

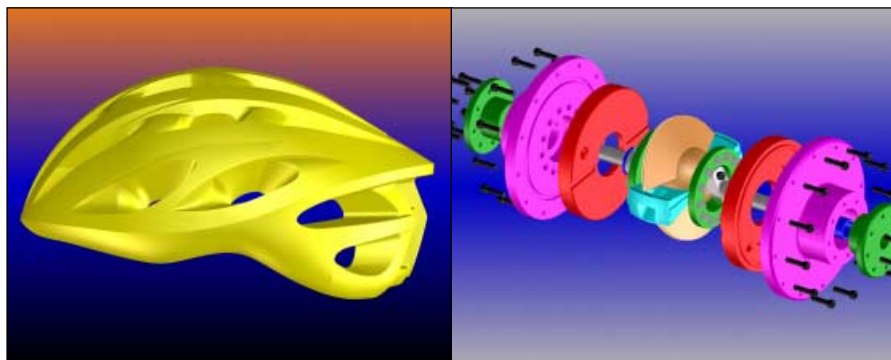


ZETA Engineering Rediscovered Best Kept Secret in Product Design

The Situation

“Other design products may have a more popular image, but CoCreate is still the best-kept secret in the industry. Productivity gains are significantly better with CoCreate’s products.”

Bob Zajeski, President of ZETA Engineering



ZETA Engineering’s Profile

ZETA Engineering Company was founded in 1992. It was one of the first engineering-consulting firms that fully utilized rapid prototyping and parallel engineering.



The Challenges

ZETA Engineering prides itself on rapid design and prototyping. They were happy with OneSpace Designer Modeling by CoCreate but were lured to try a popular and less expensive software. However, they still wanted a CAD software program that was

- Reliable in its measurements
- Easy to understand
- Able to change models easily

The Solutions

After a frustrating month and a half with the stylish new software, they returned to OneSpace Designer Modeling by CoCreate Software.

The Results

- Make design changes without having to understand the history tree
- Easy to understand the part’s relationships
- Superior measuring and modeling accuracy
- 40% increase in overall design work productivity

Initially, the company assisted rapid prototyping service bureaus with startup problems and in converting drawings or 2D IGES files into CAD Solid Models.

The company has evolved into a full product development consulting service for entrepreneurs and Fortune 500 companies. They have over 30 years of product design, engineering and CAD/CAM/CAE experience. Being in the rapid prototyping business, the company understands what it takes to provide quick and responsive service.



Precision and rapid prototypes are key to staying competitive in design engineering. But sometimes glamour can override precision. ZETA Engineering is all too aware of this.

After being a devoted OneSpace Designer Modeling customer for several years, ZETA Engineering was enticed by another CAD software that was popular at the trade shows, promised excellent 2D drawing and 3D designing capabilities, and appeared less expensive than most 3D CAD products.

In the end, the new program didn't measure up as ZETA Engineering tried to use it on a real project involving a high-precision sealing system for the Meyer Nutating engine.

In the initial phase, the project slipped 2 weeks due to complications with the model's history. History-based CAD programs, like the one ZETA Engineering started to use, sequentially records the operations a designer executes while constructing a design in what is called a history tree. The drawback is that the designer must understand this history tree in order to make design changes. ZETA Engineering lost valuable time reviewing the history tree. "During the initial design, numerous concepts were being explored and it was sometimes easier for us to start all over than to try to understand the history tree," says Bob Zajeski, President of ZETA Engineering.

"As design teams share design data, it becomes almost impossible to make changes to the data that includes a history tree," commented Zajeski. "Too much time is lost examining the original history tree, and the changes that can and can't be made to the design."

ZETA Engineering was also annoyed at the part relationships in this other CAD program. "The way I design is that I delete a feature, modify it, or add to it," said Zajeski. "So when I set up part relationships in the other CAD package and designed the way I normally do, the constraints would explode. I was spending more time maintaining the constraints and history tree than on the actual design. And the more I made design changes, the longer and more complex the history tree became."

Still, more issues were raised. The required level of modeling accuracy just was not available with this CAD product. "We were trying to design spherical and elliptical engine seals with tolerances in the 10-4 inch range," said Zajeski. "We

would use the clash check between parts to mate the sealing areas but every clash check gave us a different distance. Because we were working in the 10-4 tolerance range, this was just not acceptable."

Frustrated, tired, and behind schedule, ZETA Engineering needed to make up the time they lost with this new CAD product. Just 6 weeks after purchase, they returned this CAD product. They would go back and give OneSpace Designer Modeling another try.

After upgrading their OneSpace Designer Modeling, ZETA Engineering found that it was easier to use and still had the same precision they had always counted on. "More importantly, with CoCreate's dynamic modeling approach, we did not have to worry about the history tree or constraints in order to make design changes," said Zajeski. "Today just about any CAD product can create a model for you, but what's critical to delivering a project on time is the ability to make changes as fast and accurate as possible."

Dynamic modeling is a technology that lets you work with a design and make changes easily even if you have no knowledge of how the model was originally created. ZETA Engineering was now making real design changes with OneSpace Designer Modeling in 2 days, whereas the previous product had taken them 5 days. They also observed that with the other CAD software, they had to use a lot of valuable time planning their models so that the history tree and constraints could be understood later.

"Dealing with a model's history and constraints would have cost thousands of dollars a year for our company," says Zajeski. "With history-based CAD programs, you are limited to the number of design iterations you can explore before you have to start a new file. However OneSpace Designer Modeling frees us to experiment and try innovative approaches on our design work."

"We estimate we are 40% more productive with this new version of OneSpace Designer Modeling than compared to the other CAD product that we tried to use," commented Zajeski. And they have discovered that sleeker products lose their luster easily.

"Other design products may have a more popular image, but CoCreate is still the best-kept secret in the industry," Zajeski summarizes. "Productivity gains are significantly better with CoCreate's products."

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