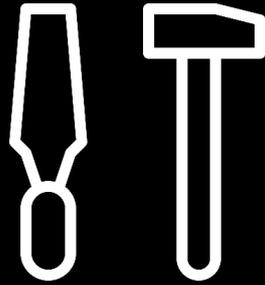


# Universal Display



# WHO ARE WE

We are Universal Display a leading manufacturer of mannequins, bust forms and display products. We love what we do and want to share with you what we can do for your company. This document will explain how we realise the products we have developed for ourselves and our customers. We love to collaborate and work closely with our customers to deliver inspiring products.



# WHAT WE DO

MANNEQUINS / BESPOKE / DESIGN / BUSTS  
3D PRINTING / DESIGN / MOULDING / PROPS  
SCULPTING / CUSTOM FIT / PROTOTYPING /  
CONCEPTUAL DESIGN / MANUFACTURE /  
DISTRIBUTION / TURNKEY / AFTER SALES /  
ROLL OUT / TORSOS / ACCESSORIES /  
METALWORK / FIXTURES / WINDOW SCHEMES  
CHRISTMAS / RENOVATIONS

Universal Display is a leading manufacturer of mannequins, bust forms and display products. We are in a unique position to fulfil all your requirements with expedience, efficiency and economy.

All the design requirements you have are easily achieved in-house, using a team of experts that have been through this process countless times before.

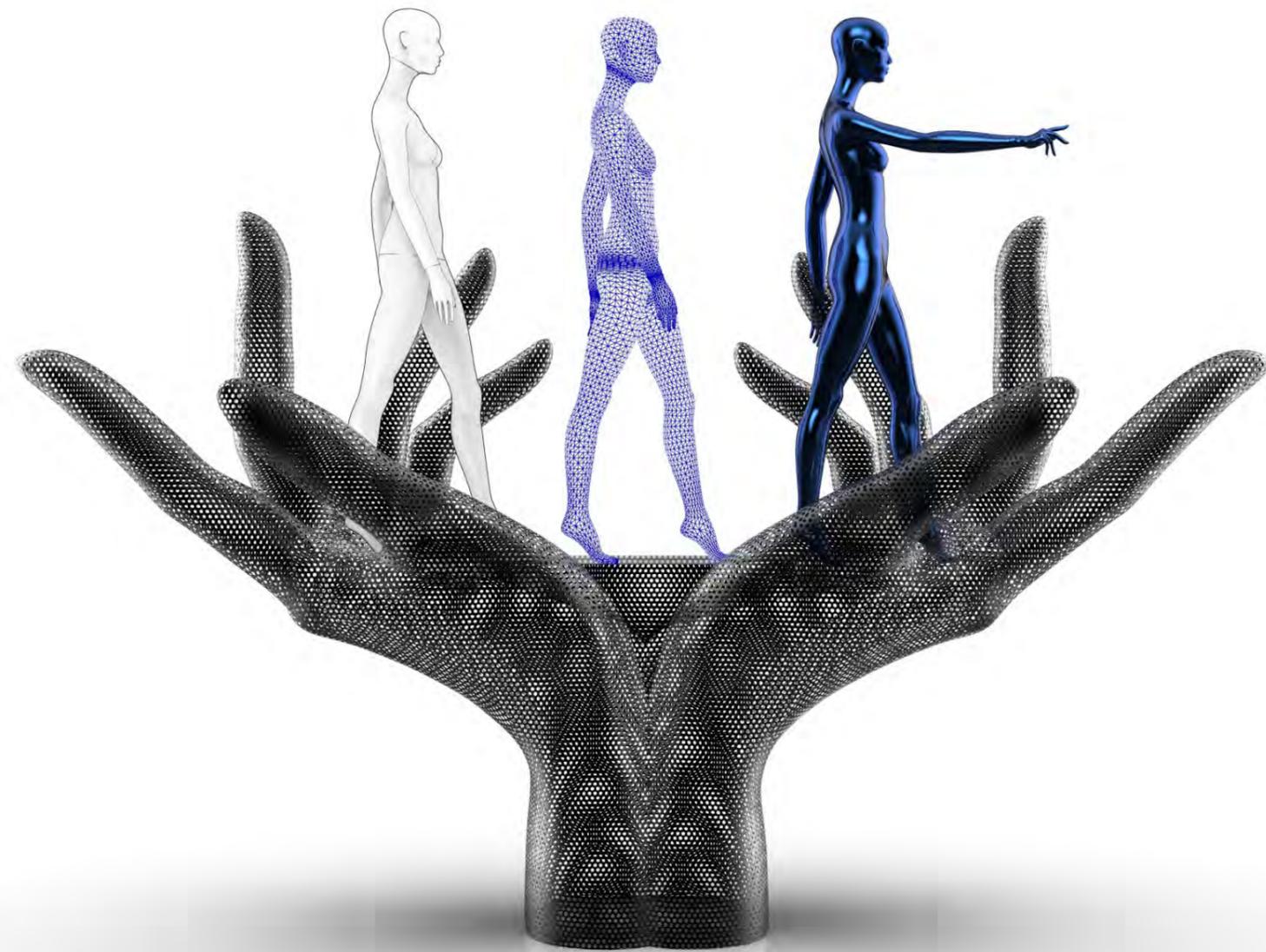
We have a manufacturing facility in China that is fully compliant with all the required standards, producing quality products at a price point that our clients' appreciate.

Our worldwide distribution network is reliable, efficient, and our support team is experienced and highly competent.

We pride ourselves on being able to consistently meet our clients' needs. We have a reputation as a dependable, high quality brand, that has been built around customer service.

# SCULPTING

Creation is our forte, we use traditional and modern methods to bring our customers visions to life. Working closely and collaborating with the customer is something we excel at. We like the challenges that customers bring us and we love adding our insight to the creative process.



# BESPOKE

A photo, mood board or drawing is all that is needed to develop a new mannequin, bust or prop. New products can be realised in a surprisingly short time, at a very reasonable cost.



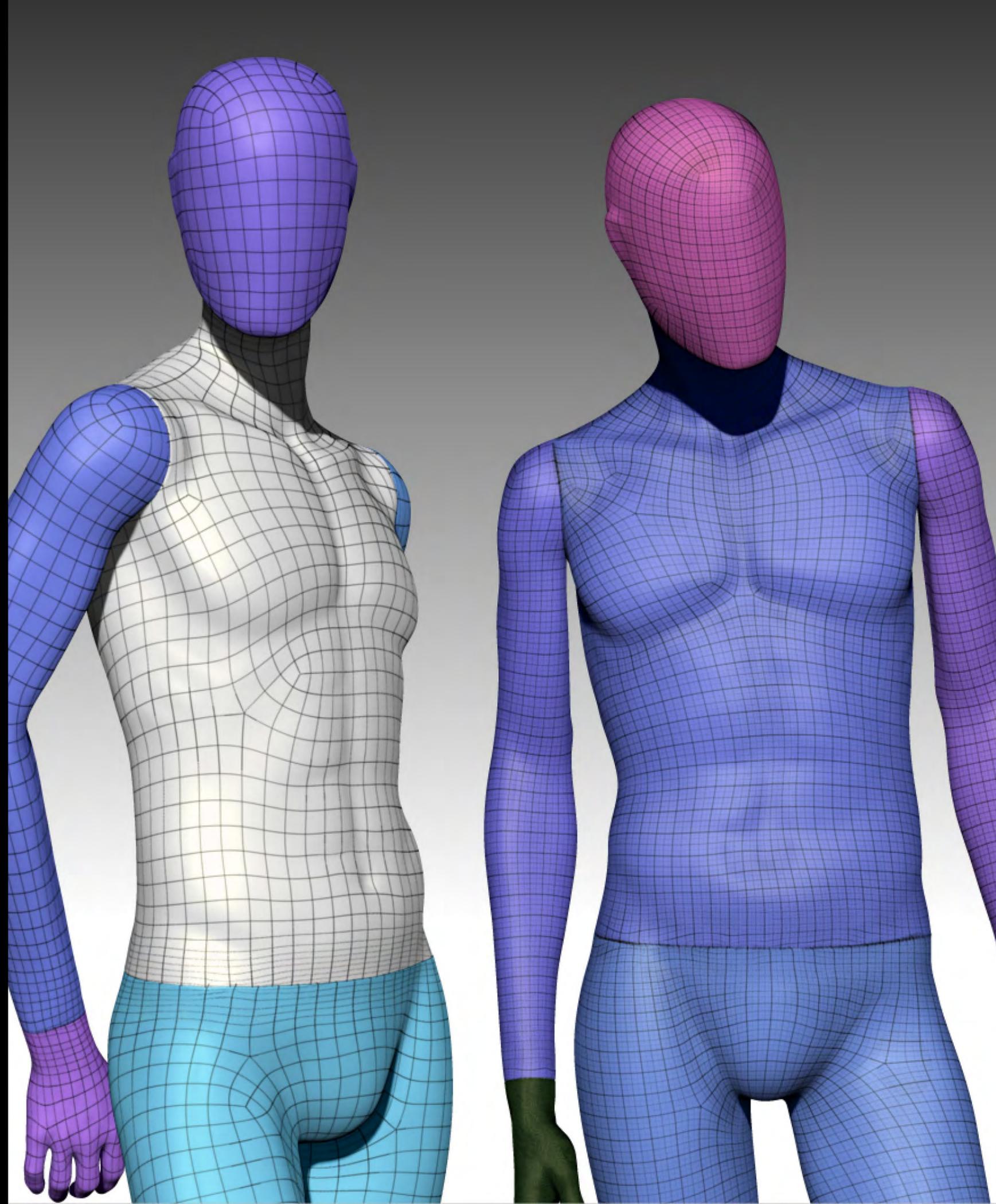


MADE TO MEASURE

As well as our vast collection of products, we can create products to the most exacting standards required by our customers. We have done this many times, for some of the top fashion brands.

# CUSTOM FIT

We have been providing custom fit mannequins for over 20 years and this is a trend that has become increasingly popular. With many top brands trying to gain attention within the market place, creating a unique product helps reinforce brand identity and stand out from the crowd.

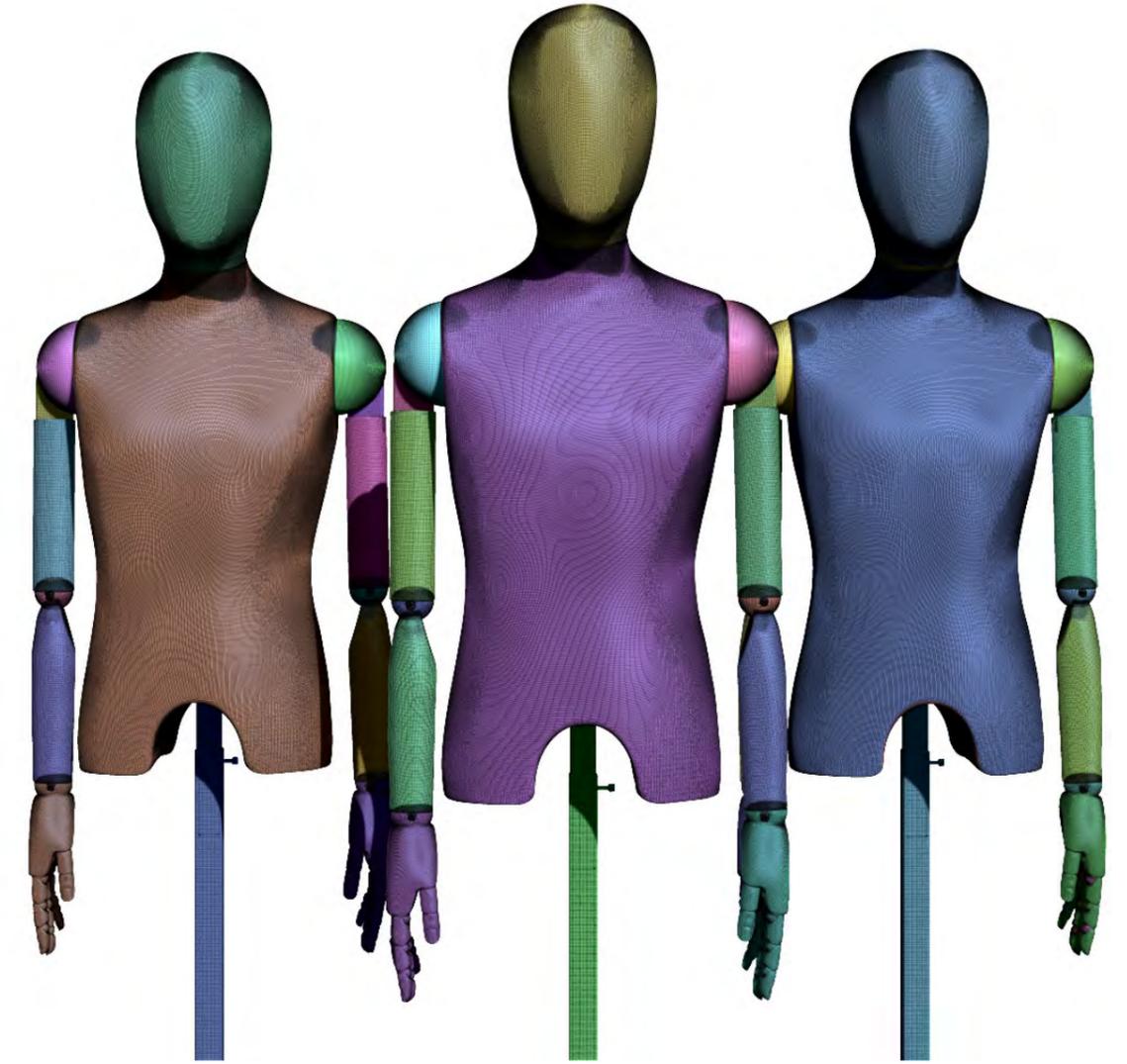
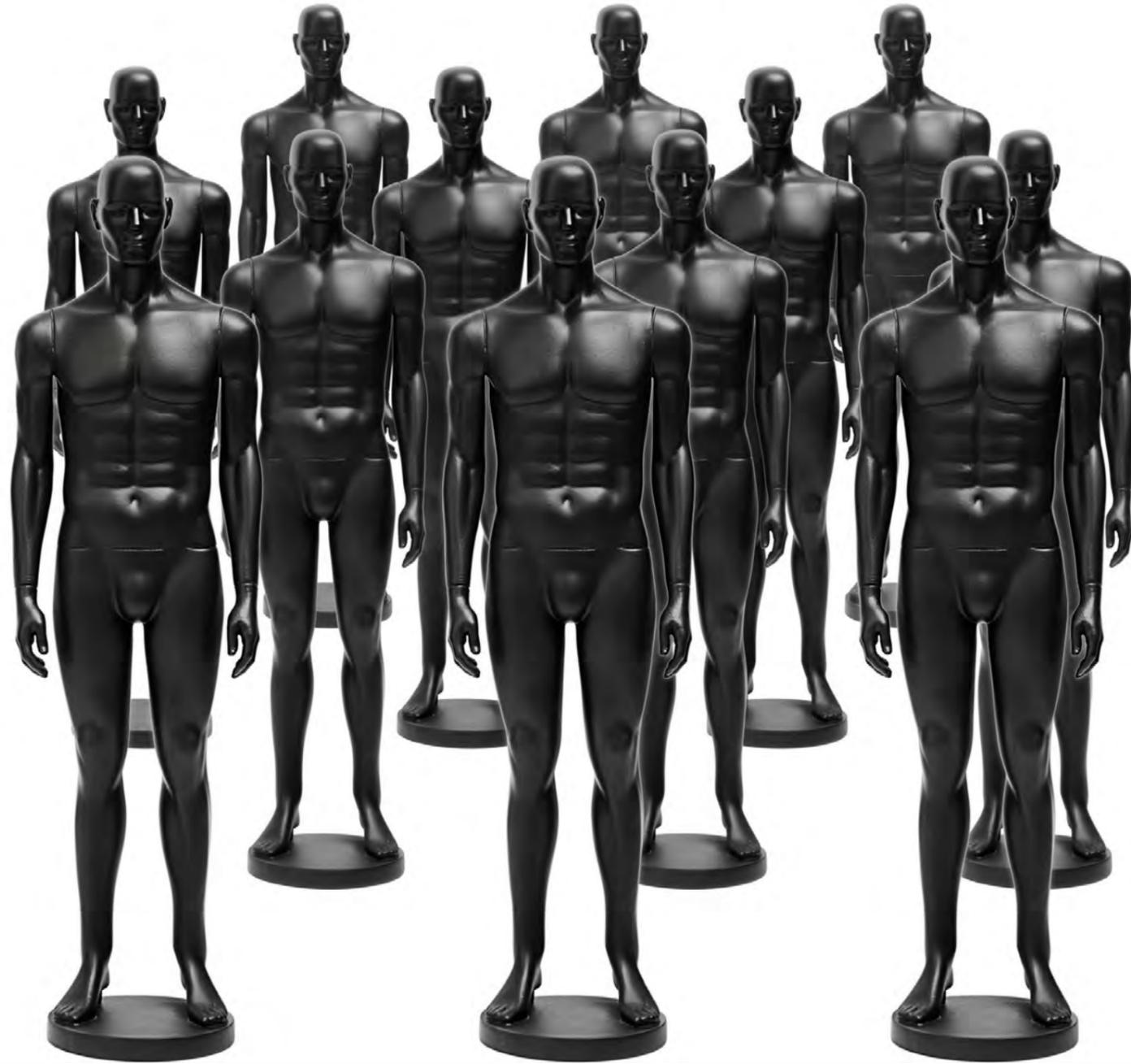


# TRADITION / TECH

We use tried and tested methods to sculpt our products in our London Studio, combining traditional methods such as clay, with the latest 3D digital technologies.

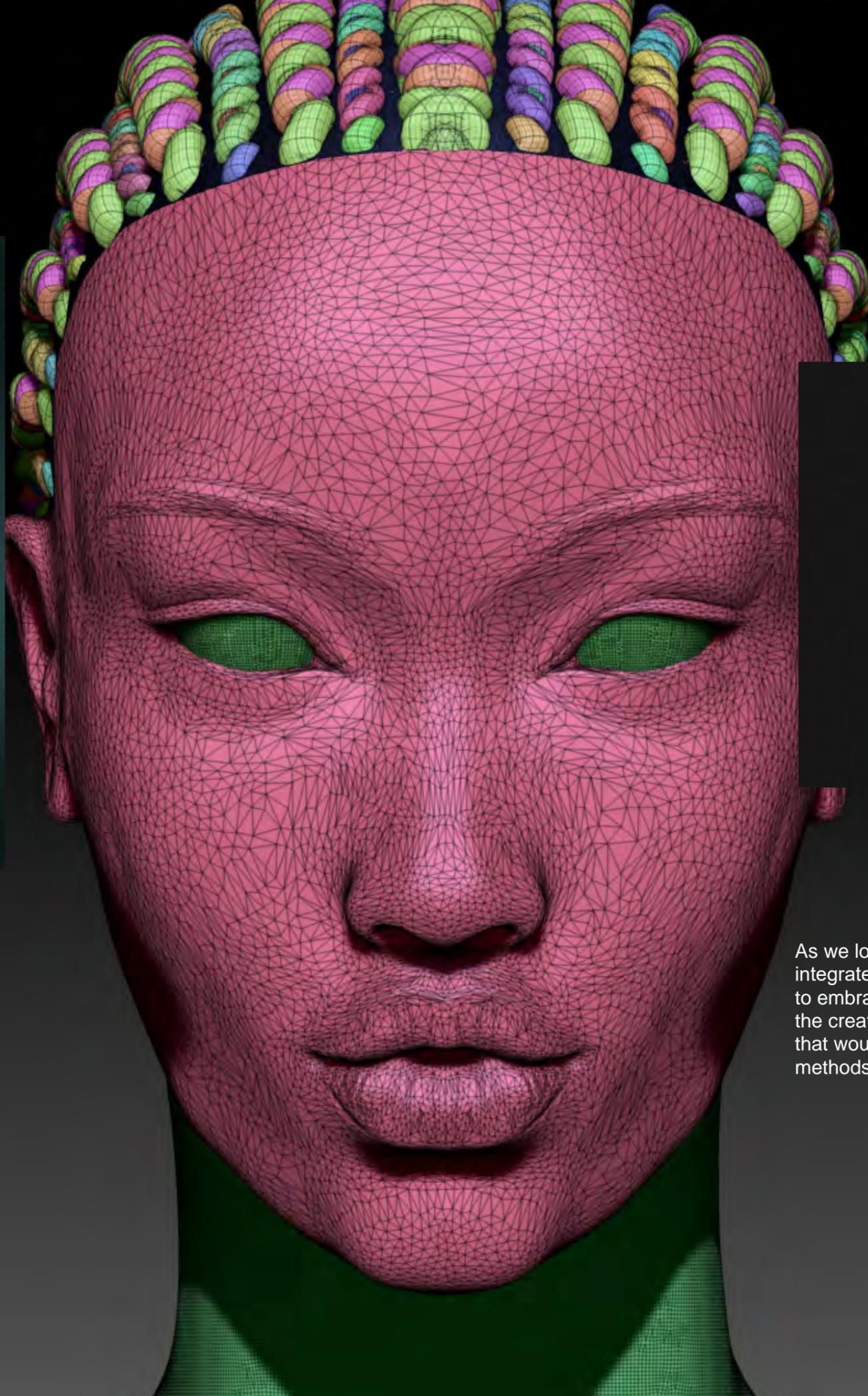


# 3D / DESIGN



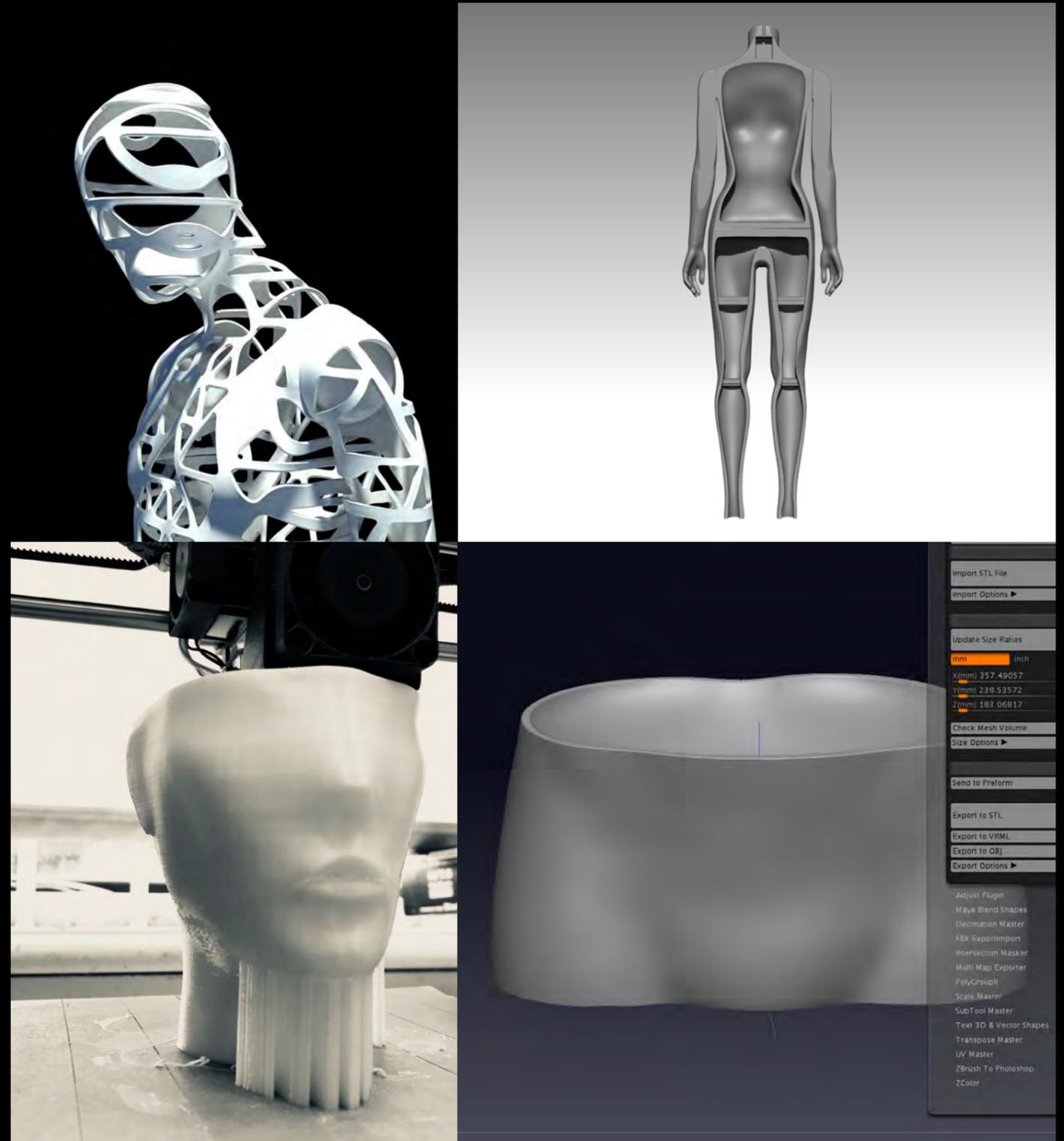
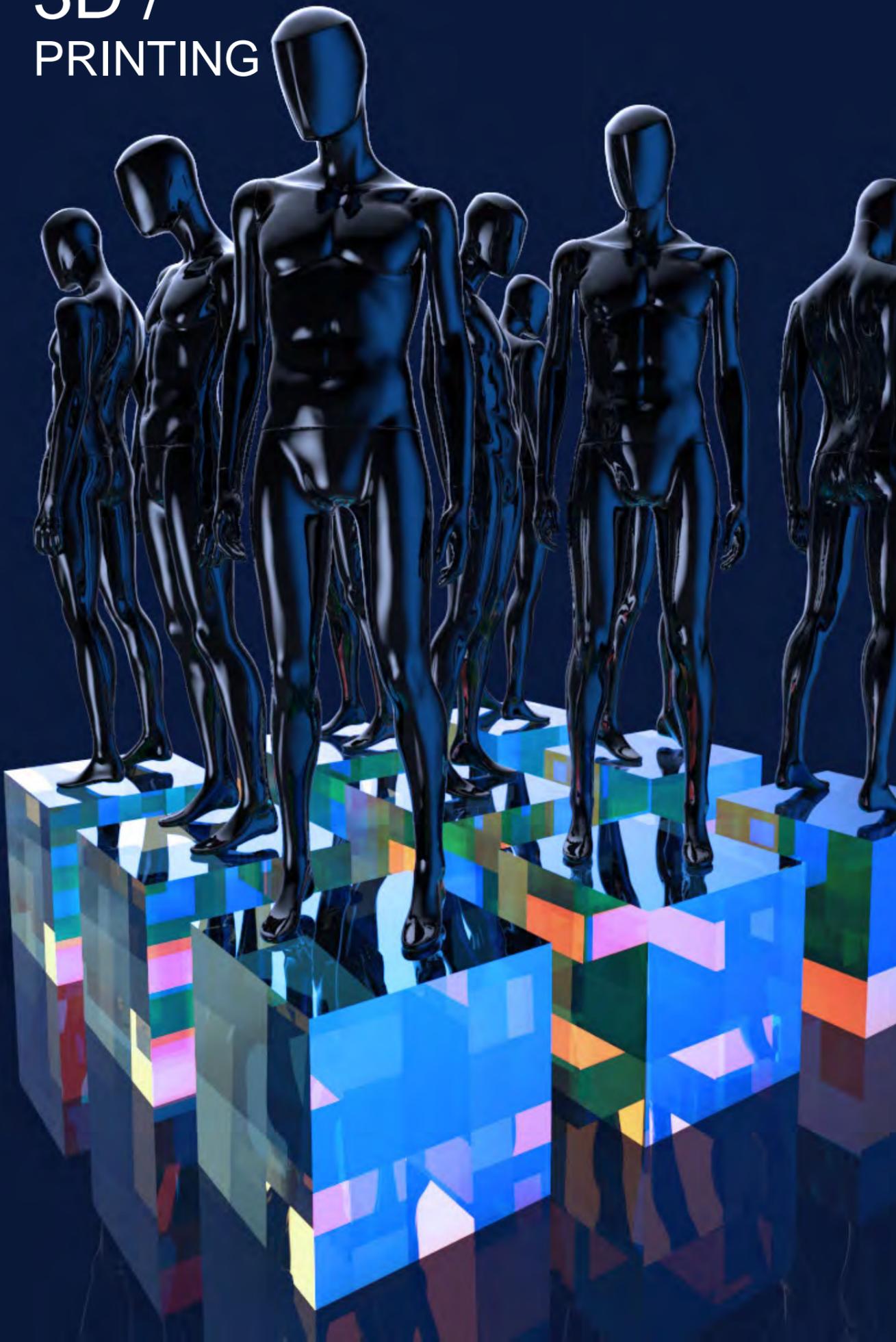
In our studio we have been running 3D printers and design packages, experimenting with the way we can speed up the creative process. New products can be realised quickly, and the prints have been used to develop new products for customers. This process works well with props, mannequins and bust forms.

# 3D / DESIGN



As we look to the future and as technology integrates within our work flow we are excited to embrace change. 3D printing has enabled the creation of more complex geometric forms that would not be obtainable with traditional methods.

# 3D / PRINTING



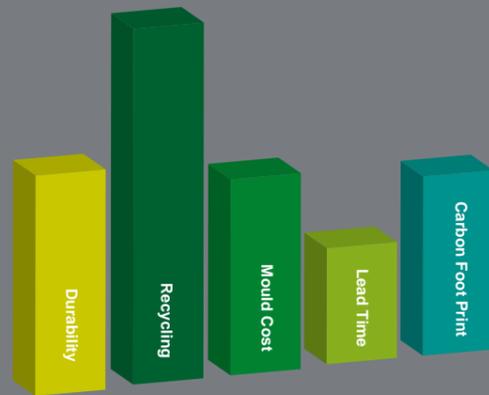
We have been using our printer for prototypes and concepts. This type of work has only really been possible over the last few years in conjunction with the development of sophisticated 3D sculpting packages.

# SUSTAINABLE MATERIAL WHAT ARE THE OPTIONS?

We offer a diverse range of materials, following are the main ones we offer:

## BIO RESIN

One of the big advantages of using Bio resin is that legacy moulds can be used to produce existing mannequin ranges at low cost, there is no minimum order quantity. The below shows various sustainable natural fibres that can be added into the bio-resin to reinforce it.



Bio-Based PDO (1,3 Propanediol) is a pure, petroleum-free derived diol, 100% sustainably and renewable sourced. It is used in a range of industrial applications including polymers, functional fluids. polyurethanes are used globally in coatings, inks, and resin applications. Good recycling option re-purposed as a construction infill. Open-Loop Cycle

## SUSTAINABLE ADDITIVE FIBRES FOR BIO RESIN

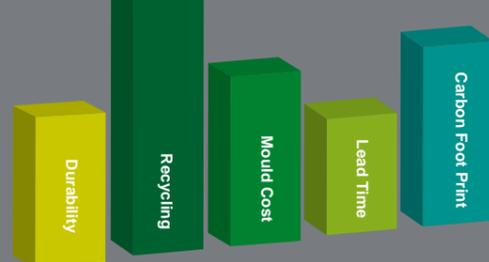
# MATERIALS



Ramie      Flax      Raffia      Raffia + Translucent Resin      Cork      Bamboo

## RAFFIA AND RICE PASTE

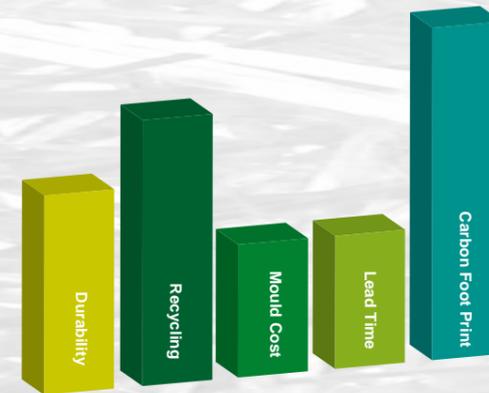
Rice and raffia have been used for thousands of years for construction. The raffia can be covered in cork, fabric or paper which can then be sprayed with water based paints if required. Raffia and rice paste have good recycling options. Open-Loop Cycle



## GRP GLASS REINFORCED PLASTIC

This material has been around since the 1940's, GRP normally consists of a Polyester Resin and Glass Reinforcement such as a chopped strand mat. Mannequins have been constructed in this material for many years, this is primarily due to its strong, light and durable properties.

GRP is good for high or low quantities and special products. Good 100 % recycling option re-purposed as a construction infill. It is worth noting that Bio resin has become a good viable alternative to Polyester resin. Open-Loop Cycle



## ABS ACRYLONITRILE BUTADIENE STYRENE

There is a high mould cost with ABS, with a minimum order of 150 units. ABS is durable and has recycling options. When ABS is heated it melts, allowing it to be extruded. This means that ABS is reusable and can be recycled. A lot of ABS products are made from recycled material, or have a percentage of recycled material in them.

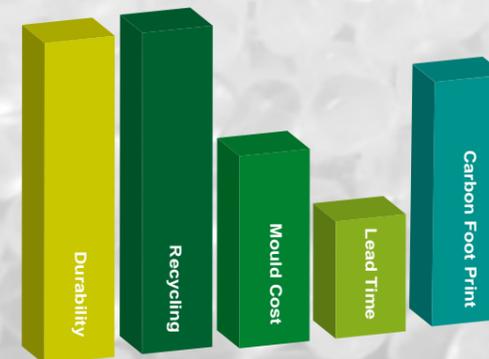
ABS is fairly harmless, there are no known carcinogens in this material and no related health effects have been found from exposure to this plastic. This makes it a safe plastic to use; this is another reason why ABS is so commonly used. Open-loop Cycle. Also see 3D Printing



## PU THERMOPLASTIC POLYURETHANES (TPU)

Thermoplastic Polyurethane, TPU can be processed easily via conventional methods like injection moulding, extrusion, blow and compression moulding. PU is easily moulded into shapes with a good life span and has the possibility to be recycled Open-Loop.

Things to consider are the moderately priced tooling of the moulds. TPU is highly durable and has a long life span. Polyurethane is recycled in two primary ways: mechanical recycling, in which the material is reused in its polymer form, and chemical recycling that takes the material back its various chemical constituents.



## PE POLYETHYLENE

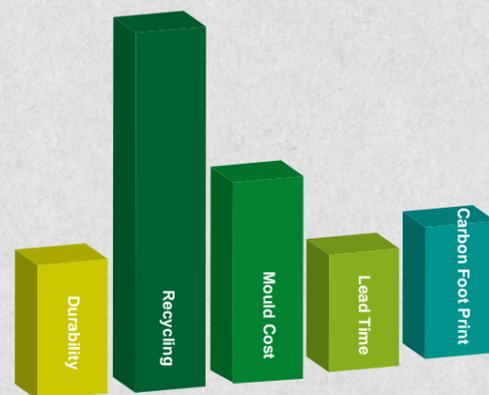
Polyethylene is a thermoplastic polymer with a variable crystalline structure and a vast range of applications depending on the particular type. It is one of the most widely produced plastics in the world. PE has high mould cost and is therefore only recommended for high quantities. The durability is very good, PE has limited possibilities to be recycled. There are a number of species of bacteria and animals that are able to degrade polyethylene. Open-Loop



## PAPER

Paper has been used to create products since 200 AD in China, papier-mâché came to Europe in 1725, it wasn't until the mid-19th Century it became popular in France to make Mannequins. 100% Post-Consumer or FSC Paper, is biodegradable but treated correctly can have longevity.

Being paper derived it has low toxicity and is compost-able, if it has not been coated in paint. Paper products are more fragile than plastic forms and can be easily damaged if dropped or carelessly handled. Open-Loop & Closed-loop recycling.



## 3D PRINTS

Good for prototypes, bespoke items and short runs. Filaments can now be used that contain materials of a recycled origin, including wood.

**ABS Acrylonitrile Butadiene Styrene** Is extruded through a print-head to print products, this process is good for samples and low volume pieces. ABS can be reused and recycled Open-Loop

**PLA polyactic acid**, PLA is a bioplastic derived from plant-based sources. PLA is biodegradable recyclable Open-Loop

**SLA Stereolithography** is a common rapid manufacturing and rapid prototyping technology for producing parts with high accuracy and good surface finish. Stereolithography (SLA) resins are liquid UV-curable photopolymers used in this process. Limited options to recycle.

## MANUFACTURE

We manufacture our products in various locations around the globe. Our primary sites are the UK and China. In London we have our design studios, renovation workshop, papier-mâché bust production and warehouse.

Our China production was established in 2006. There are 14 office staff and 200 factory Staff. All the vehicles in our company fleet are hybrid or fully electric, our plants are all powered by renewable energy.

## PRODUCING MATERIALS

All our materials are specially selected from leading manufacturers, we only use materials that are of the highest standard from the bio resins we use to the FSC wood content in our bust forms.

## WASTE

All the waste from the manufacture of our products is disposed of by registered waste collectors. In the UK our provider operates a documented management system that fully complies with the requirements of ISO9001 and ISO14001. In China our spray booths and lamination area have ultra violet filaments to reduce pollution and waste entering the atmosphere. Our China factory has its own water treatment plant, all other (China) waste is disposed of by registered waste collectors.

## WORKING CONDITIONS

We take the health and safety of our staff very seriously. In the UK and China we are audited by external independent companies to make sure we comply with legislation. All staff have access to PPE when ever they need it. Customers can possibly get a cheaper product, but in doing so they run the risk of exposing themselves to manufacturers where conditions are far from satisfactory and in some cases are just plain dangerous. We proud of our facilities and welcome customers to visit to see first hand.

## PAINT

Water-based, options like anti-scratch are also a popular choice. We work with companies that have a commitment to develop more environmentally friendly coatings.

## CERTIFICATION

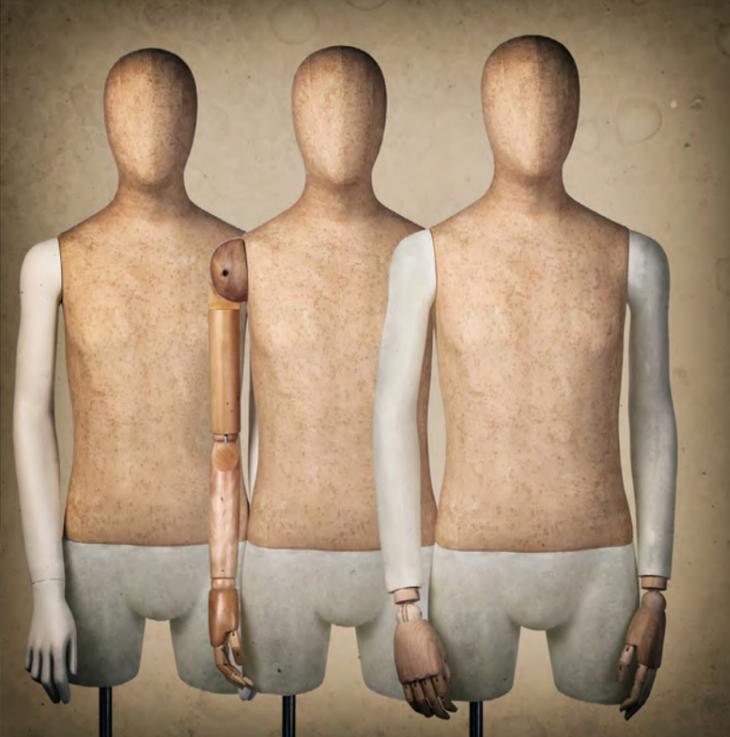
Our London studios and warehouse are externally audited on a yearly basis for Health and Safety, to make sure we are compliant with legislation and we are using the best practice. We have used external auditors for the last 10 years.

Our China facility has been audited by internal auditors from:

- H&M
- Uniqlo
- External audits have been carried out by;
- Sedex
- SGS
- Responsabilitas
- FSC certificate for Raffia composite

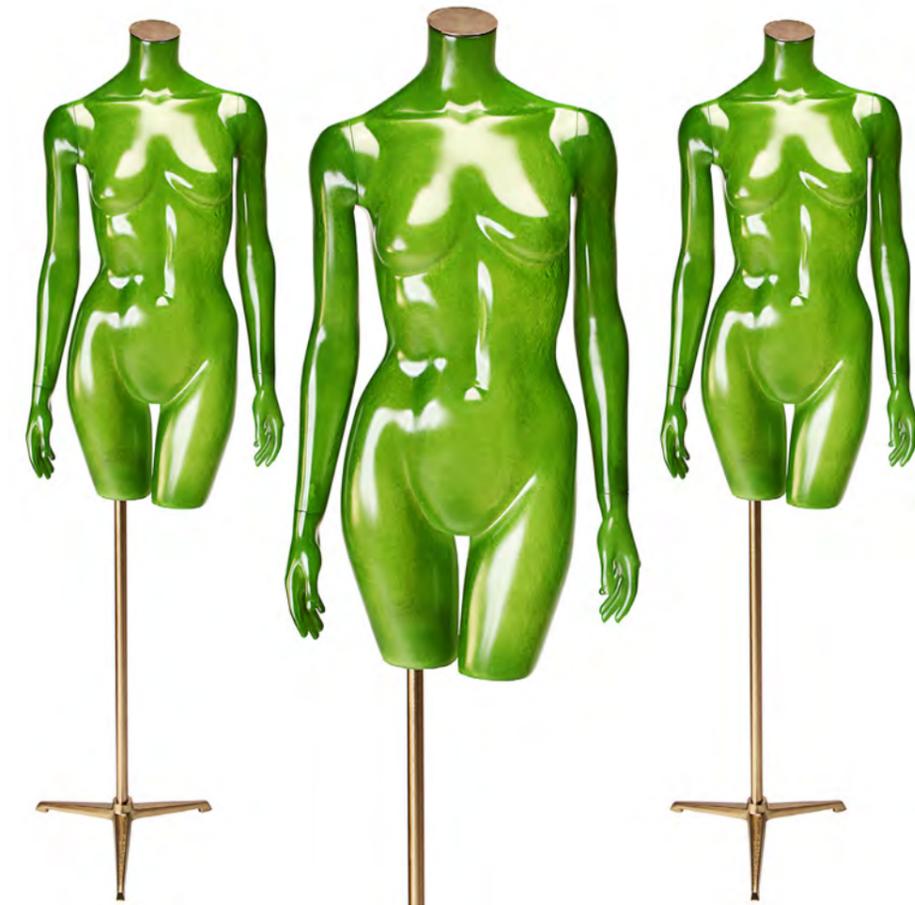
We have passed the above inspections and are still working on ways to improve.

# FINISHES / MIX MEDIA



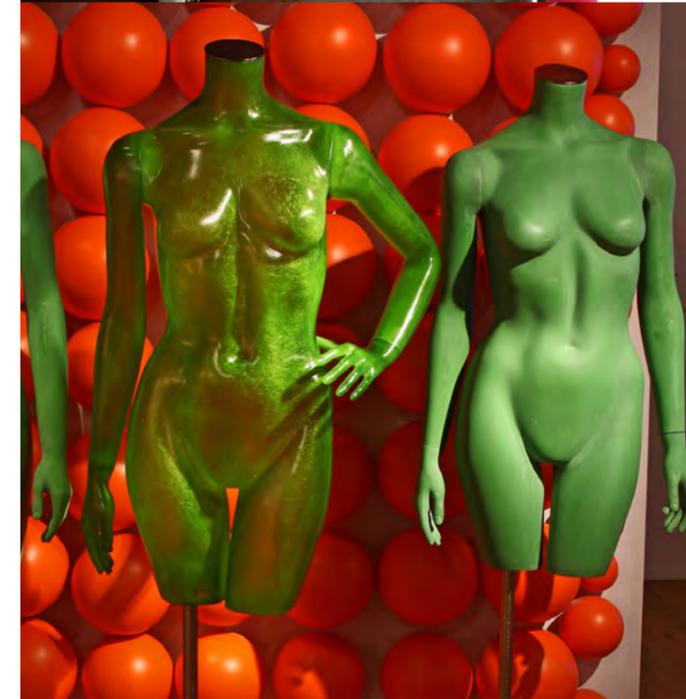
The trend of mix media is very popular and we have a vast range of materials that can be used to create a unique look. New concepts can be developed using a mix and match formula, allowing customers to create the perfect bust or mannequin for their brands. Select a torso painted or covered in natural calico raw or vintage style, add transparent fibreglass arms or legs. Wooden arms and articulated hands can be added as well as a choice of different base from raw steel to polished chrome. The possibilities and combinations are endless.

# FINISHES / TRANSLUCENT



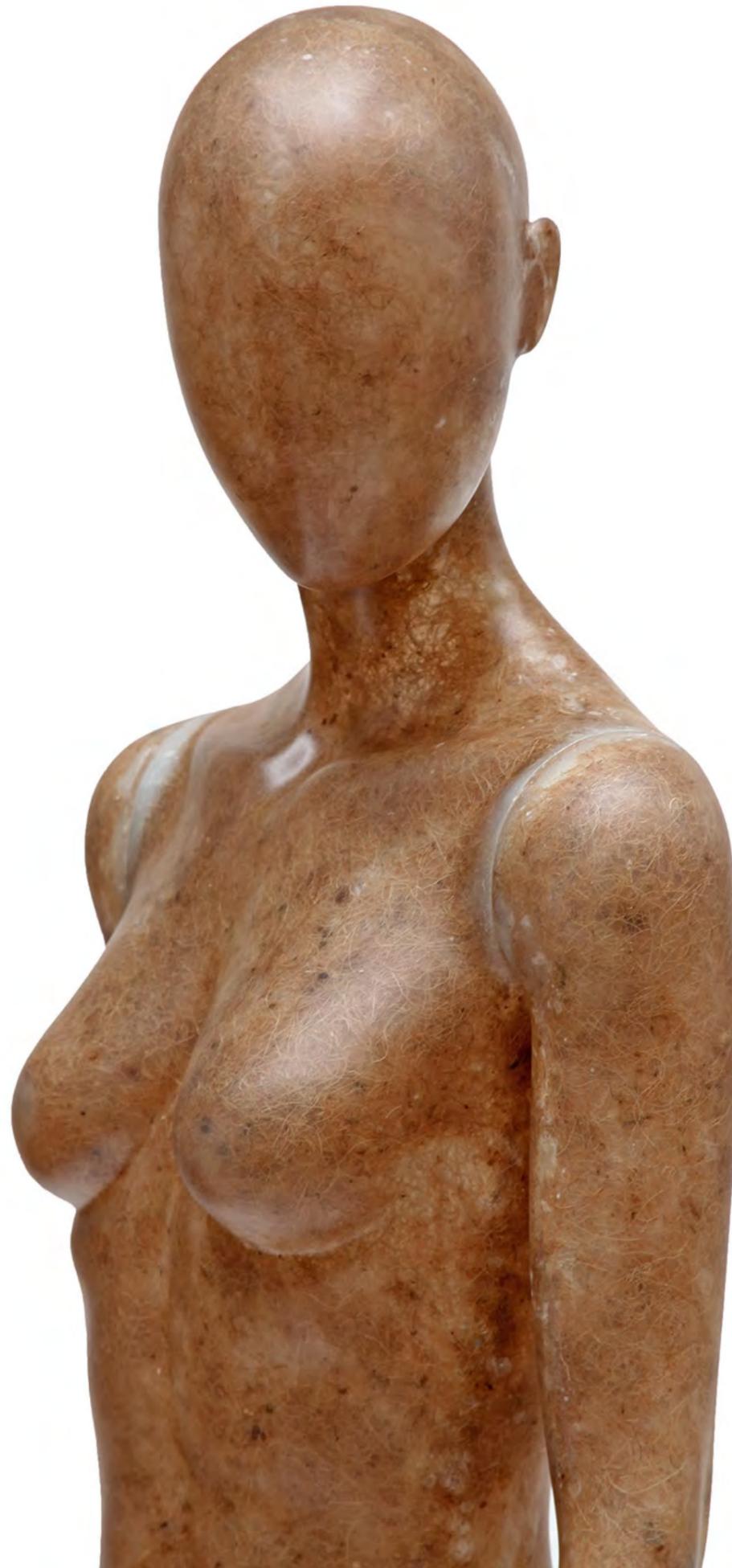
Products produced in translucent finishes are very popular, they are available with various colour tints. The resin can be hand tinted to provide a bespoke finish to match a certain colour or theme, the opacity can also be varied.

# FINISHES / RESIN



Resin finishes are very stylish, from the matt foundry finish tinted with a kale Pantone to a cool slate grey. The choices are endless. The sheen can also be altered from a distressed matt finish to a high gloss coating.

# FINISHES / BAMBOO



Universal Display introduces a new way to manufacture mannequins. By combining Bio resin & natural Bamboo fibres, any Universal Display Mannequin can be specified in Bamboo finish. All our products can also be sprayed with a water based paint. The use of Bamboo reduces CO2 emissions significantly. Sustainability is part of our ethos providing environmental, social and economic benefits while protecting health and the environment.

# FINISHES / TAILORED



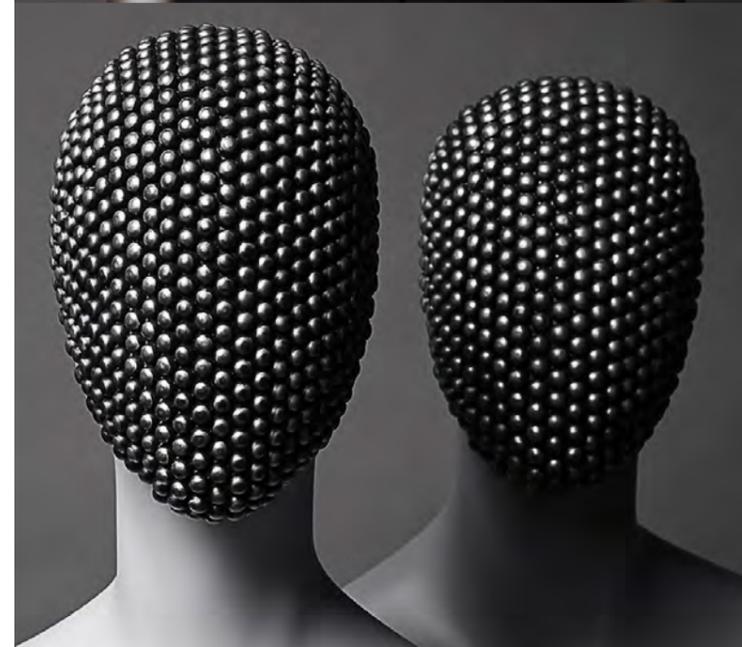
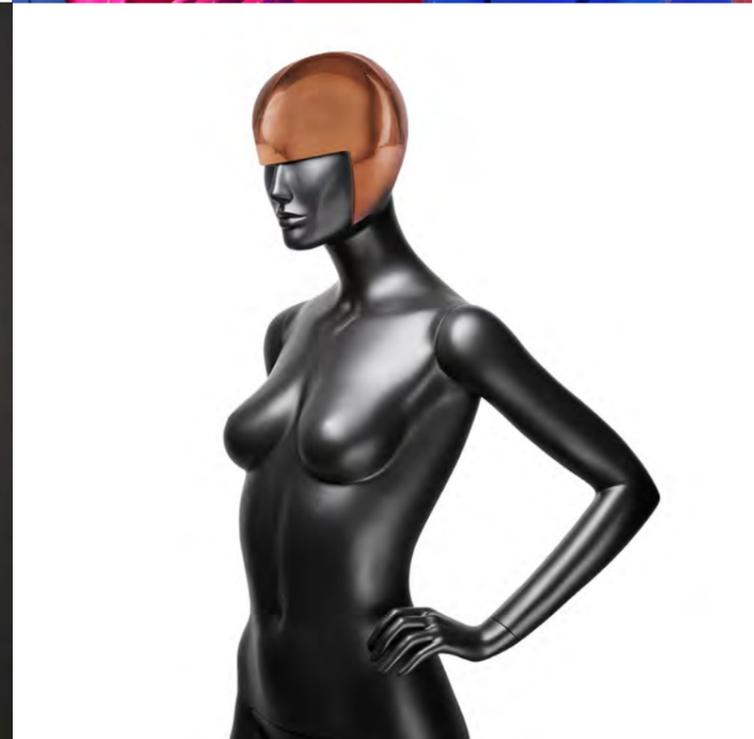
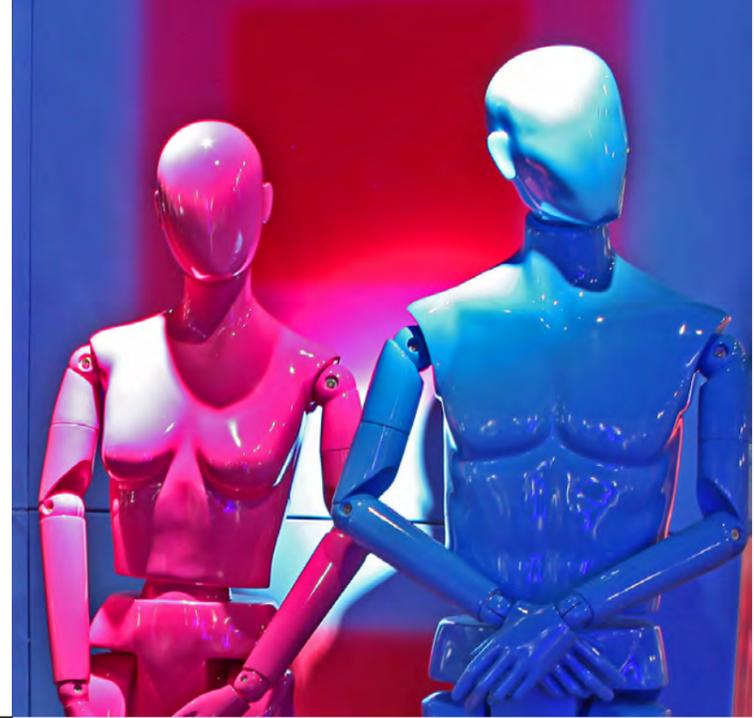
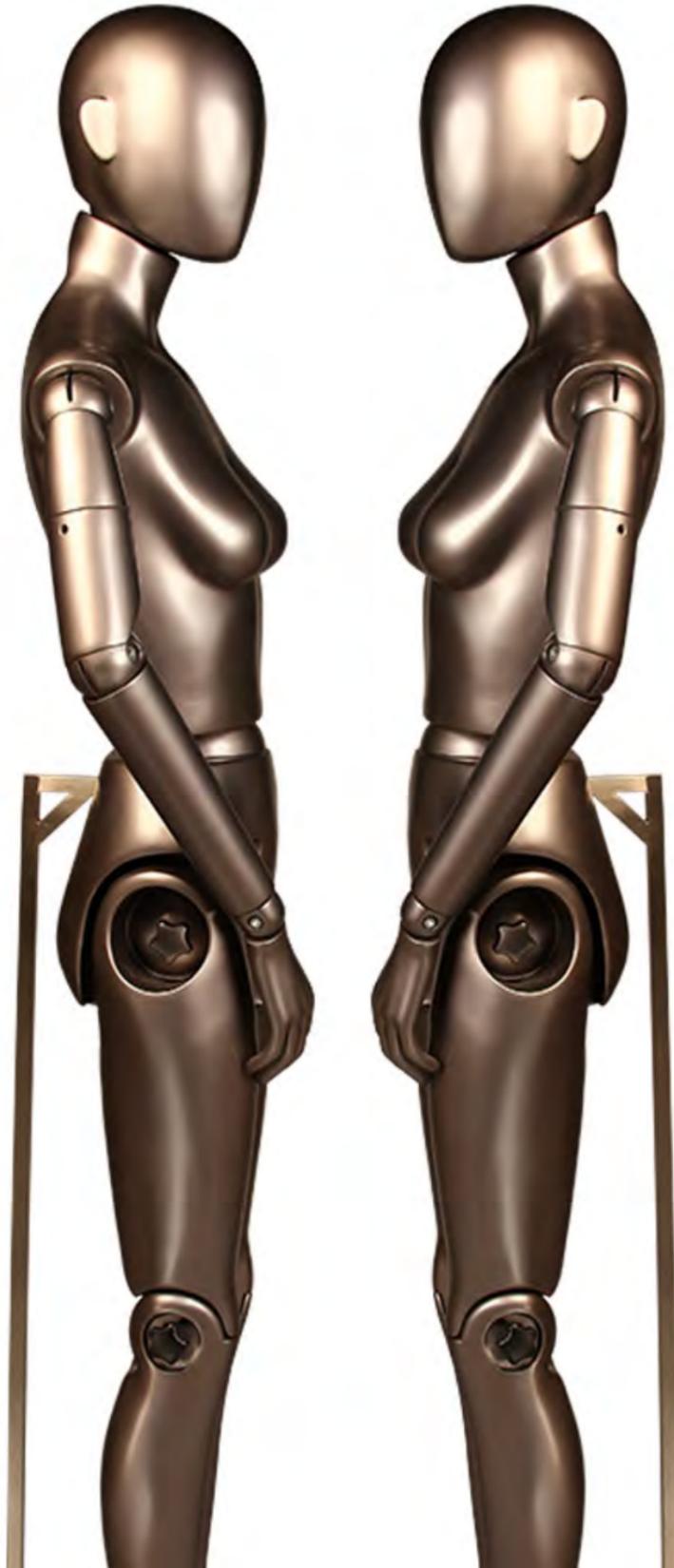
Mannequins, bust forms and accessory forms can all be expertly tailored by our in-house team in a standard material or bespoke fabric. The finish tailoring is second to none.

# FINISHES / WOOD GRAIN



Transfer wood grain finishes can be applied to the surface of our products, making the product eye catching. There are many different patterns that can be applied to create something truly unique.

# FINISHES / PAINT



We have a standard range of paint colours to choose from, the sheen level can also be altered from a matt finish to a high gloss coating. Products can also be produced in bespoke RAL or Pantone colour references.

# FINISHES / PAPER



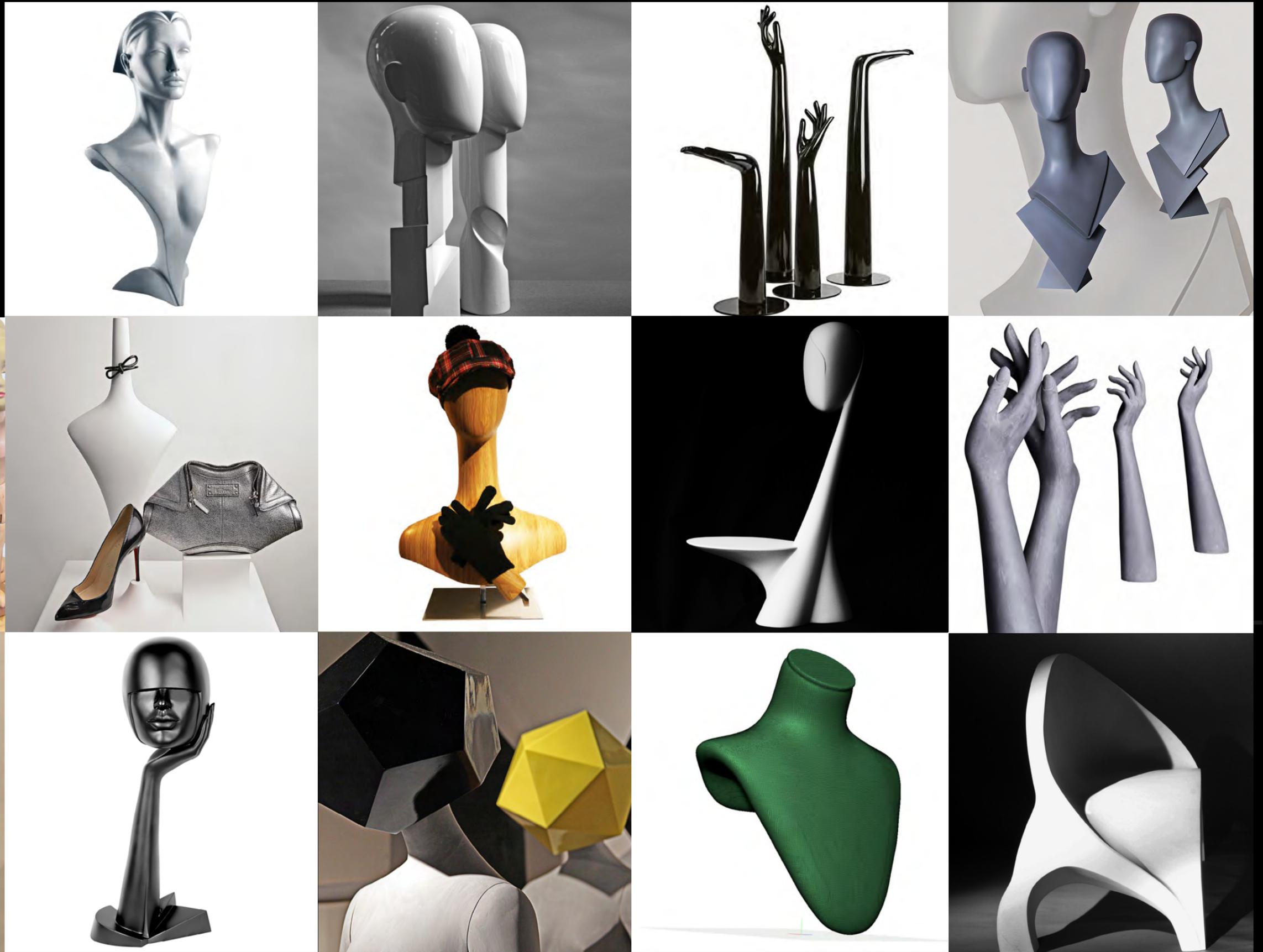
We provide paper inspired finishes from the ever popular Papier-Mâché mannequins and busts, to hand embellished paper coverings.

# FINISHES / CHROME



A chrome finish can be applied to our products and comes in various colours: gold, copper, bronze and silver.

# PROPS / ACCESSORIES

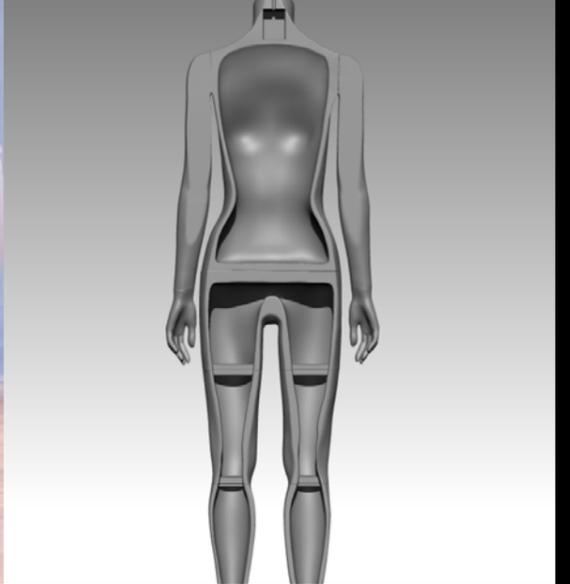


As well as our mannequins and bust forms we have created many props for window schemes as well as in store.

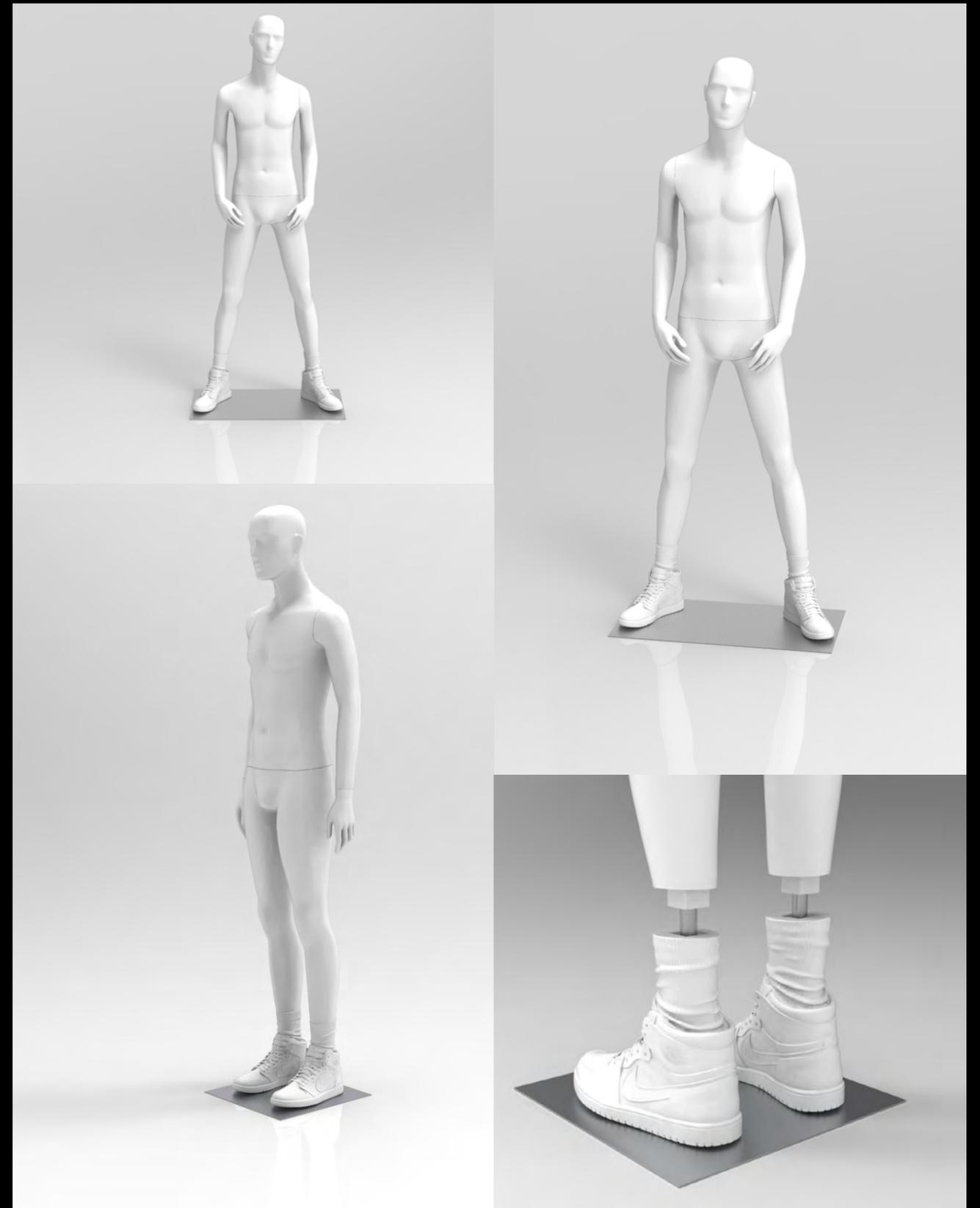
# PROPS / DECORATIVES



# CASE STUDIES



# AIR DIOR

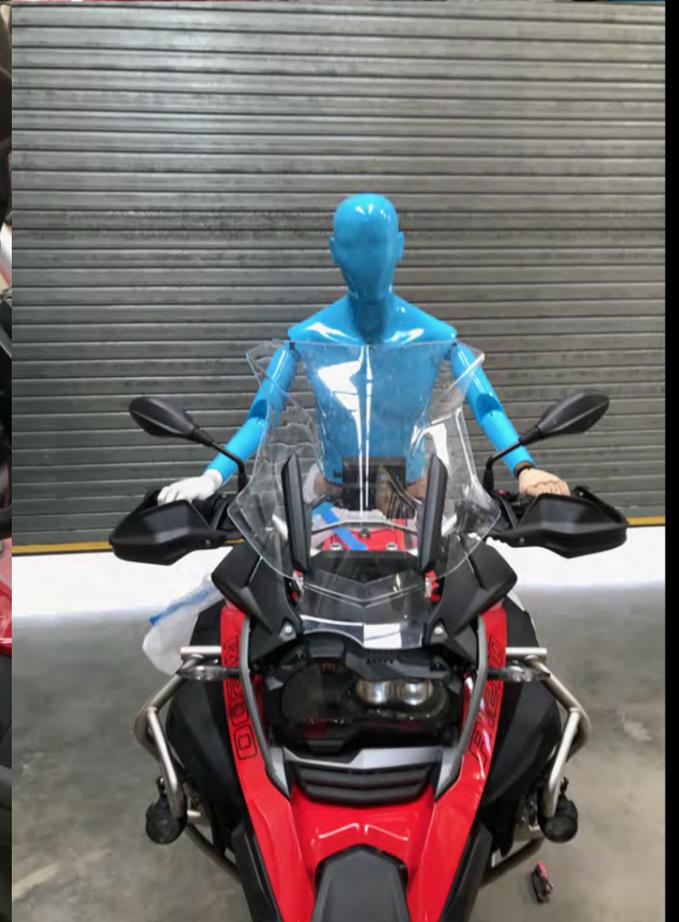


We were asked by Dior to create a mannequin for the launch of the Air Dior collaboration. We made an exact copy of the shoes and sculpted them to fit a bespoke mannequin. The limited edition shoes were scanned and we sculpted the mannequin pose in conjunction with the shoes.

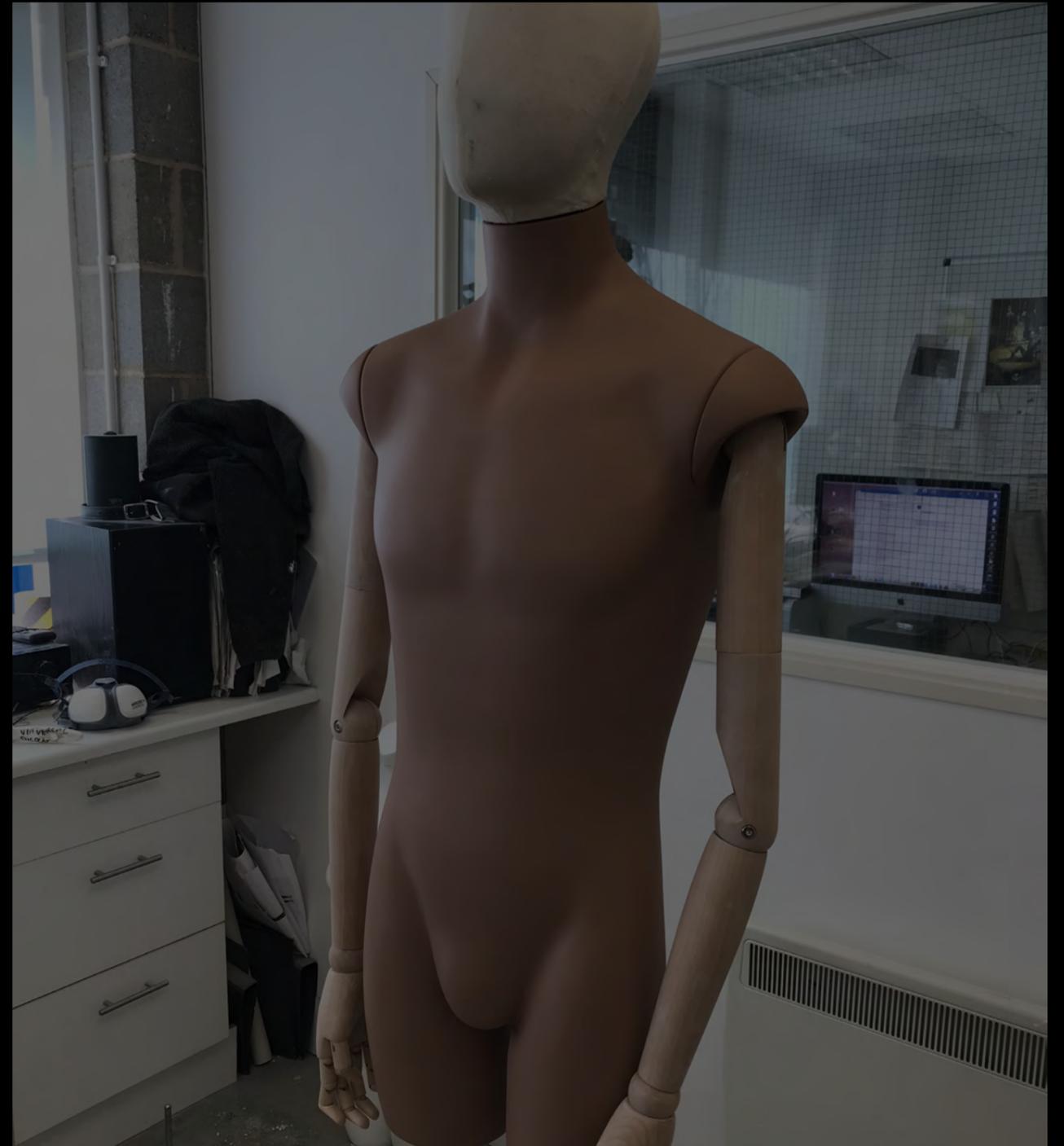
# BMW



A mannequin from the Articulate range was adapted to sit on a motorbike for BMW'S showroom to display their range of clothing and accessories. The pelvis was widened to allow the mannequin to sit on the bike other alterations were also made to facilitate the dressing of the figure. We used the Articulate range so that it could be adapted to suit the different types of riding position that are encountered with different types of motorbike from racing to Motocross.



# VIVIENNE WESTWOOD



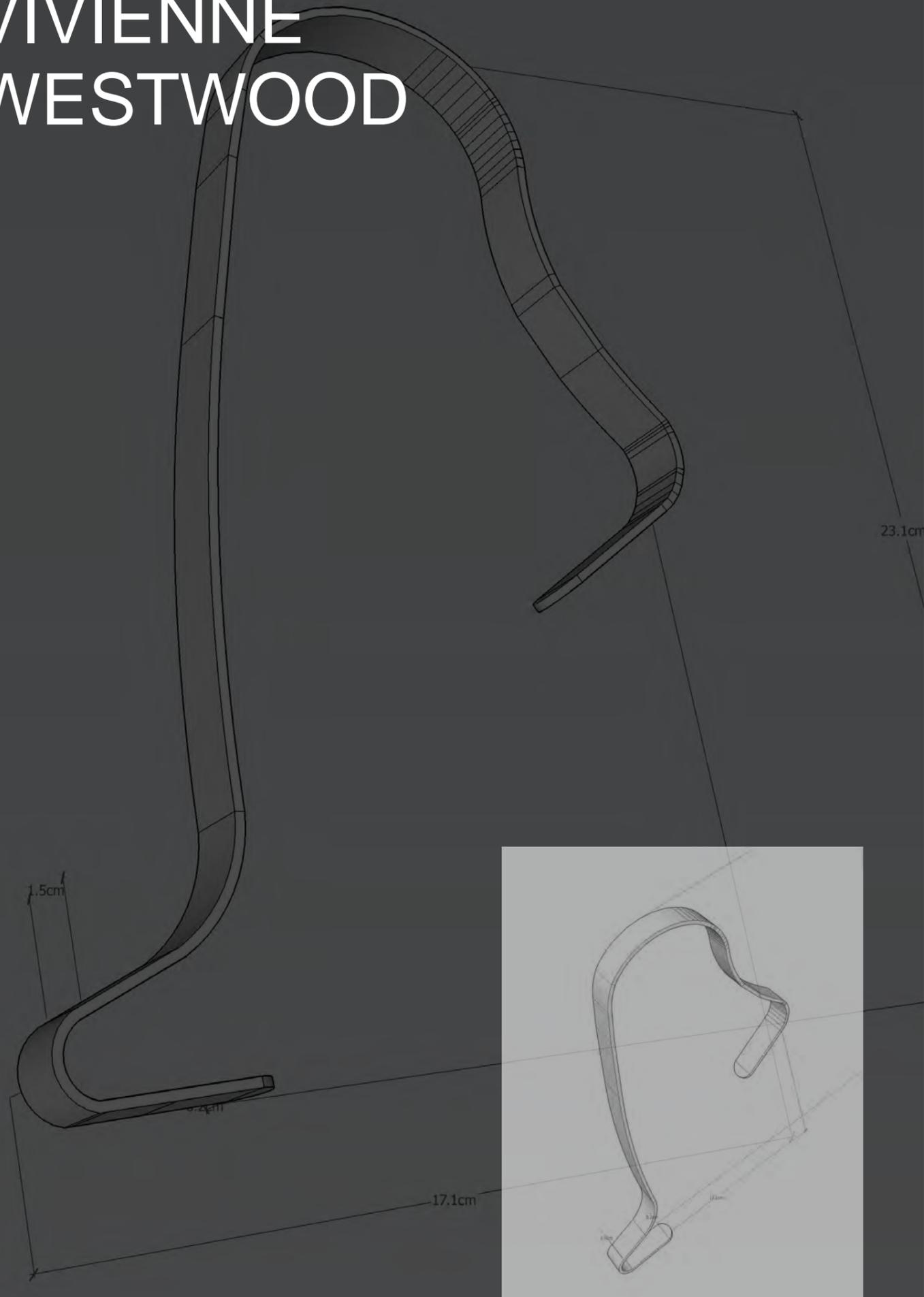
We worked with the Visual Merchandising team at Vivienne Westwood to produce a custom fit bust form. A clay body torso was sculpted to the correct size, it was dressed and checked for fit and function. We worked with the team on details such as magnetic arm caps, fabric colour / texture and wooden arm + hand colour.



Universal Display were excited to create a form that was unique to Vivienne Westwood's brand and clothing style, the figures have since been rolled out worldwide throughout their stores and showrooms.

VIVIENNE  
WESTWOOD

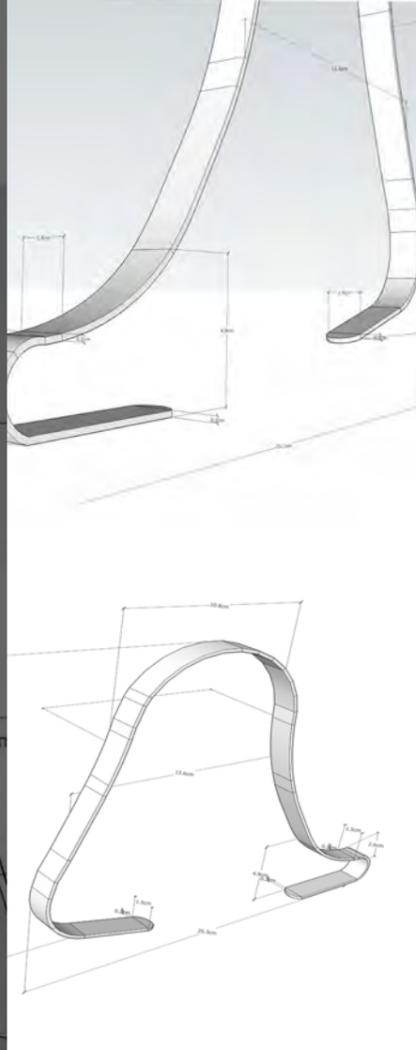
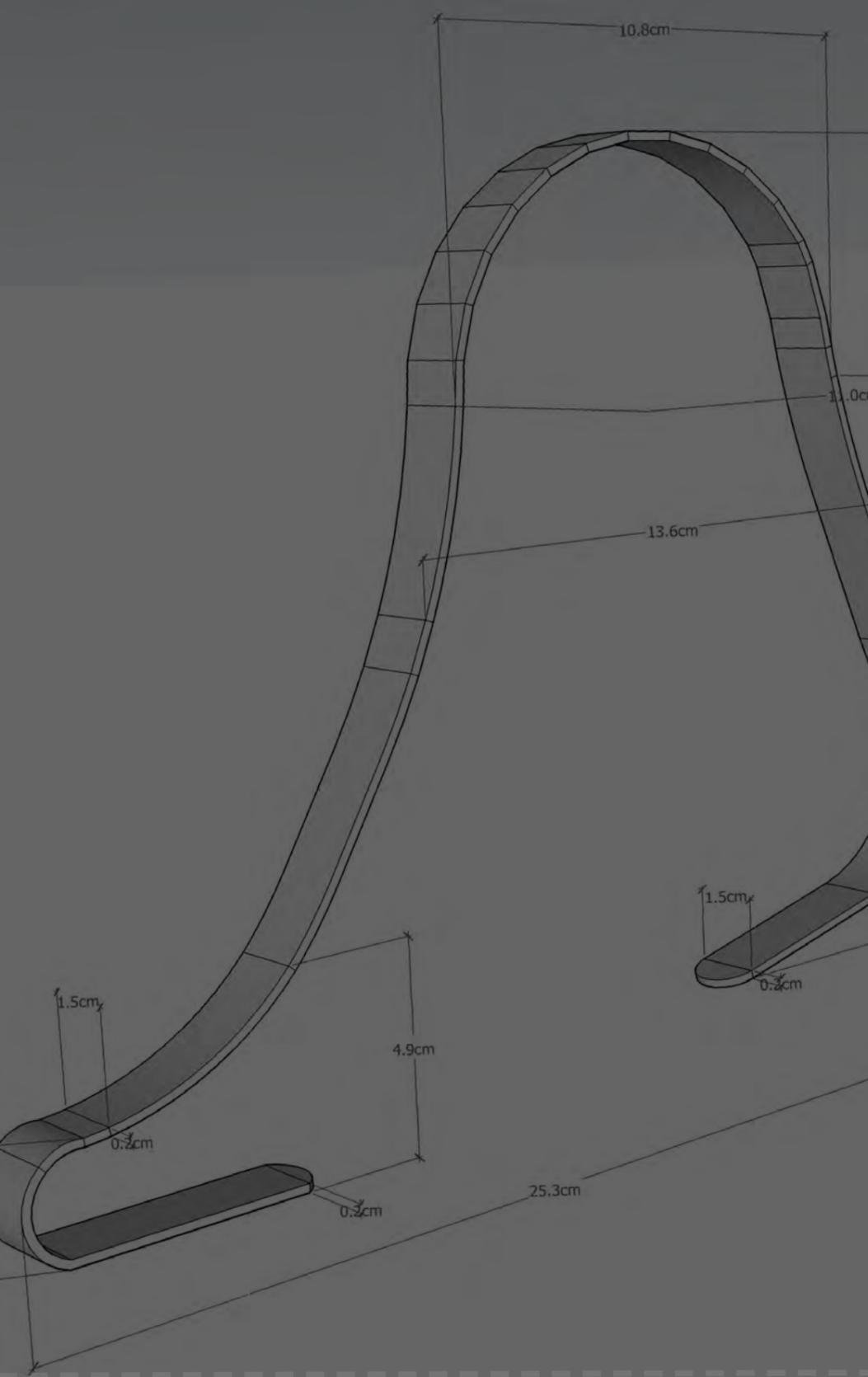
# VIVIENNE WESTWOOD



These bespoke shoe forms for Vivienne Westwood were drawn in CAD and then 3D printed until we obtained the perfect fit. Once the masters were approved the production units were fabricated in brass.

# VIVIENNE WESTWOOD

CAD



Two different styles were chosen for manufacture one male and one female.

# VIVIENNE WESTWOOD



From CAD to reality, the shoe forms worked perfectly with Vivienne Westwood's uniquely distinctive footwear.

# HARVEY NICHOLS



We created a large dolls head for Harvey Nichols that would slip over their existing mannequins. To enhance the head we produced the eyes in a clear resin to give them some depth, the heads were then painted and made up into different styles.

# HARVEY NICHOLS



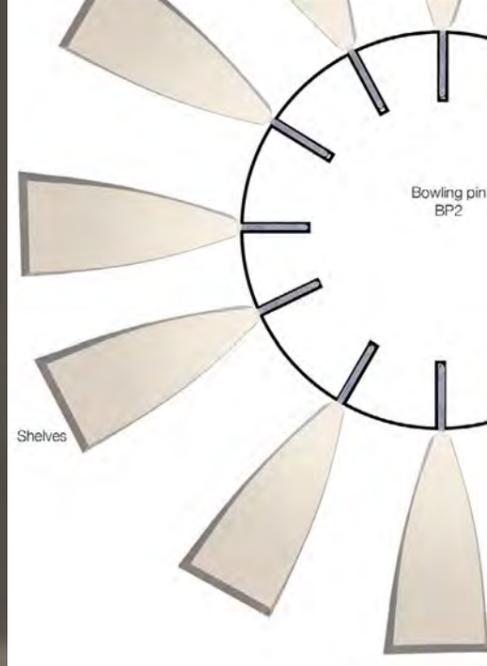
Working with Harvey Nichols we sculpted the bespoke Aero figure for their Christmas seasonal window. The figure has been adapted and used for several highly effective window schemes since. A clay was built moulded and then a master produced from which the product was manufactured in China.

# PLINTHS

The picture on the right shows custom plinths designed and manufactured by us for our New York office. Universal Display manufactures plinths for a wide range of clientele, constructing them to their exact designs.

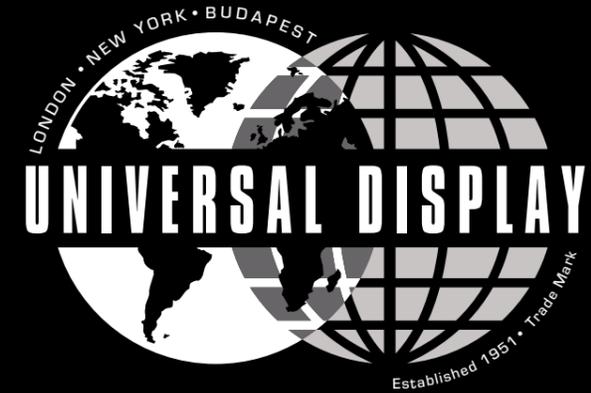


# PLINTHS



We designed these plinths in-house, the fabrication and spraying was carried out at our factory.

ONE QUESTION /  
HOW CAN WE HELP?



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