

**ULTRA
VM & DISPLAY SHOW
VIABILITY OF 3D PRINTING**

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Welcome

Welcome to our 2nd newsletter of 2018. I can't believe that we are already half way through the year, but hopefully the sun will keep shining for some months yet.

As we all know retail has really taken a beating this first half of the year and many companies are restructuring to survive. The retail landscape is rapidly changing but that's not always a bad thing for longevity. Change is good as long as we embrace it and work to maximise the situation one finds themselves in.

With that said, we understand the challenges that you are facing and we here to support you all through this in any way we can. We are aware that you need your budgets to stretch further without compromising design, quality and service and we are here to help you achieve this. Don't forget that we also have many strings to our bow, so please bring your projects to us in case we might be able to help.



You will see in this issue that we are making big steps with regards to new technologies and also continuing to launch new and innovative products. We hope to bring you more exciting news in the coming months with regards to other incentives that we are launching.

Don't forget to keep checking our new website as it is constantly being updated. You can also follow us on Instagram, Twitter and Facebook to see our newest and most exciting products and projects.

As always, we have tried to present you with an informative newsletter and hope that you enjoy it.

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ULTRA
UNIVERSAL DISPLAY

TYPES OF PRINTERS ON THE MARKET

- Stereolithography (SLA)- This method was patented by Charles Hull, co-founder of 3D systems Inc 1986. The process of printing involves a uniquely designed 3D printing machine called a stereolithograph apparatus (SLA), which converts liquid plastic into solid 3D objects.
- Digital Light Processing (DLP)- Digital Light Processing is another 3D Printing process very similar to stereolithography. The DLP technology was created in 1987 by Larry Hornbeck of Texas Instruments. It uses digital micro mirrors laid out on a semiconductor chip.
- Fused Deposition Modeling (FDM)- Fused Deposition Modeling (FDM) technology was developed and implemented first by Scott Crump, Stratasys Ltd founder, in 1980s. FDM is the only 3D printing technology that builds parts with production-grade thermoplastics, so things printed are of excellent mechanical, thermal and chemical qualities.
- Selective Laser Sintering (SLS)- SLS is a technique that uses laser as a power source to form solid 3D objects. This technique was developed by Carl Deckard, a student of Texas University, and his professor Joe Beaman in 1980s.

While hobby printers are very popular and make up a large healthy part of the market, pro users are entering the market place moving the prints from small scale prototypes into component manufacture.

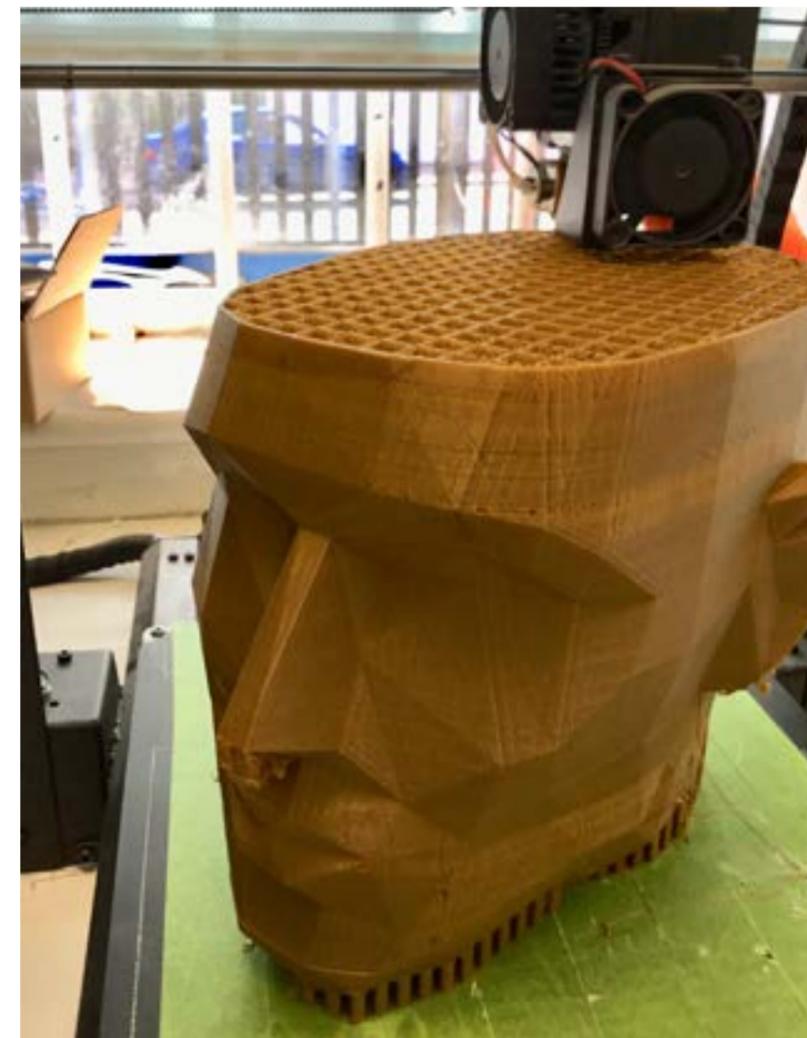


THE TRUTH ABOUT 3D PRINTING

Over the last year we have been researching 3D printers, the different types available, the different printing materials and the various formats. Universal Display purchased a small printer to run in our studio and bench test, we wanted to see how the sculpts were printing. It was important to find the capabilities and applications for the prints, and testing them to their limits. I will discuss what we found later in this article.

3D Printers have evolved over the last few years and this is a trend that looks to continue at quite a pace. Like Moore's law with computer components, where the capacity of the computer doubles every two years, this rule also looks to equate to the world of 3D printers.

The 3D printing market is divided in terms of technology and cost, with the aerospace industries and Formula 1 leading the advances with highly technical part printing. While hobby printers are very popular and make up a large healthy part of the market, pro users are entering the market place moving the prints from small scale prototypes into component manufacture.



At Universal Display we currently use a FDM printer.



Printers can now print objects in: plastics, glass, metal, polymers, human tissue, wax, sand and glue mixes, and edible foods.

”

- Selective Laser Melting (SLM)- SLM is a technique that also uses 3D CAD data as a source and forms 3D object by means of a high-power laser beam that fuses and melts metallic powders together. In many sources SLM is considered to be a subcategory of selective laser sintering (SLS). But this is not so true as SLM process fully melts the metal material into solid 3D-dimensional part, unlike selective laser sintering. The history of SLM started with German research project held by group of Fraunhofer Institute ILT in 1995.

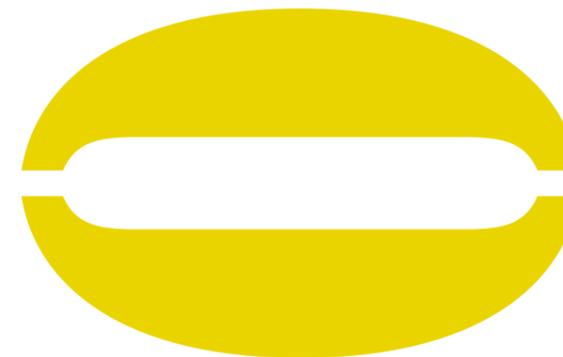
- Electronic Beam Melting (EBM)- EBM is another type of additive manufacturing for metal parts. It was originally coined by Arcam AB Inc. in the beginning of this century. The same as SLM, this 3D printing method is a powder bed fusion technique. While SLM uses high-power laser beam as its power source, EBM uses an electron beam instead, which is the main difference between these two methods. The rest of the process is pretty similar.

- Laminated Object Manufacturing (LOM)- LOM is one more rapid prototyping system that was developed by the California-based company Helisys Inc. During the LOM process, layers of adhesive-coated paper, plastic or metal laminates are fused together using heat and pressure and then cut to shape with a computer controlled laser or knife. Post-processing of 3D printed parts includes such steps as machining and drilling.



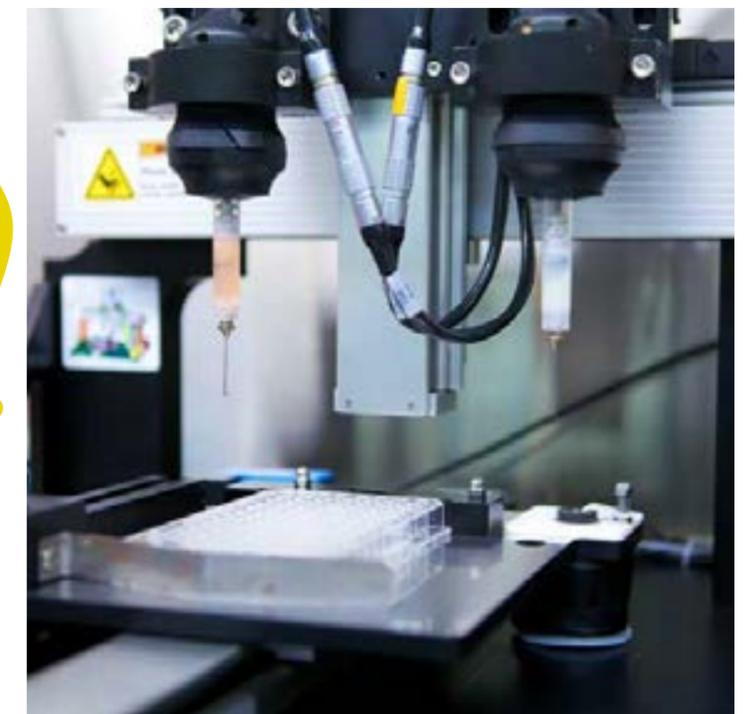
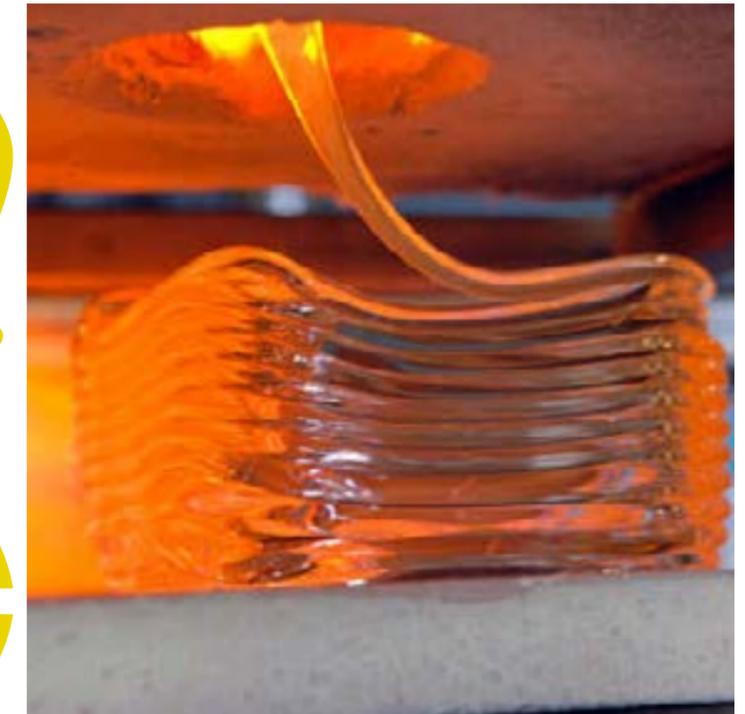
26.2%

The 3D printing industry, over a 23 year history, has grown 26.2%.



Printers can now print object in: plastics, glass, metal, polymers, human tissue, wax, edible food, and sand and glue mixes. One of the most popular mediums by far is FDM using a PLA filament, the PLA comes in many colours and finishes.

Sculpteo has projected that in 2020 we will have the ability to bioprint human limbs and organs. By 2025 a global network of industrial scale 3D manufacturing centres will be making clothing, electronics, and lifestyle goods. The 2025 forecast is a very interesting prospect as this would allow manufacturing to be retained closer to source, thus producing less waste and have less ecological impact.



It is thought by 2025 there will be a global network of industrial-scale 3D manufacturing centres producing anything from clothing and electronics to lifestyle goods etc.

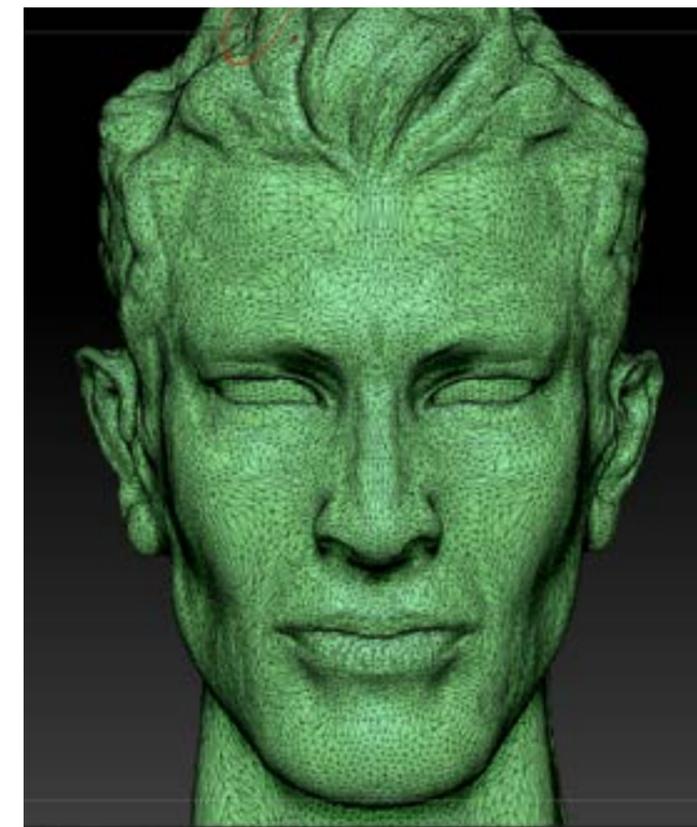
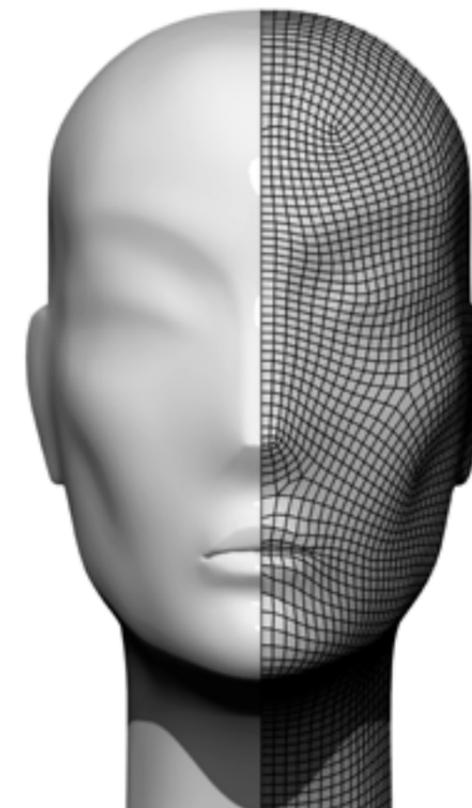
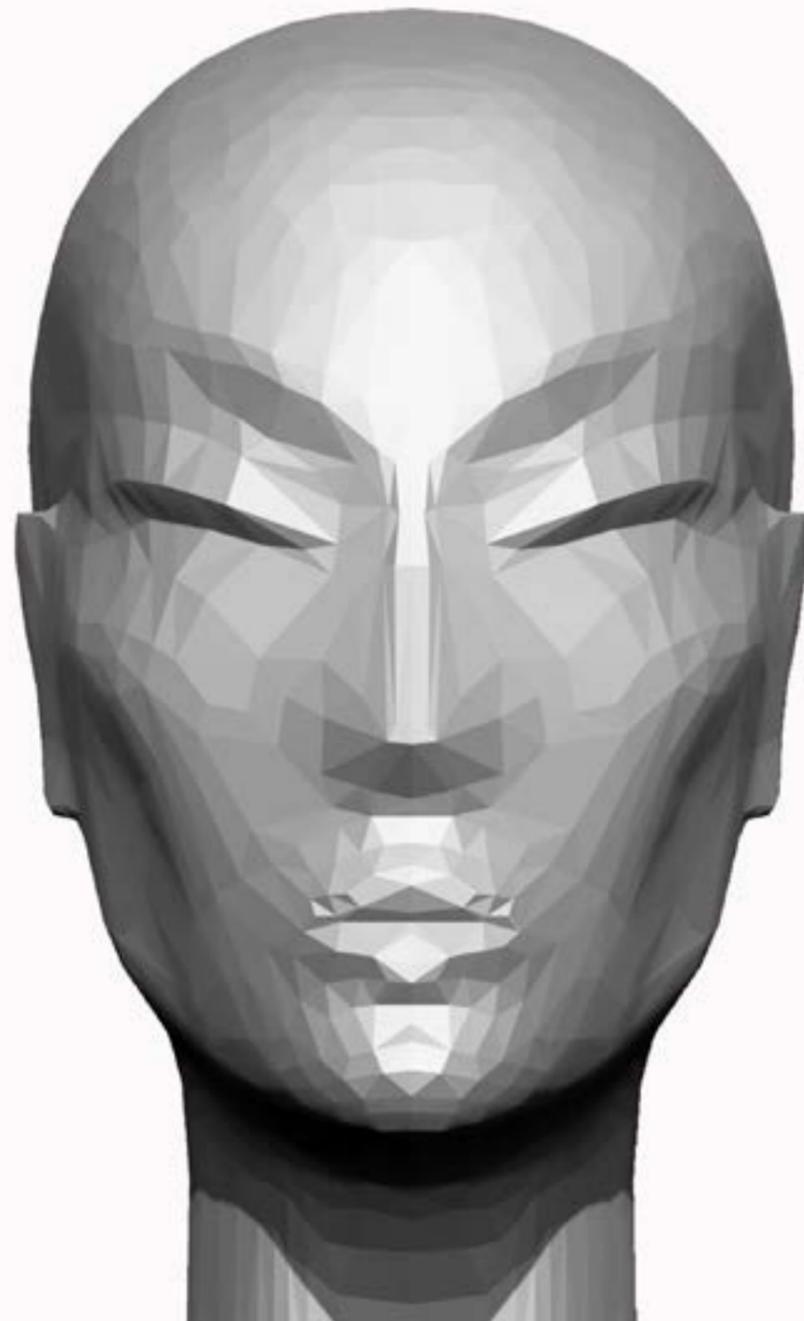
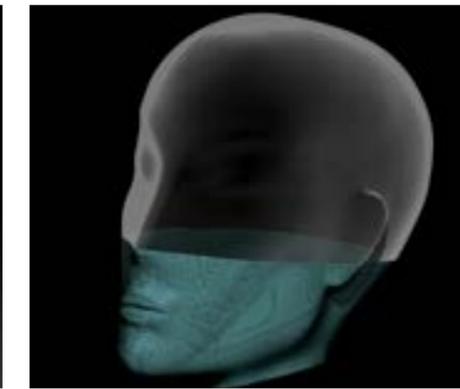
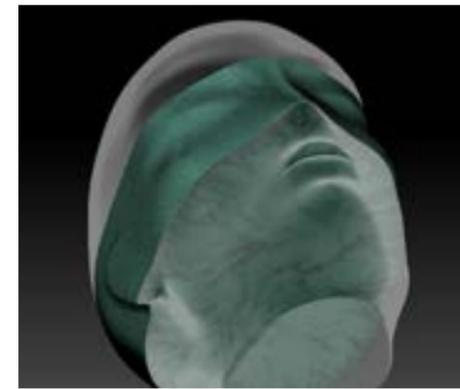
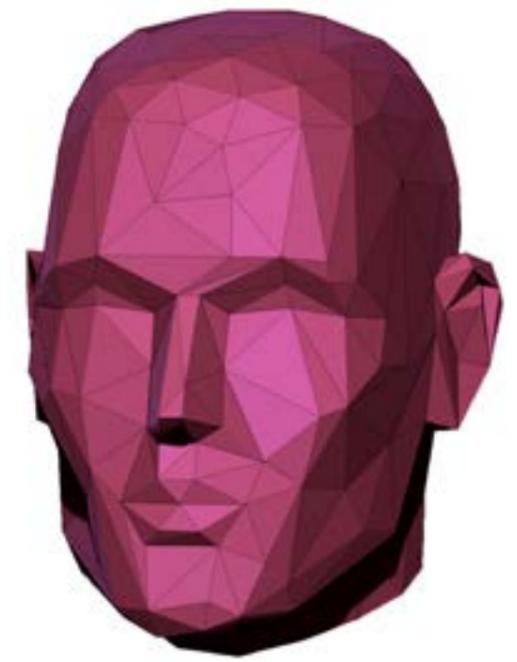
3D PRINTING MANNEQUINS

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

We have found the process very interesting and while it has some limitations, it has sparked creativity in new and exciting forms. We were able to produce complex geometric forms that could not have been obtained through traditional methods, such as the framed head to the right.

The time taken to 3D print a mannequin at the moment is substantial and the resolution while getting better, requires a lot of finishing to create a workable prototype ready for moulding.

3D printing is advantageous over traditional methods because it reduces the need for tooling, machining, and handcrafting prototypes.



Here in the studio we have found that there are pros and cons to 3D printing at the present time:

We can sculpt a mannequin in clay in a relatively short time with a better surface finish than that of a 3D print. The clay allows us to retain more detail than the 3D print would have post finishing.

Most importantly and worth noting, there is at present no way to check or obtain an accurate fit against the retailers clothing. Over the last few years we have been working on many custom projects that require a specific fit, this would not be achievable so quickly with 3D prints. It would have also been an extremely costly and very time-consuming process. We are working on a way to solve the fit problem and we believe that we have a solution and will start implementing it this summer.

At present there is no way to check or obtain an accurate fit against the retailers clothing. This proves problematic when we are working on bespoke projects with clients.



CLOSING THOUGHTS

Presently, we have obtained good results from our prints, but they needed post processing and while we are a way off of production standard, this is something that will be possible in the future. Next year we will move into 3D print prototypes that I am sure will become more accessible. As technology advances we will see printers printing a product in an acceptable time frame and products that are printed will be to a specific colour, and require no finishing.

From a creative point of view, I have been excited at the results obtained combining the processes of old and new. In the studio we have been able to print complex forms that I would not have been able to sculpt in clay alone. I will be working on these and developing the 3D sculpting alongside the traditional sculpting techniques which still have a very valid place within the workflow.

Please let me know if you have any questions or comments.

All the best,

Adrian

E: acoe@universaldisplay.co.uk

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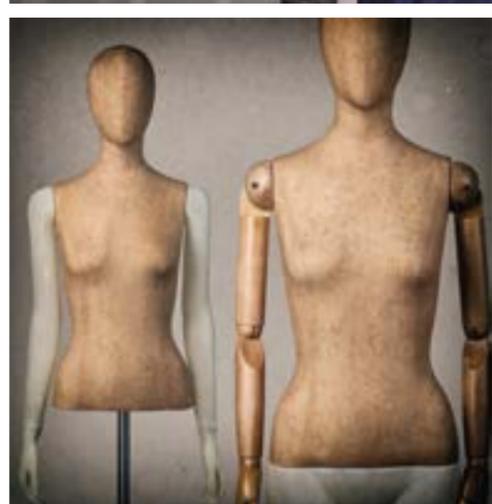


Each pose is self-assured, feminine and stylish with flowing silhouettes.

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The AVA range is an elegant contemporary mix of functional form. The color and materials are customisable to your own pallet. The AVA range consists of mannequins, torsos and hanging body forms. AVA is available in a vast range of finishes from foundry, translucent through to the traditional sprayed paint. Base plates and stands complement the range in a stylish brush brass finish and are available to colour and finish of choice.

AVA TORSOS





VM & DISPLAY SHOW 2018





Universal Display offers a full renovation service, spraying mannequins and props in standard and bespoke colours. We also provide a make up and wig service. Contact us for more information and a quote.

RENOVATION

[Contact us](#)



Ultra Accessory Hands have been designed to compliment our newest female mannequin range, Ultra. These work equally as well grouped together as they do on their own, and can be sprayed to a desired colour or finish.

ULTRA ACCESSORY HANDS



Our innovative collection of mixed medium bust forms and mannequins are a new concept developed using a mix and match formula, giving the option to create the perfect bust or mannequin for individual brands. Select a torso painted or covered in natural calico raw or vintage style; add transparent fibreglass arms or legs. For an on trend style mix in wooden arms and articulated hands, with a choice of different base options from raw steel to polished chrome. The possibilities and combinations are endless.

ELEMENTS

WHAT'S ON

2018: NEW YORK

**Jacob Hashimoto Immersive Art Installation: Governors Island
From June 2nd 2018**

**Mary Corse: A Survey in Light, Whitney Museum of American Art
From June 8th 2018**

**Constantin Brancusi Sculpture: The Museum of Modern Art
From July 22nd 2018**

**Jack Whitney Sculpture, 1963-2017: The Metropolitan Museum of Art
From September 6th 2018**

#VMDS2018

'The Retail Visual Merchandising and Display industries most prestigious night is back for its 15th year'

VM & Display Awards 2018

NOW OPEN FOR ENTRIES

This glittering event recognises and celebrates the work of this creative and talented industry over 12 months (August 2017 to August 2018) and is judged by an independent panel of experts.

Visit our website to review the full list of categories and use our simple online form to enter your projects FREE of charge.

The deadline for entries is the 17/08/2018.

22 NOVEMBER 2018

www.vmanddisplayawards.com

enquiries@rvmww.com +44 (0)1945 420068

WHAT'S ON

2018: LONDON

The Credit Suisse Exhibition: Monet & Architecture, The National Gallery
Until 29th July 2018

Rodin and the Art of Ancient Greece: The British Museum
Open until 29th July 2018

London Design Festival 2018: V&A
From 15th September 2018

Orla Kiely: A Life in Pattern, Fashion and Textile Museum
Until 23rd September 2018



Profile Man 2 comes in a variety of eight poses all compatible with the original Profile Man collection. In addition to Profile Man's effortlessly versatile poses, he has four new head options. The combination of Profile Man's trim physique and commanding presence is sure to stand out in any retail environment. The collection is available in standard or bespoke colours.

PROFILE MAN²

Important Dates

Pride in London
7th July 2018

VM & Display Awards, London
22 November, 2018

NYC Partners for Creative Retail
December 3-7, 2018

VM & Display Show, London
3rd-4th April 2019

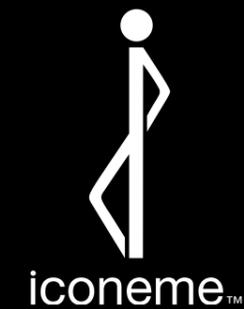
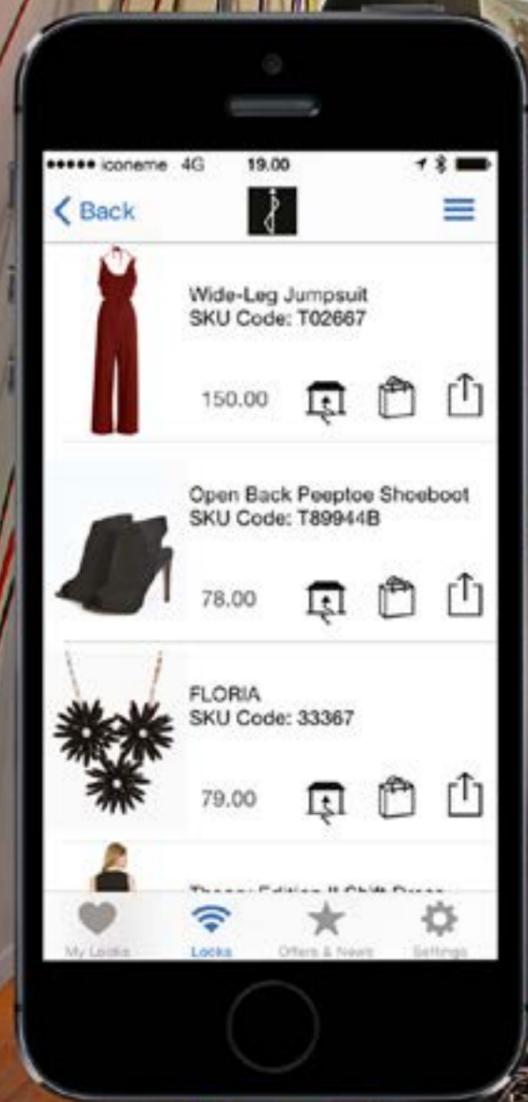
Milan Furniture Fair
9th-14th April 2019

ICFF, NYC
May 19th-22nd 2019

Clerkenwell Design Week, London
May 2019

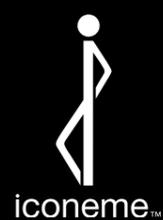
Globalshop, Chicago
June 25-27th, 2019

LET YOUR PRODUCT INTERACT WITH CUSTOMERS



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Print Newsletter

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