

# Universal Display

MUSEUM

# 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 / MUSEUM / PROPS  
SCULPTING / CUSTOM FIT / PROTOTYPING /  
CONCEPTUAL DESIGN / MANUFACTURE /  
DISTRIBUTION / TURNKEY / AFTER SALES /  
ROLL OUT / TORSOS / ACCESSORIES /  
METALWORK / FIXTURES / WINDOW SCHEMES  
/ 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.

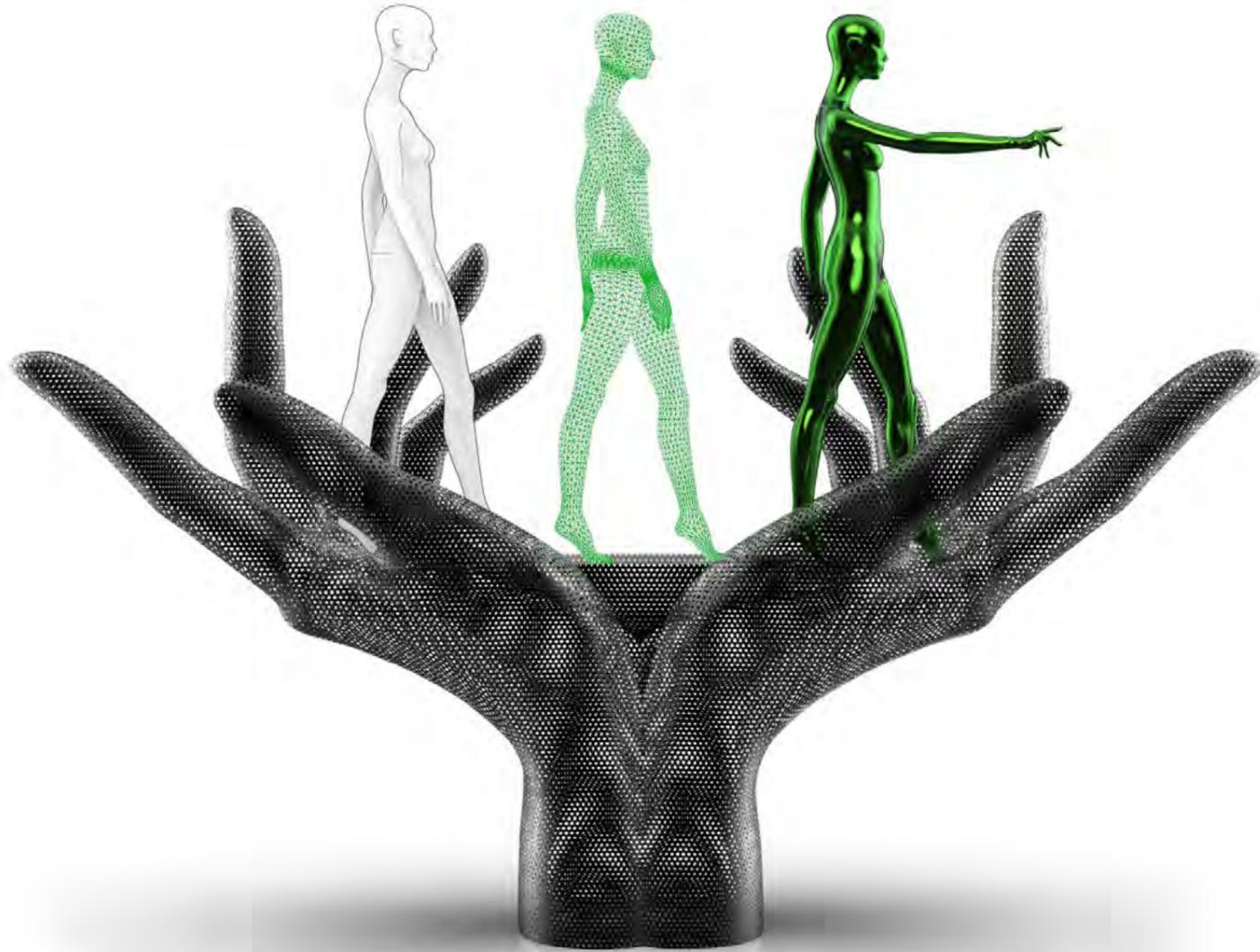
We have a manufacturing facility in China that is fully compliant with all the required standards, producing quality products at a price point that our clients' appreciate.

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.

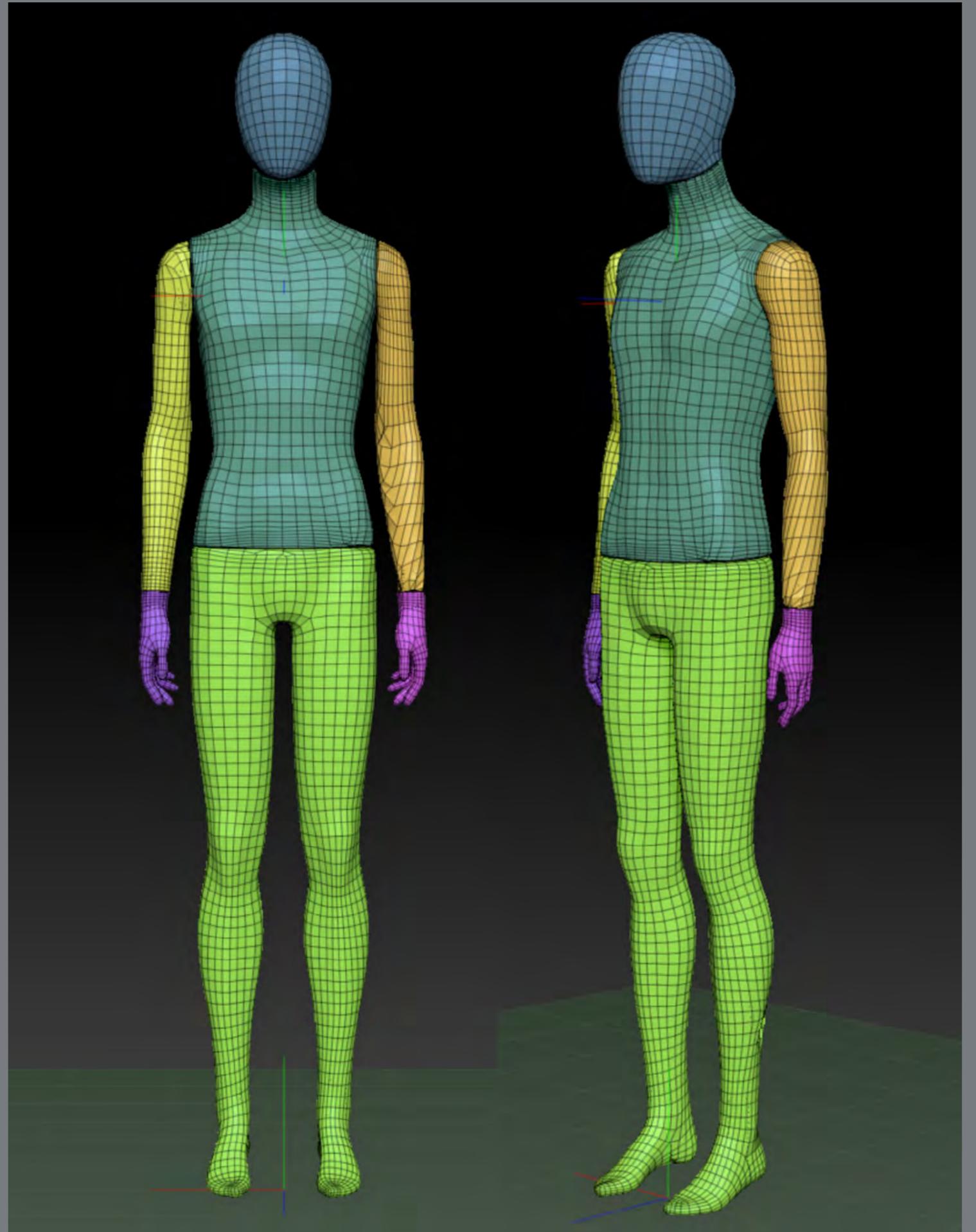


# MADE TO MEASURE

As well as our vast collection of products, we can create products to the most exacting standards required by our customers.

## CUSTOM FIT

We have been providing custom fit products for over 20 years and this is a trend that has become increasingly popular. Many of our customers are vying to gain attention within the exhibition space, we can help by creating a unique products that stand out from the crowd.



# TRADITION v 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.

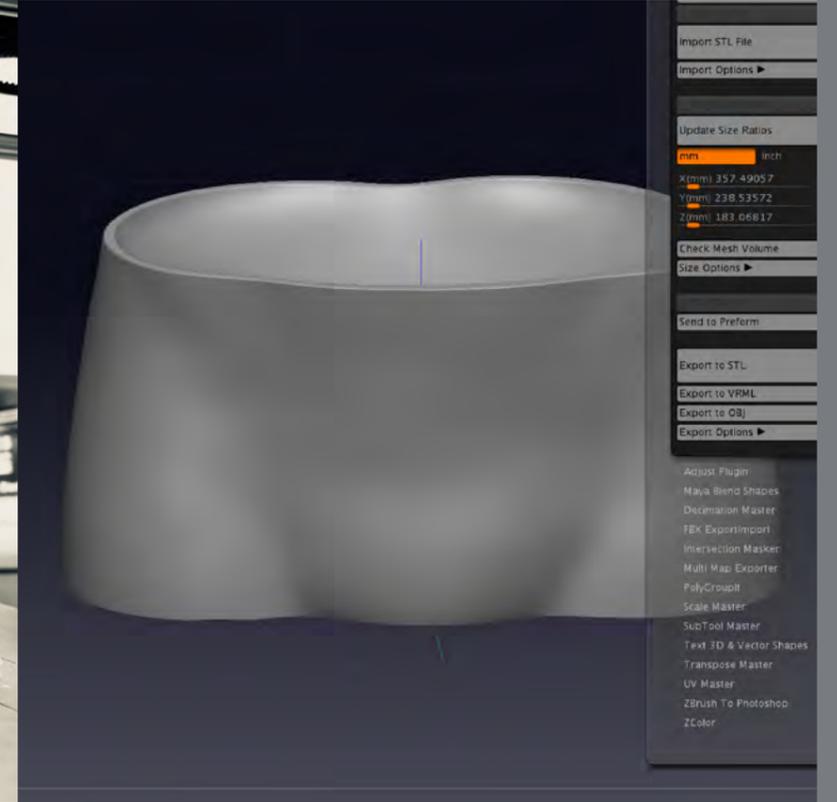
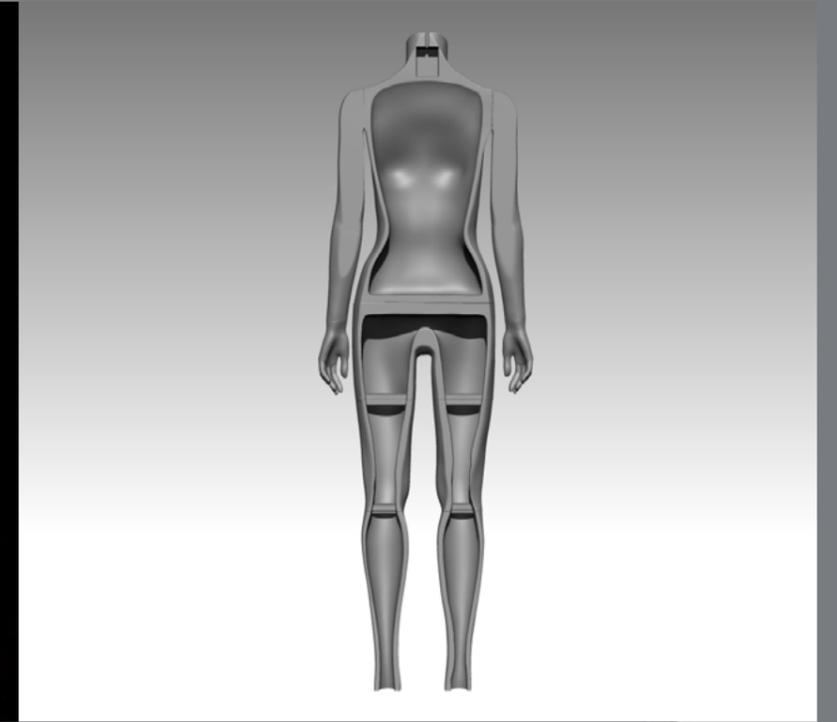


# 3D DESIGN



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 printers 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.

# MUSEUM PRODUCTS

MF1 - MM1 are new versatile male and female mannequins designed specifically for the museum and retail industries. The MF1 - MM1 can be produced in a mixture of finishes and can be painted in standard or custom colours. The body parts can also be tailored in a variety of fabrics. The MF1 - MM1 has the option of fibreglass or wooden arms in various colours and with a selection of hands articulated or fixed. The possibilities and combinations are endless, providing a vast range of options for creative curation.



SERIES MM1

MM1



MM1  
No Head



MM1  
Calico Covered Torso &  
Head



MM1  
Calico Covered Torso  
Wire Arms



MM1  
Calico Covered Torso &  
Head  
Wire Arms



MM1  
Calico Covered Torso  
Head & Arms

MM1



Height:  
With Head 182 cm / 71.6"  
Without Head 160 cm / 62.9"  
Neck 33 cm / 13"

Chest 84 cm / 33"

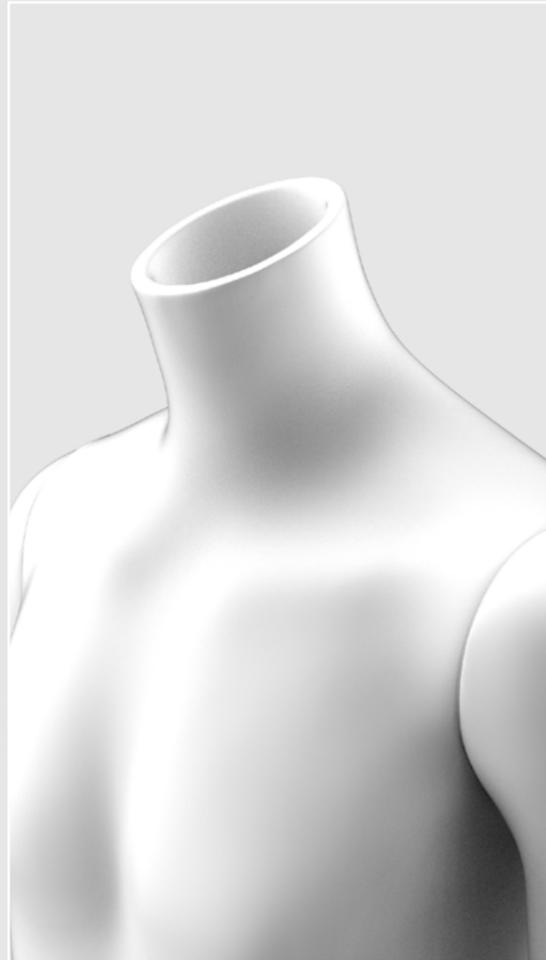
Waist 65 cm / 25.5"

Hips 81 cm / 31.8"

Inside Leg  
Ankle to Crotch  
80 cm / 31.4"



MM1 H1  
Removable Head



SERIES MF1

MF1  
Low Heel



MF1  
High Heel



MF1  
Calico Covered Torso  
High Heel



MF1  
Calico Covered Torso  
Head in a Paint finish  
High Heel



MF1  
Calico Covered Torso  
Wire Arms  
Low Heel



MF1  
Low Heel  
Wire Arms  
Articulated Hands



MF1  
Low Heel  
Wire Arms  
Articulated Hands



H1



H2



Paddle Hands



Natural Hands



Articulated Hands

MF1 High Heels  
Height:  
With Head 180 cm  
Without Head 160 cm



High Heel  
Inside Leg  
82 cm / 32.2"

Bust 80 cm / 31.4"

Waist 53 cm / 21"

Hips 83 cm / 32.6"

MF1 Low Heels  
Height:  
With Head 175 cm  
Without Head 154 cm



Low Heel  
Inside Leg  
80 cm / 31.4"



High Heels



Low Heels

# SUSTAINABLE MATERIALS

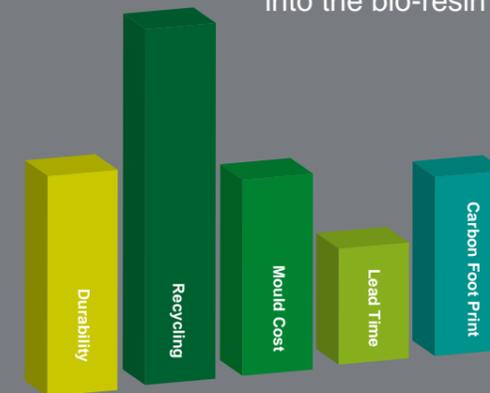
The following material options are available for product manufacture:

## SO 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.



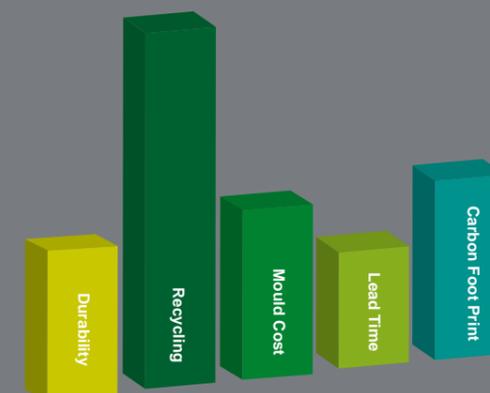
Bio-Based PDO (1,3 Propanediol) is a pure, petroleum-free derived diol, 100% sustainably and renewable sourced. It is used in a range of industrial applications including polymers, functional fluids, polyurethanes are used globally in coatings, inks, and resin applications. Good recycling option re-purposed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

### SUSTAINABLE ADDITIVE FIBRES FOR BIO RESIN



Ramie      Flax      Raffia      Raffia + Translucent Resin      Cork      Bamboo

### RAFFIA AND RICE PASTE



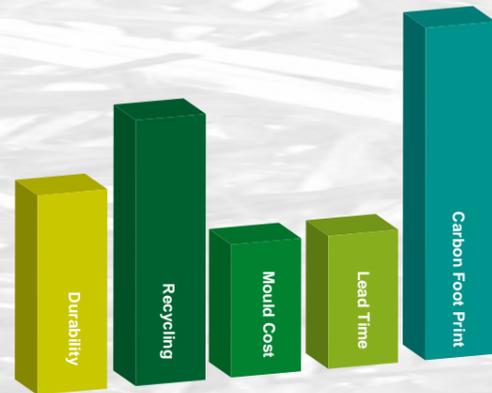
Rice and raffia have been used for thousands of years for construction. The raffia can be covered in cork, fabric or paper which can then be sprayed with water based paints if required. Raffia and rice paste have good recycling options. Open-Loop Cycle



## 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.

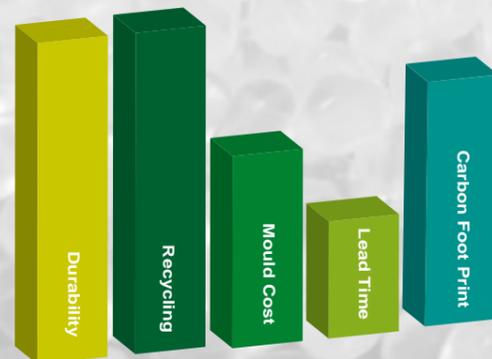
ABS is fairly harmless, there are no known carcinogens in this material and no related health effects have been found from exposure to this plastic. This makes it a safe plastic to use; this is another reason why ABS is so commonly used. Open-loop Cycle. Also see 3D Printing



## 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

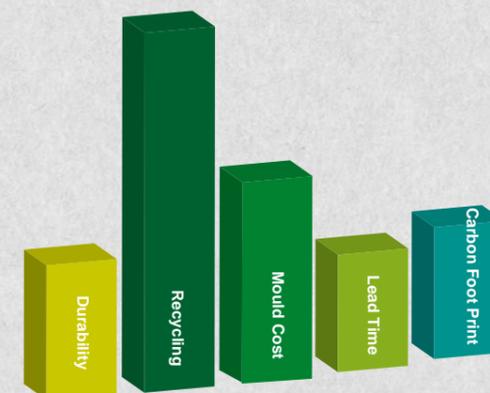
Polyethylene is a thermoplastic polymer with a variable crystalline structure and a vast range of applications depending on the particular type. It is one of the most widely produced plastics in the world. PE has high mould cost and is therefore only recommended for high quantities. The durability is 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.

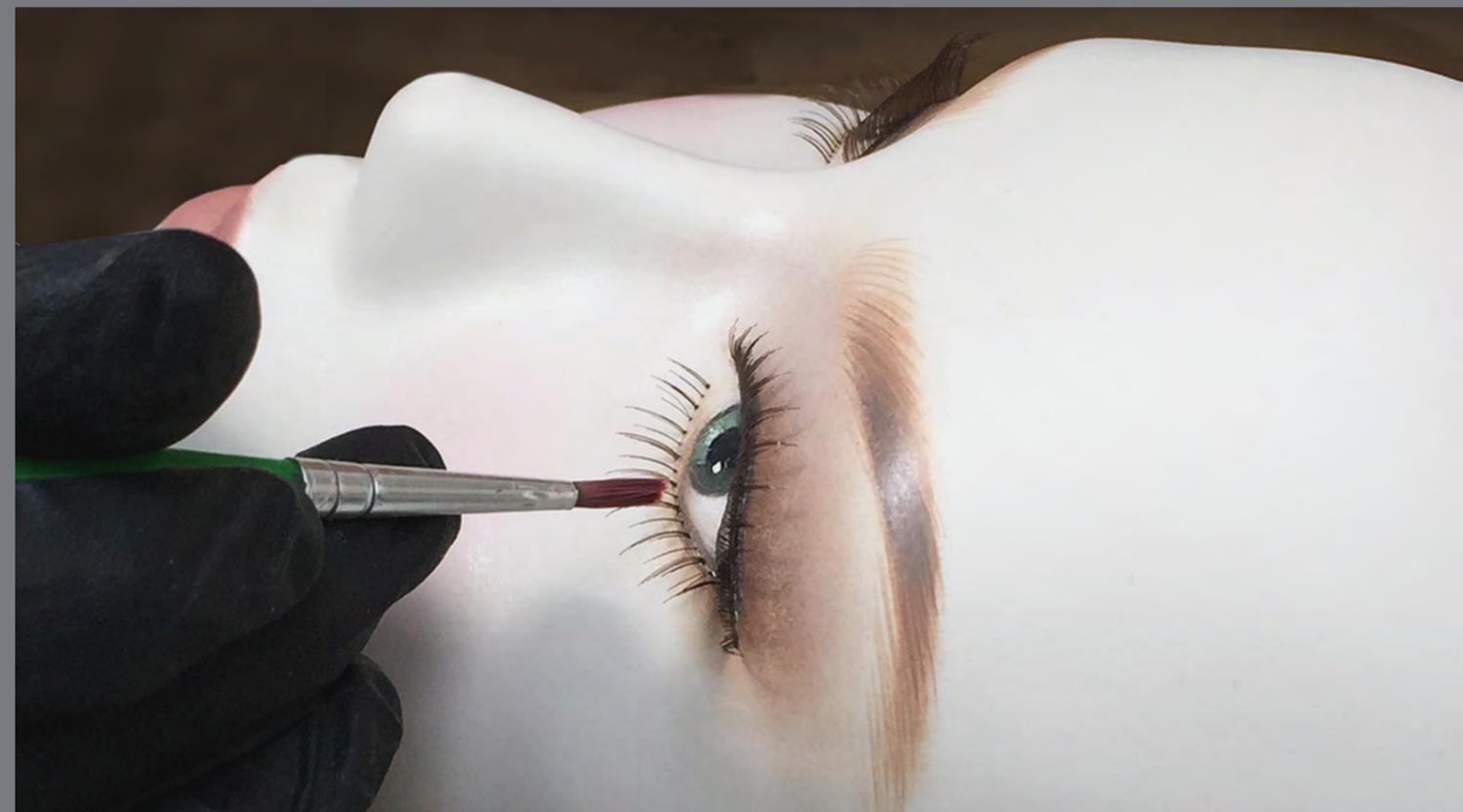
# RENOVATIONS

Universal display offers a full renovation service, making old models as good as new.



**Second life** - to extend the life cycle of our, or someone else's, mannequins, forms, etc we offer a full renovation service. We can take old damaged products, replace broken fittings, supply new parts and spray them to any colour or finish, so they look as good as new.

We can also provide makeup and wigs to your desired design.



# 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.

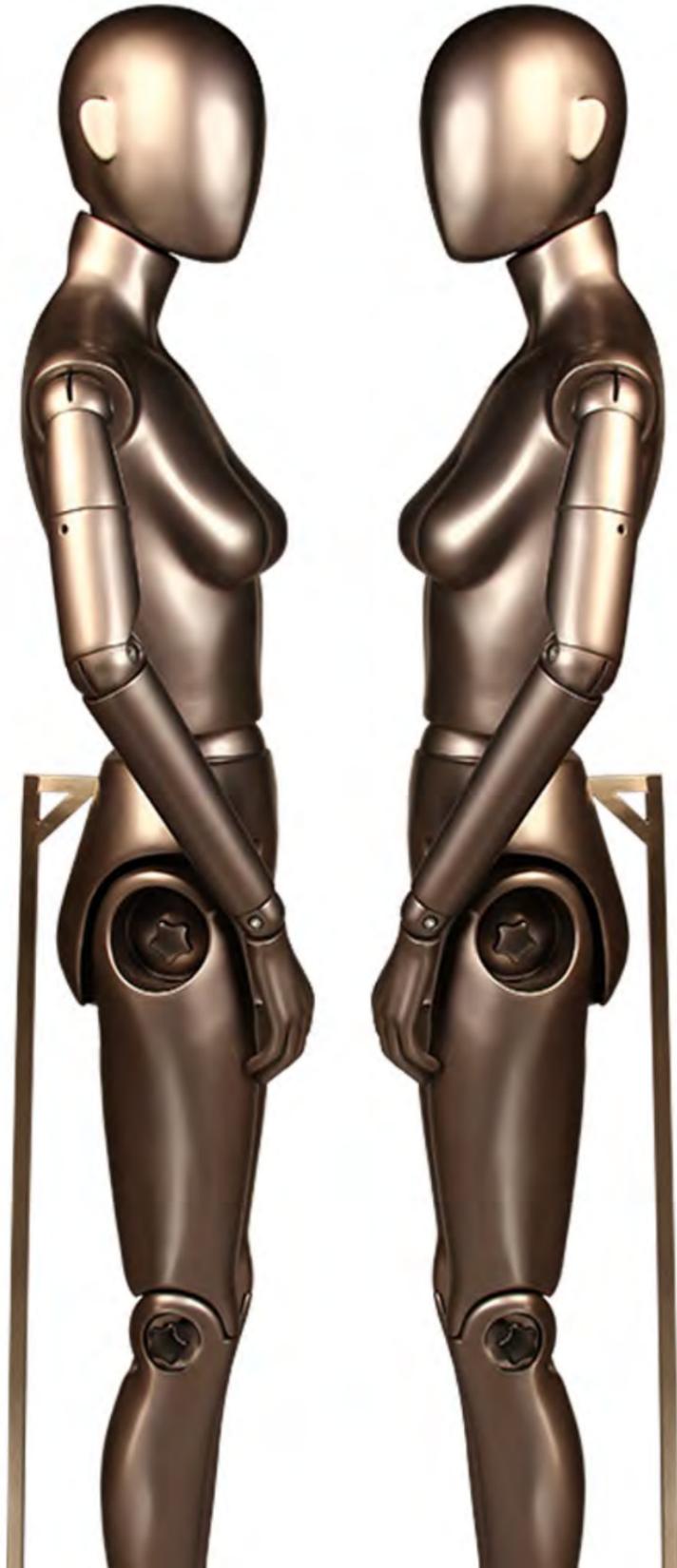


# FINISHES TAILORED



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 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.

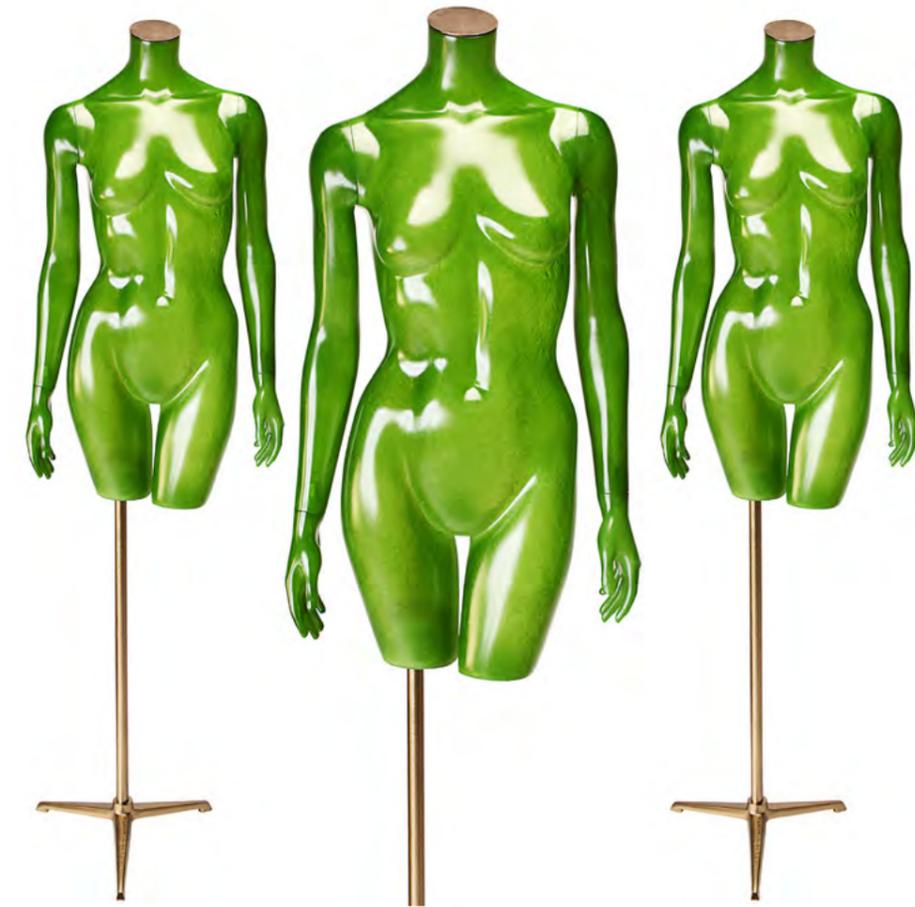
# FINISHES WOOD GRAIN



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

## 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.

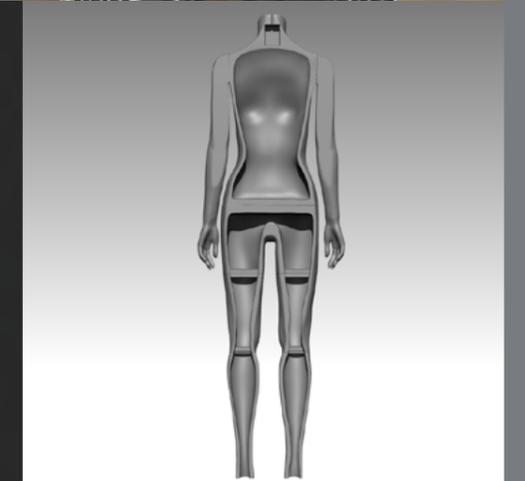
# FINISHES

## 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.

# CASE STUDIES



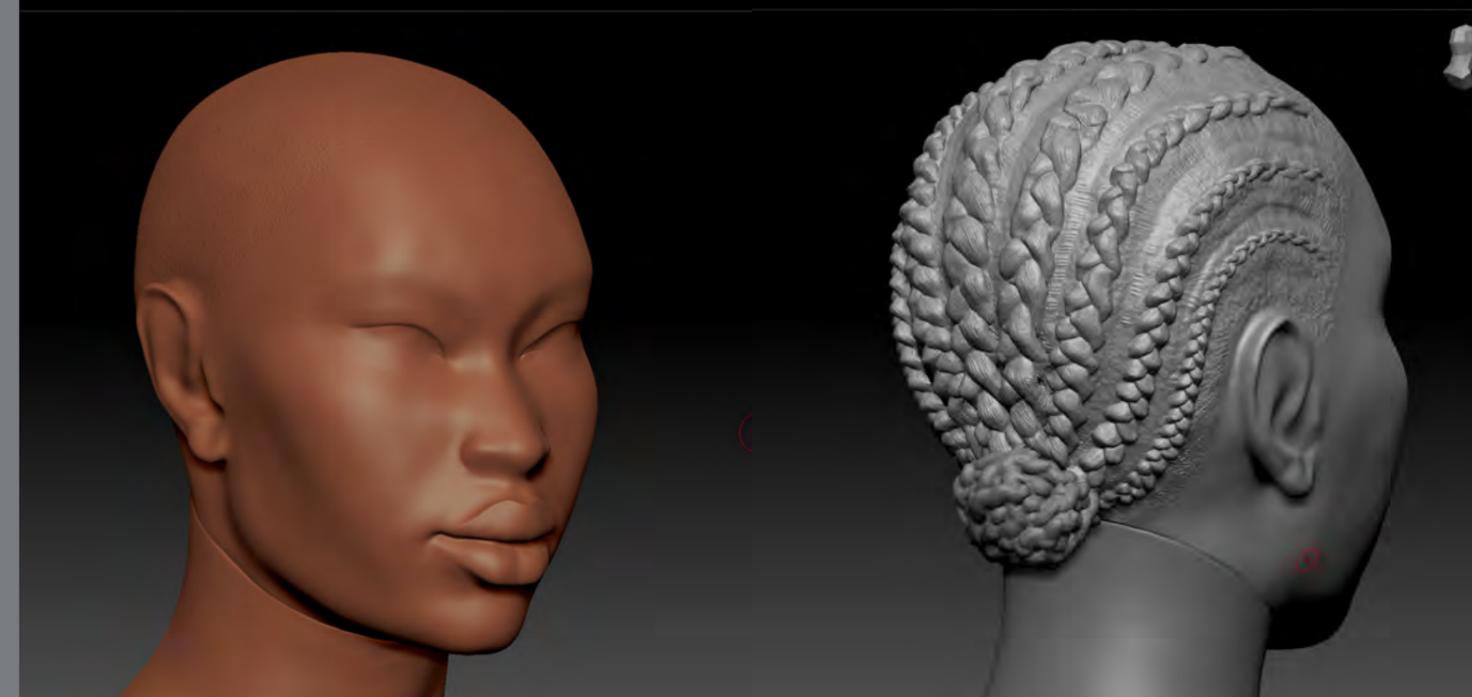
# AFRICA FASHION

## V&A

Universal Display were thrilled to be awarded the tender for African Fashion and as part of that we were excited to sculpt a bespoke head. The head was to be digitally sculpted using photographic reference using the model Adhel Bol for inspiration.

We started with a scaled body and then built the head using several different CAD programs. The head is slowly built and refined using a digital clay, the technique shares many similarities with traditional clay sculpting of adding and subtracting forms. The start point is from a low resolution clay mesh and as the sculpt progresses the head builds in detail and the mesh becomes more complex. At all the stages of the sculpt the head was rendered in different materials and critically examined in AR.

Once the facial aesthetic had been achieved several hair styles were sculpted onto the head, a close crop, braided & Bantu knot, these were developed with curatorial feedback and guidance.



# AFRICA FASHION

V&A



# GLADSTONE'S LAND LADY MACDOWELL

In 2021 Universal Display were tasked to make a sculpture from the painting of Elisabeth Graham of Airth, Wife of William MacDowell of Castle Semple and Garthland, for Gladstone's Land in Edinburgh.

Elisabeth Graham was digitally sculpted using pictures of her portrait, over the course of 8 days, details were honed, scaled and forms adapted for 3d printing. At various stages renders were made for approval and to check the aesthetic.

Elisabeth Graham was 3d printed, finished and then meticulously painted to match her portrait. We installed the sculpture in the café at Gladstone's Land where she proudly sits amongst the dinners today.



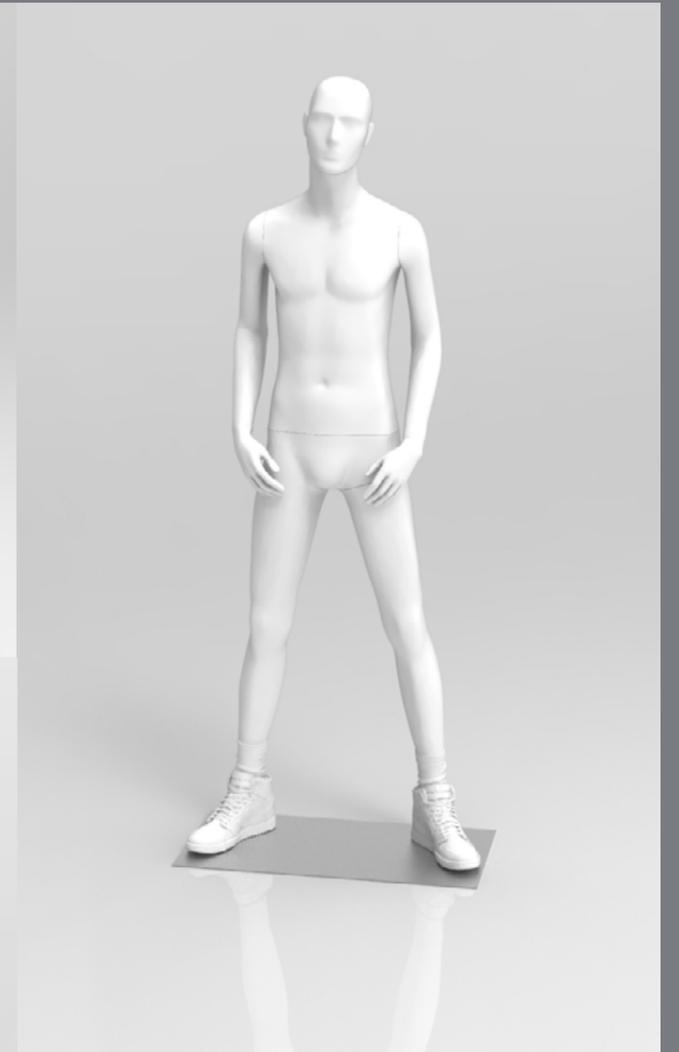
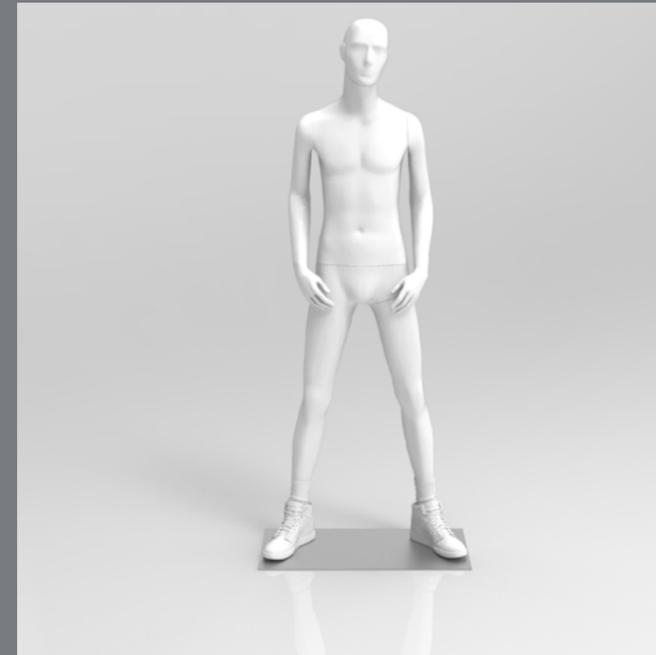
# DESIGNING THE BEAUTIFUL GAME: THE DESIGN MUSEUM

In April 2022 Universal Display supplied mannequins, torsos and bust forms for the Design Museum & Felix Speller's Designing the Beautiful Game exhibition.

We created a bespoke trunk form, a head and bra form, these were sculpted in our London studio and 3d printed in a translucent finish.



# 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.

# DIOR B27 KIDS



We used our expertise in 3d scanning to capture Dior's latest collection of Hitops in 3d. The resulting scans were then cleaned and embellished. Once we were happy with the scans they were then 3d printed. The hitops were then moulded and cast in various different finishes and pantone colours.



# DIOR B27



DIOR







DIOR FALL 21



DIOR



DIOR

DIOR  
AND  
K7Gandy

# DIOR B30



Dior's B30 sneakers were scanned by us, we then engineered a cavity to contain a lighting fixture. The shoes were then moulded, cast in a translucent resin ready to be rolled out and installed in a worldwide window scheme.



# COS

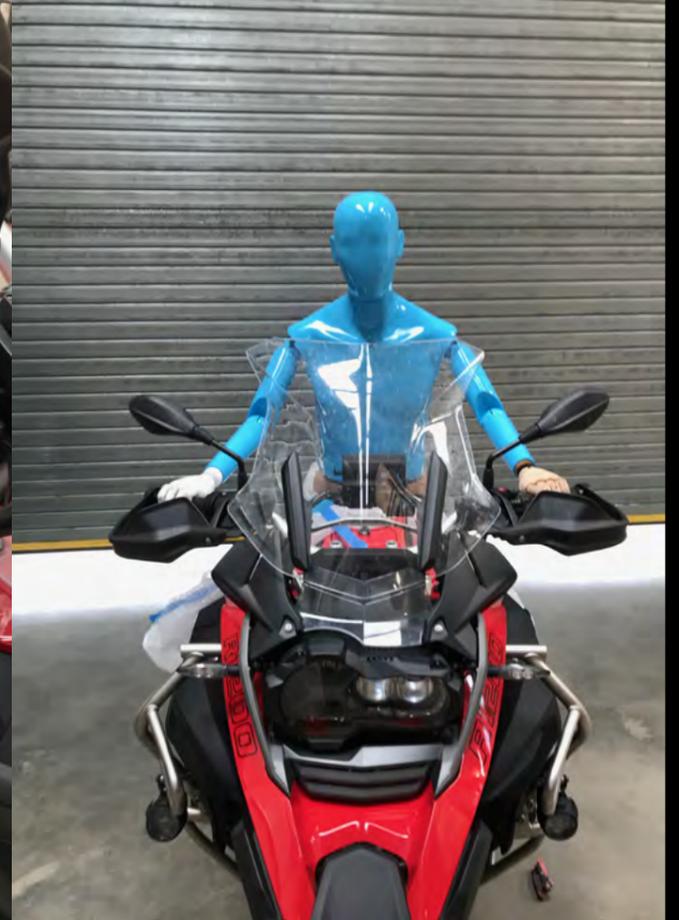


The brief for this project was take the clients clothing range and make mannequins that were ghost forms. Bust forms were used to create a form that held and displayed the clothing for maximum effect with no or little visible form showing.

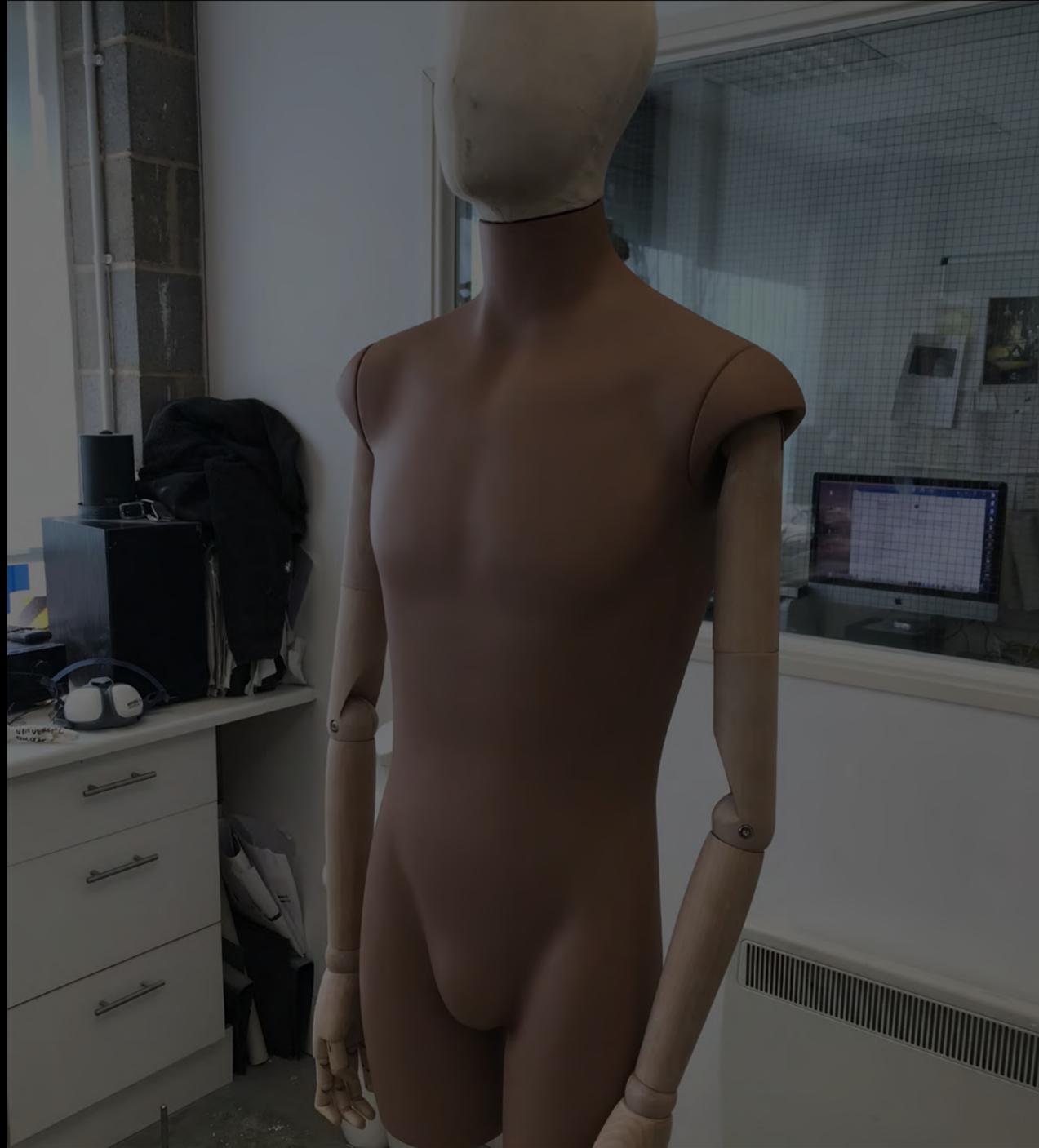
# BMW



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.

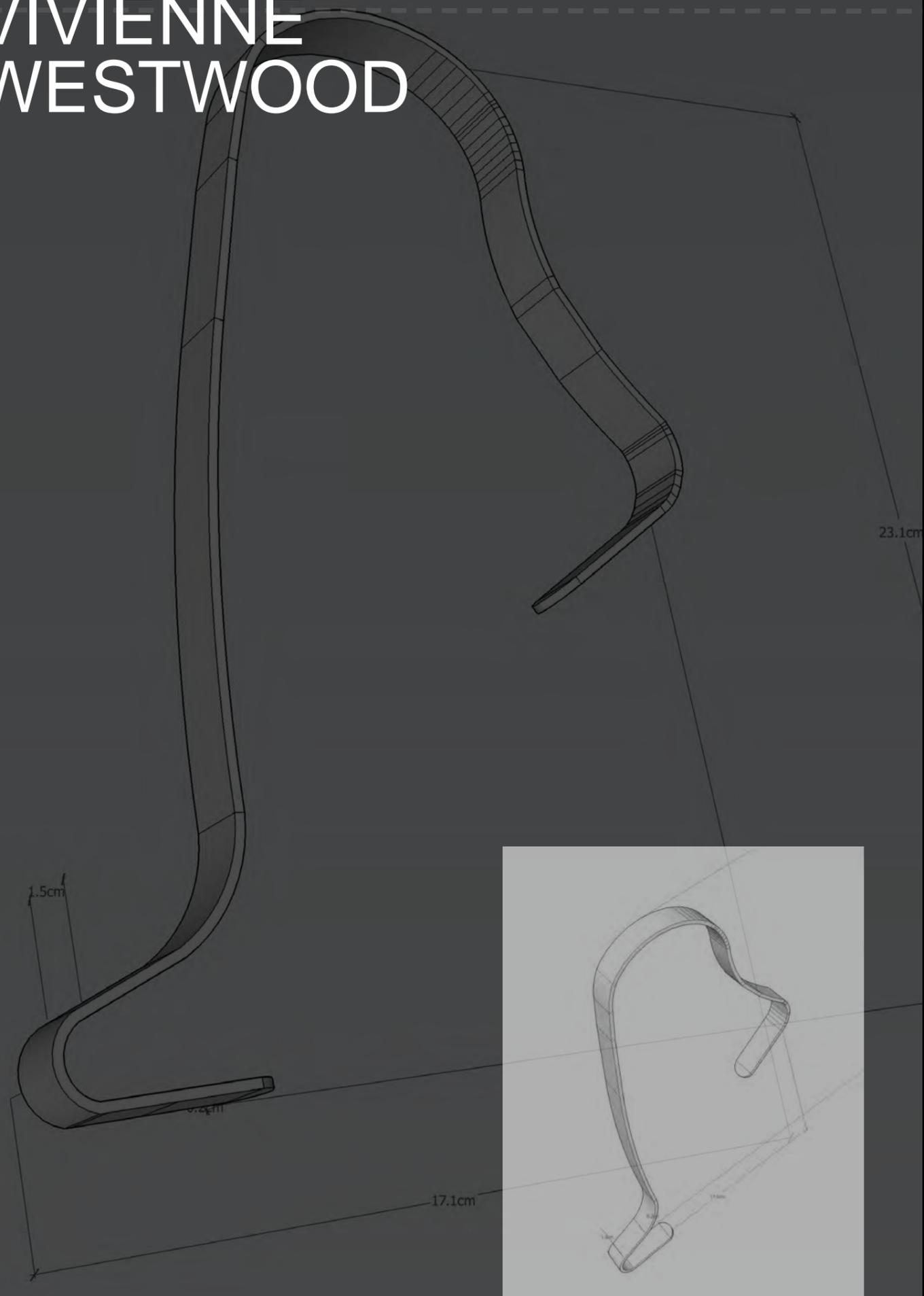


# VIVIENNE WESTWOOD



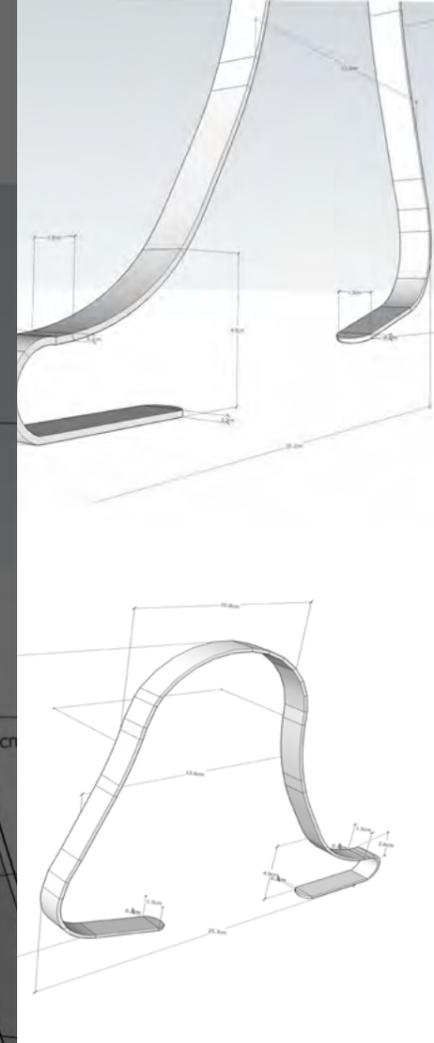
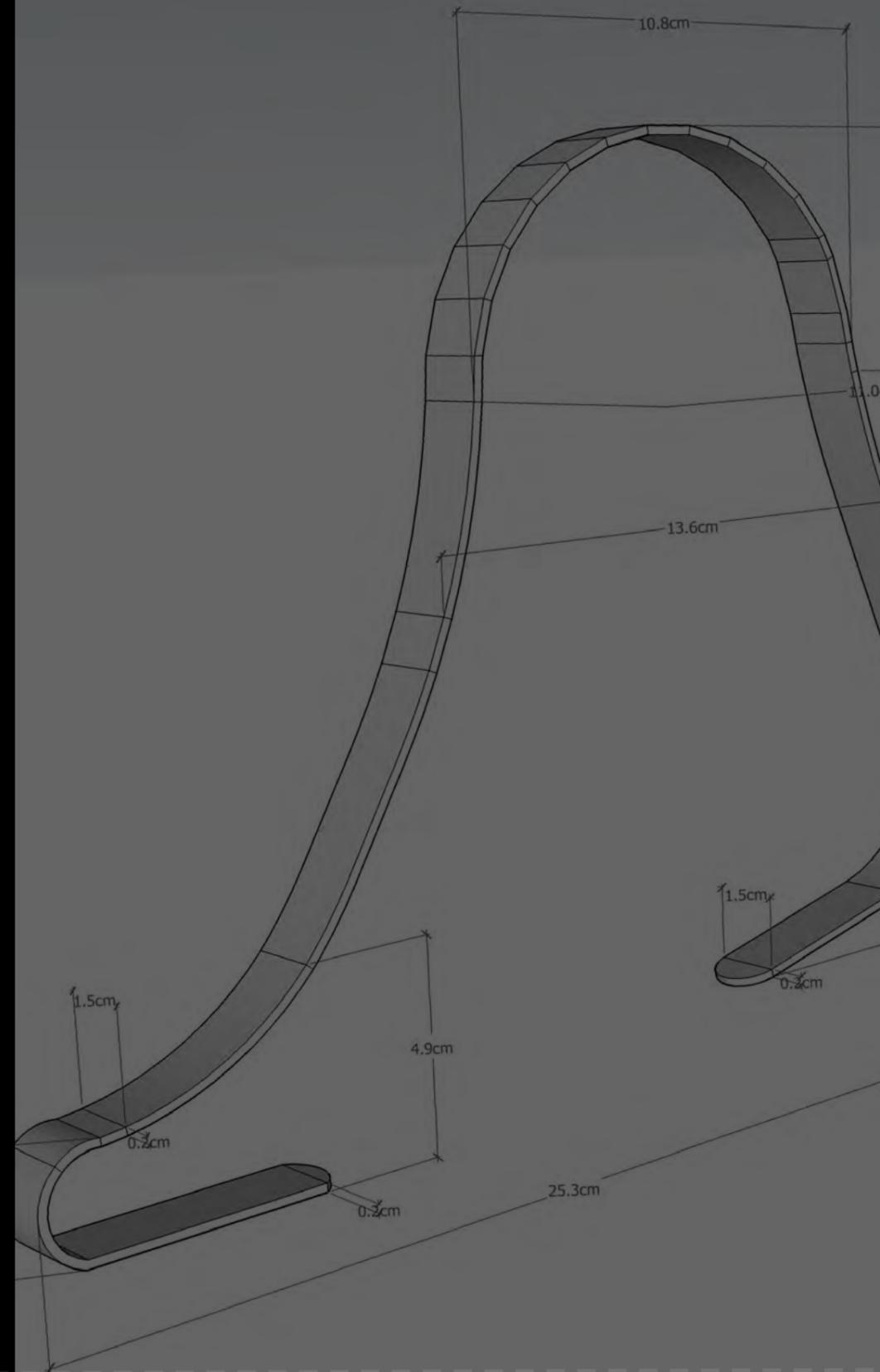
We worked with the Visual Merchandising team at Vivienne Westwood to produce a custom fit bust form. A clay body torso was sculpted to the correct size, it was dressed and checked for fit and function. We worked with the team on details such as magnetic arm caps, fabric colour / texture and wooden arm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

# 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



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

# 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.



# BESPOKE PLINTHS

These are examples of some bespoke plinths that we have made for various customers.





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