

# 3D printing cuts months of architectural model making time



*"3D printed model is stronger and longer lasting. If we outsource the model making, the cost is much greater, and can take a whole day. Generally, I choose to 3D print models because it allows me to achieve certain results that I would never be able to achieve using traditional methods."*

— Matt White, Founding Partner at MATT Architecture

Thanks to 3D print technology, MATT Architecture can now create detailed architectural models at a fraction of the usual cost and in a matter of hours, not days. Integrating 3D printers into their business workflow has improved communication with clients, and provided the company with more flexibility and freedom than ever before.

## MATT ARCHITECTURE

### Company

MATT Architecture

### Industry

Architecture

### Challenge

Create highly detailed architectural models at minimal cost, and quickly respond to customer feedback.

### Solution

Use 3D printing to rapid prototype multiple design concepts in-house, significantly reducing the time and expenses involved in the model-making process.

### Results

- No more compromises on model detail or accuracy
- Reduced model-making time
- Reduced costs
- Increased iterations
- Easy to repeat results, with virtually no model-making labor required

### MATT Architecture - Introduction

MATT Architecture is a well-regarded architectural firm in Central London, with a strong focus on producing fresh, innovative designs. As part of their design process, the team creates complex architectural models, which not only illustrate their vision, but allow clients to view the 'work-in-progress' and request changes where necessary. By using 3D printing technology, MATT can create detailed, high-impact models, communicating key concepts to clients, and engaging them meaningfully in the planning process.

The team also uses 3D printing to make rapid iterations, saving considerable time and money in the process. Making alterations and amendments is far easier, and by being able to print out their designs, they can involve their clients at an earlier stage of the planning process. This not only makes it easier for the architects to convey their creative vision – but also means that changes can be made (if necessary) swiftly, easily and at reduced cost. This level of flexibility presents a wealth of new possibilities for the company, and lets them work with greater freedom.

### Challenge

Prior to incorporating 3D printing into their practice, MATT Architecture's models were handmade, using paper or cardboard. This was an adequate solution for conveying basic ideas, but not ideal for complicated designs. Handcrafting complex models was labor-intensive and time-consuming, particularly when working out all the geometries and scales required to replicate results. 3D printing provided the perfect solution to this problem.

### Solution

When working on the Ilona Rose House project, the team quickly realized that they'd need to reiterate the design several times in order to get it right. 3D printing proved invaluable – letting them prototype detailed, beautiful models - quickly and easily. The clients were engaged at an earlier stage of the planning process, and were able to fully grasp the design concepts. Using their Ultimaker, the team 3D printed the full-sized facade pattern. From this, they were able to cast a silicone mold and produce a tile, assisting communication with the site's planners and manufacturers. Matt White explains: "Clients are always excited to see 3D printed models; seeing something physical that they can hold in their hands and spin around really helps them visualize it and make it more real. 3D printing was a great solution for us to have an edge over other practices, especially when used with other media."

### Results

MATT Architecture creates different model iterations in order to identify how to get the best print results possible, or to present a range of options to the client. Some prints are more complex than others or may require special materials, and this can make the print process a little longer – but once the team has figured out the requirements, they can then proceed with making two or three iterations. "The digital modeling can take a very long time. 3D printing takes around three to 15 hours, so I usually do it overnight after spending the day making the digital model."

### Costs

It's difficult to do a direct cost comparison, as MATT Architecture print materials in a range of sizes. On average, print materials cost anything from 20 pence to £30. Even when creating a model using traditional methods, the team always integrate 3D printing as part of the process. This reduces the price, not to mention the time spent working on it. For MATT Architecture, it's not so much about the cost of the materials, it's the reduction in production time that makes a big difference. By not outsourcing the model making, the company avoid significant costs. For example, outsourcing a 3D printed model can cost around £400. This costs just £15 when undertaken in-house, and the team can incorporate a lot more detail and color into the design.



*It's difficult to achieve complexity with traditional architectural models. 3D printing lets MATT Architecture create models with far more detail and finesse.*



*Unlike traditional modeling, 3D printed models are quick, cost-effective and enable architects to do a number of iterations in a short space of time.*



*By printing prototypes in-house, all costs associated with outsourcing are eliminated. Lead-times are also reduced, which saves money in the long run.*

	External suppliers	Ultimaker 3D printers
<b>Iterations/model</b>	1-2	3-4
<b>Cost/model</b>	£400	£15

### 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 U.S. and Europe. With a growing team of over 200 employees, plus over 24,000 active community members, Ultimaker strives to deliver the highest-quality 3D printers, software and materials, without compromise.

General inquiries: [info@ultimaker.com](mailto:info@ultimaker.com)

Find a local reseller: <https://ultimaker.com/en/resellers>

**Ultimaker**

