

THE : FUTURE : LABORATORY
: : FASHION FUTURES 2018



Introduction

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While new fits, shapes and styles will always be important on the catwalk, behind the scenes the most relevant trends for 2019 will be in key material innovations, sales models and emerging technologies.

The fashion industry will have to tackle consumers who are no longer as interested in buying clothes and are more conscientious about where they spend their money. This report brings together the innovators and early adopter brands that are already appealing to this mindset, through the following strategies:

- : Bundled Buys
- : Data ID Stores
- : Digital Wardrobes
- : Fashion Recommerce
- : Blockchain Fashion
- : Synthetic Leathers
- : Protective Performancewear
- : Analytical Materials

We also unveil Immaterial Fashion, a macrotrend that could upend the very definition of fashion, as we question the value of physical garments and how consumers might enjoy clothing in the digital age.



Uniqlo Airism by Lucy Hardcastle



Trends Rising

From the rapid rise of fashion resell to curated clothing kits and intelligent data-driven stores, discover the eight trends set to drive the fashion sector forward

Bundled Buys

To help consumers navigate an increasingly seasonless model, brands are exploring the benefits of selling their pieces as edited capsule collections.

The Kit is a sustainable fast fashion label created as a solution to the concerns associated with the traditional structure of seasonal fashion. As the name suggests, the idea is to create pieces that, although available to buy and wear as separates, function together as entire outfits, or kits.

With a production time that has been shortened to two to three weeks, the brand prides itself on creating products in response to changing consumer tastes.

While The Kit offers consumers the opportunity to purchase entire outfits with the freedom to buy separates, **Wardrobe** sells its menswear and womenswear as wardrobes that cannot be bought individually.

For Christine Centenera and Josh Goot, the brand’s co-founders, the thinking offers an opportunity to provide a solution for consumers who want to navigate seasonless style in the most time-conscious but effective way. ‘It is our way of saying: ‘This season, this is what we think you should be wearing’,’ says Centenera. While their complete 10-piece set is available for £1,000 (\$1,315, €1,144) and five-piece core wardrobe for £500 (\$657, €572) the

price points have been determined without a retail mark-up and, from the point of view of consumers, is a much cheaper alternative to buying 10 or five pieces separately.

Streetwear is also exploring bundled buys, not only to enable consumers to purchase and wear an entire look in one go, but also seemingly, in an attempt to counter the phenomenon of streetwear resale. **Yeezy**’s Season 6 collection, for example, was released as a £578 (\$760, €661) bundle that included a hoodie, shorts and sneakers. While the shoes alone would cost about £152 (\$200, €174), shoe reseller **StockX** recorded such sneakers selling for more than seven times the retail value.



Depop, Silver Lake, Los Angeles



The Kit by Daniel Vosovic

Fashion Recommerce

With resale platform **ThredUp** forecasting that the recommerce market will be worth £31.4bn (€35bn, \$41bn) by 2022, the market for reselling fashion is striding confidently away from notions of worn-out, second-hand goods to become a positive force in the fashion sector.

While resale has mostly been fuelled by dedicated apps and online marketplaces, bricks-and-mortar spaces dedicated to resale are also emerging. Resell app **Depop**, which has 9m global users and 60,000 items listed daily, opened its first physical space in Los Angeles in March 2018, hosting pop-ups led by popular sellers alongside workshops on how to source, sell and photograph vintage fashion. The company is taking a strategic approach to its openings, with plans for further stores in New York, Austin and Chicago – cities where it has recorded concentrated growth in user numbers.

Positioned as a more considerate approach to shopping, the resale movement is also making its mark in the luxury fashion sector. Building on its ethical credentials, **Stella McCartney** this year worked with resell platform **The RealReal** to create The Future of Fashion is Circular, a call to action in which customers were rewarded with a £75 (€85, \$100) Stella McCartney voucher for every McCartney item they consigned to The RealReal.

11%

The forecast amount of resale apparel in the average consumer’s wardrobe in 2027

ThredUp 2018 Resale Report
www.thredup.com/resale

‘There is no more trawling through hangers to find a specific piece of clothing. With a single push of a button, the hanger will come to you’

Joanne Yong, designer, The Beauty Box



Laundroid by Seven Dreamers

Digital Wardrobes

A series of technology-driven solutions are hinting at the future of wardrobe management, from a closet that steams grime from garments to digitised dressing rooms.

Inspired by the wardrobe featured in the film *Clueless*, The Beauty Box is a bespoke, walk-in wardrobe with a two-layer automated clothing rail supported by a digital record of each item. Its touchscreen smart mirror enables users to scroll through their clothing, select a piece to wear, with the rail automatically bringing it forward. The Beauty Box also features a jewellery box accessible by biometric fingerprint scan, and a 360-degree camera for users to snap and share their outfits.

Beyond storage, technology is advancing clothing care. Created for time-pressed city dwellers, Samsung's Air Dresser is an AI-driven home appliance that offers air, steam and purifying functions to ensure clothing is free from dirt and bacteria. Using Samsung's SmartThings app, it is linked to MyCloset, a service that allows users to scan clothing labels to find the right Air Dresser setting.

Elsewhere, Seven Dreamers Laboratories in Tokyo has created Laundroid, a fully automated ironing and folding system. Users place clean, dry laundry inside, with the system using artificial intelligence to learn the features and shape of clothing, folding and sorting it into separate stacks by style or family member.



PureMove sports bra by Reebok

Protective
Performancewear

Morgan Stanley predicted that from 2015 to 2020, the global athletic apparel industry would grow by about 30% to £63.4bn (\$83bn, €71bn), while in the US fashion sector athleisure already dominates the market, accounting for 24% of the nation’s total clothing sales (source: NPD Group).

But with brands vying to stand out from the crowd, the performancewear category of athleisure is moving beyond aesthetics and straightforward functions such as compression to more active protection. Scouring science journals and working

with material innovators for three years, **Reebok** recently introduced The PureMove sports bra, a garment that contains its Shear Thickening Fluid – the same technology used by NASA in its spacesuits. This liquid adapts to the body’s shape and becomes solid when subject to movement, keeping the wearer comfortable and protected.

Meanwhile, Canadian start-up **Aexos** has developed Halo, a compression shirt fitted with a collar made of a smart material that helps to reduce the effect of whiplash and the likelihood of concussion during contact sports. Designed for players of American football, ice hockey and rugby, the nylon and spandex blend

provides postural support during play, but on impact the material stiffens, slowing the rate of whiplash motion of the head and neck by up to 46%, according to the company.

£63.4^{bn}

The predicted value of sales growth in the global athletic apparel industry from 2015 to 2020

Source: Morgan Stanley

Synthetic Leathers

The global boom in plant-based lifestyles is having an impact on the fashion industry, with synthetic leather increasingly recognised as a more sustainable and luxurious alternative to animal skins.

With the global synthetic leather market forecast to be worth £65bn (\$85bn, €73bn) by 2025 (source: Grand View Research), new material developments such as pineapple leather Piñatex offer both a sustainable and high-quality aesthetic, with brands such as **Hugo Boss** already using Piñatex for its men’s footwear.

Similarly, **Modern Meadow** is targeting the luxury sector with its biofabricated leather made from a genetically engineered strain of yeast that produces animal collagen, with the ability to customise this material into any shape. ‘If you look at high-end leather or exotics, that’s where we’d like to enter at. We’re not looking to

compete with commodity leather,’ Natalia Krasnodebska, Modern Meadow’s head of communications, told Quartz.

Nike has also started to take steps to radically reduce its new leather usage with the launch of Flyleather, a fabric made with waste leather from tanneries, combined with a synthetic fibre. Using 90% less water and with 80% lower carbon footprint than traditional leather manufacturing, it represents a stepping stone towards leather alternatives.

£430m

The predicted number of cows that will need to be slaughtered annually to meet the demand of the global footwear, handbag and wallet sectors by 2025

Source: The Guardian



Regenesis of Fur by Christina Haxholm

Data ID Stores

Future-facing bricks-and-mortar brands are personalising the store experience through the use of consumer data profiles.

Drawing on the shopping profiles of local NikePlus members, the recently opened Nike Live by Melrose store in Los Angeles will adjust its product mix based on those shoppers’ preferences and purchasing, with styles changing every two weeks – faster than in other **Nike** outlets. The choice of store location, Melrose Avenue in West Los Angeles, was based on a 48% year-on-year increase in NikePlus member activity around that location.

With today’s most advanced stores recognising customers on a person-by-person basis, there is also potential to enhance inspiration and engagement on the shop floor. **Alibaba’s** Hong Kong FashionAI concept store, for example, created in collaboration with **Guess**, used customers’ shop floor interactions to serve them bespoke recommendations in real time. The pop-up store was powered by Alibaba’s Taobao e-commerce platform, with shoppers signing in using either a Taobao ID code or a facial scan. The system, based around RFID technology embedded into clothing racks, noted which items shoppers touched or picked up, then serving them further product information and mix-and-match suggestions via smart mirrors.

‘We will know you so well [that] we will be incredibly relevant with the product we give and the services we offer’

Cathy Sparks, global vice-president and general manager, Nike Direct Stores



Posh_space phygital fashion factory



Nike Live store

Blockchain Fashion

To date, blockchain’s use in fashion has mostly been for supply chain transparency, but a new wave of brands are embracing its potential to empower both creatives and consumers.

French haute-couture designer **Julien Fournié** is exploring the use of blockchain as a way to protect the IP of his designs. Working with **DasCoin**, a company offering blockchain-based solutions and services for businesses, Fournié is able to store his designs using a legally recognised encrypted code that states when, where and who created or can access specific documents.

In light of concerns about counterfeit goods, blockchain is also improving the system of buying and selling fashion online. Platforms such as **OpenBazaar** aim to bring the same blockchain-based benefits to fashion that buyers

and sellers of art, wine and other luxury commodities already enjoy. With no monthly access or listing fees, OpenBazaar users can sell whatever they like, and receive payment in one of more than 50 supported cryptocurrencies. Unlike other resale platforms, users are in total control of their data, and owing to the use of blockchain, are under no threat of having their accounts hacked.

‘By creating a solution for the fashion industry, we are hoping that a new generation of designers can protect their creations affordably and with total peace of mind’

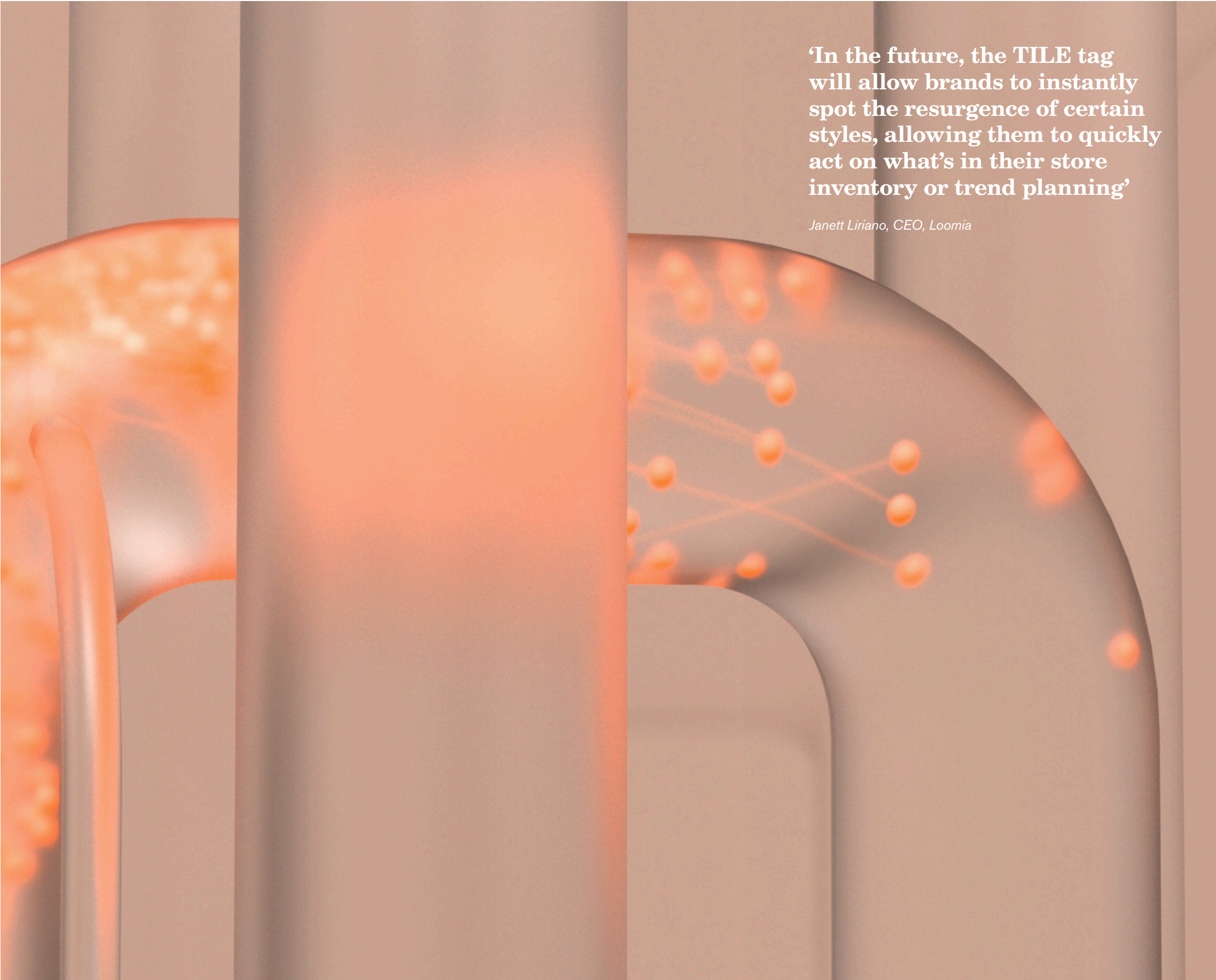
Michael Mathias, CEO, DasCoin

Analytical Materials

Material innovation means that the next generation of smart clothing will track users’ metrics, offering them more functionality beyond its form.

Sports brand **Puma** this year collaborated with the MIT Design Lab to create Deep Learning Insoles that improve an athlete’s performance through real-time biofeedback. The sole uses organisms to measure chemical phenomena that indicate the wearer’s fatigue or wellbeing, which change colour accordingly. The brand has incorporated a similar system into a microbially active T-shirt that changes its appearance according to the surrounding air quality, informing the wearer of high pollution levels.

With a focus on consumer data, technology company **Loomia** has created the Loomia TILE, a flexible smart tag that can be stitched into items of clothing, gathering and storing data about how often a garment is worn, washed and the environmental conditions during wear. While consumers are in control of this data, for brands it can provide essential insight into the wearability, seasonality and longevity of their products. Should the wearer choose to share these insights with the brand, it is submitted to **Storj**, a decentralised digital storage powered by blockchain, to ensure anonymity. In turn, brands can reward consumers’ data-sharing with, for example, clothing vouchers or discounts.



‘In the future, the TILE tag will allow brands to instantly spot the resurgence of certain styles, allowing them to quickly act on what’s in their store inventory or trend planning’

Janett Liriano, CEO, Loomia

Envisaging Material Far Futures: Analytical by Studio Brasch for The Future Laboratory



Macrotrend: Immaterial Fashion

As the fashion industry grapples with existential questions about supply chain and over-consumption, digitisation offers a new route for consumers still seeking to engage with clothing brands

Immaterial Fashion

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The rate at which clothing is now made is not sustainable. If the global population rises as expected to 8.5bn people by 2030 (source: UN), and the GDP per capita grows at 2% per year in the developed world and 4% in the developing world (source: OECD), overall apparel consumption will rise from 62m tons today to 102m tons in 2030 – an equivalent of more than 500bn T-shirts (source: Global Fashion Agenda, 2017).

This comes at a time when consumer awareness of sustainability is changing. In a recent survey of Generation Z women, 72% said it is imperative to buy brands that are environmentally friendly (source: Forbes). With fashion’s credibility on sustainability under scrutiny, and consumers questioning traditional ownership, the industry is rethinking how to offer fulfilment without subscribing to the fast-fashion, mass-consumption model of the past decade.

While other industries have embraced digital tools such as 3D rendering,

machine learning and artificial intelligence, fashion has remained wedded to tactility and the physical. But a world of immaterial and digital fashion offers opportunities for brands to exert their creativity and connect with consumers through a different medium. ‘I think consuming digitally will be much more sustainable. In that sense, technology can save fashion,’ says Jessica Graves, founder and product scientist at Sefleuria, an agency that uses algorithms to help fashion companies scale sustainably.

Immaterial Fashion is not only about exploring ways to create garments digitally, but also a route to streamlining production processes, cutting waste and creating only what is necessary. ‘[Digital] can also help us with physical garments,’ continues Graves. ‘We can make better predictions about what to produce and produce more locally. These factors are going to be the major game-changers of the future fashion industry.’

In this macrotrend we explore how Immaterial Fashion offers an opportunity for brands to stretch their creative muscle, streamline their production processes and change the long established model.



CattyT and Vetements and Nike

Hindsight

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As people reconsider their relationship with clothing and new technologies offer a different toolbox for fashion designers, the industry is under pressure to change.

Critical Consumption

The fast fashion model of the past two decades has created a cycle of consumption that is unsustainable, both for the environment and for those working in the industry.

The ability to buy clothing for less than its true value – in terms of material and labour costs – has led to a rise in mass production and consumption of goods, where consumers now buy more than they can wear. In the UK, the value of unused clothing in wardrobes has been estimated at £30bn (\$39.5bn, €34.3bn), while about £140m (\$184.3m, €160.3m) worth of clothing goes into landfill each year (source: WRAP). Similarly, in the

US, the average American throws away about 81lb of clothing every year (source: US Environmental Protection Agency).

But campaigns for transparency in the supply chain and sustainability materials are driving consumers to be more critical of their consumption as they seek new ways to engage with fashion. ‘There’s a huge opportunity in fashion to start asking questions about how we might, as an industry and as a system, work more effectively to fulfil [fundamental human] needs instead of using consumption as a proxy to fulfil those needs,’ says Timo Rissanen, assistant professor of fashion design and sustainability at Parsons School of Design.



Ocean Rift by Kim Yeonhee



Reebok Opus 3D campaign by Builders Club

Fashion is Out

Fashion no longer holds the cultural imagination in the way it once did. The hegemony of fashion influencers has shifted in recent years, from designers, creative directors and magazine editors to the people, which makes many of those in the industry seem out of touch with their audience.

Publishing house **Condé Nast**, the media company that produces *Vogue* and *GQ*, recorded the biggest fall in circulation of the major magazine publishers, down 8.9% year on year in 2017. And more designers are abandoning the catwalk shows that made them famous, such as **Alexander Wang**, who announced that his autumn/ winter 2018 collection would be his last showing at New York Fashion Week.

Furthermore, when consumers part with their money, they are spending less on clothes. Apparel is being replaced by travel, eating out and memorable activities. These experiences, where a moment in time offers more value for money than a disposable dress, have grown to 18% of purchases in the US (source: US Bureau of Economic Analysis). As **Bloomberg** asked in an article, *The Death of Clothing*, ‘Who needs fashion these days when you can express yourself through social media? Why buy that pricey new dress when you could fund a weekend getaway instead?’

‘Condé Nast, the media company that produces *Vogue* and *GQ*, recorded the biggest fall in circulation of the major magazine publishers, down 8.9% year on year in 2017’



Heresy spring/summer 2018 lookbook by Studio Creme

New Value Exchange

Our relationship with goods has also been changed irreparably by the widespread acceptance of e-commerce. ‘We are all accumulating mountains of things,’ says Mark A Cohen, director of retail studies at Columbia University’s Graduate School of Business. ‘[We’ve] become a society of hoarders.’

The advent of convenience culture may have enabled mindless consumption, but it has also left consumers with a different understanding of what a transaction for goods could be. For centuries, transactions tended to be physical exchanges, whereas now we often transact digital capital for not only physical but also digital goods. We hoard because it is easy, but what we are hoarding is changing.

Physical objects from books to films, music and art have all thrived in the digital marketplace. The blockchain art market, for instance, is booming online, where sites like DADA.nyc enable users to buy limited-edition digital artworks with IP protection. This new relationship with more ephemeral goods is driving a new consideration of what fashion can and should be. Researchers have found that at present, consumers still value digital goods less than physical goods. ‘They never quite feel like they are ours, and when we feel that we own a thing, we psychologically inflate its value,’ write Ozgun Atasoy and Carey K Morewedge in the Harvard Business Review. ‘As a result, digital goods don’t enjoy this premium we extend to things that we own.’

And yet change is starting to happen. In the realm of video games, trading virtual items is now a £38.4bn (\$50bn, €43bn) industry (source: Medium). As Atasoy and Morewedge predict: ‘The digitisation of content frees us – and the environment – from the burden of accumulating material objects for our information and entertainment.’

‘For centuries, transactions tended to be physical exchanges, whereas now we often transact digital capital for not only physical but also digital goods’

AI Personalisation

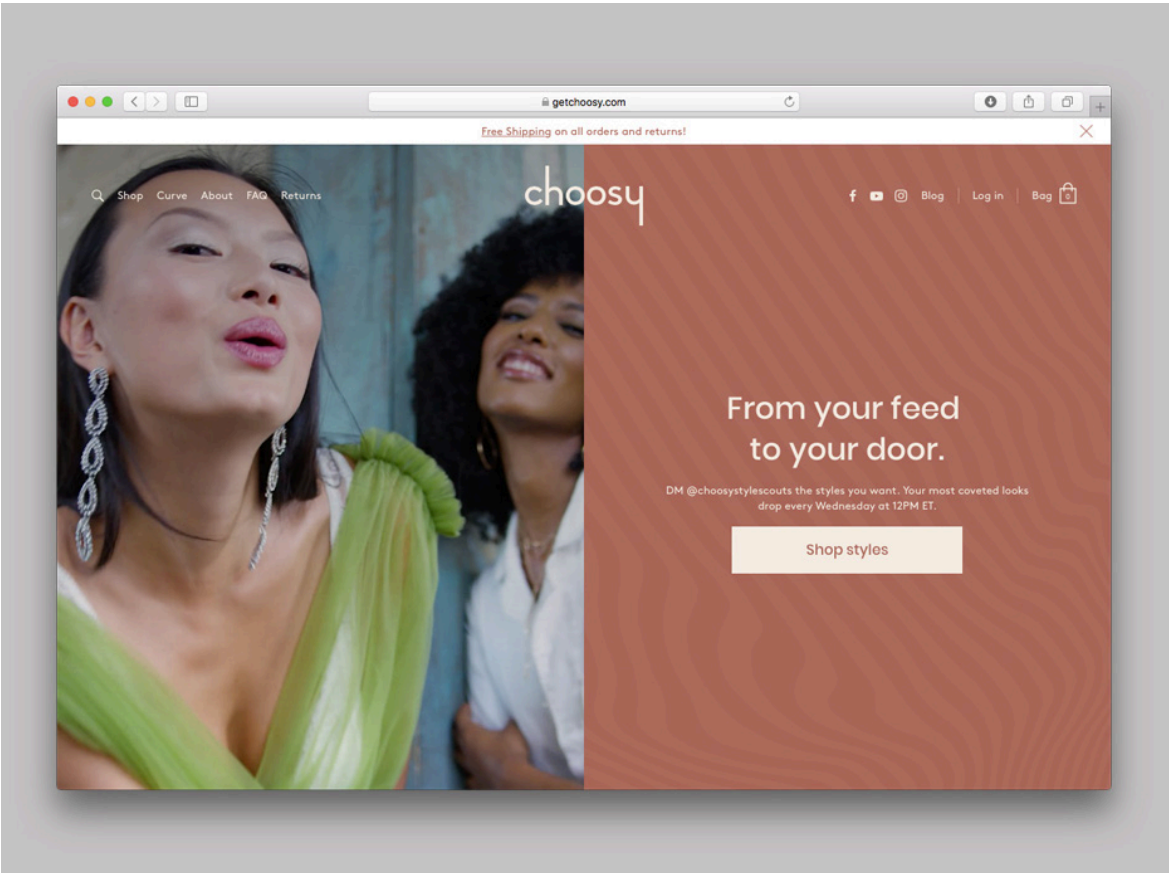
Fashion, like every other industry, is also being forced to change thanks to the advancement of artificial intelligence. Machine learning is now enabling brands to create hyper-personalised products and services, which is driving new, more efficient modes of production.

Rather than fashion designers dictating the trends, algorithms can now determine what consumers truly want. **Amazon**, for instance, which is still trying to find its feet in the fashion world, has developed an AI fashion designer – an algorithm that learns about a particular style of fashion from images, and then generates new designs in similar styles from scratch. At Cornell University, professor Kavita Bala co-leads the StreetStyle research project, in which a deep learning algorithm curates

fashion trends in cities across the world by analysing millions of photos posted on Instagram and other networks.

‘This will be the Holy Grail of retail,’ says Bala. ‘With this, retailers can respond a lot faster to changing preferences. If we can forecast trends fast, it will fundamentally change how designs spread and might open the door for smaller designers to reach larger audiences. A more democratic spread of design ideas could be enabled.’

‘Rather than fashion designers dictating the trends, algorithms can now determine what consumers truly want’



Choosy



£115bn

The predicted value
of the AR and VR
industry by 2020

Source: Digi-Capital

A New Toolbox

While augmented reality (AR) and virtual reality (VR) tools were once prohibitively expensive, they are now becoming accessible to independent designers and makers, offering them limitless creative possibilities. With the AR and VR industry expected to hit £115bn (\$150bn, €129bn) by 2020 (source: Digi-Capital), these technologies could change not only how fashion is designed, but also how it is produced and consumed.

In the world of design, avant-garde creatives can flout the laws of physics, using these mixed-reality tools to bring a new dimension to fashion. More practically, in the field of fashion production, the sampling process could be minimised significantly by using virtual bodies and fabrics, in turn cutting costs and avoiding mistakes.

Applications and devices such as Envrmt, an AR designer tool for mobile by **Verizon**, or AR glasses Vuzix are already changing the way that those in the industry work. Sefleuria's Graves believes these advances in technology could upend manufacturing and product creation, telling The Future Laboratory's Trend Intelligence platform, LS:N Global: 'Imagine what your pre-orders will look like if you have a very hyper-realistic image of someone wearing a garment that you haven't even started prototyping. Suddenly we could get pre-orders and start testing demand without moving into production. This will make [design] so much more accessible.'

Givenchy AR concept by Jaehyun Ha

Insight

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From creating clothing based on demand to online-only catwalks, these are trends that herald a shift towards a more ephemeral enjoyment of fashion.

Demand-led Design

In recent years, we've witnessed the rise of Data Designers who use data and analytics to inform their latest collections. In the next iteration of this, designers will embrace technology's ability for rapid prototyping without ever having to cut a pattern or sew a seam.

A new business model is emerging, with new fashion start-ups re-inventing the made-to-order model by making the pre-production process purely digital. One such company is **Atacac**, which defines itself as more of a fashion experiment than a brand. It uses 3D digital renderings – which have been more readily embraced in fields such as architecture and industrial design – to design its garments, presenting the renderings on its online store. This means that clothes are designed

and offered for sale before they are produced. 'We don't need any money to produce a collection because we get paid before we make it,' explains Jimmy Herdberg, Atacac's co-founder. 'The process also means we can go from design to consumer in four weeks. That's almost instant.' By reducing the time and resources typically associated with physical production, Atacac can sell its pieces at lower prices than traditionally designed pieces.

Change of Paradigm has a similar approach on its retail platform Mixamiliste, where it presents garments digitally in its e-shop, allowing the company to assess consumer demand for each product before putting it into production. 'We have been producing too much stuff because we have inaccurate estimates about how much stuff we need,' notes Sefleuria's Graves.



Sharewear by Atacac

Optimised Wardrobes

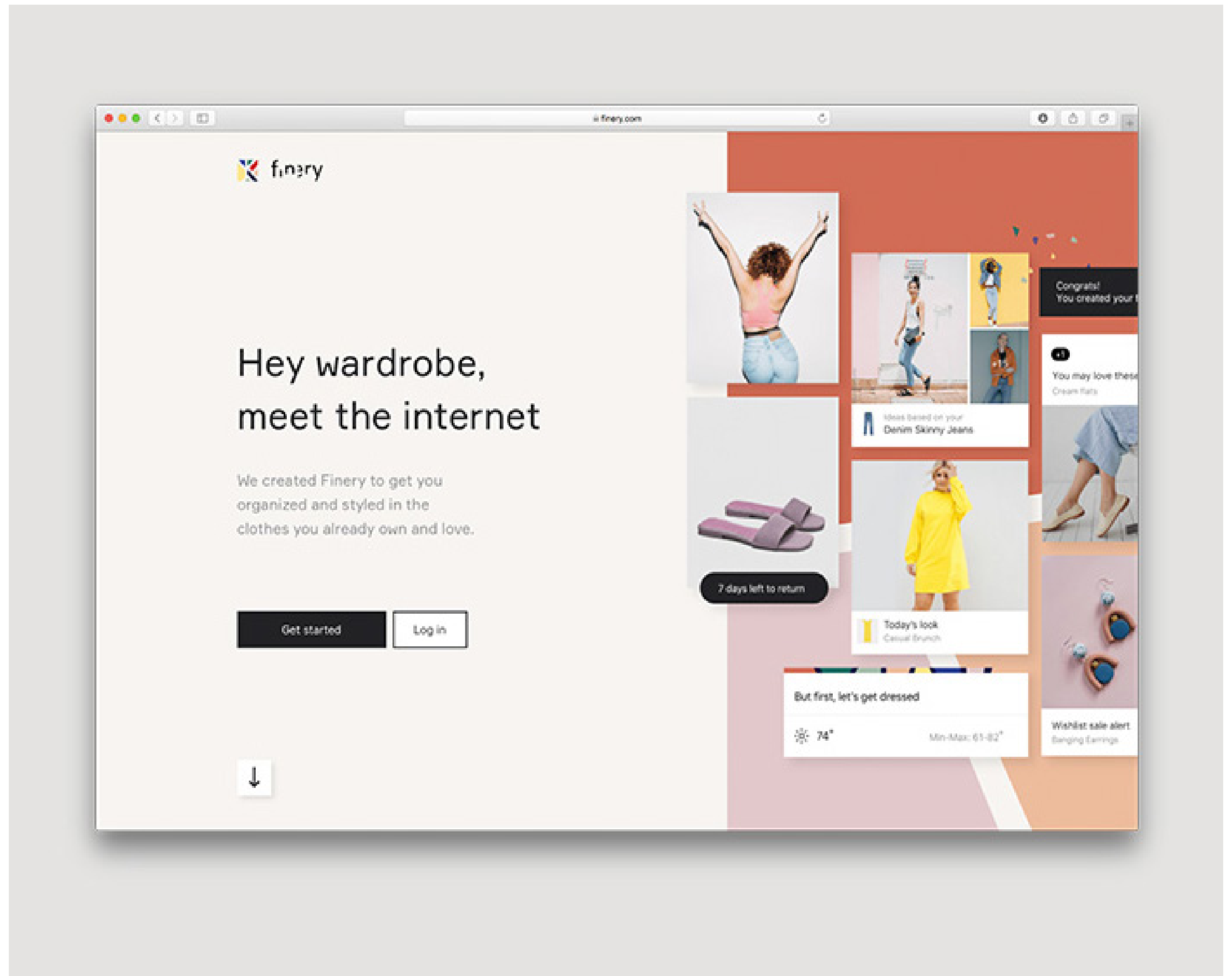
The movement to digitisation does not mean people will no longer own physical clothing, but that they will be more aware of the clothing they already own. Several companies have worked to optimise the wardrobe, helping consumers discover what already hangs in there, but a fresh cluster of start-ups are using AI and data to make building your own wardrobe an effortless affair.

Finery is one company that is trying to help users make more of their clothing through its digitised wardrobe service. Through machine learning, it suggests outfit combinations, using the shopping habits of other users and a database of more than 1.5m blogger images of tagged outfits for reference. The platform also becomes smarter over time, taking into account what is already in users' wardrobes to offer novel combinations.

While other apps in this area require a lot of time for users to catalogue clothing in their wardrobes, **Save Your Wardrobe's** management system aims to make it almost subconscious. As soon as a customer buys an item online, the app will automatically upload it to the digital wardrobe. AI technology also scans emails and online retail accounts to find users' latest online purchases. 'Data is often viewed as a cold entity, just figures that you can use to make a chart, but it can be used in a more intelligent way when you read beyond it,' explains the brand's founder, Hasna Kourda.

'Data is often viewed as a cold entity, but it can be used in a more intelligent way when you read beyond it'

Hasna Kourda, founder,
Save Your Wardrobe



Finery website

Gamified Fashion

With fashion becoming increasingly digitised, brands are beginning to blur the line between material and immaterial fashion through gamification. They are creating games that include digital versions of their products to act as both a marketing tool for real clothing and as a new means of enjoying their brand.

‘It’s inevitable that the fashion and gaming industries will increasingly collaborate in the coming years because it brings so much value to both industries, enlarging both communities,’ explains Nick Covella, senior vice-president of engineering at global blockchain marketplace **DMarket**.

‘Fashion could potentially make gaming popular among those who have never played, while designer in-game items will add pop culture to the gaming industry.’

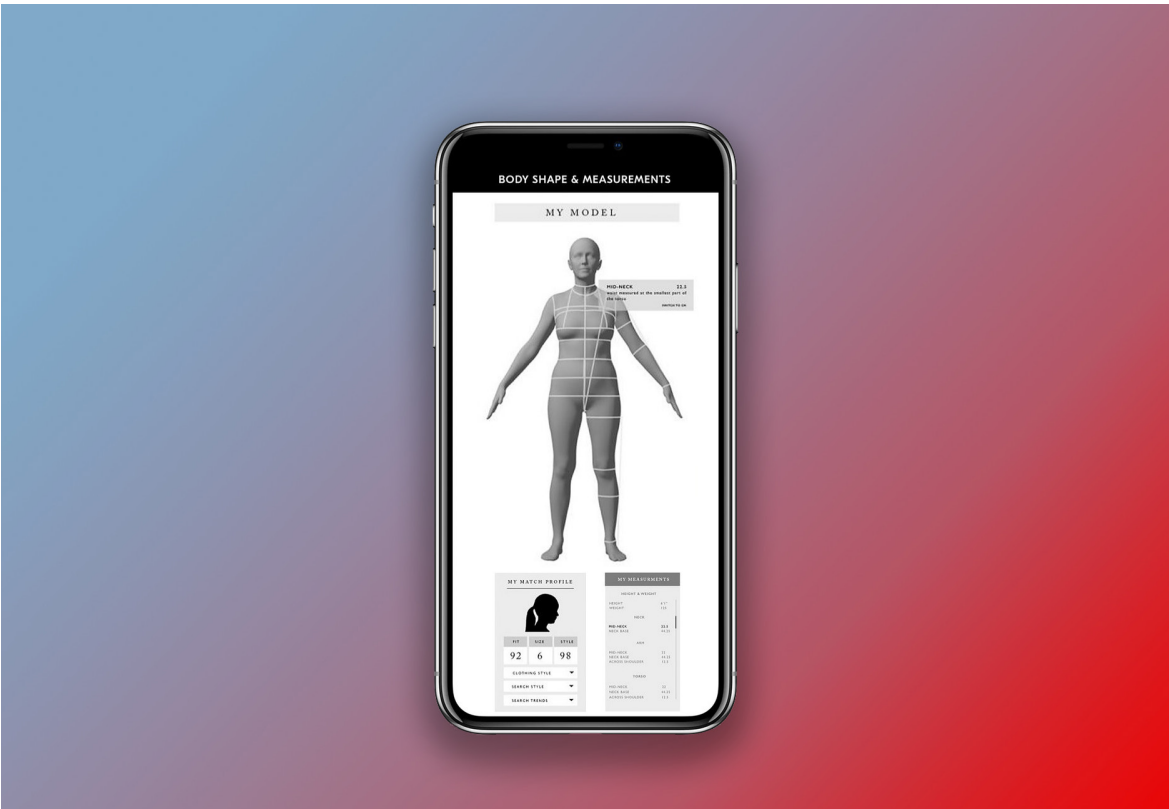
One instance is e-tailer **ASOS’s** collaboration with life simulation series *The Sims* to bring a temporary clothing collection into the game. Players engaged in challenges that involved planning a fashion runway show, with each unlocking in-game rewards, including ASOS tokens to spend on new items within the game. Participation secured a 20% discount code to use at ASOS.com.

Similarly, sportswear brand **Nike** combined hype culture with gaming when it created the first ever hashtag queue for its latest limited-edition Nike

Air Max. Tapping into the streetwear craze where queuing for exclusives is as important as getting the product, Nike brought this trend to the digital world, asking sneakerheads to wait in line on **Instagram** to win a chance to buy.



ASOS and The Sims



Body Labs

Digital Fit

As consumers shop more online, technology is enabling fashion brands to help them find their perfect fit through body-mapping technologies.

One way of improving the sizing process is through the use of online avatars. **Body Labs**, for example, is a New York-based organisation that creates true-to-life 3D body models to support a variety of B2B software applications, including virtually trying on clothes and avatars for gaming. Now acquired by **Amazon** for £38.4m–53.7m (\$50m–70m, €43–60m), the technology is designed to understand individuals’ unique shapes to ensure a personalised experience.

Bringing sizing technology to consumers’ pockets, **MySize** is an Israeli smartphone technology that enables consumers to measure themselves using their phone. Once their size has been determined, it matches consumers with products in their size online.

By creating a life-like digital rendering of a consumer through size measurements and 3D body-scanning, companies can offer not just a more accurate retail experience, but also one that is more personalised and engaging. ‘The most intimate part of clothing is your size – and that’s never really been a part of the equation,’ says Andrew Wyatt, founder of body-mapping app **CALA**. ‘We want to help push that forward using machine learning and big data to make not only the styles you want, but the sizes that people actually wear.’

‘The most intimate part of clothing is your size – and that’s never really been a part of the equation’

Andrew Wyatt, founder, body-mapping app CALA

Digital Gratification

With the tools now available to designers, and consumers more attuned to enjoying digital ephemera, a new breed of fashion designers are creating garments for online enjoyment only.

Not only can designers use digital rendering to create on-demand designs, but the digital realm offers a space where they can push the boundaries of what is possible. A pioneer in the field, **The Fabricant**, describes itself as ‘the world’s first digital fashion house’.

In June 2018, it presented its first ever digital collection at the Fashion Clash Festival in Maastricht, showing seven designs on life-sized screens. ‘We’ve been displaying fashion in the same way for more than 100 years. It’s always on a catwalk or in editorial images,’ Amber Jae Slooten, The Fabricant’s co-founder and creative director, tells LS:N Global. ‘[We] want to set an example that fashion is more than that in the digital age. It’s no longer necessary to sit [in the] front row to fully enjoy a fashion show.’

Similarly, London-based 3D designer Catherine Taylor creates hyper-realistic virtual clothing that, when animated, still has the movement and physical

properties of real fabrics. Elsewhere, designer Sasha Gudkova’s Optic White project renders digital garments, exploring the way garments fold, crumple and change shape when worn.

For Jae Slooten, rendering fashion in the digital realm is as valuable as owning physical pieces. ‘What’s the use of buying designer items if you want to just show them off on Instagram? You could use digitally rendered images and wear crazy pieces, and even add another layer on top using elements that would never be possible in real life,’ she says. ‘You would be able to express yourself more fully in a digital space.’

‘Why buy designer items just to show them off on Instagram? You could use digitally rendered images and even add another layer on top using elements that would never be possible in real life’

Amber Jae Slooten, co-founder, The Fabricant

Foresight

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In the years to come, this more ephemeral approach to fashion will lend itself to greater personalisation and the possibility of removing brand ownership from the equation.

Augmented Outfits

As consumers' buying habits change, it does not mean the end of creativity in fashion. Looking to the far future, it is plausible that consumers will no longer have individual garments, but will be able to access their clothes digitally through the use of augmented layers and holograms.

We can already see hints of this premise through technology like Magic Leap, the augmented reality glasses that enable wearers to see digital objects in the real world. 'We could wear skin-coloured bodysuits, and on top of that a virtual layer of expression,' imagines The Fabricant's Amber Jae Slooten. 'You would need just one of those suits, then if you go to a party and feel overdressed or underdressed, you could just download a new outfit. Clothes are more of an expression these days than functional garments.'

In many ways augmented outfits could become the future version of fast fashion, where consumers bored of their wardrobe could simply download the latest designer wares. As Jae Slooten notes: 'With digital fashion, people could get much more creative.'

'Looking to the far future, it is plausible that consumers will no longer have individual garments, but will be able to access their clothes digitally through the use of augmented layers and holograms'



DEEP by The Fabricant and Amber Jae Slooten



A Really Fake Future by Jason Page and Karen Huang

Digital Collectors

In the past few years fashion has become more amenable to the sharing economy, with the rise of retailers such as **Rent the Runway** and **Higher**. The latter allows consumers to rent from an archive of designer pieces from brands such as **Comme des Garçons** or **Maison Margiela**. In the future, if concepts like **The Fabricant** take hold, clothes-sharing and trading could move into the Cloud.

Imagine a piece of digital clothing that is as rare and expensive as an archival **Balenciaga** piece. With technologies such as the blockchain now being used to allow consumers to invest shares in digital art, this could also work in Immaterial Fashion. Fashion designers would create certified versions of rare digital garments on the blockchain, allowing future consumers to purchase a stake in the digital version, and have their own share of a rare piece, with the ability to transparently track, buy and sell their stake over time. Blockchain-based patronage, such as that offered by digital fine art Cloud dealer **Orion Vault**, signals such a future, allowing luxury consumers to embark on life-long programmes in which they can transparently track their investment and reap a share of any profits.

Profile Production

At present, fashion trends for the next season are dictated by a multitude of factors: the cultural zeitgeist, designers' intuition and retail data analytics, with trends often existing in cycles. But as designers embrace digital tools, creativity could be injected back into design, allowing for more personalised fashion.

In other sectors such as food or beauty, DNA analysis has offered a way to create ultra-bespoke products. In fashion, consumers and brands could generate their own style DNA based on machine learning and analytics.

Tommy Hilfiger was one of the first to explore this notion of objective clothing DNA in a collaboration with machine learning system **IBM Watson** and the **Fashion Institute of Technology** (FIT). By using machine learning to analyse the brand's design history, the algorithm identified the brand's design DNA to create a new collection. 'The machine learning analysis gave us insights about the Tommy Hilfiger colours, silhouettes and prints that we couldn't begin to consume or understand with the human mind,' explains Michael Ferraro, executive director of FIT's Infor Design and Tech Lab.

In future, this technology could be used from a consumer's perspective to create hyper-personalised clothing, with a potential feedback loop between Data Designers and consumers seeking brands that match their style DNA.



Fantom by Ruby Cohen and Alissa Aulbekova

Lab Notes

1. Our approach to consumption is changing

Consumers are looking for ways to enjoy clothing without necessarily buying more. Using machine learning to help them build their wardrobes could be a first step towards a more digital relationship with their clothes.

2. Offer new mediums to enjoy fashion

Our consumption of fashion culture does not solely have to occur through traditional means like shopping and magazines. Digital tools such as gamified fashion and augmented reality layering offer new ways to entice fashion fans.

3. Immaterial Fashion and physical fashion can co-exist

Fashion designers and brands must move away from the assumption that using a model and a lookbook is the only way to sell clothes. Moving pre-production processes online and using digital rendering will make manufacturing more streamlined, and will enable brands to truly make designs based on demand.

4. Ownership will gain a new meaning

At present, consumers still believe that tangible products have more value than digital ones. But as people buy more digital ephemera they will become accustomed to ownership not necessarily being equated with tangibility, and the value of digital will rise. This offers new opportunities to create products that exist to be enjoyed solely in the Cloud.

5. Use digital to expand your creativity

It is important to understand that digitising fashion is not merely about automation or changing manufacturing, but about elevating creativity. With digital technologies, a world of possibilities opens up. Designers may discover a new freedom of expression that comes with creating pieces that have no physical limits, production costs or supply chain issues.



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