

## Faster, risk-free product design and prototyping



*"Ultimaker is a fantastic machine to have in the studio. 3D printing technology will allow the creation of much more bespoke footwear – and whilst at the moment it is limited to accessories, it won't be long before we can make a solid, reliable, wearable shoe, direct from 3D printing."*

— Julian Hakes, fashion designer

Using 3D print technology, Julian Hakes can now make as many as five iterations per prototype, creating designs that weren't possible before. Model scaling is easy, and it's far simpler to communicate ideas with colleagues and clients.

*Julian Hakes*  
LONDON

### Company

Julian Hakes

### Industry

Fashion

### Challenge

To identify problems quickly and enjoy more design flexibility. Additionally, not having to depend on supplier capacity and gaining greater control in-house.

### Solution

3D printed prototypes are rapidly produced and amended in-house, reducing time and expenses and streamlining the communication between the London and Hong Kong teams.

### Results

- Shorter time to market
- Reduced costs
- Greater design freedom
- Ability to produce multiple iterations

### Julian Hakes - Introduction

Julian Hakes is an award-winning fashion footwear designer and the creative director of Julian Hakes London. A few years back, Julian noted that there was a lack of evolution in the shoe industry, which inspired him to design a shoe with a "twist." The innovative design, which he named the Mojito Shoe, protects the foot while providing proper heel support—combining ergonomics with aesthetic appeal. However, he realized that, in order to achieve his design vision, it would need considerable testing and modeling. He'd heard about 3D printing and was actively seeking a fast, reliable 3D desktop printer to help him with his innovative designs.

He first discovered Ultimaker at the 3D Print Show in New York in 2015, where he happened to be exhibiting his Mojito Shoe footwear on the catwalk. Using his Ultimaker machine, Julian was able to create numerous prototypes and iterations to ensure the design was perfect. The accessibility of this additive manufacturing solution enabled him to challenge the industry status quo and create a genuine market-changer. Since then, the Mojito Shoe has been featured in top publications, such as Elle and Vogue, and has been mass-produced on a global scale.

## Challenge

In the past, designers like Julian had to depend on third-party contractors, which meant they were forced to work according to the contractor's schedule. As a result, making iterations took a lot of time and money. Sometimes, teams had to wait weeks just to make a single change to his design. "When you are working on a project, there are thousands of ideas over there and not all of them work," Julian explains. "If you choose the one that beats the competition, that's great. And the ones that you try that don't work give you the clues on what will work."

## Solution

After considerable research and testing, Julian selected an Ultimaker 3D printer. He liked the machine's speed, accuracy, and reliability, which were ideal for his requirements. He was able to create multiple prototypes in-house and perfect his designs. After having validated the concept in a cost-effective way, Julian could proceed with the final product creation at a lower risk. This level of flexibility opened many more doors for Julian, letting him share his creative visions with a far greater audience. Having an Ultimaker in-house also makes it easier to communicate ideas between his London and Hong Kong offices. It means Julian can create very stable, useable parts for catwalk presentations, not to mention fast-proof concept models—flexibly and quickly.

## Results

In eighteen months, Julian made over one hundred prints and modifications—far more than would have been possible using third-party suppliers. Material costs and printing times are successfully managed by adjusting the model size, and it's much easier to modify, collaborate, and get innovative with the manufacturing process.

Prototyping time is around 1.5 hours in total—far quicker than it would have been in the past. The extra time means Julian can work on other projects.

- Create prototypes in hours—not weeks
- Collaborate and communicate with ease
- Greater design innovation
- Maintain a competitive edge

## Cost comparison

"Material costs are irrelevant," Julian says. "As if you know it's going to take a long time, you can simply print it smaller."

Using the correct material was a top priority, and after considerable experimentation, Julian decided to use Ultimaker's own range of tested materials. These, in combination with his Ultimaker 2, meant he had the confidence to leave the machine printing overnight, knowing that he'd be pleased with the results in the morning.



	External suppliers	Ultimaker 3D printers
<b>Iterations/product</b>	3	50
<b>Cost/product</b>	\$400	\$50
<b>Time/product</b>	8 weeks	1 week

## About Ultimaker

Since 2011, Ultimaker has grown to become a leading brand, creating accessible, professional desktop 3D printers. The company has offices in the Netherlands, New York, and Boston, with production facilities in both the United States and Europe. With a growing team of over 200 employees, plus over 25,000 active community members, Ultimaker strives to deliver the highest-quality 3D printers, software, and materials, without compromise.

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