

# touchpoint



*Torsten Bernasco Lisboa regularly goes out to speak to audiences about the work of the doob group and their vision for the future. Here seen at drupa 2016, Düsseldorf, Germany, talking about the Augmented and Artificial Intelligence Age.*

## doob: an absolute frontrunner in dig

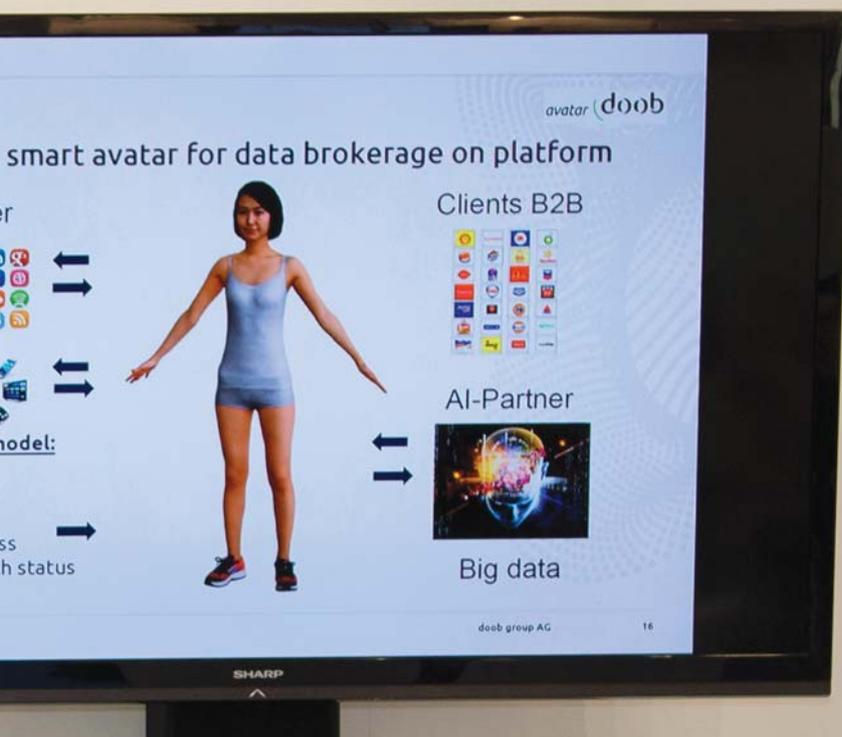
**The doob group AG is a 3D-technology company with its headquarters in Düsseldorf, Germany, and additional operations spread right across the globe in leading cities such as New York, Los Angeles, Tokyo, Berlin, Sydney, and Barcelona. Known otherwise simply as 'doob', it is a company that offers its customers and the businesses it works with, customized high-end, high-quality 3D services. Catering to a varied selection of audience verticals including music & entertainment, medicine, marketing, architecture, and merchandising, doob has in a short period of time become one of the world leaders in digital scanning, modelling, and 3D printing of 'figurines' through its 'Dooblicator' scanning dome services. We talked to Torsten Bernasco Lisboa, Founder and Chief Operations Officer, about doob's evolution, its unique characteristics, its products, and its managements' plans and vision for the future.**

*By John Butterfield*

### Origins

"doob had its origins in a company that captured the data of small, soft body parts such as ears, noses, and eyeballs so that these could be replaced when they had been impaired as the result of severe accidents or illnesses like cancer. doob staff restructured and remodeled the captured digital data to form highly realistic prosthetic devices. Further down the road they also began to do the same with larger body areas such as arms, legs, and the spinal column. This led the company to later develop 3D orthopedic appliances and apparatus, which were used to support, align, prevent, and correct deformities, or even to improve the functioning of moveable parts of the human body. Examples would be braces for legs, arms, the spinal column, and the neck, and these were used to provide extra support and improve areas of low muscle tone. In

# 3D fab+print



## Digital scanning technology

some cases the braces were to be worn by those who had had accidents or who were recovering from the damaging effects of a stroke, so although a person's muscles still existed their use had been blocked by the brain, hence a support was needed to help these people overcome the situations.

### The Dooblicator and figurines

From the initial scanning of small body parts, whether these were captured by taking laser or photo scans, it was a small step forwards to developing a full body, 3D scanning system that provided fast, 360 degree visualization in preparation of modelling and 3D printing. The system that was developed by doob is known as the mobile 'Dooblicator'. Ideal for medical application work, doob management also saw it had broader potential in that it could be used to produce 3D live scans. Moreo-

ver, anyone scanned inside it could be provided with a sort of 'Hollywood experience' whereby a memorial moment in their lives could be captured in digital 3D imagery and then this file could be printed out to produce a small, full colour, exact replica of the person. "It has been a revelation for us," says Torsten. Not only are the 'figurines' as we call them extremely popular –

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*"We will have dooblicators all around the world so that we can make digital scanning available to everyone, with all its possibilities."*

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everyone seems to want one – they also prove to be an emotional choice in all walks of life. Family members, friends, hobbyists, business people, animal lovers, all come along to capture a special moment in their lives forever. These people, further, love the whole process of the scanning booth

and being photographed from all angles by the sixty-six image cameras used to provide the digital result. They just can't wait to see the eventual figurine."

Apart from the afore-mentioned categories of people, Doob also scan a considerable number of technical people who come along because they are excited by the technology – how it works, and what it is capable of producing. And because the figurines encapsulate a unique instant, many large retail and marketing agencies like to give 3D printed scans to their clients and relations. The digital data can, additionally, also be used in gaming programs or in the production of TV commercials. Besides, not only is doob able to capture and model structures but it is also capable of processing data to capture missing parts and reconstruct these models.

The development of figurines was a logical step in doob's evolution. As a company, it had always needed to print models in one form or another to get to the stage of production where the medical orthopedic could be made. The intermediate stage in this process was effectively the printing of the body part so printing a 'figurine' was just an extra sophistication to printing these. Certainly, using the 3D imaging data directly to produce a finished 3D printed product is still revolutionary to the majority of the visitors to doob's stores/stands. This is particularly so since the models produced involve reducing the data size without losing any of the quality of the model.

### Expansion at doob

The doob group, which was formed in 2013, gave the company a professional structure for comparing growth in terms of investment and also for developing further in the international market. "Our aim was to get into an international

cartel to give us access to the United States and Japan, both of which were highly influential markets," says Torsten. So we started out in Düsseldorf and then expanded into these two areas to be very much in touch with the technological needs developing there."

Today, the Doob Group can be found in over twenty leading cities around the world where its products are showcased. You can find them, for example, in Europe: Düsseldorf, Barcelona, Berlin, and Dortmund; in the Middle East: Tehran; in Asia: Ginza, Nihonbashi, Osaka, Shibuya, and Universal Studios Tokyo; in Australasia: Sydney; and in North America: Los Angeles, New York, and San Francisco.

### Investing today for the future of tomorrow

“At the present time, we see the production of figurines as being at the very core of our business and we envisage a future where we will have Dooblicators all around the world so that we can make digital scanning available to everyone,” continues Torsten. And to give credence to this idea doob ensures that it produces a premium product at a cost that is affordable to all. “We, furthermore, have an advantage over our competitors in that we are at the very forefront of this type of technology. As such our product quality has not been matched elsewhere to date,” says Torsten. “Having said this, the future of the digital scanning industry is also



Inside the futuristic dooblicator – where people and objects can be photographed from all angles by its sixty-six image cameras to provide a digital scan.

of virtual and augmented reality and the transition year from the Information Age to the so-called Augmented and Artificial Intelligence Age. 2018 will be the tipping point for the establishment of new market players in virtual reality and augmented reality.

clothing or anything else, will need a way to store all their products digitally, as well as all the metadata that goes along with their products. So when you walk into a retail store in the future you will have access to all this information – information to change the color of a garment or a car, or indeed to be able to look at the different options you can add for customization. This whole system will become established and accessible to everyone. Not surprisingly, therefore, a content management system for digitized real-world objects, such as human avatars, has tremendous potential. I think it’s too early to imagine the entire spectrum at the moment but, it is going to be a killer application in the future,” envisions Torsten.

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*“The future of the digital scanning market is very much geared to online bitcoin markets.”*

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very much geared to online btc (bitcoin) markets and these are also very attractive areas for us to do business in. As such, we intend to increasingly concentrate on these segments. For example, we anticipate that the current digital insurgency will bring the use of scanned human profiles into every aspect of our future lives and it will not be long before they have become unmissable from a total 3D-environment perspective for everything from online shopping, dating, and gaming to online learning and teaching – there are so many feasible applications. Our growth strategy will therefore be to continue to expand our digital and physical photography business by establishing further franchise and licensing partnerships, which is work in progress. Additionally, we will partner strong retailers as a shop-in-shop provider.”

Imminently, your phone will be replaced as a simple addition to a pair of reality glasses. For if you believe in a future of virtual and augmented reality — then it makes sense that everyone who sells goods, whether it’s

### From figurines to avatars

“The future will come quicker than people expect,” says Torsten. “2016 is the year



Doob yourself in 3D! The development of figurines was always a logical step in doob’s evolution and wherever they take the dooblicator it proves to be the eye catching, and stunning technology that everyone wants to examine.



An avatar model of Mr. Bernasco Lisboa. Doob anticipates that the current digital insurgency will bring the use of scanned human profiles into every aspect of our future lives. It will not be long before they have become unmissable from a total 3D-environment perspective for everything from online shopping, dating, and gaming to online learning and teaching.

Hinting at the above, an example of where doob foresees the digital imaging market coming into its own is in the online fashion industry, particularly with regard to clothing and footwear – two industries that are growing all the time. Torsten takes up the story: “At present the return rate of ordered goods for online fashion stores exceeds 30+%, with most people returning products because they are the wrong size and colour. However, experience has taught the retail industry that people like to shop in high street stores simply because they can try on garments and see if they fit and look good on them, suit their colouring, or match with the person’s other garments – either about to be purchased, or already owned. In fact, 80% of all garments purchased in the high street are still tried on. This is particularly true when people shop with family and friends. Imagine then a totally new experience – a place where you can bring the digital ‘instore’ shopping experience into the online world. A place where the ‘digital you’ can try on clothes and where you can, additionally, call in friends and family members to this environment where they can provide you with ‘likes’ and comments about the items you are about to purchase. You could additionally be brought up to date on a one-to-one marketing basis on changing fashions, which fitted with your own personal preferences that had already been digitally recorded for this very purpose. Imagine also having your garments tailored to a perfect fit according to your chronicled measurements. Research has already shown that if such a system were to be adopted then returns from online shopping in the clothing

and footwear retail industries alone could be decreased by a massive 20% per year. This is big money when one considers that these industries will be responsible for a turnover of \$300 billion in 2018. doob has this technology at its disposal and it is only then a short step to creating cloud-based, 3D avatars for social media platforms like Facebook to enable this new type of shopping experience to become part of our everyday lives.

What has been mentioned is just one industry example of how this technology can be applied. Other second generation models that will quickly develop are in the gaming and animation industry, in fitness programs for health care, in the cosmetics industry, in textile printing, telecommunications, laser cutting, and even into the automotive, chemical, pharmaceutical, aerospace, and defense industries – the possibilities are limitless. It all depends upon the extent to which hardware developments are able to keep up with developments in software. “You could say that we are in a digital revolution at present” says Torsten “and at the end physical production will catch up.” In fact, Goldman Sachs, the internationally operating investment bank, predict that the augmented reality/virtual reality markets could increase by anything from

\$80 billion to a staggering \$182 billion in the immediate years. Although taking off initially slowly, it foresees that the augmented reality’s addressable market will be very similar to that of the smartphone/tablet market. It is, moreover, not inconceivable that augmented reality will have hundreds of device makers, and will most probably become a major revenue source for TV/film, advertising, and consumer apps from Facebook to Uber to Clash of Clans. It could also provide an entirely new platform for selling to a mass audience for companies like Amazon and Alibaba. And then there are all the innovative applications that nobody has thought of yet where augmented reality’s scale could prove a goldmine for mobile networks’ voice and data businesses. It is into this world that doob increasingly sees its role for the future and it is rapidly developing the software to be able to play a crucial part. In this new world that is opening up.

### Conclusion

In short, doob are one of the forerunners of a whole world of new technology that is about to revolutionize our lives in a similar way to the smart phones. With its customized high-end, high-quality 3D services, it has every opportunity of becoming a household name on everyone’s lips.

#### About Doob AG

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