

Jewellery makers seize on tech's speed and ease

Technology *Syl Tang* on a new tool for luxury craftsmanship

In traditional jewellery craft, a designer creates a drawing and a manufacturer turns the 2D rendering into a 3D model. A standard run of 15 different styles is made in wax, before the mould is cast around them, and they may cost a designer \$7,500. A single intricate design can be as much as \$1,000. But now that 3D printers range from \$4,000 to \$25,000, creating more models, and more complicated ones, is becoming cheaper and easier.

"It allows me to rapidly prototype very quickly and not have as much back and forth because you can see the product live," says John Brevard, a New York-based designer and architect.

It means surprises can be detected and amended quickly. "Sometimes you get it back from a manufacturer and you say, 'Oh, I didn't think it was going to be this big.' Now when I'm showing something to a customer, I can print it out in plastic and they can then say immediately, 'I want it in gold or silver.'"

The appeal of speed-to-market has lured new talent to jewellery design. Suuz, a company founded in 2012 by six engineers and based in The Hague, had previously explored the technology in entirely different industries, but it now features a jewellery catalogue of 50-60 products, each with potentially infinite variations. The company, which is shipping between five and 10 orders a day and intends to double this volume in 2016, says that meeting customer expectations more accurately is the main benefit of 3D printing.

"On the website you get a preview of what you want to order, it's production ready. They are convinced it will be the right size and know exactly what they're receiving with these

custom models," says Jan Verschoor, partner at Suuz. Mr Verschoor also cites the ability to hold very little stock and to produce jewellery on demand, at a price point close to standardised product, as key advantages.

3D printers can execute more intricate styles with very little risk. Designs that might not be possible with traditional moulds can be done with the printers, such as objects with elements inside each other, which would previously have required multiple moulds soldered together. Those designs can be communicated across language and country barriers with 3D printing.

"Finding a good [mould maker] can be a challenge," says Karen Giberson, president of the Accessories Council, the industry association that represents American jewellery companies. "If you're printing a design in a 3D printer . . . the guesswork is taken out of it. You make a file; if you print it out here and you print it out overseas, it's the same. It's also a lot easier to change it if you don't like it."

Some companies such as Metalepsis Projects, which has offices in Los Angeles and New York, have begun printing in metal. "Most of our kinetic edition is 3D printed in brass, as well as all [our] Chromat collaboration in black nylon. We're able to use it for final products as well (including interlocking parts)," says Victoria Cho, co-founder of Metalepsis. (Chromat is a company which creates "structural experiments" in next-level wearables.)

However, the ability to print directly in fine metals, which would eliminate the material lost in refining designs, may be a way off for the industry. Challenges include working out how to powder gold, a soft material, into a fine grain size, says Mr Verschoor. Plus it is hard to keep track of the gold powder: "Insurance companies are not so happy when you tell them you have a cubic foot of powdered gold in your machine."