# 3D TRENDS REPORT 2023

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# FOREWORD

Welcome to Adobe's 3D Trends Report, a comprehensive analysis of the current state of, and opportunity for, 3D in the business landscape.

Adobe and Havas Play have always recognised, encouraged, and celebrated the role of creativity, so we're delighted to have produced this report together.

In recent years, we have witnessed a rapid evolution in the way businesses operate and interact with their customers, and one of the key drivers of this transformation has been the adoption of cutting-edge 3D technologies.

In a dynamic and demanding market, 3D is an essential tool for thriving businesses.

3D fosters creativity, streamlines workflows, and increases sustainability. So, it's no surprise that companies with 3D capabilities stand out in a crowded market.

In this report, we have gathered insights from leading industry experts, analysed the latest trends and developments, and identified best practices for businesses looking to use 3D technology to their advantage. We hope our findings will serve as a valuable resource for businesses exploring the potential of 3D and encourage them to take bold steps towards embracing this cutting-edge technology to improve working practices, meet evolving market demands, and remain competitive.

We hope you find this report both informative and inspiring.

**Alexis Khouri**
Adobe, VP of Growth, 3D and Immersive

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# INTRODUCTION

The advance of technology over the last few years has been astounding. To keep up with the pace of change and to meet the evolving expectations of customers, businesses must harness the most advanced technologies available. One area that has evolved dramatically is 3D in design workflows. As we look to the future, we expect to see continued 3D adoption across all industries.

This report is focused on how 3D is being harnessed within business, what outcomes businesses have seen, and what role 3D could play in the near future, not wanting to be lured into speculation or hype about the potential of future technologies which for so many, are still shrouded in mystery and fantasy.

The research that underpins this report comprises a survey of 423 design professionals and business users and a series of interviews with industry leaders at the cutting edge of 3D design. We've gathered insights from designers who are immersed in 3D design now and have also heard from the leaders who are shaping what's next. This has given us a clear picture of the state of play, as well as what the future holds.

Our biggest realisation? 3D is already a must-have tool, and one which is enabling businesses to thrive. So, whether you're seeking inspiration or driving innovation, this report is your essential guide.

> **I think honestly, what is going to happen over the next five years will be bigger than any of us who have worked in the industry have seen over the last 20.**
>
> **Matthew Drinkwater**
> Head of Agency, London College of Fashion Innovation Agency (FIA)

In the pages that follow, we'll look at the emerging trends that are changing the face of business with examples of how this is impacting product design, manufacturing, supply, retail, and consumption.

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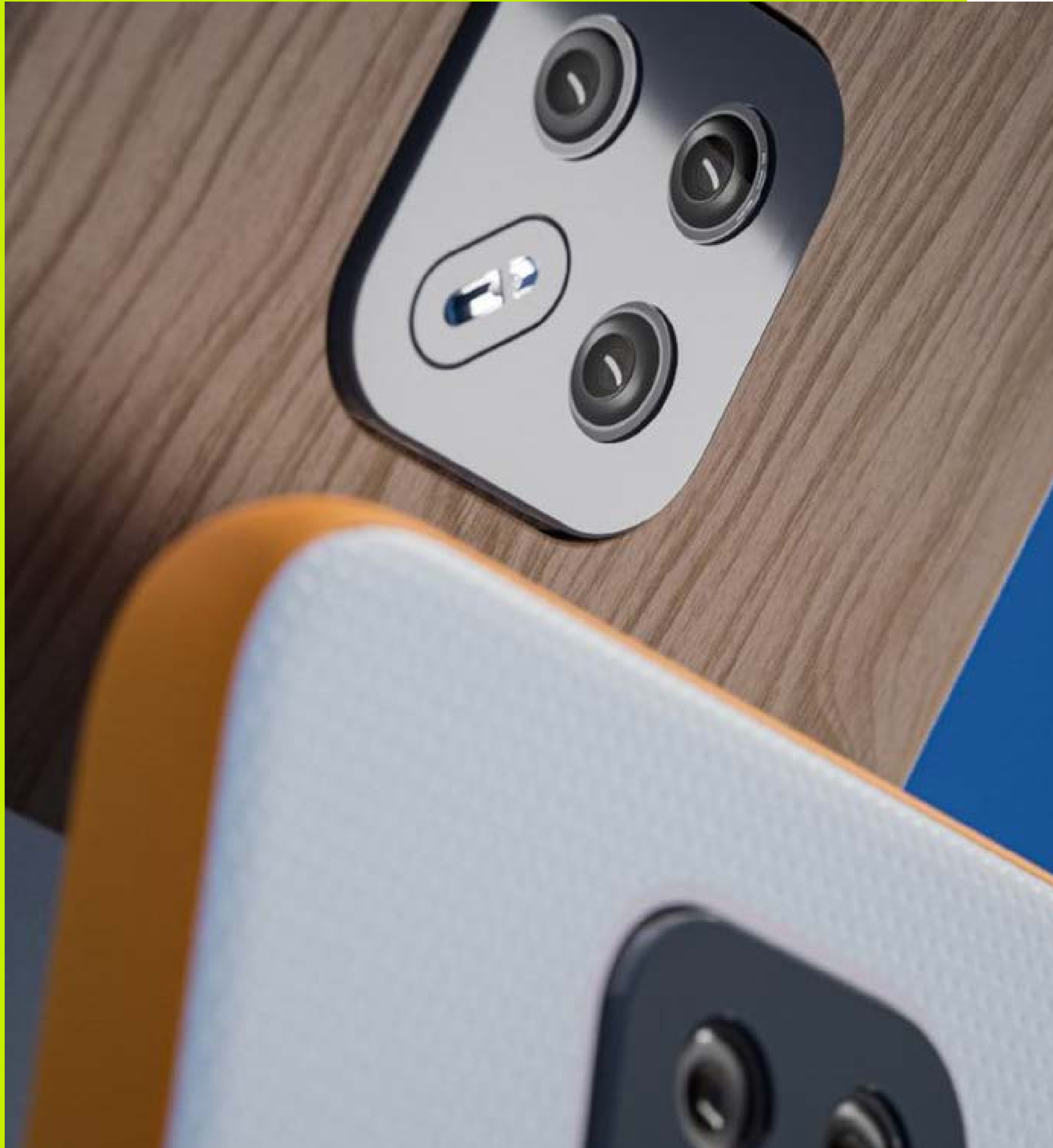
# RESEARCH METHODOLOGY

**Two pieces of primary research were conducted as part of this report:**

## A quantitative survey

// Among 423 design professionals and business users (current 3D designers, 2D designers expecting to work in 3D design this year, and departmental managers who benefit from 3D design projects, e.g. Heads of Marketing or eCommerce managers)

// Across a range of business sizes and sectors

// In Denmark, France, Germany, Italy, The Netherlands, Norway, Spain, Sweden and UK

## 6 in-depth qualitative interviews

// From huge brands, innovative agencies, and those at the centre of the design transformation made possible by 3D

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# MEET OUR EXPERTS

This report wouldn't be the same without our experts' input. We hope that, within this report, we have captured their knowledge of, and passion for, 3D and design.



**Matthew Drinkwater**
Head of Agency,
Fashion Innovation Agency,
London College of Fashion, UK
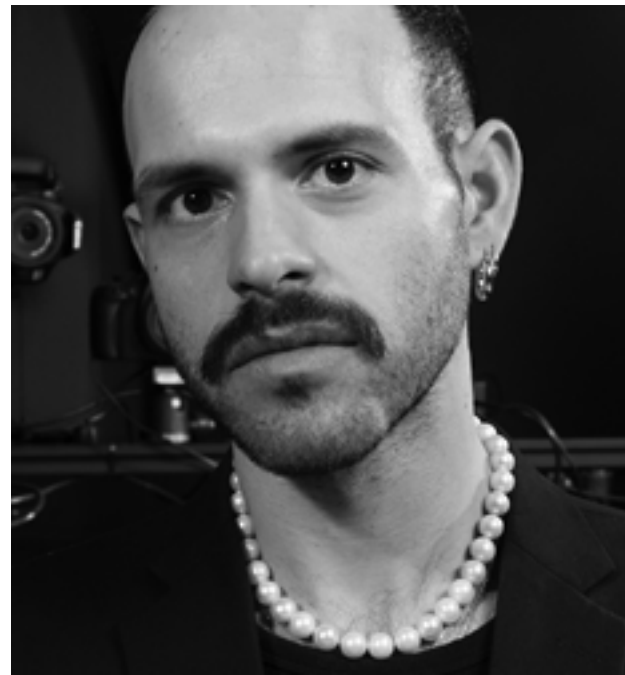


**Costas Kazantzis**
Lead Creative Technologist,
Fashion Innovation Agency,
London College of Fashion, UK



**Chris Booth**
Associate Creative Director,
The LEGO® Agency EMEA, UK



**Bastiaan Geluk**
Head of Digital Fashion,
INDG, The Netherlands



**Sofia Papadopoulou**
Creative Director,
M.A.D, UNIT9's Metaverse
Advisory Department, UK



**Zlaten del Castillo**
Creative Director,
UNIT9, UK



**Lionel Koretzky**
**Photographer, Lighting**
Designer & Director,
and founder of PIL2, France



**Jan Philipp Wintjes**
Senior Vice President,
Omnichannel, Hugo Boss,
Germany

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# MATTHEW DRINKWATER & COSTAS KAZANTZIS

**Head of Agency & Lead Creative Technologist,
Fashion Innovation Agency, London College of Fashion, UK**

**Matthew** works at the crossroads of Fashion, Retail and Technology to head up London College of Fashion's Innovation Agency (FIA). Using emerging tech to alter the way that the fashion industry is making, showcasing, and retailing, Matthew and his team are building a pathway for truly digital designer businesses. He has delivered a range of projects that have captured the imagination of both the fashion and tech industries. Matthew was named as a 'fashion-tech trailblazer changing the course of retail' by Drapers, a 'Digital World's Influencer' by Stylus and a 'pioneer and visionary' by Wired.

**Costas** is the Lead Creative Technologist at London College of Fashion's Fashion Innovation Agency. He focuses on identifying novel ways through which game engine technology, 3D design, and XR influence and expand the dissemination of media within ecosystems that blend the physical and digital realms. His work lies at the intersection between fashion media production, visual communication, and computer science. Through his deep understanding of immersive technologies and experience working across collaborative digital fashion and immersive art projects, Costas provides insight into the delivery and development of these projects from conception to realisation.

# CHRIS
# BOOTH

**Associate Creative Director
The LEGO® Agency EMEA, UK**

**Chris** has been a creative designer for 20+ years, heading up a team of multi-disciplinary designers working across campaigns, advertising, branding, concept art and animation. His team uses 3D software in many projects, including creating store environments, virtual models, animated characters and much more. His team uses 3D to tell great stories and create truly fun and immersive experiences.

# BASTIAAN
# GELUK

**Head of Digital Fashion,
INDG, The Netherlands**

**Bastiaan** has over 17 years of experience in the sportswear and fashion industry. With a background in graphic design, his career has been focused on digital creation technologies and innovation for apparel, footwear, and accessories. Through various roles at Nike, and more recently Adidas, he's gained robust experience in implementing 3D and digital solutions into product design and creation processes. At INDG, Bastiaan is the head of the Digital Fashion business unit that creates digital twins of whole product ranges for fashion brands, from footwear and apparel to luxury and formalwear. With 3D at the source, he and his team deliver high-quality consumer-facing and interactive visual content.

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# SOFIA PAPADOPOULOU & ZLATEN DEL CASTILLO

**Creative Director at M.A.D,
UNIT9's Metaverse Advisory Department &
Creative Director AT UNIT9, UK**

A Creative & Art Director with 15+ years' experience and a background in visual design, **Sofia** focuses on building holistic digital experiences through impactful design that simplifies and beautifies the audience journey. As a creative leader working hand-in-hand with 3D artists and creative technologists, she's constantly on the lookout for progressive practices, advancements in technology and emerging trends in the space, having developed a thorough understanding of the possibilities, limitations and opportunities that only three-dimensional design can hold. Always keen to give back to the creative community, Sofia shares her methodology and passion for design in her Art Direction & Design Leadership online course published at the Awwwards Academy.

As a Creative Director with a VFX background, **Zlaten's** passion lies in creating immersive experiences that blend traditional and emerging technologies. With a keen eye for stunning visuals, he specialises in developing interactive physical and online activations with a strong emphasis on CG content. Beginning his career as a 3D Generalist, Zlaten evolved into VFX Supervision where he managed projects from on-set supervision to full CGI. An eagerness to explore the latest trends led him to VR, leveraging game engines as they grew in popularity within traditional VFX to unlock new methods of 3D content creation. Zlaten's deep understanding of multiple pipelines is applied daily to the projects he works on, ensuring the best possible creative output each time.

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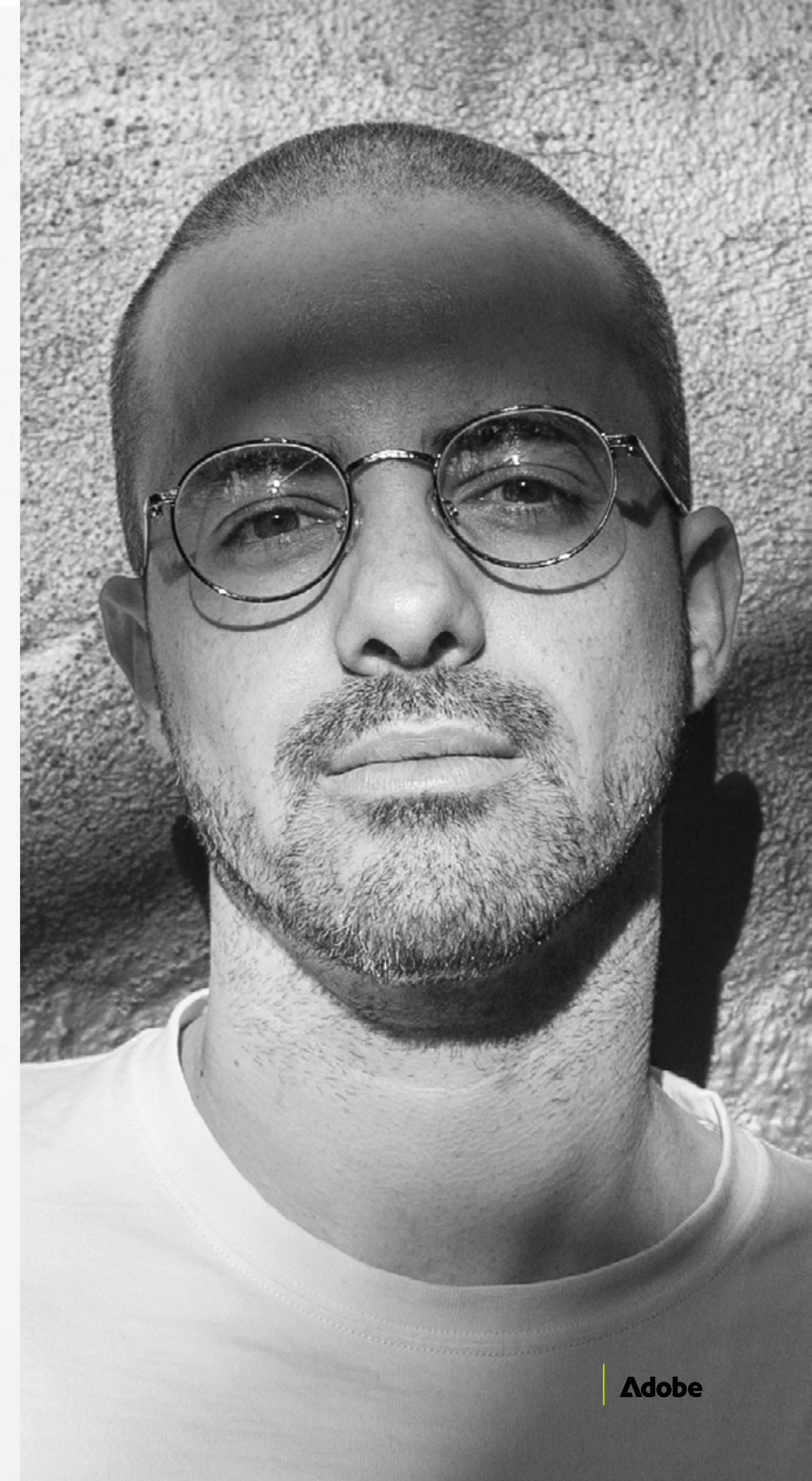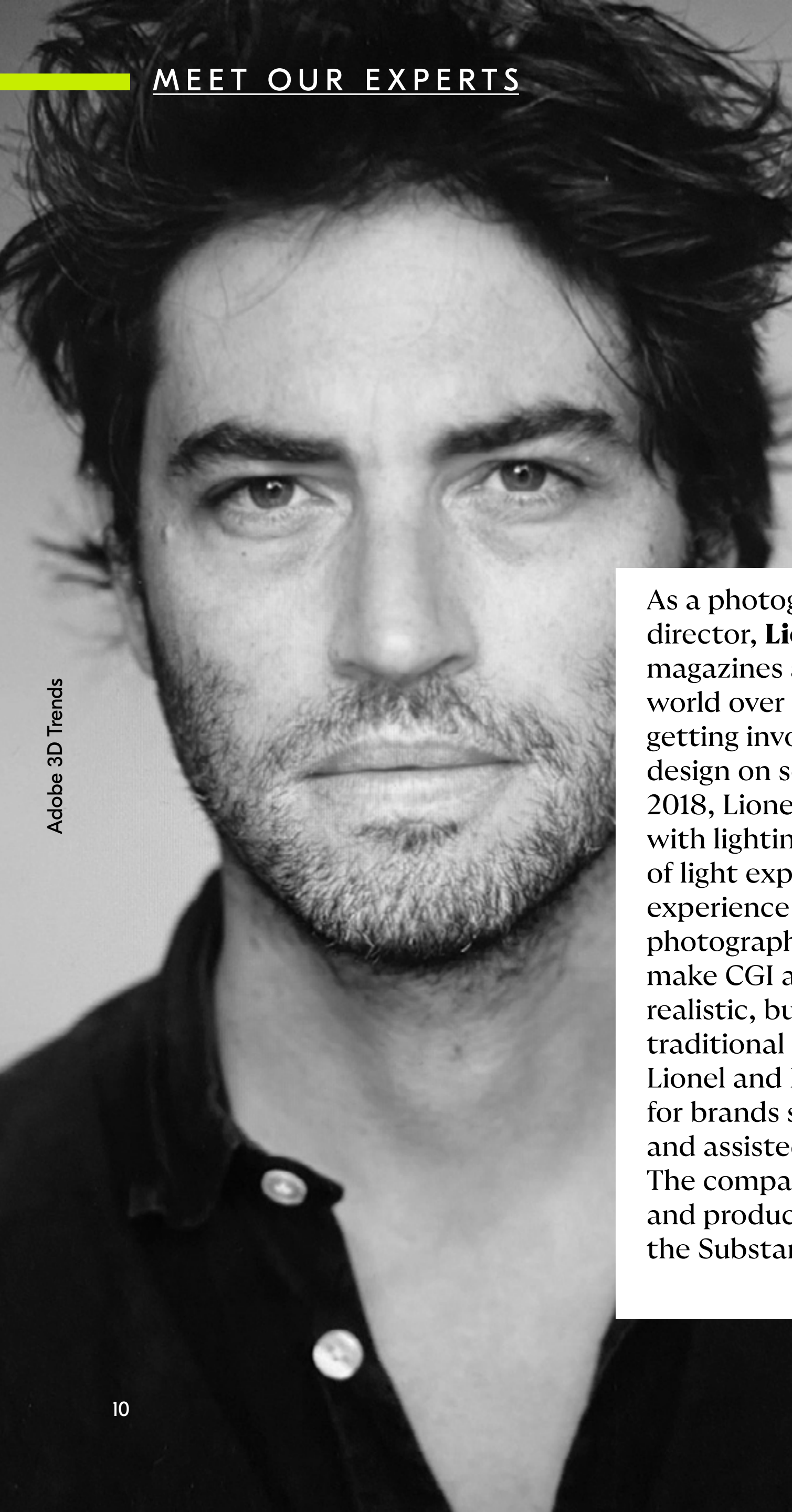
# LIONEL
# KORETZKY

**Photographer, Lighting Designer & Director, and founder of PIL2, France**

As a photographer and lighting director, **Lionel** has worked for major magazines and brands around the world over the last two decades. After getting involved with CGI and 3D design on several productions since 2018, Lionel founded PIL2 in 2022, with lighting as its leitmotiv. The team of light experts relies on its extensive experience of high-end commercial photography and film direction to make CGI and 3D imagery more realistic, building bridges between traditional photography and 3D. Lionel and PIL2 have directed projects for brands such as Cartier and Chanel and assisted artists such as Gorillaz. The company consults with Adobe and produces Environment Stages for the Substance 3D suite.

# JAN PHILIPP
# WINTJES

**Senior Vice President Omnichannel, Hugo Boss, Germany**

**Jan Philipp** started his career in the fashion industry in 2004. In 2007, he joined Tommy Hilfiger. After holding several positions at both Tommy and PVH, Jan Philipp was appointed Senior Director eCommerce at PVH Corp. in 2018. In September 2021, he joined HUGO BOSS as Vice President Global e-Commerce & Metaverse, responsible for Global eCommerce & Digital Sales, Metaverse and Omnichannel Analytics & BI. In October 2022, Jan Philipp was promoted to Senior Vice President Omnichannel. He is currently responsible for all global business functions within the Omnichannel organisation to ensure and deliver exceptional premium customer experiences at all touchpoints and provide an efficient and profitable omnichannel setup for HUGO BOSS. During his professional career, Jan Philipp completed his Bachelor, Master and Doctoral studies.
He completed the latter at the Edinburgh Business School, Heriot-Watt University, with the analysis of omnichannel strategies for fashion retail brands.

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# 3 DIMENSION DEFINING SHIFTS

**The pace of change in 3D is rapid, so standing still is out of the question.**

**Our top 3 trends for this year demonstrate how dramatically 3D design is transforming business processes and thinking.**

## 01 Achieving Realism

It is easier than ever to achieve realism in 3D. This has implications for product design, marketing, and artistic expression. We explore how.

## 02 Fashion's 3D Makeover

The fashion industry hasn't embraced 3D as quickly or strongly as other sectors, but 3D is now widespread across the industry and is bringing new meaning to your wardrobe refresh.

## 03 Reimagining Retail

3D renders have been used by some online retailers for decades, but that's just the tip of the iceberg. 3D in design is changing physical and digital retail entirely; it's shopping, but not as you've known it.

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# 01  ACHIEVING REALISM

There's no denying that across the history of art and artistic expression, there has been a desire to explore how best to capture and represent the world as we see it. With advancements in software, designers are now able to use 3D to achieve levels of realism that were once unattainable.

Replicating reality in design has already been widely adopted in the architecture, engineering, and automotive industries, where 3D models have provided accurate representations of buildings, structures, and cars before assembly. However, over the past year, designers and businesses across the board have realised that these same tools can be used to create lifelike and detailed prototypes and final versions of their products.

"For a long time, there was resistance to 3D renders being equivalent to images taken of the physical product. Those days are no longer acceptable; no one should be thinking it doesn't look the same. It looks better in most cases," explains INDG's Bastiaan Geluk.

The increased ease with which designers can now use 3D tools to realise their vision, and communicate them with others has transformed the creative process, and how businesses market their products. Whether it's a designer sharing early concepts for a product, or it's a final form, the extent to which it can be critiqued (be it proportions, materials, textures, colours or visual appeal) and further developed is greater with photorealistic capture. This ability is heightened when the image is placed in a similarly realistic-looking environment.

Achieving reality also allows for a more precise and accurate representation of products in marketing. As LEGO Creative Director Chris Booth notes, "3D software has reached a stage where it's so good, you can't tell what's real anymore."

**The Importance of Setting the Scene**

Beyond the shaping, detail and texture required to achieve realism, there's also the matter of the environment in which 3D images are conveyed. 3D images could match the physical specifications of a product exactly, but they will not look realistic if not placed within, or reacting to, a realistic-looking environment. For example, a metal expected to look shiny, being dull; or an object not casting any shadows, would look as if it had not been exposed to any lighting at all - an instant red flag to how we humans perceive our world.

When creating realistic environments for models to live, perfecting lighting and shadow is essential to capturing realism, and thanks to software advancements this is now much easier to achieve. One example of how tools now help is Adobe Substance 3D's pre-built environment stages, which help designers showcase their work in the best light (if you'll excuse the pun). Lionel Koretzky and his team have worked with Adobe to produce staging environments that emulate scenes from 'traditional photography'.

"We've produced a whole library of environment stages; 3D scenes within which you can choose a camera and your entire environment has been shot in reality; the lights, the backgrounds. We shot them and you can emulate an exact replica of my view and my camera."

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Credit: INDG

When thinking about achieving realism within 3D images, the technique of photogrammetry, a technique which allows for the creation of models and capturing of textures from photographs of 'real-world objects', is also becoming more important, with 48% of survey recipients citing it as a significant factor in 3D design this year.

Whether it's the capture of a pattern or texture from the camera on your phone or the 130-camera photogrammetry rig at the London College of Fashion, it's never been easier to integrate elements of the real-world into your digital designs. As Bastiaan describes, "with any camera, you can take a shot of a fabric and then make it into a nice little tile. From that, you have a pattern that you can drop onto a digital garment and see it in the material or pattern you just captured." With this tool, image quality is improved, with less time required to achieve it; allowing designers to concentrate their time on the workflows they care about most, and to express their ideas through their designs.

**The Role of Imperfection**

When modelling and rendering an object digitally from scratch, the obvious temptation is that to make it look as realistic as possible, it needs to look 'perfect', but as we discussed with our experts, it's not that simple. All around us, we encounter objects which are imperfect; be it scratched surfaces, blotchy fabrics or smudged ink and the most realistic 3D designers know this and incorporate it into their work. But don't just take our word for it…

Bastiaan Geluk, INDG: "Take a sweater for example, and look at the imperfections in the fabric, the blotches, the fluff, the quality of 3D has got to the point where the image quality is high enough to include those imperfections. Without that quality, it will simply look fake. We can now capture realistic quality."

Chris Booth, The LEGO® Agency: "When you really drill down into the details of what LEGO bricks look like, we have a lot of fun with how much to dial up the idea of thumbprints or dust or how much figures should look like they have been played with."

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While recreating reality has commercial benefits, it also provokes new areas of artistic expression. With realism becoming more attainable, artists can now warp reality and explore new forms of surrealism, an artistic progression summarised by the LEGO Agency's Chris:

"These things are cyclical. Now 3D software can generate hyper realistic renders, I wonder if we'll soon see a trend where artists will look to add more stylisation to their work; to steer away from the hyper realistic. To ask themselves, what if a LEGO brick looks completely different? What if it were made from wool, or something?"

Costas at FIA, recognising the importance of texture within design, has noticed how the College's students are also building on the capturing of realism to then push artistic and creative boundaries further: "With the advancements in 3D design software, you can achieve realistic textures, from fur to leather to metal, but then also textures that do not exist in the physical world. Digital fashion designers can move beyond what's possible physically, and then their creative potential is limitless."

Similarly, this is consistent with a broader cultural shift from postmodernism to metamodernism, where we see a move toward grander narratives; a willingness to engage and a newfound appreciation for sincerity and romanticism. Sofia at UNIT9, describes metamodernism as "combining realistic environments with surrealist concepts."

The benefits of this trend are clear. It saves time and money by reducing the need for physical prototypes and allows for greater experimentation and creativity in designs. It also allows for a more precise and accurate representation of products in marketing. With this ability, businesses can now design and market their products more efficiently and effectively, using digital twins across a range of communications channels.

Looking ahead, we expect to see even more companies adopting 3D into their design workflows to visualise products with realistic and detailed prototypes. As the line between what's real and what's rendered continues to blur, the possibilities are limitless.

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**These things are cyclical. Now 3D software can generate hyper realistic renders, I wonder if we'll soon see a trend where artists will look to add more stylisation to their work; to steer away from the hyper realistic. To ask themselves, what if a LEGO brick looks completely different? What if it were made from wool, or something?"**

**Chris Booth**
Associate Creative Director,
The LEGO® Agency EMEA, UK

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# 02    FASHION'S 3D MAKEOVER

As designers begin to visualise their ideas more accurately, there is one industry that is particularly embracing this enhanced ability; fashion. Over the past year, the fashion industry has seen a rapid adoption of 3D. While this increased use begins with product design, it flows through into marketing and retail, driving value across the entire value chain.

The impact, and potential influence on the wider design community, has not gone unnoticed. According to our survey, 35% see the fashion industry as the field that could benefit the most from the use of 3D in the future, and 42% of respondents believe that 3D fashion will play a major role in the future of 3D design. The benefits for the fashion industry of using 3D within product design are both commercial and creative. Artistically, creativity can thrive.

 "Designers working with 3D have much more creative freedom and the process of creating new products is much easier. They can very quickly experiment with different fabrics, textures and colours, according to the requirements. In the past, you had to modify the physical garment to apply some of these changes, which took a lot of time. But now you can play around much faster."

Alongside this creative freedom, there are significant advantages for a business commercially. The easy experimentation, described above by Jan Philipp Wintjes at Hugo Boss, also indicates both time and cost-saving benefits. If an organisation wants to visualise different versions of a product, they can do so without having to manufacture prototype after prototype: "3D as part of our design process enables speed and efficiency as well as creative freedom."

In an industry so reliant on recognising, pre-empting, and responding to changing consumer trends, the benefits described above demonstrate the importance of  3D to the fashion industry.

Credit: INDG

Adobe

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**Brands can make better decisions faster with 3D samples. You can look at products that don't exist yet in a realistic way. So, you're saving time as well as physical waste of producing samples.**

**Bastiaan Geluk**
Head of Digital Fashion
INDG, The Netherlands

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Product communications and marketing also benefit significantly. Whether it's the release of a single garment, AI Fashion shows, or the launch of an entire digital collection, the fashion industry is finding new ways to engage and connect with its consumers. At the Fashion Innovation Agency, they describe the impact 3D design technology is having on the concept of fashion shows:

"There's almost limitless creativity for designers. Where do you want your collection to live? How do you want to portray it? Fashion has always been about storytelling. And now any story can be told in a way which feels immersive, compelling, exciting and can be constantly updated and changed. These are things which just weren't possible before with a purely physical collection or a physical show."

Similarly, Bastiaan describes using 3D images instead of the physical product within the wider marketing journey: "Normally you would have to wait until the product arrives at the warehouse and then you can make your content, so maybe only a month or two before product release, you've got your pictures. Whereas, if you are starting with 3D, the product exists for content early, and you get your visual content much earlier." One 3D asset can perform multiple roles, "the same asset can enable all other content needs – think of the marketing content needed out there, social media, campaign content, newsletters, ads, banners etc."

In essence, the use of 3D technology enables rapid and creative product design, resulting in greater cost-effectiveness and reduced wastage (for more information, please read on). This facilitates efficient communication of the designs across various channels beyond the manufacturing process, satisfying both artistic and commercial aspects within organisations.

With AR and VR technology poised to shake up the industry further, 3D integration in the fashion industry shows no signs of slowing. The concept of a digital wardrobe is poised to shake up the industry even further. "It's an exciting time for fashion," says Bastiaan, "the possibilities of a digital wardrobe are endless, and we're already seeing its impact on the industry."

As recently as March 2023, PUMA and INDG released a product range inspired by iconic gaming franchise Final Fantasy. While the physical products were extremely popular (almost all sold out at the time of writing), it was interesting to observe the consumer expectation that these products would be available in digital form also. Users of Reddit reacted to the product announcements stating, "I would rather have the collab be for in-game shoes," and "if nothing else there should be digital versions of what you can buy in real life." The digital wardrobe is not a hypothetical hope for the future - it is already an expectation and want in the present.

The idea of outfitting our digital personas is not new, but with the emergence of virtual clothing stores and the rise of digital wearables, the possibilities for personalisation and reducing our impact on the environment are endless.

As a result, traditional fashion houses are taking note and embracing digital transformation by investing in digital capabilities. American luxury label Hanifa recently showcased a digital show featuring headless, floating figures wearing 3D renders of new garments. Additionally, luxury brand Louis Vuitton partnered with the popular multiplayer game League of Legends to design a series of skins, embedding their brand in different game platforms.

As the fashion industry continues to evolve, the integration of 3D technology and digital fashion will undoubtedly play a significant role in shaping its future.

Created using Adobe Substance
Credit: Fashion Innovation Agency

# 03 REIMAGINING RETAIL

From unassuming product renders in eCommerce to virtual try-ons and AR/VR experiences, 3D's role within retail is widespread and evolving rapidly.

The baseline for integrating 3D within retail is its use within eCommerce, which some sectors have adopted more quickly than others. As Bastiaan said, "No person in the last 15 to 20 years has bought a car or electronic device where they were looking at a photograph. In those industries, 3D renders have been the standard for many years – fashion is just catching up."

The benefits of using 3D product images over traditional photographs within eCommerce are clear, especially considering the sheer volume of images (estimated to be in the thousands) and content required for effective eCommerce.

Jan Philipp Wintjes, the Senior Vice President for Omnichannel at Hugo Boss, summarises it perfectly: "It's great to see how we are able to use 3D renders in our online store. This gives consumers the option to zoom in and zoom out, to look at a product from all directions, and play with it." When producing images in 3D can meet the volume and function required, its role within eCommerce is clear.

But 3D design can do so much more than simply improve the experience of browsing through products online; it can completely transform the retail experience.

Credit: Hugo Boss

Retailers are undergoing a significant transformation, thanks to 3D design and the introduction of virtual stores and shopping experiences. Virtual stores offer a unique experience for customers to browse and shop from the comfort of their homes. 35% of respondents believe that virtual retail spaces will be more important this year than last.

Already, 3D is being used to create immersive experiences, including rich product stories and in-situ displays, allowing retailers to offer a true omnichannel experience, seamlessly merging online and physical retail experiences.

The benefits of virtual stores are not reserved for retailers. They also offer a new level of interactivity and engagement for consumers, leading to increased sales and brand loyalty. So, it's unsurprising that 33% of those surveyed believe that their organisation could benefit from using 3D design within their online retail, with 20% currently using it.

**Adding to the Basket –
The Benefits of 3D Design in eCommerce**

Based on data from Shopify, one of the world's largest eCommerce platforms, retailers adding 3D renders to their online retail offering experience:

// An increase of over 40% in shoppers adding an item to their basket

// An increase of over 25% in shoppers purchasing an item

// 40% fewer returns

Credit: Anna Natter, Adobe

**Innovative companies are taking advantage.**

IKEA's integration of 3D has evolved from using 3D to design products in their catalogues and in their online stores to full AR/VR experiences that place their products in shoppers' homes. The Place App, first launched in 2017, allows shoppers to use AR to place furniture items into their homes to visualise how they will look in-situ. From furniture to fashion, the use of Augmented Reality to trial/try-on new products has grown significantly (with new examples happening throughout the creation of this report).

Brands like Hugo Boss, Tommy Hilfiger and Nike are using AR in their physical stores to enable virtual try-on experiences. Hugo Boss' Wintjes describes the use and benefit: "For example, we find that some people don't like to try on trousers in-store. So, if we enable virtual try-ons in-store, customers can see how they look in the pieces they're interested in, and the whole process becomes much simpler for them. They can

see themselves in the garments they like most and then try on only those. It also makes it easier for customers to mix and match products more effortlessly."

Another example of how AR is being used within retail to deliver new ways of telling stories to customers is UNIT9's 'Move to Zero' work with Nike, providing customers with the ability to scan a shoebox to learn about their sustainability mission. The increased expectations of consumers for brands and products to represent values and address societal issues requires additional information to be conveyed around a product, with it not always possible or effective to do so within a physical retail space or on product packaging. Nike's use of AR, to use product packaging as a gateway to further information, is a practical example of how new technologies alongside the use of 3D can help brands tell these stories and enrich the physical retail experience.

Credit: INDG

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Images provided by HUGO BOSS to represent their
virtual spaces used to share products with retail partners.

Looking beyond the use of AR, and further into the future, Bastiaan, envisions when customers might be able to visit virtual shops and be transported into a story where they can experience products in a completely different way: "They can be transported to a winter landscape to see how outdoor clothing performs in the snow, or to a beach to test out swimwear. This level of immersion can provide customers with a unique and personalised experience that encourages them to purchase." This might not be as fanciful as it sounds, with our study showing that 22% of organisations are currently designing virtual spaces, and 40% of businesses recognise that 3D can be a valuable tool in engaging customers, with virtual spaces being an integral part of the process.

Whether it's storytelling or "story-living" (a phrase we loved from UNIT9's Sofia Papadopoulou), by incorporating 3D design and AR/VR technologies into the retail experience, companies can engage with their customers in new and exciting ways, providing a unique experience that will help them succeed in the present, and constantly changing, future world of retail.

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**"What eCommerce looks like in the future will need to change. Too many brands are stuck in the early Internet experience of just scrolling through a catalogue. Using 3D, eCommerce can feel much more like an exploration or a game. And we know that dwell times in 3D experiences in eCommerce are much longer."**

**"**

**Matthew Drinkwater & Costas Kazantzis**
Head of Agency & Lead Creative
Technologist, Fashion Innovation Agency,
London College of Fashion

Adobe 3D Trends 2023

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# THE DRIVERS IMPACTING CHANGE

**If you still have any doubts as to why 3D design is already critical to so many businesses, consider three drivers that are impacting the changing landscape.**

## 01 Digital Impact on Physical World

There's no escaping the responsibility we all face to reduce the impact we have on our planet, and 3D design is playing its part.

## 02 Diving into the 3D Talent Pool

There are brand new 3D designers modelling and texturing every day. Not only are the skillsets of 3D designers changing, but 3D design is changing the culture of design and business.

## 03 Community & Creatorverse

Get to know the 3D design space like we have, and you're exposed to an incredible community, inspiring each other – with sharing at its core, be it assets or knowledge.

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## 01   DIGITAL IMPACT ON THE PHYSICAL WORLD

Sustainability is no longer just a buzzword - it's an essential part of modern business practices. And with the evolution and adoption of 3D design technology, companies can now take significant strides toward reducing waste and carbon emissions associated with traditional manufacturing processes. By creating products on demand, businesses can minimise waste, reduce inventories, and save valuable time and resources.

Our study shows that a staggering 86% of people believe that using 3D in design can reduce waste during product design and prototyping, and 91% think 3D can reduce carbon emissions. Brilliant Earth, a jewellery industry leader, is already using 3D printing to create custom-made jewellery on demand, setting a sustainable example for others to follow.

But the advantages of 3D design don't end there. By using virtual product samples, businesses can make faster decisions and avoid the waste that results from creating physical samples. In the case of Hugo Boss, Jan Philipp says, "through our digital showrooms, we have reduced the use and transportation of physical samples by over 70%. This has helped us cut down waste and save energy." This helps them visualise product design mistakes and correct them before producing anything physically, leading to greater efficiency and sustainability.

Hilos, a footwear brand, is taking sustainable practices one step further by using 3D conceptualisation and printing tech to personalise and produce shoes on demand, reducing carbon emissions from manufacturing overseas.

Luxury brand Burberry is also embracing the sustainable potential of 3D at all stages of product design, creating new offerings without the need for physical samples and shipping. This allows them to focus on innovative consumer experiences, such as virtual fitting rooms and individually personalised eCommerce solutions as we've already discussed.

Credit: Wes McDermott, Adobe

Adobe

# Beyond product design and retail, 3D technology has a vital role to play in sustainability in other areas too.

With the realism achievable within virtual photography, businesses can reduce the need for the travel of people and products for ad creation or retail. From a career in photography for brands, Lionel Koretzky has observed the extent to which the ability to place objects into a variety of digital environments has changed the industry: "You'd do a shoot on a Californian beach, and then fly to Paris, then drive for 3 hours, then do another shoot, and it would be the same objects, the same models. You'd fly all those people, and equipment. I don't think you can do that today. People will think you're crazy."

Moreover, there's also the impact 3D design has on the consumer's retail and returns experience, noted at Hugo Boss by Jan Philipp: "The more consumers explore and shop online, the less they need to return. This is a win-win situation for us, as a

business." With some estimates as high as 30% of all products being bought online, being returned, any reductions of this practice can surely only be a good thing for all of us. If not all returns, then perhaps at least the digital wardrobe will eliminate the need to buy clothes just to take a picture wearing them on social media (a behaviour which could easily be reduced, and from a survey in 2018, one practised by one in ten shoppers surveyed on behalf of Barclaycard).

With 3D design, the future of sustainable product design, marketing and consumption is bright. It's not just a trend, but a genuine and dynamic shift towards a more sustainable future. Companies can now reduce waste and carbon emissions while creating products that meet the needs of customers and the planet.

"

**3D design for prototyping is something that should be embedded immediately for every fashion business, and we need everybody to be working in 3D design to begin to affect really significant sustainability change.**

"

**Matthew Drinkwater and Costas Kazantzis**
Head of Agency and Lead Creative Technologist,
Fashion Innovation Agency,
London College of Fashion, UK

Credit: Wes McDermott, Adobe

# 02     DIVING INTO THE 3D TALENT POOL

As the demand for skilled 3D designers continues to rise, businesses are struggling to find the right talent to fill these roles. According to our survey data, 26% of people think that specialisation of skillsets is important this year, with 39% believing that it will be even more important than last year.

With 3D adoption increasing across industries, it's clear that there is a growing need for digital specialists, particularly in fashion. Bastiaan Geluk, an expert in the field, agrees that there is a significant shortage of skilled professionals and says, "I'd love to be involved in the creation of a strong and growing community of 3D digital artists as many skills are lacking still and this industry is so large, it will need a lot of people to move the needle digitally."

To address this shortage, universities and training programs are incorporating 3D design into their curriculums. Schools like Cambridge School of Visual and Performing Arts, University of Arts London and Northumbria University have already started specialised 3D and product design courses and workshops, not to mention of course, the teaching of digital skills at the London College of Fashion: "There is a great demand from the students for the College to be teaching about digital design, game engines and 3D modelling. We think it's really important for the students to have an understanding of how the software can be used within the fashion industry."

But it's not just about filling roles. 3D design skills can also offer new opportunities for growth and development. In fact, 55% of designers think that learning to integrate 3D into their creative process will give them new opportunities to learn and develop. And in industries like fashion, where drawing and sketching skills have been traditionally relied upon, using 3D tools offers new ways for aspiring designers to prove themselves and drive innovation within the industry. As Bastiaan puts it, "Young people come into the industry already equipped with 3D. They are capable of visualising these things much more accurately than some of their old-school colleagues."





Credit: INDG
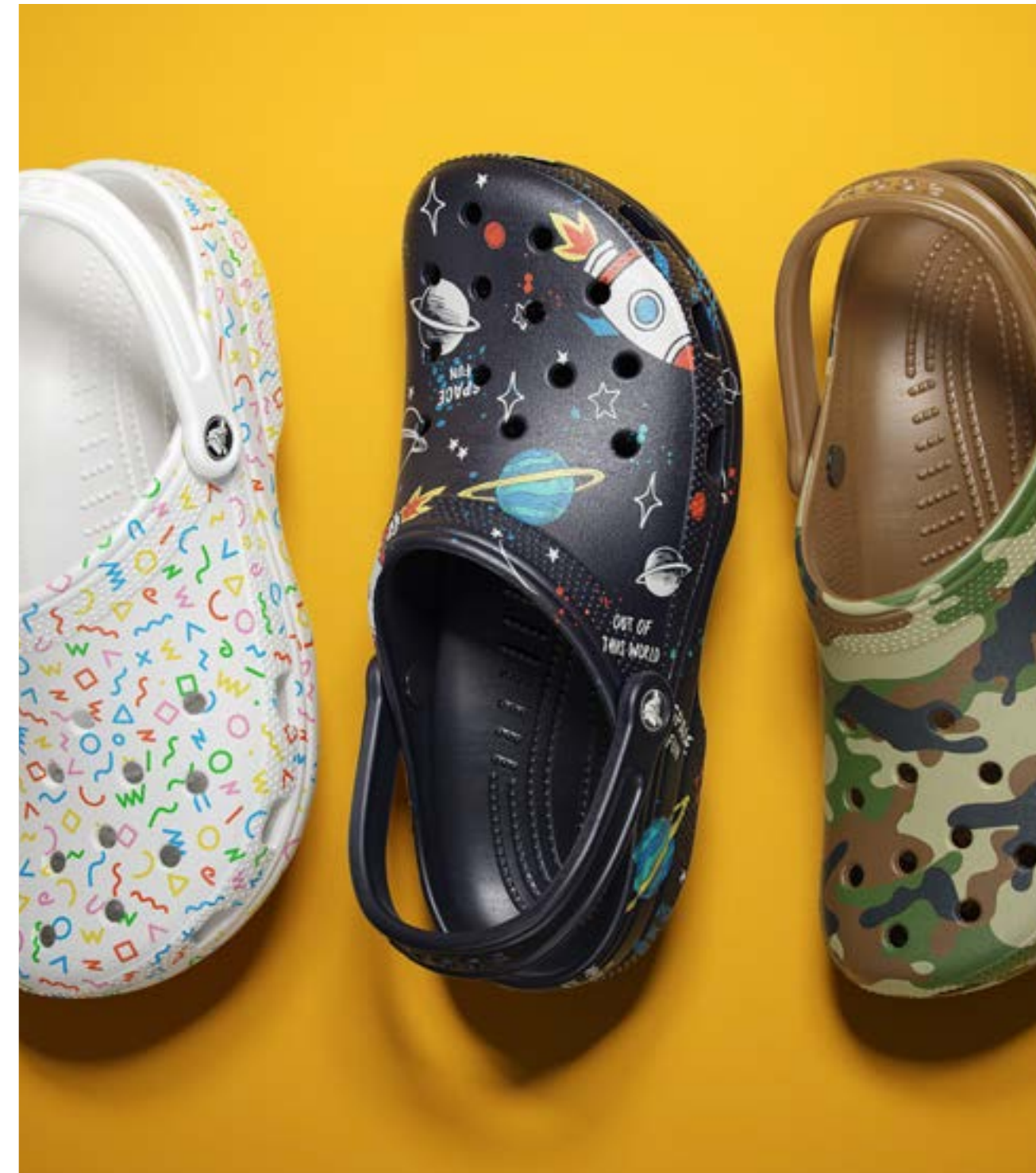
The fashion industry is undergoing a significant shift towards 3D, which is opening doors for a more diverse range of designers to break into the industry. "Access to the fashion industry has been based on a very traditional way of designing things and people were very often relying on hand sketching skills. But now, 3D means that more people who have the ideas can visualise them through 3D without maybe having hand sketching abilities. So that's super cool. I think it allows for a much broader group of people or young designers to visualise things that they couldn't before," notes Bastiaan.

This sentiment is echoed by the London College of Fashion, which sees the rise of 3D design to make the industry more accessible and inclusive. "The fashion industry itself has always had a perception of being a difficult industry to get into and hasn't always been accessible, but the tools are there now. Genuinely, what's exciting about that is it begins to suggest that we will see non-traditional fashion businesses being born. I think we've known for some time that the path into the industry is going to change."

Overall, it's clear that the world of design is rapidly evolving with the adoption of 3D, with both challenges and opportunities. As the demand for skilled professionals grows, the industry will need to adapt and innovate to keep up. But with the right training and education, a new generation of 3D designers can push the industry to new heights and embed a greater understanding of the possibilities of 3D across wider business roles.

Credit: INDG

# 03 COMMUNITY & CREATORVERSE

The evolution of 3D design is revolutionising the creator economy and inspiring new forms of community. The creator economy is a marketplace that includes digital creators ranging from novices to experts who reach their audiences through various user-friendly platforms like TikTok, Instagram, and Fortnite.

As the number of gamers worldwide continues to rise, 3D artists have become a profitable vertical of the creator economy. Companies like Epic Games offer job opportunities for designers to work on popular games like Fortnite, and creators can even develop and sell their own 3D in-game assets. The increasing role of gaming engines such as Unreal within the design process will blend closer together the worlds of gaming and design, and it will be interesting to see the extent to which digitally-native gamers embrace designing gaming assets, whether for themselves (well their avatars or mods) or for revenue through the creator economy.

The growth of the creator economy is a demonstration of the appetite among designers to have access to ready-made assets to build from and edit, rather than starting everything from scratch themselves. With this in mind, it is no surprise that asset libraries are growing in importance.

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According to our recent survey, 22% of designers believe that the creation of assets for libraries is important this year, while 36% believe it will be even more important than last year. Furthermore, 30% of designers feel that the use of 3D asset libraries will be influential in 3D design for the next year.

Another aspect of the 3D design community is its collaborative and supportive nature. Sharing work-in-progress and how-to videos is common among 3D designers who are eager to learn from one another and stay up to date on the latest trends. As Chris from the LEGO Group put it, "there's an unwritten code of conduct between all creatives, you respect other people's work, nobody steals. Creatives are sharing because they care about others being able to learn from it." As 3D continues to

transform design, the creator economy and community will undoubtedly continue to thrive, creating new opportunities for entrepreneurship and innovation. Furthermore, brand-led design communities are expected to play a key role in shaping the future of design, with 21% of designers believing they will be influential in the years to come.

Whether it's online communities, virtual events or conferences and events, the 3D community is thriving and benefitting together.

# ABOUT ADOBE SUBSTANCE 3D

**Substance 3D Collection is a comprehensive suite of interconnected 3D material authoring, texturing, modeling and rendering tools designed to empower creativity and streamline visualisation workflows in 3D design.**

It provides a seamless creative experience with a range of task-specific 3D tools so that creative professionals in design can present their work in realistic, real-world context, maintain material consistency throughout creative pipelines, and enjoy a high degree of control over the creation and editing of content created with 3D tools. Substance 3D tools integrate seamlessly with Adobe Creative Cloud applications, the most common 3D software, and real-time rendering engines, enabling efficient 3D workflows and amazing content.

**Adobe**

At the heart of Substance 3D are a collection of versatile applications, each designed to cater to different aspects of the 3D design process.

## Sa Substance 3D Sampler

Substance 3D Sampler is a versatile and powerful scanning tool that streamlines the process of converting real-life images into photorealistic materials, 3D objects, and HDR environments. Sampler simplifies the creation of high-quality 3D assets for use across various 3D applications. Featuring seamless integration within the Substance 3D Collection and access to an extensive library of professionally crafted 3D assets, users can effortlessly combine and fine-tune materials using parametric filters, enabling a smooth and efficient 3D workflow.

## Pt Substance 3D Painter

Substance 3D Painter offers a comprehensive layer-based painting system that allows users to work directly on 3D models, bringing their creations to life with vivid textures and intricate details. With an array of tools, including Smart Materials, Smart Masks, and generators that automatically adapt to the mesh, users can achieve stunning results while painting with regular, dynamic, or Photoshop brushes, as well as tools and physical particles. It's easy to see why Painter is the go-to choice for texturing 3D models.

## Sg Substance 3D Stager

Substance 3D Stager is a state-of-the-art virtual rendering studio designed to create breathtaking visualisations by assembling 3D scenes, arranging assets, applying materials, lights, and cameras. With access to thousands of customisable models, lights, and materials from Substance 3D Assets, users can easily integrate content from the entire Substance family of apps into Stager to craft the perfect composition for product visualisations, marketing imagery, and more.

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# Substance 3D Asset Library

Substance 3D Assets is a comprehensive library of customisable 3D models, lights, and materials, all ready-to-use and included as part of the Substance 3D Collection. Substance 3D Assets are designed to accelerate your 3D project creation process and help deliver stunning photorealistic results. Created by material and modeling specialists and world-class 3D artists, this collection of professional content ensures amazing results and seamless integration with various 3D workflows from product design to games and VFX, to marketing and retail creative.

# Substance 3D Designer

Substance 3D Designer is a powerful tool that unlocks near infinite 3D creative possibilities through node-based material design, enabling users to create seamless materials, patterns, image filters, and environment lights. Designed for technical artists seeking to craft complex stylised and photorealistic procedural materials, Designer boasts an extensive node library and seamless integration with other Substance 3D tools.

# Substance 3D Modeler

Substance 3D Modeler is an innovative 3D design and sculpting app that streamlines the creation of organic and hard surface forms, as well as complex scenes, without the burden of maintaining "good topology". It boasts seamless integration with other Substance 3D tools, both VR and desktop interfaces, and a comprehensive set of sculpting tools. It enables users to import and adapt meshes, assemble complex scenes, and experience creating in an immersive VR environment.

So, whether you're in packaging design, product design, fashion, gaming, visual effects, architecture, or beyond, Substance 3D equips you with the tools needed to create realistic, breath-taking 3D content. By leveraging Substance 3D, you can streamline your workflow, saving time in prototyping and photography shoots, and you can experiment with multiple versions and bring your products to market faster.

Unleash your creative potential and immerse yourself and your business in the limitless possibilities of Adobe Substance 3D. With its intuitive workflows, comprehensive toolset, and seamless integration with Adobe Creative Cloud, Substance 3D is the ultimate 3D solution for any business looking to get ahead of the curve.
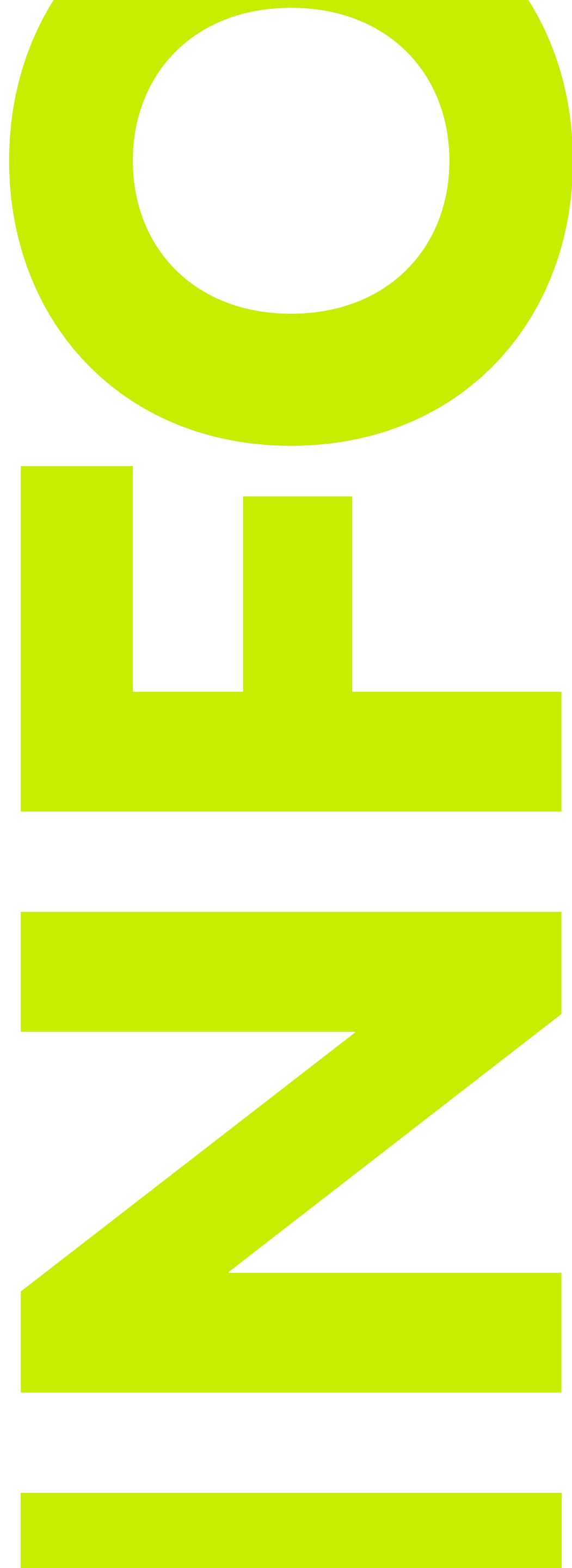
# INFO

# FOR MORE INFORMATION

To discover more about Substance 3D, please visit our website:

https://www.adobe.com/uk/creativecloud/3d-ar.html

Here you'll find further information about Substance 3D, as well as industry-leading resources and materials about creativity and design in 3D.

Or you can get in touch with the Substance 3D team.

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