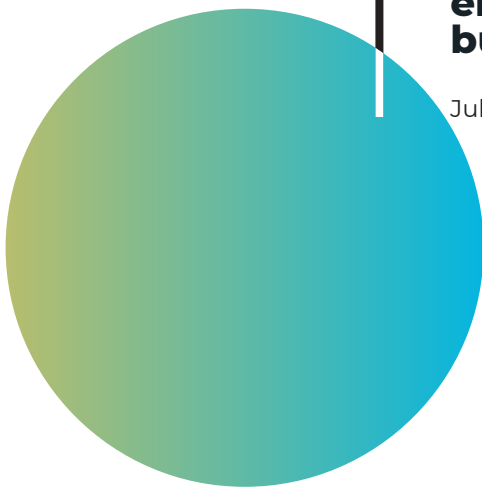


Connected Products: Empowering Fashion's Sustainable Future

**How connected products
will drive socially and
environmentally sustainable
business growth**

July, 2022





About this paper

Newly proposed sustainability legislation, from both the USA and EU, is set to have swift and profound consequences that will dramatically affect the fashion industry from head to toe.

At the heart of these new directives is the call to **provide unique digital identities to each and every product**, effectively 'digitising' products, which will enable them to become connected and integrated into a radically transformed 'digitally empowered circular economy'. **'Connected products' have been determined as integral to helping fashion transition towards circularity**, by improving the traceability data to inform impact reduction; enabling new services and enhanced communication with the consumer, that encourages more responsible consumption and lengthens product life; while reducing waste by ensuring products are recycled back into the system.

As pioneers in the field of connected products, we share a strong belief that they have an increasingly powerful role to play in hel-

ping fashion become more sustainable. Over the past 16 years, **Certilogo has brought 500,000,000 physical fashion and luxury products online for 80 of the industry's most innovative and respected brands**. Our hands-on experience provides us with a deep understanding of the tangible benefits they can bring to businesses, the consumer, and now the environment.

Our goal with this paper is to provide an overview of both **circular fashion and connected products, the two fundamental transformations that businesses must enact**, and set out a vision of how they can work synergistically to drive differentiation and growth through successful consumer engagement, while accelerating the success of sustainability strategies.

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Executive Summary

The pressure for brands to adopt sustainable practices has reached a critical level. Regardless of the ethical motivation, brands must adapt to meet changing consumer expectations, and create trust in their sustainability credentials, or risk falling out of fashion.

The industry is forecast to transition rapidly over the next decade toward a new regenerative circular economy. Businesses need to prepare for impending legislative changes that have the potential to radically change everything we know about creating, producing, selling and experiencing fashion.

Savvy brands are using sustainable strategies to gain competitive advantage, improve organisational efficiency and grow their business. Brands that have adopted sustainability as part of their corporate policy outperform those that are yet to do so, both in terms of accounting and stock market performance¹.

Brands will need to walk the talk or they'll be punished by both the regulators and the market. As consumers grow ever wiser about greenwashing, brands must find genuine sustainability solutions and be able to convey their progress in a trustworthy way to their consumers.

Analogue fashion products' days are numbered. Unconnected products are unaware and have only a minimal capability to communicate. Smart products have an awareness of how they are being used

and can connect to the Internet of Things, which gives them an ability to converse with the consumer and with the brand.

Connected products with Digital Product Passports are the fulcrum of the regenerative circular economy. They bring the consumer, the brand, and the entire value chain together, to empower the transformations required to 'close the loop'; by changing consumer behaviour; providing the traceability to drive the optimisation of circular design processes, reducing consumption and waste with each cycle; and facilitating the recovery and processing of the product so that it is recycled back into the process.

Smart connected products will help brands reduce their social and environmental impact while also unlocking significant value that can be leveraged by the entire organisation; helping to optimise processes; defend against counterfeiting; increase consumer engagement, brand appeal and trust; and empower new business models.

Product digitisation should be one of the first sustainability initiatives brands invest in. Given their critical foundational nature to sustainability strategies, relatively low effort to adopt, and opportunities to deliver return on investment throughout the organisation, 'digitising' products with secure counterfeit-proof identities represents a simple yet significant step, on what will be a long and complex journey towards sustainability.

¹ *Harvard Business School study: "The Impact of Corporate Sustainability on Organizational Processes and Performance"*

Why the time for change is now



Introduction

| Why the time for change is now

The sustainable fashion movement has been active and gaining traction for over half a century, but it is only recently that **the industry as a whole has arrived at a tipping point where genuine sustainability strategies are no longer optional, but have become a must.** Brands that have been slower to transform themselves, will soon be forced into action by new legislation. While those brands which move fastest will capture the hearts and minds of a new generation of conscious consumers, optimise their organisations and gain themselves a competitive advantage.

Sustainable fashion as a concept was first introduced in the 1960s by the hippy movement, who preferred handmade, locally sourced and organically grown products, as a counterculture to mass consumerism. Since then a generation of pioneers has given light to a succession of organisations and initiatives that have paved a path for a more sustainable future; including the *World Fair Trade Organisation* and *Global Reporting Initiative*; tools such as the *Global Organic Textile Standard*, and *Materials Sustainability Index*; and awareness campaigns like *Fashion Revolution Day* and *Detox My Fashion*. Patagonia, Esprit, Stella McCartney and

Edun are brands that set the way and have demonstrated that significant changes can be brought to the market with success.

Yet over that same period, **fashion and textile production has outpaced population growth two times over.** The fashion and textiles industry now accounts for around 4% of greenhouse gas emissions, emitting about the same quantity of greenhouse gases per year as the entire economies of France, Germany, and the United Kingdom combined².

Today the world's nations are unified in a common goal, as set out in the 2015 Paris Agreement, to limit global warming to 1.5 °C compared with pre-industrial levels, by reducing greenhouse gas emissions as rapidly as possible and achieving carbon-neutral economies within mid-century. Despite the fashion and textile industry's collective efforts towards this objective, **successful reductions in emissions are currently only set to compensate for the industry's growth.** It is set on a trajectory that overshoots its target by almost twofold unless it takes more action³.

The first and foremost reason why brands should ditch the extractive paradigm under which they are operating, and embrace

²⁻³ [*Mckinsey Fashion Climate Report*](#)



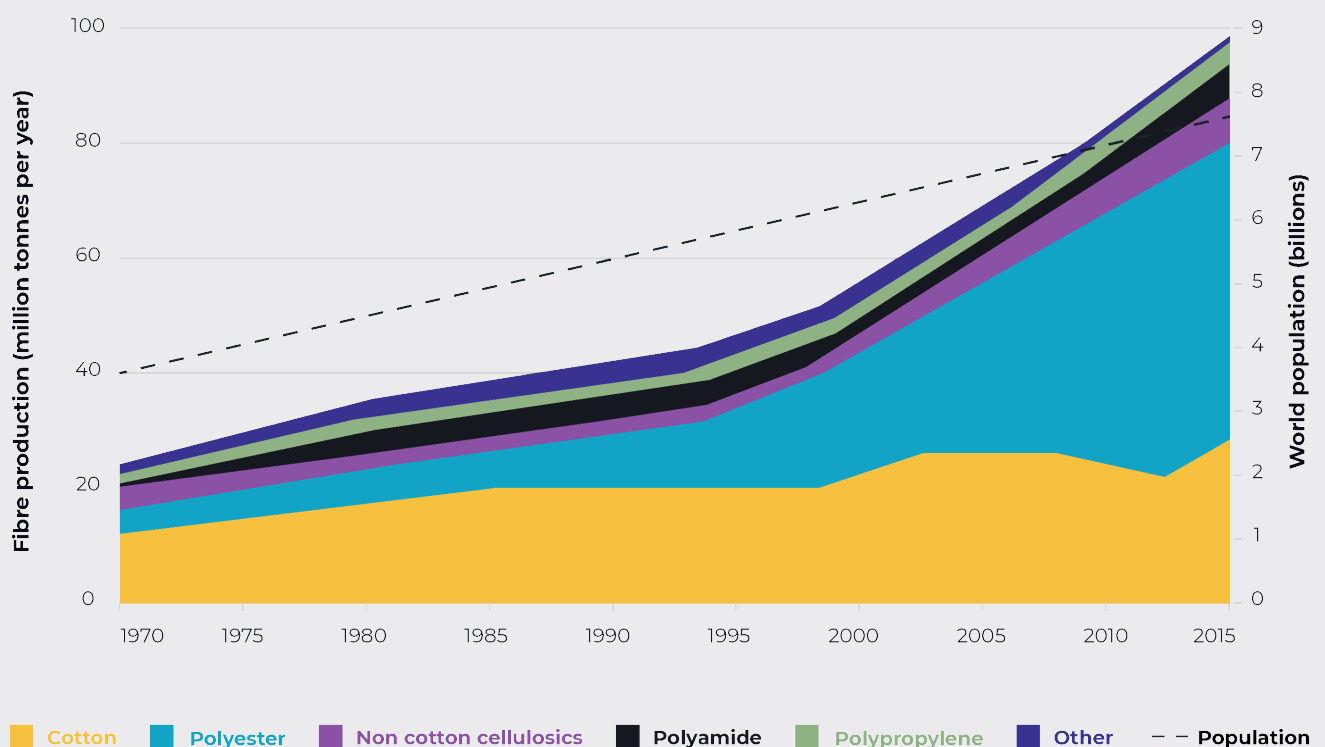
instead a regenerative economic model, is because **it's the right thing to do for the planet, society and their stakeholders**. The mission to build a more ethical industry, and avoid environmental and social disasters caused by climate change has been sufficient motivation in itself for many companies to energise their organisations in pursuing sustainability strategies.

Beyond their positive ethical and environmental repercussions, **sustainable strategies are smart strategies**. Brands can leverage economic incentives by investing in innovation and technology, such as connected products with Digital Product Passports. Companies that embrace the trans-

sformation will unlock value in the form of data-driven insights that will drive organisation-wide optimisation and empower growth from new business models and revenue streams.

Brands will need to walk the talk or else they'll be punished by both the regulators and the market. The need to adapt to shifting consumer behaviour, caused by the digital revolution and exacerbated by the Covid19 pandemic which has fueled increasing demand for sustainable products, and the requirement to comply with impending new legislation, will ultimately force brands to transform, whether they like it or not.

Growth in global population and textile production by fibre type (1970 - 2015)



Source: Preau, Galaad⁴
Copyright © 2020 - 2099 Certiologo - all rights reserved

⁴Preau, Galaad (2020/07/08) Sustainability and Globalization in Fashion: Can the fashion industry become sustainable, while remaining globalized?



Why brands must invest in sustainability strategies

- #1 Ethical responsibility**
It's the right thing to do for the planet, society and their stakeholders
- #2 Shifts in consumer behaviour**
Adapt to new expectations to remain relevant and attract new consumers
- #3 New regulations and legislation**
Gain competitive advantage by preparing for impending directives
- #4 Economic incentives**
Subsidise investment in innovation with funding and tax incentives
- #5 Business optimisation**
Sustainability strategies deliver insights which optimise existing processes
- #6 New business opportunities**
Circular business models can develop into new revenue streams
- #7 Increased investor attention**
Environmental, social and governance criteria are of increasing importance

The rise of the conscious consumer

Mounting pressure caused by seismic shifts in consumer behaviour is accelerating the need for brands to transform in order to meet the new expectations of their ever-more demanding, digital-centric consumers.

The progressive transformation of the food, energy and transportation industries means **we are confronted with choices regarding sustainability on a daily basis.** The greater their frequency and scope, the more closely invested we are in their impact. The ethical and environmental consequences of our consumption are of increasing concern to consumers.

According to a Deloitte consumer survey conducted in 2021⁵, in an effort to adopt

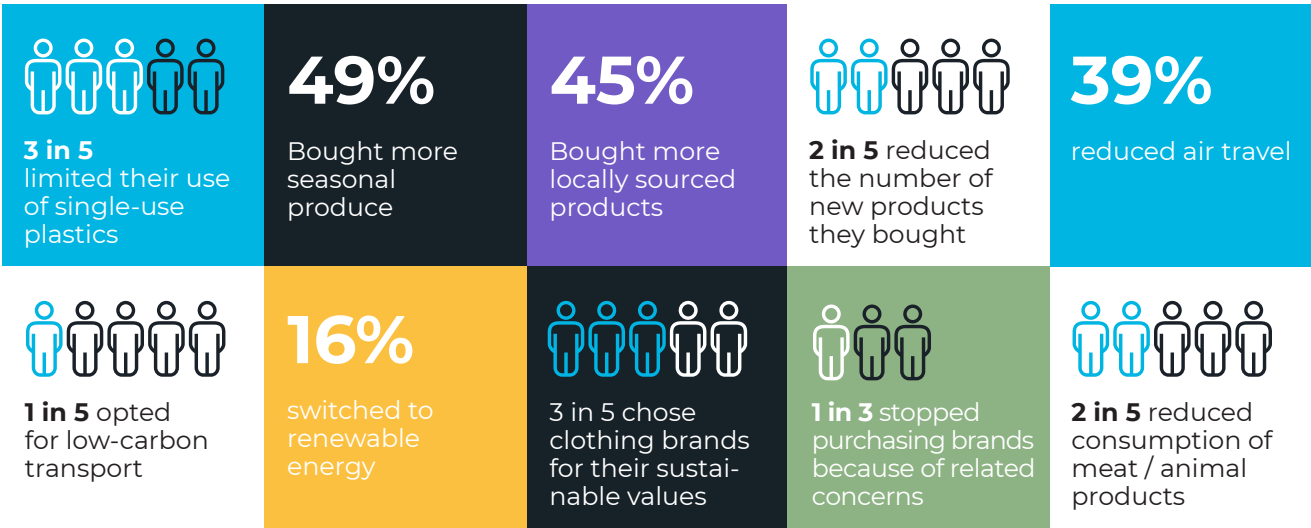
a more sustainable lifestyle, over the past year 61% of people have reduced their use of plastics, a half opted to buy locally sourced and seasonal produce, 40% reduced the number of new products bought and flights taken, and nearly one in five people opted for low-carbon transport or have switched to renewable energy.

A remarkable **58% have chosen clothing brands for their ethical and sustainable values, while 1 in 3 stopped purchasing brands because of related concerns.** Just as consumer shopping behaviour is changing, so people will also expect to work for brands that are responsible. The most innovative and sustainable brands will not only attract more consumers but also the brightest talents.

⁵ Deloitte. *Consumer survey, 2021 "Shifting sands: Are consumers still embracing sustainability?"*

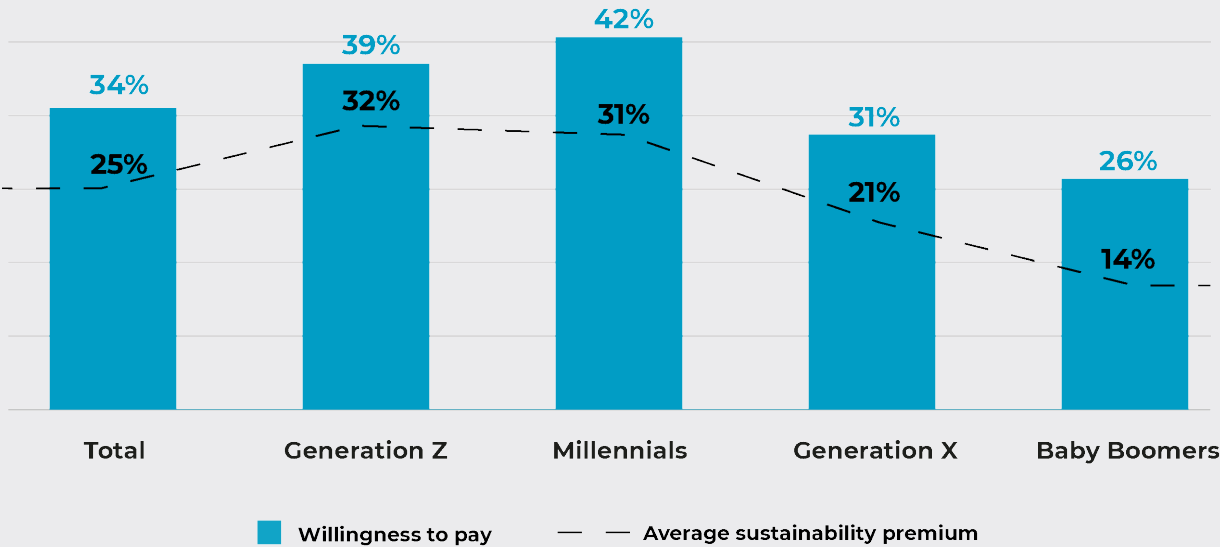


Changes people made to adopt a more sustainable lifestyle



Source: Deloitte/YouGov consumer survey of a nationally representative sample of more than 2,000 UK adults aged 18+ between 5 and 8 March 2021.

Who is willing to pay more for sustainability and how much?



Source: Global Sustainability Study 2021, Simon-Kucher & Partners⁶

⁶ Global The Global Sustainability Study 2021, Simon-Kucher & Partners



Gain competitive advantage

Comply with new directives

Up until now, brands have been able to transform and innovate their sustainability strategies with relative autonomy and at their own speed. Over the next few years, a raft of impending directives and legislation, led by the EU Circular Textiles Directive and NY Fashion Act, will accelerate that process and jolt those lagging behind into action. Companies can move now, and carve out an advantage, by preparing for the impending changes, or they will run the risk of financial penalties and getting left behind in an industry that by 2030 will be unrecognisable from how it operates today.

Harness economic incentives

Those who move now will benefit from a wide range of economic incentives. The EU 'Green Deal' includes a commitment to shifting the tax burden from labour to pollution. The impact of adapting to new directives and investing in sustainability innovation can be offset to some extent by these incentives. Companies that will show responsibility towards the environment are less likely to be targeted for governmental regulation.

Drive optimisation

As brands progress on their sustainability journey, they invariably assess processes that they may have taken for granted. The process of learning more deeply about themselves, their consumer and their supply chain inevitably uncovers insights that lead to 'low-hanging' opportunities to make cost savings and increase efficiencies, before even having to make radical step changes. One McKinsey study⁷ found a significant correlation between a company's resource efficiency and the strength of its financial performance. It also found that reducing resource costs can improve operating profits by up to 60 percent.

Adopt new business models

While many sustainable strategies are focused on reduction, this doesn't have to mean selling less and reducing revenue. Brands have the opportunity to grow by staking their claim to a share of the growing market for sustainable fashion. Sustainability is not just limited to the product itself, but also the way it is sold and used. There are exciting new business models that companies can innovate that can drive business growth while at the same time increasing a company's sustainability. Rentals and reselling models for example could provide new revenue streams for brands by monetising the same product multiple times.

⁷ McKinsey. [Blog post](#) 'How the E in ESG creates business value'.



The true cost of fashion

The textile industry ranks fourth for the consumption of raw materials and water and is responsible for 10% of global greenhouse gas emissions, which is more than the total of all international flights and shipping combined. Global textile production almost doubled between 2000 and 2015, and consumption of clothing and footwear is projected to increase by 63% by 2030.

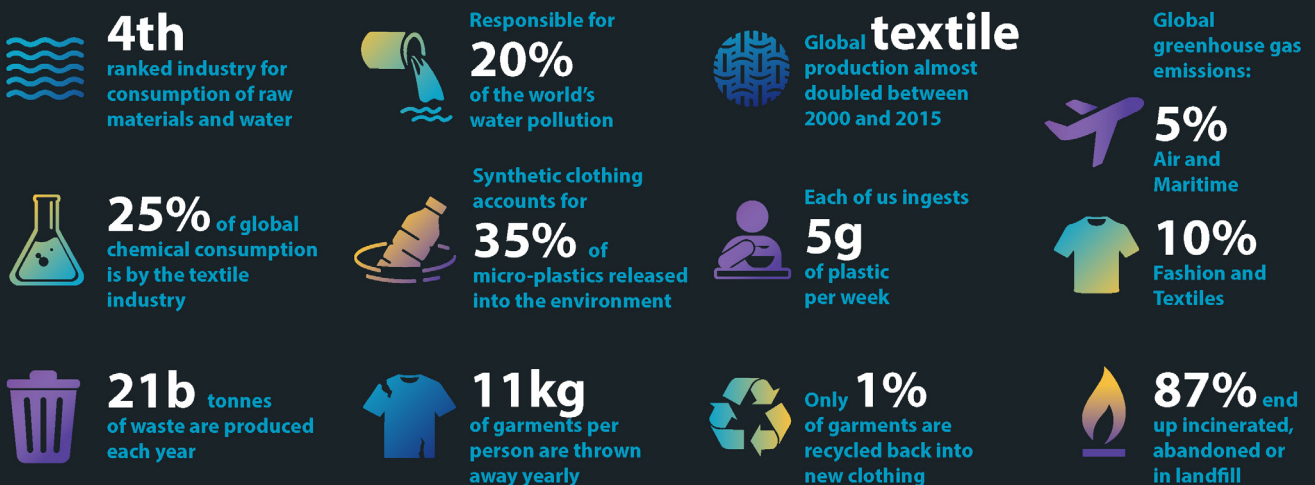
It is responsible for 20% of the world's water pollution. The washing of synthetic clothing accounts for 35% of micro-plastics released into the environment, with half a million tons of plastic micro-fibres dumped into the ocean each year, which is the equivalent of 50 billion plastic bottles. The danger? Micro-fibres cannot be extracted from the water and can spread throughout

the food chain. Each of us ingests an estimated 5 grams of plastic per week.

Furthermore, it is facing a huge problem of waste. Every year, it produces about 100 billion garments. **Citizens throw away 11 kg of textile products every year, but only 1% are recycled**, with 87% ending up in landfills, abandoned or incinerated.

The environmental damage of poisoned rivers, polluted soils, reduced soil fertility, biodiversity loss, and climate change, and the social impact of health risks, slavery and child labour, and the destruction of local economies, set the context as to why textiles are one of the products on which the EU's **New Circular Economy Action Plan** focuses most.

The environmental impact of the fashion and textile industry



Source: UNEP and the Ellen MacArthur Foundation

Rethinking fashion

The future is circular





Rethinking fashion

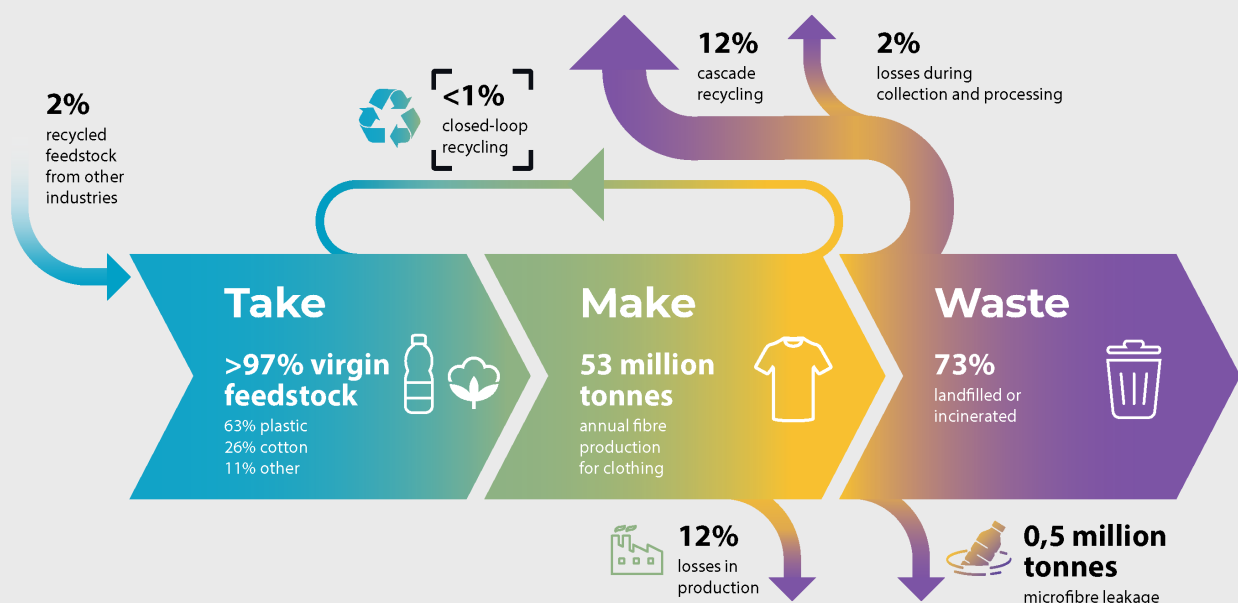
The future is circular

The European Commission adopted the **New Circular Economy Action Plan (CEAP)** in 2020, as part of the European Green Deal, which set the agenda for sustainable growth. The transitioning from a linear economy toward a circular economy aims to **reduce the use of natural resources and build economic resilience without affecting economic growth**. The ultimate goal is climate neutrality by 2050.

| Today: a linear fashion economy

We can imagine today's traditional fashion economy as being a straight line. It is a linear system in three steps: **Take – Make – Waste**.

Companies take raw materials, transform them into finished products, and shoppers, sooner or later, throw them away. **This extractive system not only consumes a lot of resources but also produces a lot of pollution and waste along the way.** It maximises consumption and takes no responsibility for negative externalities. As production is optimised, costs are reduced, and consequently demand increases, which leads to even greater damage. This is clearly not a sustainable approach.

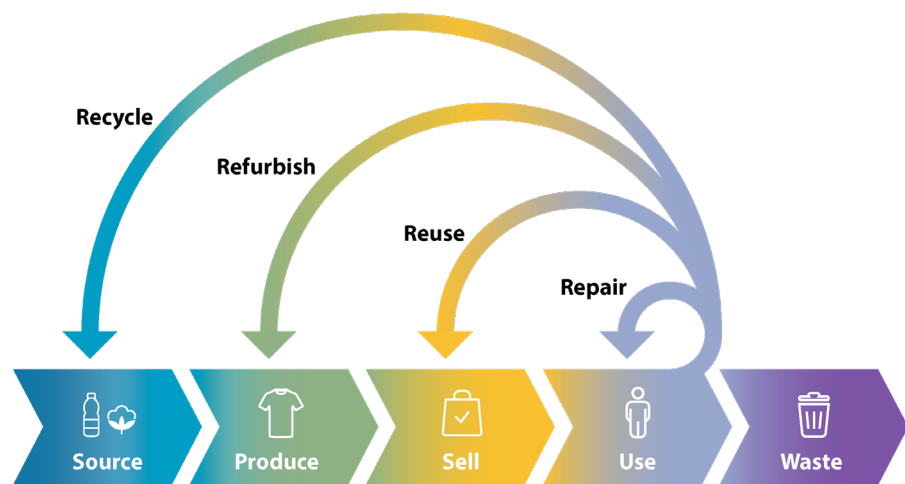


Source: *Ellen MacArthur Foundation, A new textiles economy: Redesigning fashion's future, 2017*



Tomorrow: a circular fashion economy

Instead, the circular economy **uncouples the economic growth from the consumption of finite resources**. It minimises the consumption of products and raw materials, and 'feedback loops' are integrated, so materials and resources are retained and returned back into the process. In a perfect circular economy, no waste leaves the process, and no new materials are required. It employs only responsibly sourced existing materials, produced with respect for people and the environment. **Built to last, and eventually, fully recycled, the products of a regenerative circular fashion system have a positive impact every step of the way.**



The three principles of a circular economy



.01 Designing out waste and pollution

Circular design identifies and designs out of the process, activities that can cause damage to health and natural systems, including the release of greenhouse gases, hazardous substances, and the pollution of air, land, and water.



.02 Keeping products and materials in use

A circular economy aims to keep products, components, and materials circulating in the economy, recovering and restoring products and materials, and encouraging many different uses for them, as they are recycled back into the economy. Biological materials are only used when they can cycle back into the system of nature, through aerobic digestion or composting.



.03 Regenerative natural systems

A circular economy aims to protect the environment and also to improve it, by avoiding the use of non-renewable resources and preserving and enhancing renewable ones it adopts. It does this by returning valuable nutrients to the soil, supporting regeneration, and using renewable energy sources in place of fossil fuels.



The EU Strategy for Sustainable and Circular Textiles

The EU Strategy for Sustainable and Circular Textiles sets out a vision that **by 2030 textile products entering the EU market must be long-lasting, repairable, and recyclable**, made primarily of recycled fibres, free of harmful substances, and produced ethically in respect of social rights and the environment.

If this vision comes true, then **fast fashion will be out-of-fashion**, replaced with high-quality products, delivered via new **circular business models**, and economi-

cally profitable **re-use, rental, and repair services** that extend product life should be widely available.

Producers will have to take **responsibility for their products along the value chain**, reducing overproduction and overconsumption, and adopting innovative fibre-to-fibre recycling, while the **incineration and landfilling of textiles have to be reduced to the minimum**.





Brands should be preparing for these key areas of action

Circular design approach

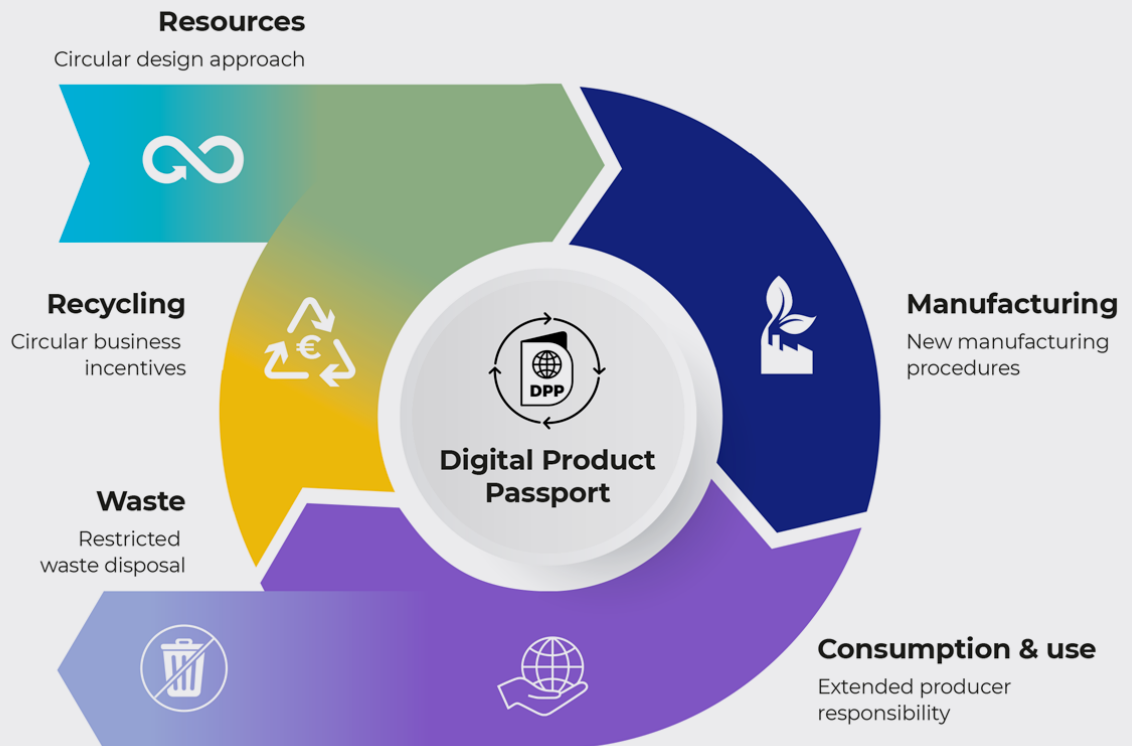
Design requirements to make products last longer, and easier to repair or recycle. Designed for circularity with standards to set a minimum content of recycled fibres, and demanding raw materials are free of hazardous chemicals.

Digital Product Passports

Clearer and more transparent information on textiles will tackle greenwashing, raise awareness about sustainable fashion, and will provide businesses and citizens the opportunity to choose sustainable textile products consciously.

Circular business incentives

Economic incentives will favour circular materials, production processes and business models, transparency, separate collection, and international cooperation.



New manufacturing procedures

New processes such as pre-washing by manufacturing plants will address the unintended release of micro-plastics and other harmful substances.

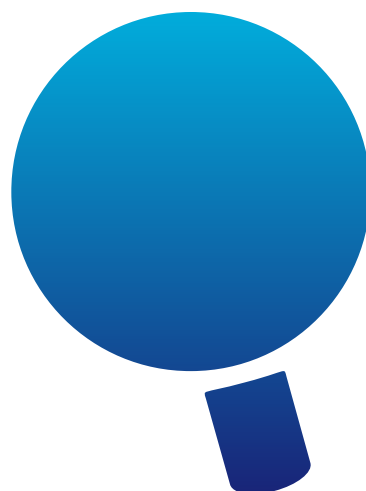
Extended producer Responsibility

Environmental guidelines and levies will hold manufacturers, importers, and retailers responsible for the entire life cycle of their products. Ensuring the traceability of the lifecycle to end-of-life waste processing, and reversing overproduction and overconsumption.

Restricted waste disposal

Bans on the destruction of unsold, returned and used products, while the export of textile waste will be restricted. Adoption of new legislation and technology to help tackle the issue of counterfeit products.

Connected products and **Digital Product Passports**



The Digital Product Passport

Central to the EU strategy, and a key enabler of the directive's actions is the **Digital Product Passport**.

The Digital Product Passport (DPP) is a **digital certificate that contains extensive information about a product and its supply chain and lifecycle**; from the raw materials used; who manufactured it and the production processes that were employed; to how it can be disposed of at the end of its useful life. It is intended to be accessible to everyone along the value chain, to transparently trace and share data that can allow all contributors to further optimise the product's sustainability. The DPP will provide information on the products' social and environmental impact, helping to educate consumers on the consequences of their buying behaviour and helping them to make better informed purchasing decisions.

Each product is provided with its own unique digital identifier which is used to access the contents of its digital product passport, and enable the product to be tracked and traced throughout its lifecycle.

The connected product is the embodiment of the regenerative circular economy and becomes the fulcrum around which the entire economy revolves. It is

the digitised product itself that acts as a connector that brings together all of the actors along the entire value chain, and empowers the transformations required to transition its lifecycle from an extractive and linear paradigm, to one that is regenerative and circular. Its networked nature allows for the lifecycle traceability that informs and continually optimises its sustainability profile with each design iteration. **The product's effective ability to see, listen and speak for itself, gives it an unrivalled capability to inform, educate and converse with the consumer, brand and other stakeholders to maximise the responsible and sustainable use of the product, and ensure it is recycled back into an ever more closed loop, from which to create the next generation of product.**

From 2026, every industrial and electric vehicle battery must come with a digital product passport. Fashion and textiles are already identified as one of the next product categories that will require Digital Product Passports, and **guidelines are expected later in 2022 and legislation introduced by 2024.**



Digital Product Passport

Passport

A traceable history of material origins, supply chain, distribution, ownership and other interactions with the ID.

- ✓ *Materials Origins*
- ✓ *Manufacturer*
- ✓ *Distributor*
- ✓ *Retailer*
- ✓ *Repaired*
- *Resold*
- *Recycled*



Digital ID

A unique ID, stored in a user accessible tag (i.e. QR code, NFC).

- *CLG Code*
- *Serial Number*
- *Barcode*
- *Other 3rd party code*

Product Birth Certificate

A digital twin containing product information, environmental and social impact information, as well as end-of-life regeneration information.

- *Energy & Emissions*
- *Water Consumption*
- *Materials*
- *Chemicals Consumption*
- *Recyclability*
- *Circularity*

Benefits: business & sustainability optimisation

| Traceability

Without traceability, there can be no sustainability. In order to understand and reduce the impact of their products, brands must be able to trace and document the sustainability profile of their own materials and processes, as well as that of every supplier, raw material, and process that has been involved in creating the final product.

Traceability does not stop at the production of the product but includes an understanding of **where, how, and to whom products are being sold**, and what happens to the product at the end of its useful life.

Better supply chain traceability for example, allowed Stella McCartney to better quantify the impact of the raw materials the brand used, and to identify that virgin cashmere accounted for a disproportionate 28% of the company's total environmental impact. By switching to recycled cashmere it now accounts for only 5%. Between 2015 to 2017, focusing on **phasing out high-impact materials for low-impact alternatives, has reduced the company's overall impact by 16% despite it having seen a 20% increase in sales.**

Better traceability data will provide businesses with valuable insights to improve their business performance, enabling the optimisation of product planning and distribution, to deliver increased sell-through, resulting in less unsold stock.

Each year an average of 30% of the fashion produced goes un-sold each year, and 11.3 million tonnes of textiles in the US alone are thrown away or destroyed⁹. The numbers can be dramatically reduced with better data-driven optimisation.

| Trusted transparency

Digital product passports will provide access to exhaustive information about the product's sustainability profile and lifecycle. Connecting the entire ecosystem of actors involved across the product lifecycle and providing them access to this data, will present significant opportunities to innovate, compete and accelerate the sustainability transformation of the supply chain.

Products can be marketed with trustworthy and quantifiable sustainability claims that are easily accessible to the end consumer. Providing information on the impact of their buying behaviours will enable them to make more informed purchasing

⁹ Environmental Protection Agency

decisions, and encourage more responsible consumption.

Digital Product Passports are considered to be an important tool to combat ‘Greenwashing’, the phenomenon whereby brands aim to attain an ‘eco-friendly’ status by making misleading, false or overstated claims. According to research, between 40% to 59% of green claims made by fashion brands are misleading or unsubstantiated¹⁰. Greenwashing is unethical, in that it disadvantages those companies that are progressive and genuinely

trying to make a difference. It attracts well intentioned consumers into actions that will amount to nothing, and leaves them with a false sense of security that change is really happening.

Transparency will hold brands to account and prevent them from making vague claims. **Sustainability labels will only be permitted where brands can demonstrate verifiable commitments** and have subjected themselves to an independent monitoring system.

¹⁰ Synthetics Anonymous - Report: Fashion brands' addiction to fossil fuels, International Consumer Protection Enforcement Network (ICPEN) annual review



The most impactful use cases for Digital Product Passports as identified by respondents to a recent Business of Fashion survey¹¹.



Traceability



**Protection
against
counterfeits**



**Connection
to digital
experiences**



**Trusted
Transparency**



**Circularity
business
models**

¹¹ Source: McKinsey & Business of Fashion: The State of Fashion 2022 Report

Benefits: new circularity business models

Thanks to the improved access to data afforded by Digital Product Passports, **businesses will be able to create new value through circular business models, such as rental and repair-based services.**

It will be easier for consumers to re-sell certified garments, extending a product's useful life, and reduce the costs to brands of collecting and sorting products for recycling and reuse. As business models become more circular, this can also diversify material sourcing options and strengthen supply chain security.

Pre-Sell

Armed with rich consumer profiling data, and digital twins, brands will be able to present and sell a wider range of collection concepts before they have even been produced. The products will be guaranteed to fit, and the brand will only produce items that they have already sold, greatly reducing exposure to risk and wastage. Consumers will be able to interact with fashion as an investment, speculating on limited-edition releases that could increase in value over time, and be auctioned later in reseller marketplaces.

Rental

From ride sharing, co-working spaces, to streaming music and tv, the economy is brimming with business models based on renting rather than buying. Subscriptions to rent rather than buy clothes is one of those ideas, and it is gaining traction.

Brands will be able to offer the experience of wearing their products to entirely new categories of consumers, and enable existing consumers to experience more outfits, without producing more products.

Repair

The products themselves will provide fast and convenient access to care instructions and information on repairing the product, which will help prolong the product's life. Brands will get direct consumer feedback from each product that will help them to continually refine and improve the design to create longer-lasting and better-performing products.

Resell

Simply scanning the product's digital ID could automatically create a listing with a dedicated marketplace, complete with descriptions. Buyers could be automatically notified when a specific product they want has been uploaded for sale. The simplicity and ease with which consumers will be able to find a new owner for their products mean the market for pre-loved garments is expected to grow 11 times faster than the broader retail market and is set to double between 2022 and 2025.

Brands are in an ideal position to be able to bring buyers and sellers together around their brand and monetise the second-hand market for their products.

Benefits: **consumer engagement**

Brands can integrate their products into the omnichannel consumer journey, and create highly engaging experiences throughout the entire lifecycle of the product, by taking advantage of the ability to personalise content right down to the individual product level. Delivering rich storytelling, compelling recommendations, and access

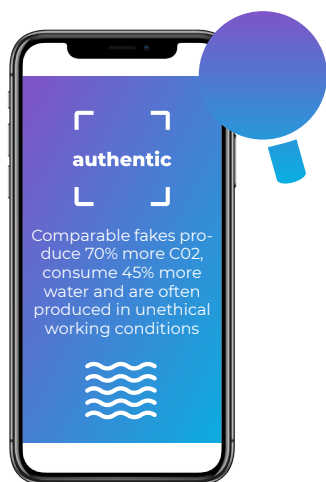
to premium services that differentiate, convert consideration into sales and allow brands to build stronger relationships with their consumers.

Connected products enable brands to engage with their consumers, and understand who, how and where the products are bought and used.



Fewer fakes, greater trust

Consumer certifiable products will reduce the sales of harmful counterfeit products, and increase trust in the product information and brand experience.



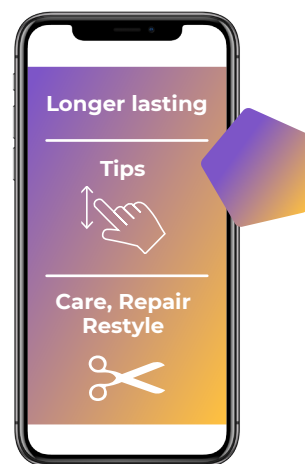
Optimised production & returns

Digital twins will help brands to reduce overproduction by pre-selling products prior to manufacturing them. Virtual try-on tools will increase the chance that purchases fit perfectly and reduce the energy consumption and waste generated by returned products.



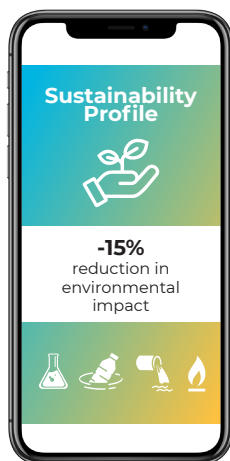
Slow fashion

Brands will focus less on product volumes and more on product quality, providing services such as repair programmes, that are designed to extend product life even further.



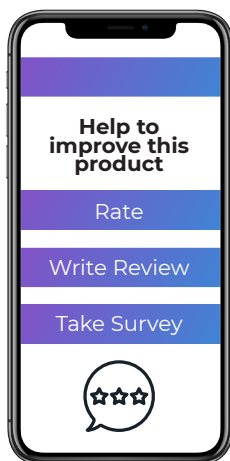
Anti-greenwashing

Authentic products will provide consumers with certified information on the product's environmental impact, to encourage more responsible buying behaviour, and prevent brands from misleading the consumer with false or overstated claims.



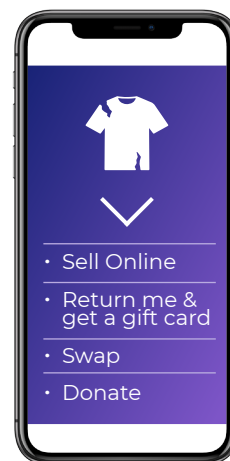
Data-driven insights

Passive data generated from each connection, captured CRM leads, and feedback via surveys and reviews will inform the continual improvement of the product and experience, and reduce the number of unsold products at the end of the season, thanks to optimised planning, distribution and marketing of future products.



Circularity

When consumers no longer have use for the product, they will be able to determine the best option for disposing of it, which could include swapping it, donating it, selling it or returning it to the brand for recycling.



Sustainability strategies depend on product authentication





Sustainability strategies depend on authentication

Advances in technology mean that consumers can now check the authenticity of a product in only a matter of seconds, with nothing more than their own smartphone.

Products tagged with unique digital identities, stored in the form of QR codes or NFC chips, and accessible by the consumer, staff and supply chain partners, have in recent years become the simplest and most effective tool to combat counterfeiting and recover lost sales. In 2021 alone, brands using Certilogo product authentication technology found that up to 1 in 4 sales of their branded products were fakes. Thanks to product authentication they intercepted €36m worth of counterfeit products prior to them being inadvertently purchased and had the opportunity to recover those stolen sales¹².

Once the domain of luxury and fashion brands for brand protection and supply chain monitoring, **authentication now serves far more than solely anti-counterfeiting and anti-diversion. It has become an essential feature that underpins consumer engagement**, trust and conversion throughout the entire lifecycle of the product, no matter the brand positioning or product category. **Authentication is the single most powerful driver of connected product engagement** and an ideal way to initiate engagement. 65% of consumers connect to check the product is genuine¹³, with an increasing expectation to certify a product's sustainability credentials.

¹² Source: Certilogo data. Total number of authentications made prior to purchase, resulting fake x average purchase price of fake products as reported by consumers surveyed post purchase, over period from May 2021 to May 2022.

¹³ Source: Certilogo data, 2022.



5 reasons why authentication is a basic necessity for sustainability strategies

#1 Consumers want genuine products

Guarantees of authenticity are expected for more than just luxury products. Ever more untrusting consumers require reassurance about a product's safety, quality, performance, and alignment with their ethical values and expectations on sustainability.

#2 Build credibility in your message

It is not just the product that must be authentic. Only a certified authentic product can be trusted to provide product information about its origin, composition and manufacturing process.

#3 Increase engagement with your products

Authentication is in fact the single most powerful driver of connected product engagement. It is the most effective way to start the conversation, regardless of a brand's ultimate objective.

#4 Secure new sustainable business models

In circularity business models products must 'return back home' to the brand at some point along their lifecycle. The ability to distinguish authentic products from fakes is key to efficient sorting and processing, and necessary to avoid the cost of delivering services to people that are not customers of authentic products.

#5 Reduce the damage caused by fakes

Counterfeit products not only damage brands, but are also harmful to people and the environment. Brands can make a greater difference if they reduce the impact of their own products, and also that caused by the counterfeiters.



Buying authentic is increasingly more important

Whilst the scarcity of luxury creates value, there are a growing number of reasons why consumers are increasingly attentive to buying authentic goods. Consumers value the quality, performance and safety that only a genuine product offers. But a new generation of consumers is not only buying for aspirational motivations but also to make a difference. They want brands with a purpose, that shares their same values, and can help them to change the world around them.

Fake products may be able to replicate the aesthetic look of a product, but they will fail on an increasing set of consumer expectations compared to their original counterparts. It is no longer solely the economical value, but **also the consumer's and brand's collective investment and commitment to a cause that demands the protection of product authentication**; be it the support to a community, driving social and political

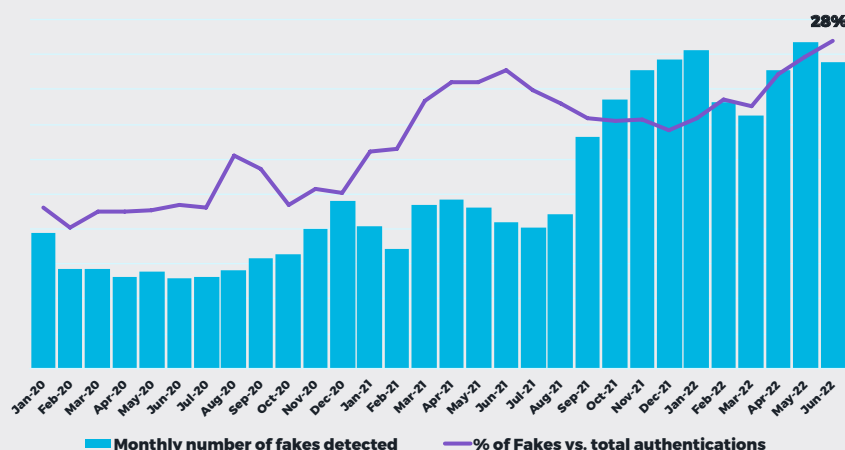
change or ethical and sustainable innovation. For a loyal consumer to knowingly buy a fake, it would be a betrayal of the consumer's own values, beliefs and community.

As innovative sustainable brands become increasingly desirable, they will find themselves in the cross hairs of the counterfeiters, and consumers will want reassurance that their investment in the sustainability of a product will not be in vain.

As consumers turn more frequently to the internet to buy products that they may not find in their local stores, they are exposed to a greater risk of fake products. In 2021, across a sample of 80 fashion brands, up to 9 out of 10 unwittingly purchased fakes were bought online¹⁴. An increased desire for authenticity and awareness of the increasing risk posed by shopping online is driving consumer demand for product authentication.

¹⁴Source: Certilogo data.

Growth of fake products sold



Source: Certilogo Analytics 2022



Add credibility to sustainability claims

Authentication not only certifies the genuine nature of the product but also **confers trustworthiness to the information accessible from the connected product itself**, as well as increasing the credibility of the brand, which is able to demonstrate the substance behind its claims.

Generation Z, which by 2025 will account for 60% of the global luxury market, makes purchasing decisions in a pragmatic and analytical way, actively using social media and the internet to research brands and

products before making purchases. Consumers are becoming more sceptical and are growing ever-wiser about greenwashing. They will not take at face value, bold unsubstantiated claims, but will expect to access familiar certifications and standards directly from the product, to prove that claims about a product's green credentials are genuine.

Only a certified authentic product can be trusted to guarantee the claims it makes.

Secure new circular business models

As brands aim to increase the useful life of their products, by offering extended warranties, rental models and repair services, product authentication will help them to cut out the risk of fraudulent returns and the cost of servicing customer care requests from people that bought fake products. Authenticated products will help brands optimise the sorting and processing of returned items, and limit the risk of introducing unwanted materials from fake products.

Products that can be authenticated will be more appealing, as they will be easier to sell and retain more value when sold as second-hand products. Certified authenticity will increase a buyer's trust and allow the seller to obtain the best possible price.



Counterfeits: damaging to the brand and the environment

Whilst brands have an opportunity to significantly reduce their own environmental and social impact, it is critical that they are proactive in dealing also with the impact caused by counterfeit products. If counterfeiting as a whole was recognised as a business, it would be the largest in the world. The Organisation for Security and Cooperation in Europe (OSCE) found that **up to 10% of the total world trade is from counterfeit goods¹⁵**, with the largest category being fashion. **Up to 25% of popular branded fashion sales are fakes¹⁶**.

Counterfeit products are by definition the epitome of unsustainable as they are illegitimate and should not even exist.

Their damage is devastating to brands, consumers, workers and the environment alike. They cause lost profits, as they steal a brand's consumers. While some consumers consciously buy fakes, 50% do so unknowingly¹⁷. As of 2020, annual sales losses from counterfeiting in the clothing sector amounted to 26.3 billion euros¹⁸. Flooding the market with poor-quality products, lowers brand perception and reputation, to the point that successful brands can fall out of fashion in no time at all.

Stealing creativity, innovation, and now a brand's sustainable credentials, counterfeiting reduces tax revenue and diverges investment from further innovation. It is estimated that 2.5m jobs worldwide have

been lost, with the US losing more than 750,000 jobs alone. Those jobs that are created by the manufacturers of replica products are known to offer very low pay, dangerous and unhealthy conditions and are commonly in violation of child labour and basic human rights.

Unregulated and working to standards and processes far below those that authentic products must adhere to, they cause far greater pollution and result in products that contain potentially harmful substances to the consumer. Much that is produced goes unsold, and goods seized by customs are incinerated causing further air pollution.

Without adopting effective anti-counterfeiting measures, it will be counterproductive for brands to invest in designing and producing better products, only to unwittingly gift counterfeiters with a whole new category of desirable products to copy that cause even worse damage than the brand is trying to negate.

With authentication technology, companies can reduce the occurrence of counterfeit products, and recover lost sales, while forward-thinking brands will gain credibility among their consumers, by taking responsibility for recycling fakes that their consumers encounter.

¹⁵ (Dimet, 2006; Sforza, 2006; Thomas, 2006c)

^{16 - 17} Certilogo data

¹⁸ Statistica: Sales losses from counterfeit goods worldwide in 2020, by retail sector



Authentication increases engagement, trust and conversion in the key moments of truth



Source: Certilogo Analytics 2022

About Us

Leading the Connected Products Revolution

Our mission is to empower brands to integrate their physical products into the digital journey of their ever more demanding and connected end customers. We facilitate services that convey trust, generate engagement, and enable circular shopping.

We've been bringing Fashion & Luxury products online since 2006. Initially, by connecting products with people through authentication, up until today where our SaaS platform offering allows brands to engage their customers throughout a 360° consumer journey.

Products connected to the Certilogo platform with unique identifiers are recognized instantly when consumers interact with the service using a smartphone or digital device. Unleashing the power of the product as a communications channel with limitless opportunities to engage the consumer.

Certilogo's pioneering and cutting edge, AI-powered authentication and connected product platform is the most widely adopted by fashion, apparel, and luxury brands globally, and is used by millions of shoppers worldwide.



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