

Zvezda

Russian toymaker brings new products to market faster with CATIA



Overview

■ Challenge

To maintain its lead in Russia and secure its entry into the international market, Zvezda had to reduce product development time

■ Solution

Zvezda chose CATIA to speed design of exact replica models

■ Benefits

CATIA helps Zvezda improve product quality and bring new models to market faster

“With CATIA, we can solve all problems promptly and precisely. This allows us to consider different design options and choose the best one.”

Alexandr Adamtsov, Lead Designer, Zvezda

Market leader for prefabricated models

Located near Moscow, Zvezda Open Joint-Stock Company (Zvezda) is one of the largest producers of prefabricated models of civilian and military equipment, historical miniatures, table games, and toys in Russia, and is one of the most popular toy brands in the country.

Development of Zvezda toys is anything but child's play. After defining its strategic goals, which included production of prefabricated models, in particular, replicas of modern aircraft from aerospace manufacturers including Kamov, Sukhoy, MiG, and Tupolev, Zvezda faced new challenges such as the need to modernize the company with state-of-the-art technology used in the modern toy manufacturing business, as well as to automate its design system. For example, a modern aircraft has an exceptionally sophisticated interior layout so in order to ensure that its products are exact replicas of their famous prototypes, the company had to forgo its traditional methods based on outdated drawing technology and start using 3D modeling software.

In addition, increased competition in domestic and international toy markets has forced the company to adopt a new strategy that ensures technological support of its production process. Its main business goals, such as constantly replenishing its stock, improving product quality and focusing on innovation, forced Zvezda to implement a more powerful system for automated design that comprised a variety of design tools and methods such as solid and surface modeling. Likewise, it needed to create prefabricated objects, organize effective data exchange between designers and product engineers, enable employees to work with highly complex surfaces, provide advanced tools for parameterization, and pave the way for multi-user operations in the future.

Zvezda decided that CATIA was the most appropriate solution for the company's needs. It also chose CATIA because it is used by leading Russian design departments that work closely with the company to ensure technical precision of prefabricated aircraft models.

Time savings and specification control

After its designers completed training and began working with CATIA, the company noticed significant benefits in terms of time saved on designing and launching a new product coupled with overall product quality. "When we started designing our new model, the Variag cruiser, we initially calculated the required time based on our old technology," says K.A. Krivenko, General Director, Zvezda. "However, we soon realized that the final output was of low quality so we redesigned it with CATIA. We surprised the world with the high specifications and accurate precision of this model." Today all new models are initially developed using CATIA, with six to seven products running on different development stages simultaneously.

Producing inexpensive (in comparison to foreign counterparts) and high-quality models has enabled Zvezda to secure strong competitive advantage and to significantly strengthen its position in the marketplace. Today, Zvezda produces over 50 new models annually in its core field of prefabricated

models, military and historical miniatures, and successfully sells its products worldwide. The company's products are competitive in Germany, Italy, England and Japan, countries that traditionally appreciate high quality models.

CATIA is capable of solving design challenges such as making complicated break lines, designing tools, and creating sophisticated packaging. "With CATIA, we can solve all problems promptly and precisely. This allows us to consider different design options and choose the best one," says Alexandr Adamtsov, Lead Designer, Zvezda. "CATIA also enables us to consider different options and choose the best one because it has powerful parameterization capabilities that allow us to immediately change the dimensions of a form and to adjust it to a certain type of equipment. In the near future, the company intends to increase the number of CATIA seats and ensure the readiness of cast tooling/numeric control programming within this system thereby making it possible to further reduce time spent on getting new products to market."

"CATIA will soon enable Zvezda to offer new, complex models that are internationally recognized for their high quality standards."

K.A. Krivenko, General Director
Zvezda



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