"The Objet Eden350 3D printer enables us to achieve more effective design communication with our customers. By creating high resolution concept models, our customers can easily verify the product design - resulting in lower cost of error and enabling us to meet the requirements of our clients in a more accurate way"

TB Chua,
Mechanical Design Engineer

Case Study

Balda helps customers design new products with Objet 3D printing system

At a Glance

Company: Balda Solutions
URL: www.balda.com.my
Location: City of Ipoh, State of Perak, Malaysia
Industry: Consumer electronics

Challenges

- Need to create complex 3D parts with high accuracy and detail for concept modeling and verification
- Improve design communication with customers and reduce cost of error
- Reduce product design cycle time

Solution

The Eden350™ 3D Printing System from Objet

Results

- In-house Objet printer capabilities save three to six weeks during concept and proof of concept phases
- Highly accurate models lead to better design verification results and reduced cost of errors
- Ability to rapidly print any 3D shape with high resolution, good mechanical properties and smooth surface finish
- Increased flexibility to use wide range of model materials facilitates close simulation of almost any product design

In the product development process, reaching a deep understanding of customer requirements and translating them into accurate and realistic concept models within tight deadlines is essential to remaining competitive and keeping up with dynamic industry trends. Balda Solutions Malaysia, a leading Malaysian ODM (Original Design Manufacturer) for a number of global mobile phone companies, understands how critical the concept verification stage is to product development and is strongly committed to providing its customers with maximum value in far less time.

Established over twenty years ago as a plastics company, Balda has since turned its focus to product development. With multiple manufacturing sites in Germany, China, and India, Balda - as part of the Balda AG group - leverages its world-wide resources to support customer needs for global market reach. Balda's ongoing efforts to enhance knowledge and upgrade facilities for the design and production of the latest products and gadgets leads to investments in future-oriented technology. Recently, when Balda was looking for advanced equipment to create prototypes for concept modeling, mechanical part assembly testing and other product testing such as mechanical strength testing, it decided to purchase the Eden350™ 3D printer system from Objet Geometries. Based on Objet's unique, market-proven PolyJet™ Technology, this advanced printing system completes Balda's in-house R&D facilities and provides Balda with a productive, flexible and highly accurate way to create and test product designs with prototype materials that closely mimic the materials that will be used in the final product design.

"We were looking for a printer that could produce high resolution 3D models with fine details, good mechanical properties and smooth surfaces," says Frank De Rijk, Director – R & D at Balda. "With the Eden350 3D printer, we can now create any 3D shape with unmatched precision, and simulate closer-than-ever, tactile and visual replicas of product designs. Add the wide variety of material options, including several different colors, to this combination and you have the perfect solution for creating in-house product parts for concept modeling and testing."

High productivity AND high quality

As early as six months after purchasing the Eden350 3D printer, Balda had already gained important business benefits and further solidified its reputation as a market leader in the field of product development.

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Balda uses the 3D printing system to cost-effectively model high-quality, 3-dimensional parts at the earliest of stages in the product design cycle – thereby reducing time and cost, and dramatically reducing the risk of error. Printing with ultra-thin 16-micron (0.016mm), high-resolution layers with high accuracy, the Eden350 produces parts with extremely smooth and durable surfaces, exceptionally fine details and an outstanding surface finish. It supports the full line of FullCure® model and support materials - including the opaque VeroBlue, VeroWhite and VeroBlack families of materials, as well as the flexible rubber-like TangoGray, TangoBlack, and TangoBlackPlus families, and more. This is a major advantage for Balda as material flexibility is required to support model and part creation with varying properties, while maintaining the same high quality regardless of material choice.

"By using in-house Objet technology, not only have we improved our design communication results with our customers, but we've also significantly reduced the product design cycle time - and as a result, are able to help our customers shorten their product time-to-market,"

says Frank De Rijk, Director of R&D at Balda. "With the Objet 3D printer, the concept phase can move very fast. We gain anywhere between three to six weeks between the concept and proof of concept phases. In the past, such significant time savings from one phase to another phase within the R&D process would have been very difficult to achieve."

Creating an enhanced work environment

In addition to providing a very high-level of service and innovation to its customers, Balda also sees employee satisfaction as a principal goal. For this reason, workplace comfort was also taken into account when purchasing the Eden350 printing system. The Eden350 3D printer system is small enough to easily fit into a room at Balda's production facility, so that all parts can be produced in-house and the room can be easily cleaned.

Parts can be easily removed from the build tray once printing is completed and all FullCure material cartridges are loaded and removed through a front-loading door. With this safe, clean and non-contact way to handle all materials, the Eden350 3D printer is easy to operate and greatly enhances working conditions for Balda employees.

About Objet Geometries

Objet Geometries Ltd., the innovation leader in 3D printing, develops, manufactures and globally markets ultra-thin-layer, high-resolution 3-dimensional printing systems and materials that utilize PolyJet™ polymer jetting technology, to print ultra-thin 16-micron layers.

The market-proven Eden™ line of 3D Printing Systems and the Alaris™30 3D desktop printer are based on Objet's patented office-friendly PolyJet™ Technology. The Connex™ family is based on Objet's PolyJet Matrix™ Technology, which jets multiple model materials simultaneously and creates composite Digital Materials™ on the fly. All Objet systems use Objet's FullCure® materials to create accurate, clean, smooth, and highly detailed 3D parts.

Objet's solutions enable manufacturers and industrial designers to reduce cost of product development and dramatically shorten time-to-market of new products. Objet systems are in use by world leaders in many industries, such as Education, Medical / Medical Devices & Dental, Consumer Electronics, Automotive, Toys, Consumer Goods, and Footwear industries in North America, Europe, Asia, Australia, and Japan.

Founded in 1998, Objet serves its growing worldwide customer base through offices in USA, Mexico, Europe, Japan, China and Hong Kong, and a global network of distribution partners. Objet owns more than 50 patents and patent pending inventions. Visit www.objet.com.

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