied to the new design and the stress results compared. CIRAS also provided a 3D printed prototype of the new component for marketing purposes.

"When all those benefits are considered, we ended up reducing the cost of the product by 25% in spite of an increased cost in the raw material. We couldn't ask for better results than that."

-Bruce Beguhn, Owner

RESULTS



25% cost reduction



1 redesigned product launched

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