

ON THE RUN

PUMA Compresses Design Time with Objet 3D Printers

"The Objet 3D Printer reduces the time required to produce a prototype from 4 days to 1 day. It helps us communicate between remote sites, reduce design mistakes and avoid unstable tooling."

— Andy Chung, PUMA

PUMA's 3D printer has helped the company reduce the design cycle and improve communication among its design and manufacturing teams

Background

PUMA's mission is to become the most successful and sustainable sports-lifestyle company. The company focuses on style and creativity in designing its footwear, which involves extensive planning and multiple iterations carried out over several continents.

The Challenge

PUMA needed to compress its design cycle and squeeze in more design iterations. As part of the review process, the team needs to evaluate the footwear and verify multiple parameters prior to tooling.

A second challenge was communication. Multiple design and manufacturing teams, based in Germany, the United States and Vietnam, had to jointly review and discuss footwear designs. This collaboration was very difficult without each team being able to hold the same physical model.

The Solution

PUMA switched from outsourcing its prototypes to using an in-house Objet500 Connex™ 3D Printer. Connex 3D printers are unique in their ability to mix diverse materials in one build. "We realized that with an in-house Objet 3D printer we could perform more design iterations in less time," said Andy Chung, tooling & 3D engineer. "We were already successfully using an Objet 3D printer at another site so we knew what to expect."

The Value

PUMA now uses the Objet Connex500 3D Printer in several stages of its footwear design process. A prototype of a shoe sole is printed for the first design review. A

At a Glance

Challenges

- Conduct many design iterations in a limited time period
- Facilitate design collaboration among remote teams

Solution

- Objet500 Connex multi-material 3D Printer in-house, instead of outsourcing

Results

- Prototype production cut from 4 days to 1 day
- Improved communication between design teams in three countries
- Reduced design errors
- More design iterations can be accomplished to deliver better products in less time

second prototype is produced later in the process for manufacturing review. A prototype of the mold is also produced.

“The 3D printer that we used in the past took three to four days to produce a single prototype,” said Andy Chung. “The Objet 3D Printer takes a single day. The Objet 3D Printer also allows us to evaluate footwear models for outsole fit by connecting the sole model to the upper part of the shoe.”

PUMA also resolved the difficult communication between the three remote teams by having an Objet 3D Printer installed in each of the three sites. “Each team prints the same prototype model,” Chung said. “When we have conference calls to discuss design and manufacturing issues, we are all on the same page. Each team is viewing and holding the identical model, which allows us to communicate much more easily than before.”



PUMA switched from outsourcing prototypes to an inhouse Objet500 Connex 3D Printer.



Prototype lead-time has been reduced from 4 days to 1 day.

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