

BRIGHT IDEA



Ichikoh Industries races to market using an Objet 3D Printer

"We believe the Objet Eden500V will help us significantly, in all areas of product prototyping."

— Naohisa Akiyama,
Ichikoh Industries

Ichikoh now enjoys a more cost-effective design process by first conducting detailed reviews of prototypes produced with the Objet Eden 3D Printer before creating any molds.

Ichikoh Industries Ltd. manufactures lamps and mirrors for the international automotive industry. With a client base that spans all of Japan's automakers as well as auto manufacturers from around the world, Ichikoh is under constant pressure to remain at the cutting edge of technology. It has to manufacture a wide range of products with varied designs while reducing development time and costs.

In 2007, Ichikoh embarked on a new process in which prototyping and mask creation took critical roles in ensuring mass production success. Ichikoh sought a cost-effective method to evaluate new product designs before going into mass production.

"The design diversity of our headlamps and mirror products required extensive verification using actual products," said Naohisa Akiyama, chief engineer at the Ichikoh design and development headquarters. "Without in-house prototyping, we often created molds only to discover that we had to repeat the process because of design problems."

Good on Curves

Ichikoh evaluated several rapid prototyping and 3D modeling systems, analyzing and scoring each prototyping option for accuracy, materials, finishing and surfaces, cost and operability. When all the results were in, the Objet® Eden500V™ 3D Printer was the clear winner.

"The Objet Eden excels at molding the complicated and convoluted shapes and curved surfaces integral to our products," said Akiyama. "And it enables us to assess the texture of actual products and verify tactile sensation."

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Ichikoh also liked the Objet 3D Printer's convenient operation and its large build tray size, which enables production of larger prototypes than other systems, easy support removal and the ability to polish and paint the printed models immediately.

Winning Times

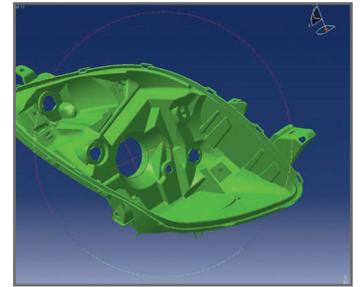
The Objet Eden 3D Printer has significantly improved Ichikoh's time to production as well as its cost efficiency.

"It has completely changed our prototyping process," said Akiyama. "We are able to verify and conduct a full, detailed product review before creating any molds. This leads to a much more cost-effective process and has eliminated the need to modify molds and make post-mold design changes."

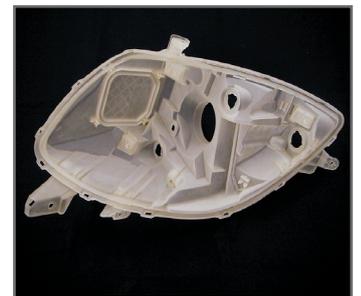
Using the Objet Eden 3D Printer, the Ichikoh team can create prototypes ranging from small parts to complete products such as headlamps. Ichikoh can also use the 3D printed prototypes in real functional tests. For example, Ichikoh can illuminate its new prototypes because of the photopolymers' high temperature resistance.

"For Ichikoh, using the Objet Eden 3D Printer is an ideal approach for creating the required material parts for a product using prototypes, as well as creating prototypes for complete products, such as a headlamp," said Akiyama. "We believe it will help us significantly, in all areas of product prototyping."

"The Objet 3D Printer has significantly improved our time to market, while increasing our ROI."



This is a CAD design of a car head lamp cover.



The car headlamp prototype was printed on the Objet Eden 3D Printer.