

## The Evolution of Fashion: Examining the Environmental Challenges and Sustainability Efforts in the Industry

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## Abstract

Over the years, the clothing sector has gradually evolved, transitioning from an initial artisanal production to a more industrialized approach. Recently, the industry has become more accessible and affordable, thanks to the digital revolution and the emergence of the fast fashion phenomenon. Along with these changes, consumer purchasing habits have also shifted: in fact, nowadays, clients are more inclined to frequently renew their wardrobe. Although this transformation is primarily believed to enhance customer utility, it requires a deeper analysis about its environmental impact.

In this regard, the following sections explore the history of clothes, some key negative environmental externalities generated by the fashion system, and the main actions promoted for sustainability throughout the supply chain (with a focus on innovations in raw materials, proper management of the production process, and product traceability).

Moreover, the thesis examines the role of corporate communication in promoting sustainability, briefly outlining how the digital transformation has influenced both the ways fashion brands are promoted and the content itself.

The final chapter presents a case study analysis about three internationally renowned fashion companies, selected from the 2024 Sustainability Leaders. Specifically, this last section explores how they have addressed the challenge of the ecological transition.

## Table of contents

1. THE CLOTHING SECTOR FROM THE 17TH CENTURY	5
1.1 READY-TO-WEAR	6
1.2 FAST FASHION	7
2. ECOLOGICAL TRANSITION IN THE CLOTHING SECTOR	10
2.1 RAW MATERIALS AND ENVIRONMENTAL SUSTAINABILITY	14
2.2 TOOLS, CERTIFICATIONS, AND SUSTAINABILITY CAMPAIGNS	19
2.3 PRODUCT TRACEABILITY AND THE IMPORTANCE OF PACKAGING	24
3. DIGITAL REVOLUTION IN THE CLOTHING INDUSTRY	25
3.1 PROMOTION, PURCHASE, AND COMMUNICATION	
3.2 COMMUNICATING SUSTAINABILITY	
4. SOME KEY PLAYERS IN THE FASHION SECTOR: THEIR ROLE IN	N THE
ECOLOGICAL TRANSITION	
4.1 BRUNELLO CUCINELLI	
4.1.1 Raw Materials and Supply Chain Traceability	
4.1.2 Himalayan Regenerative Fashion Living Lab	
4.2 OVS	
4.2.1 Sustainability Strategy	
4.2.2 Raw Materials	
4.2.3 Transparency	
4.2.4 Sustainable Denim: Blue Infinity	
4.2.5 Fashion Retail Reloaded Project	
4.3 MONCLER	
4.3.1 Sustainability and Environmental Goals	
4.3.2 Raw Materials and Sustainable Innovation	
4.3.3 The Fashion Pact	
4.3.4 Sustainability Ratings	
CONCLUSION	51
BIBLIOGRAPHY	

# Table of figures

Figure 1: The first Italian fashion show at Villa Torrigiani. [14]6
Figure 2: "Management of contemporary fashion industry: characteristics and
challenges". [4]10
Figure 3: 17 SDGs. [1]
Figure 4: Supply chain14
Figure 5: Global fiber production. [18]15
Figure 6: Made-By Environmental Benchmark. [2] 15
Figure 7: Higg MSI. [3]
Figure 8: The first Vogue issue, 1892. [6]
Figure 9: Distribution of artisanal businesses across Italy. [7]
Figure 10: OVS supply chain. [8]
Figure 11: Facebook post about the new Blue Infinity dyeing process. [22] 43
Figure 12: Instagram post about the Denim Collection created by Goldschmied.
[27]
Figure 13: Instagram post about the 2020-2025 Sustainability Strategic Plan.
[19]

## 1. The Clothing Sector from the 17th Century

Since the beginning of civilization, the protective function of clothing was soon replaced by the aristocratic need to differentiate. The city of Paris was the center of fashion from the 17<sup>th</sup> century to the 1950s: during this time, the Court of France has spread into the world the latest fashion news, subsequently reproduced by personal tailors.

From the 17<sup>th</sup>-18<sup>th</sup> century, the diffusion happened thanks to the so-called "poupées de France", i.e. dolls made of wax, wood or cloth and, later, of papier-mâché.

In the 19<sup>th</sup> century there was a cluster of innovations for the fashion system, like the invention of the sewing machine, the birth of fashion sketches which replaced the dolls (poupées de France), and subsequently the adoption of fashion magazines.

In the second half of the 19<sup>th</sup> century, an important event was the introduction of the fashion shows, by the Parisian couturier Charles Frederick Worth, i.e. presentations of clothes and accessories, to customers and the press, on living models: "He was the first to decide to show the pieces in advance of the season, to affix labels with his brand inside the dress, to use models to present his creation, and to regularly propose new styles by constantly changing fabrics, trimmings, and models". [15]

Worth is considered the founding father of the haute couture as he revolutionized the purely executive work of the tailor, by creating for the first time new models in complete expressive autonomy.

The introduction of fashion shows has let Italy to emerge as a competitive power to France. In fact, in 1951 Giovanni Battista Giorgini decided to organize a collective fashion show in Florence, in order to show to journalists and buyers the best pieces from the most known Italian fashion houses.



Figure 1: The first Italian fashion show at Villa Torrigiani. [14]

Furthermore, between the end of the 1950s and the beginning of the 1960s, thanks to the Italian-French designer Pierre Cardin, the process of "democratization" of fashion began, along with the birth of Prêt-à-porter (French expression which means "ready to wear").

## 1.1 Ready-to-wear

Starting from the 1970s, some Italian stylists (including Walter Albini) and many visionary textile entrepreneurs made ready-to-wear a new business model, in contrast with the French haute couture, and Milan became its capital on international basis.

The French term "Prêt-à-porter" was chosen to highlight the innovative aspect of mass industrial textile production, i.e. the making of clothes in standard sizes, ready to be worn, as opposed to the artisanal tailoring. This industrialization has implied a complete re-engineering of the fashion system product: in this case, two collections of clothes are proposed every year, linked to seasonality, with a lead time of 10-11 months.

Nowadays, the majority of fashion houses produces mainly ready-to-wear products, leaving haute couture with the only role of 'showcase" of technical and creative abilities.

Along with the industrialization of the clothing sector, some companies started to produce abroad in order to minimize the production costs, for example in the east part of Europe or in Third World countries, building in this way the foundations for the next big phenomenon in the history of fashion, i.e. the emergence of the "fast fashion" production.

#### **1.2 Fast fashion**

The expression "fast fashion" was adopted for the first time in 1989, in a New York Times article about the Spanish clothing brand Zara. In particular, the term "fast" was used to define the production system of the Spanish brand: at the time it was able to plan the idea of a fashion item and produce it, ready for sale in stores, in just fifteen days. That explains why nowadays clothing companies that produce and sell cheap and fashionable garments, inspired by media and fashion shows of great designers, are called fast fashion brands. The most significant difference between a fast brand and a traditional one (ready-to-wear) is that the collections of clothes of the former can be 10/12 per year, while for the latter they are normally 2 and linked to seasonality. In order to guarantee a constantly updated offer, the production takes place quickly with production rates that are sustainable only where the costs of labor are low.

The main characteristics of the fast fashion market are high volatility and low predictability: the market demand is highly unstable and difficult to predict, as it is influenced by external factors, trends, and more. Therefore, to respond promptly, the Just-In-Time (JIT) concept becomes important: according to this industrial philosophy, the production must be pulled by the actual demand (i.e. the so-called "pull" type production system; the opposite system is defined "push", which requires that production is based on a forecast of demand) and the requested product must be produced, in the exact quantity, complying with the demanded time and the conditions agreed upon by the customer.

Today, there are many fast fashion brands and Zara is among the main profitable ones: it is a brand of the Inditex Group, founded in 1975 and based in Arteixo in Galicia. Zara has immediately captured the importance of speed and vertical integration of all the steps of the supply chain that allow to design, produce and deliver a finished garment. Having a short lead time, the company has the opportunity to produce small batches and ship them frequently to stores, in order to minimize inventories and monitor which design has been most successful or not. Zara fast fashion production model is unique in the clothing sector: it is mainly based on a lean inventory and a high percentage of its own production, which allows to respond quickly to the market demands.

Finally, it is worth mentioning Shein, a Chinese fast fashion company, founded in 2008 in Nanjing. It is a relevant example as in just ten years it has become the largest fashion retailer in the world. Initially, the company purchased women's clothing items from the wholesale market, without having any role in the design or production process. From 2014, it started to develop its own supply chain system, in order to become a fully integrated retailer; it built also a team of designers and stylists to produce Shein branded garments. The company's strengths are the variety of the offer and the low selling prices, it is in fact possible to purchase any kind of clothing similar to those created by the most famous designers. The company strategy is based on the rapid production of small batches, in order to rate the interest of the target market, and on an effective marketing communication through one of the main social networks, i.e. TikTok. This is combined with the use of an algorithm, designed to collect data from the Web and subsequently lead the production process.

## 2. Ecological Transition in the Clothing Sector

As previously introduced, over the years the clothing sector has been progressively industrialized, abandoning its originally artisanal nature. Today, the fashion industry represents a globally significant business; in fact, according to an analysis conducted by Statista, it is expected that by 2024 the apparel market will exceed 1.7 trillion dollars with consumption volumes nearly reaching 200 billion pieces [9]. It is a highly competitive sector characterized by large international groups that own globally recognized brands; the Kering, LVMH, H&M, and Inditex groups, among others, dominate this market.

Key characteristics of the modern clothing industry include:

- Short product life cycles
- Fragmented supply chains with the possibility of outsourcing to developing countries
- High dynamism characterizing the target market



Figure 2: "Management of contemporary fashion industry: characteristics and challenges". [4]

The cause of high consumption and turnover of goods can be found in both demand and supply sides of the market: fashion has progressively become more accessible, recently culminating in the phenomenon of fast fashion. With the emergence of "fast fashion", there has been a radical change in consumer purchasing habits, in fact now clients are more inclined to renew their wardrobe frequently due to the affordability of garments and the greater annual supply of collections (2 or more).

This transformation is thought only to increase utility for consumers themselves, that is why it is necessary to analyze the environmental impact of this system. Some key negative externalities caused by the modern fashion industry can be identified as pollution, intensive consumption of natural resources, and high waste accumulation (caused by the short lifecycle of garments). In fact, the textile-clothing sector is one of the most polluting globally: according to the 2024 report The State of Fashion, the fashion industry is currently responsible for a percentage of global greenhouse gas emissions ranging from 3% to 8% [31]; in addition, the industrial production of garments involves an enormous consumption of water, between 6 and 9 billion liters per year, especially for the dyeing, printing, and finishing phases (considered among the most polluting of the entire production cycle).

It is in this context that a new consumer profile has emerged, one that is more aware of his purchasing choices and interested in the environmental and social implications of the textile-clothing sector. Driven by market forces and global institutions, the concept of sustainability has gained significant importance in recent years. This term defines the process of transformation-evolution aimed at meeting the present and future needs of humanity, while respecting the three macro-areas of environment, economy and society. Current business strategies of this sector place a strong emphasis on sustainability, making it central to all operations, as it is considered a crucial source of competitive advantage for businesses (Porter, Kramer 2006). Many publicly traded companies now issue, in addition to the traditional financial statements, a social report that details all the actions undertaken by the company in terms of environmental and social sustainability.

As mentioned earlier, global institutions and organizations are actively working to eliminate the numerous negative externalities generated by current industrial production. A key example of this effort is the 2030 Agenda for Sustainable Development, a program signed on September 25, 2015, by United Nations member states and approved by the UN. It includes the so-called 17 Sustainable Development Goals (which are shown in the figure below). The 17 SDGs aim to end poverty, fight inequality, address climate change, and build peaceful societies that respect human rights; they have global applicability for both private enterprises and the public sector.



Figure 3: 17 SDGs. [1]

For the European context, the European Green Deal is relevant as it seeks to reduce climate change and promote sustainable growth. One of its components

is the Circular Economy Action Plan (CEAP), which includes measures aimed at developing circularity and driving global efforts related to the circular economy. Specifically, numerous global campaigns have been promoted to encourage textile-clothing companies to adopt increasingly sustainable production practices, along the entire supply chain (from raw materials to the delivery of the finished product). Among the most significant are the "2020 Circular Fashion System Commitment", founded by the Global Fashion Agenda, and the "Sustainable Clothing Action Plan", introduced by the Waste and Resources Action Programme (WRAP). The first campaign encourages a more sustainable production and distribution, through the adoption of recycling strategies and the collection of used garments to be reintroduced into the system, after reprocessing and transformation.

Currently, many of the largest companies in the sector, including ASOS, Nike, Inditex, Kering and H&M have joined this campaign. The second initiative arises from the voluntary collaboration of numerous textile-clothing companies with the goal of achieving specific sustainability objectives, such as reducing CO2 emissions, water usage, and waste generation by 15%.

The following sections will analyze the main actions promoted for sustainability throughout the supply chain, with a focus on innovations in raw materials, proper management of the production process, and product traceability.

However, it is first necessary to briefly introduce the concept of the textileclothing supply chain: the figure below depicts the phases that produce semifinished goods (specific to the fiber and textile sectors) and ones that deal with product development (clothing sector) and distribution. The representation is linear because, traditionally, what is produced is not classified as renewable and is consequently intended for single use.



Figure 4: Supply chain

Specifically, when analyzing the fiber sector, it is possible to distinguish fibers into natural and chemical categories: the former can be divided into animal fibers, such as wool and silk, and plant fibers, such as cotton and linen; the latter are man-made fibers, further divided into synthetic (derived from non-renewable sources) and artificial (obtained by transforming natural raw materials). Additionally, fibers can also be derived from the recycling of end-of-life products or production scraps. This sector is highly capital-intensive.

The textile sector is characterized by the transformation of fibers into yarns and fabrics: textile transformation cycles are specific to each type of fibers and share only the spinning, weaving and finishing stages.

Finally, the clothing sector is associated with the product development process, which is an iterative process characterized by numerous interactions among actors. Unlike the fiber sector, it is highly labor-intensive rather than capital-intensive, which is why it can be outsourced to countries where unskilled labor is less expensive.

## 2.1 Raw Materials and Environmental Sustainability

According to the Materials Market Report published by the non-profit organization Textile Exchange, global fiber production has nearly doubled in the past 20 years, and it is expected to grow to 147 million tons by 2030. [18] Currently, the market remains dominated by the production of synthetic fibers, which are one of the main causes of environmental pollution in the fashion industry; it is estimated that this production will continue to increase in the coming years.



#### Global fiber production (million tonnes)<sup>1</sup>

Source: Textile Exchange based on data from CIRFS, FAO, ICAC, IVC, IWTO, Maia Research, and its own modelling

The Dutch non-profit organization, Made-by, has developed an environmental benchmark for fibers based on the measurement of a series of parameters such as greenhouse gas emissions, use of energy-water-land, toxicity and ecotoxicity.



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Figure 6: Made-By Environmental Benchmark. [2]

Figure 5: Global fiber production. [18]

The figure above shows clearly that recycling and organic production currently offer the best environmental performance (Class A/Class B): recycled fibers include Polyester, Cotton, Nylon, and Wool; while organically cultivated fibers include Cotton, Hemp, and Linen. Other key fibers are those derived from nettle and jute plants: several fashion brands have used them in their collections, including the haute couture house Dolce&Gabbana, which created jute garments for the Spring-Summer 2013 collection. Both plant fibers do not require the use of insecticides/herbicides/pesticides for cultivation and do not need large amounts of water. Specifically, jute fabrics are considered the most eco-friendly on the market, as the fiber has specific properties that make it 100% biodegradable and recyclable.

Moreover, the figure shows that natural fibers are not necessarily a more ecological choice (Class E): for example, cotton production uses about 2.5% of the world's arable land and requires enormous amounts of water, herbicides, pesticides, and fertilizers for its cultivation [18]. The listed chemical treatments cause contamination of the air, water, and soil, and some residues remain in the fiber. Furthermore, cotton requires more energy to be processed than synthetic fibers.

Wool also presents numerous environmental challenges: its processing requires large quantities of water for washing and impurity removal; the spinning, weaving, and finishing stages involve high energy consumption; and finally, the use of chemicals and dyes is significant.

Recycled fibers undoubtedly represent one of the possible solutions to reduce environmental impacts. Significant investments have been made by industry players to contribute to the continuous evolution of textile waste collection systems and mechanical and chemical recycling technologies. Specifically, the market share of recycled polyester is expected to increase in the coming years: recycled polyester mainly comes from PET plastic bottles, but it can also be produced using other post-consumer plastics, such as ocean waste or polyester fabrics and garments; furthermore, it can be derived from pre-consumer production residues, such as industrial fabric scraps. Currently, polyester is mainly recycled mechanically.

The sustainable cotton market, with its organic production that consumes less water, is considered one of the most advanced sustainable fiber markets. However, unfortunately, organic cotton cultivation currently represents just 1% of global cotton production. [21]

In relation to organic production, there is a standard that defines whether a product can be certified as organic, known as the Global Organic Textile Standard (GOTS).

To obtain the certification, environmental and social criteria must be met: specifically, the ecological criteria prohibit the use of toxic heavy metals, formaldehyde, aromatic solvents, chlorine-based bleaches, azo dyes, GMOs, and other enzymes. Additionally, organizations must comply with applicable national and local regulations concerning water supply, wastewater and water discharges, energy recovery, atmospheric pollutant emissions, waste production and management, soil and groundwater contamination, hazardous substance management, noise emissions, and emergency management. Furthermore, all relevant national laws concerning workers' rights must be respected, such as: prohibition of forced or compulsory labor, workplace health and safety, child labor, wages, working hours, discrimination, regularity of employment, disciplinary practices, freedom of association, and the right to collective bargaining. Finally, the certification extends the obligation to comply with these criteria to all levels of production, from the harvesting of natural fibers to the subsequent manufacturing stages, including the labeling of the finished product. To prevent contamination of GOTS-certified products, all stages of the supply chain must be managed to ensure that organic and conventional natural fibers are not mixed. The sector's innovation also involves replacing leather as a raw material with

other ecological alternatives, given the significant impact generated by livestock farming, which accounts for approximately 14.5% of global greenhouse gas emissions [5]. Among the main alternatives developed there are:

- Mylo: a "non-leather" made from mycelium, the root structure of fungi. Numerous brands have adopted it for their collections, including Stella McCartney, Adidas, Kering, and Lululemon.
- Reishi: a material produced by the biotechnology company MycoWorks; it is also composed by mycelium but without using synthetic materials. In 2021, some products were created in collaboration with Hermès.
- Mirum: a plastic-free alternative created by Natural Fiber Welding, made using plants and minerals; the American company claims that the material can be infinitely recycled, and it is therefore completely circular.
- Pinatex: one of the first eco-friendly leather substitutes developed, made from pineapple waste. This "vegan leather" also contains bio-based plastic (PLA), and it is finished with a PU (polyurethane) coating for added durability. H&M and Hugo Boss are two of the many brands that have adopted this solution for their collections.
- Vegea: a plant-based leather derived from grape waste of the wine industry; this material has been chosen by many brands such as Ganni, Pangaia, and Calvin Klein for their products.
- VitroLabs: a lab-grown solution containing animal cells, developed by VitroLabs. Kering is among the main investors in the start-up.

Further attempts to innovate the textile sector, in search of new ecological and animal-friendly solutions, include:

- Circulose: a material produced by the Swedish company Renewcell using only discarded clothing. By using renewable energy, the cotton in the garments is extracted and reprocessed to obtain the final fabric. H&M and Levi's have both produced items using Circulose.
- NuCycl: a fabric made 100% from recycled clothing, produced by the American company Evrnu. The Infinite Hoodie, produced by the Stella McCartney brand in collaboration with Adidas, is an example of how this solution is adopted.
- Kintra: an innovative alternative to synthetic materials, made from sugars derived from corn and wheat.

Obviously, these are just some of the numerous solutions developed and under analysis; indeed, in the last decade, many artificial fibers have emerged, derived from citrus fruits, milk, apple production waste, coconut waste, cactus, eucalyptus, and beechwood.

## 2.2 Tools, Certifications, and Sustainability Campaigns

Unfortunately, nowadays there is a lack of harmonized global standards to adhere to in order to evaluate the sustainability of one's supply chain. It is in this context that numerous third-party certifications and global initiatives have been introduced, aimed at fostering collaboration among companies in the sector. The previously discussed GOTS standard is a significant example in this regard.

Another certification worth mentioning is the OEKO-TEX® Standard 100: in 1992, the International Association for Research and Testing in the Field of Textile Ecology introduced the independent OEKO-TEX® testing and certification system for textile products. Companies that want to certify themselves as environmentally friendly, both in processes and in facilities, must undergo a series of tests, and if passed, the Association allows them to affix a label related to the certification obtained, to inform customers about the company's sustainability efforts. Specifically, the certifying body conducts checks to ensure that no toxic chemicals from a list of over 1,000 banned substances are used.

As for sustainability KPIs, the following indices are significant:

#### 1.HIGG:

A suite of tools for standardized measurement of the sustainability of the value chain; it was introduced in 2012 by the non-profit organization, the Sustainable Apparel Coalition (which changed its name to Cascale in 2024). These tools can be adopted by all players in the textile-apparel supply chain: specifically, each must complete a questionnaire containing over 250 questions on various aspects, such as working conditions, emissions, water and energy resource use, etc.

The suite consists of three categories of tools: brand, product, and facility.

The first subgroup includes the Higg Brand and Retail Module: it allows the measure of the environmental and social impact of processes throughout the product's entire life cycle.

The second category includes:

- The Higg Material Sustainability Index (MSI): it measures the sustainability of the raw materials used. Specifically, to each material is assigned a score based on five aspects: global warming, water pollution, water scarcity, resource depletion, and chemical release (see figure below).
- The Higg Design and Development Module

• The Higg Product Module: it analyzes the impact generated by a product throughout its entire life cycle.

Finally, the facility tools include the Higg Facility Environmental Module and the Higg Facility Social and Labor Module: the first measures the environmental impact of industries using specific evaluation criteria, such as environmental management systems, energy use, CO2 emissions, water use, waste management and consumption, and chemical use; the second, on the other hand, analyzes the social aspects of companies, including hiring, salary, working hours, benefits, employee treatment, health, safety, etc.

Higg MSI Material Sustainability Index	MSI Home Materials Learn	1 More	Login Register		
Higg Product Tools > Higg MSL > Compare Materials Compare Materials					
Components	Impacts per material component, divided by production stages				
Impacts	Polypropylene (PP) fabric	Elastane/Spandex fabric	Cotton fabric		
Production Stages	6.0	96	a 112		
	22		243 <b>1</b> 43		
	0.6	🤹 u	45.1		
	93	110	93		
	0.0	0.0	0.0		
			() Help		

Figure 7: Higg MSI. [3]

## 2. MADE BY Environmental Index:

Benchmarking analyzed in the previous subsection about textile fibers.

Other key sustainability KPIs, in general for the industrial sector, include:

## **3. Product Carbon Footprint:**

A measure expressed in CO2 equivalent (in accordance with the Kyoto Protocol)

representing the total greenhouse gas emissions associated, directly or indirectly, with a product. The measurement considers the entire life cycle of the product, from cradle to grave. The specifications regarding the methodology for quantification, reporting, and communication are contained within the ISO 14067, which was published in 2018.

## 4. Product Water Footprint

A volumetric measure of water consumption and pollution.

## 5. LCA (Life Cycle Assessment) Method:

A procedure for identifying and quantifying material-energy consumption and negative impacts generated throughout the entire product life cycle. This tool is standardized through the UNI EN ISO 14040-44:2006 standards.

Finally, institutions at the European, national, and local levels act through directives and regulations, and provide incentives and funding; among the legislative efforts of the institutions there are:

- Extended Producer Responsibility: it imposes on producers the responsibility not only for the production and marketing phases but also for the management of garments disposal at the end of their useful life.
- The Waste Framework Directive: it establishes that Member States must implement separate collection for textile waste by January 1, 2025; it also promotes the repair and reuse of textile products.
- Legislative Decree No. 116 of 2020: issued by the President of the Italian Republic; it defines the national obligation for separate collection of textile waste by January 1, 2022.
- Regulation on Zero-Deforestation Supply Chains (currently only for bovine-derived products, and therefore leather): it requires companies to exercise greater control over their supply chains.
- Corporate Sustainability Reporting Directive (CSRD): this regulation consolidates corporate sustainability reporting obligations; in fact, starting

from January 1, 2026 (with reference to the 2025 fiscal year), it will be applied to non-listed companies, with more than 250 employees and revenues exceeding 40 million euros, and from 2027 (2026 fiscal year) also to listed SMEs. Companies subject to this directive will have to report according to the European Sustainability Reporting Standards (ESRS), which were adopted by the European Commission in 2023.

- Green Claims: they aim to reduce greenwashing practices (with reference to communication) by replacing the labels "green" and "sustainable" with reliable or measurable information. In this regard, the current EU labels and schemes include Ecolabel and EMAS: the former is a voluntary label that declares the environmental excellence of the product, while the latter is an EU eco-management and audit system aimed at improving companies' environmental performance.
- Corporate Sustainability Due Diligence Directive (CSDDD): this EU measure requires large companies (with over 1,000 employees and revenues exceeding 450 million euros) to monitor their supply chains in order to prevent practices that harm the environment, workers, and local communities.
- Ecodesign Regulation (ESPR): by December 31, 2030, it will require companies to design their products to be circular and durable, and to equip them with a digital passport that tracks their production steps and provides consumers with key information to maintain or repair the product.

All these initiatives aim to reduce the environmental footprint of the industrial production in the EU and to contribute to the overall political goal of European climate neutrality by 2050.

### 2.3 Product Traceability and the Importance of Packaging

Through the analysis of the Re-fiber report published by PwC, it emerges that consumers are not only demanding sustainable products but also traceable ones: in fact, 66% of respondents expect to obtain information about the materials that make up the product, and moreover, 63% would like to know the origin of the raw materials and the countries of production. [28]

The traceability issue gained relevance mainly after the Rana Plaza disaster in 2013, when a textile factory collapsed in Bangladesh. Following this event, Fashion Revolution, i.e. the world's largest fashion activism movement, was founded, introducing the so-called Transparency Index. This analysis allows to evaluate the transparency of fashion companies, and the type of sustainability policies adopted, by analyzing the information published by the brands regarding the environmental and social impact of the entire supply chain. Unfortunately, the report published for the year 2023 shows that 45% of the analyzed companies still do not provide any traceability information. [13]

Since sustainability goals are applied to the entire supply chain, other aspects not to be underestimated include the packaging for delivering the product to the final customer and its related environmental impact. Analyzing the Re-fiber report published by Pwc, it appears that for 75% of European consumers, the purchase decision is also influenced by packaging, and in 66% of cases, the type of packaging adopted leads to the purchase of substitute goods that have more sustainable and environmentally friendly packaging. [28]

A lot of companies, especially the more flexible ones, have embraced this need by renewing themselves and offering recycled polybags and/or packaging made from recyclable materials.

#### 3. Digital Revolution in the Clothing Industry

The fashion industry has undergone radical transformations due to the introduction of new technologies: starting from the 1980s, digitalization has influenced both the ways fashion brands are promoted and the content itself; in other words, the values that define the product/company and the way fashion is communicated have been completely revolutionized, leading to a wider customer base. By the late 1990s, the adoption of a new communication channel, such as Internet, became widespread, resulting in the birth of the first corporate websites. This diffusion has impacted significantly on businesses, but it has also generated relevant changes to society: from lifestyle to the habits and customs of customers, to global demand.

Analyzing the Digital Global Report 2024, it appears that over 5 billion people have access to the Internet today, in particular the use of social media appears to be growing, as users spend an average of 2 hours and 20 minutes on these platforms. It is obvious that the digital transformation has radically influenced consumers' behavior: in fact, they now spend more time online and have access to a greater amount of information, becoming more aware of their purchasing decisions. As a result, in order to succeed, companies should place greater emphasis on the entire customer experience, not just on the product. [11]

With the advent of new media, a stronger relation between brands and consumers has been built, with figures like bloggers and influencers assuming an increasingly central role. In other words, the digital transformation has led to the emergence of new strategies for fashion communication, with content creators playing a fundamental role in this change. Last but not least, the Covid-19 pandemic has also accelerated the digitalization of communication due to the total lockdown and subsequent regulations requiring social distancing. In the clothing sector, communication plays a crucial role in the creation of brand awareness. Indeed, an important concept is the brand itself: it is a distinctive value of a company, an intangible sign that allows to compete with other players. The strength of a powerful brand is such that it can transform products into desirable objects and guide consumers in their purchasing choices, building relationships that last and influencing perceptions of style and trends.

Following this, the most important tools within the corporate communication mix will be addressed, with particular attention to the innovations and changes resulting from digitalization.

#### 3.1 Promotion, Purchase, and Communication

It is important to emphasize that in the clothing sector, the companies which are involved wish to convey the brand values in order to consolidate their status and encourage an increase in sales. Therefore, the choice of the right mix of communication channels depends on various factors, such as the message the brand wants to convey, the target segment, the budget, and the business objectives.

#### 1. From Print to Digital Marketing

Print represents the most traditional method for carrying out advertising activities: the adoption of fashion magazines as a communication tool for the fashion industry began in the second half of the 19<sup>th</sup> century, with the launch of the first issues of famous fashion magazines like Harper's Bazaar and Vogue. Even today, these magazines are still sold worldwide, although there is a prevailing trend towards favoring online content consumption; that is why many editors had to rethink their communication strategies, in order to provide information to consumers through new platforms.



Figure 8: The first Vogue issue, 1892. [6]

Indeed, starting from the early 2000s, a lot of fashion brands began to expand their digital presence, particularly on social networks like Instagram, Facebook, TikTok, and Pinterest. These platforms allow companies to share images, videos, and visual contents, in order to show the brand and its collections. It was during this period that the so-called opinion leaders became important, acting as intermediaries between companies and consumers, by sharing style ideas about products and brands.

The emergence of such figures is the result of the powerful influence that social media have on consumers' purchasing behaviors, especially among younger people. In fact, as highlighted in the article published on IlSole24Ore, about 85% of all Generation Z consumers report of being influenced by social media in the purchasing decisions. Furthermore, 45% of the surveyed Generation Z indicates TikTok and Instagram as the main platforms influencing their purchasing decisions, followed by YouTube (38%), Facebook (24%), Snapchat (17%), Twitter (14%), and Reddit (7%). [29]

Over time, techniques like celebrity endorsement and celebrity seeding began to be adopted. In the first case, the goal is to strengthen the brand image by creating a direct association between a celebrity and the fashion brand (in this way, the values and reputation of the celebrity are projected into the brand, and vice versa; it is important to choose celebrities who can influence and inspire the brand customers and whose ideals align with the brand identity). While, in the second case, the name celebrity seeding refers to the practice of lending or gifting products to a celebrity, who then becomes a spokesperson for the brand.

#### 2. Fashion Shows

Since the 19<sup>th</sup> century, fashion shows have been a fundamental communication tool for the industry, playing a central role in terms of public relations, press, and advertising. Traditionally, collection presentations are scheduled twice a year in the world most renowned fashion cities (London, Milan, New York, and Paris) during the so-called fashion weeks.

The introduction of new digital technologies has also affected the traditional fashion show: initially, fashion shows were exclusive events, with participation by invitation only; today, access is allowed to a wider audience through live streaming. This choice is part of a communication strategy of many brands, that aim to boost online purchases and encourage word-of-mouth.

#### 3. Podcasts

Radio has never been a suitable way for marketing promotion in the textile and clothing sector, especially considering the limited communicative effectiveness of audio channels. Over time, a new communicative tool has emerged: the podcast. The origins of podcasting date back to the 1990s, but it was transformed into a true mass phenomenon in recent years, enabling market

opportunities. Specifically, in the fashion sector, the use of podcasts has been driven by the desire to merge the brand values with social interests, through discussions on various topics.

#### 4. Outdoor Advertising

Advertising billboards are an example of this practice: usually they are adopted for two main reasons, such as the effectiveness and lower cost compared to other types of media.

Nowadays, in addition to urban advertising installations there are digital displays, which are promotional banners visible when searching for something online. The advantage of this tool lies in the ability to collect and analyze an enormous amount of data provided by online platforms; this analysis aims to reveal new trends and anticipate customer's behavior.

#### 5. From Store to E-Commerce

Along with the introduction of the Internet in the 1960s, one of the most significant digital revolutions of the twentieth century took place: the launch of the first e-commerce site in 1991, marking the birth of online transactions and sales. This new practice became particularly important following the outbreak of the Covid-19 pandemic. In fact, in 2020 the clothing sector experienced a rapid change regarding the sales channels, as it witnessed an acceleration of digital trends that were already in motion before the global Covid-19 crisis; this resulted in the adoption of e-commerce channels, in addition to the physical retail stores.

Furthermore, a recent survey about the evolution of e-commerce, conducted by SAP in 2024, reveals that there has been an upturn in physical retail sales

without threating the profit made through the online platforms. In fact, ecommerce sales are expected to reach 8 trillion dollars by 2026. [17]

## 3.2 Communicating Sustainability

As mentioned in the previous chapter, companies in the fashion sector should communicate their social and environmental practices clearly and transparently. When properly structured, this practice can positively impact on the corporate image and potentially contribute to the creation of a competitive advantage over competitors.

In fact, according to a study about the sustainability in Italy, conducted by Confindustria, companies are evolving, moving beyond mere compliance with regulations in order to adopt an approach that integrates sustainability with the goal of differentiating themselves in the market. Moreover, the data collected during the survey reveals that only 28% of Italians considers themselves "very concerned" in relation to sustainability, while about 20% is indifferent or feels that sustainability is irrelevant. Unfortunately, there is still a misalignment between the interest shown by consumers and their actual purchasing choices: primary drivers still coincide with design and price, while sustainability plays only a secondary role. [30]

This behavioral gap has not been fully understood by the market yet, but it seems to depend on internal factors within consumers, such as prior knowledge and old habits. For this reason, sustainable communication aims to a cultural shift toward a new value system centered on the environment and social ethics, making the market more inclined to reward companies that can demonstrate their 'green commitment', thus encouraging consumers to prefer sustainable products.

Therefore, the information which is disseminated must be based on reliable and measurable data, collected through standardized and certified procedures, thereby avoiding the so-called greenwashing practices, i.e. the intent to deceive by communicating or exaggerating an untrue sustainable footprint. In particular, there are numerous techniques of greenwashing, which are not necessarily limited to merely communicate false information; for example, another practice concerns the ways messages and contents are represented: specifically, they can include elements of particular colors and images, such as natural landscapes, animals, and endangered children, or sources of renewable energy, alluding to the idea of sustainability. Meanwhile, the term bluewashing refers in general to ethical and social sustainability aspects.

Cases of green/bluewashing are countless and sometimes unintentional, especially on social media. These trends negatively affect the healthy growth of the sustainability culture, being a source of considerable confusion for consumers and citizens in general. In fact, the Future Consumer Index study by EY states that 59% of Italians (64% globally) need more precise information to make sustainable choices, and 40% (49% globally) find sustainability claims unclear. [12]

Regarding the communication of corporate sustainable initiatives, the choice of the most suitable way to communicate the social and environmental practices clearly privileges the digital and non-traditional channels, as the former allow the collection of a lot of data and ensure direct contact with a diverse and wider customer base. In addition, it appears that consumers seek information through various channels, primarily the company website.

# 4. Some key players in the fashion sector: their role in the ecological transition

Firstly, it is necessary to distinguish between mid-high or high-end players (whose supply chains are primarily concentrated in Europe) and those that use lower-quality raw materials and produce products with low or mid-low prices (located primarily in Asia and Africa). Furthermore, the fast fashion segment should also be divided between Western groups, such as Benetton and OVS, and Chinese players of ultra-fast fashion, like Shein.

This kind of segmentation is relevant as the fashion system is often analyzed as a whole, being defined "the second most polluting industry in the world", without considering the specific differences introduced above.

Therefore, it is not surprising to find companies like Moncler (mid-high player) and Brunello Cucinelli (high-end player), as well as OVS (mid-low player), among the 2024 Sustainability Leaders.

The 2024 list of Sustainability Leaders, created by Statista in collaboration with IISole24Ore, includes 240 Italian companies deemed the most sustainable out of 1,900 selected companies (including the largest by revenue or those listed on the stock exchange, as well as foreign groups with headquarters in Italy). The analysis is based on the Corporate Social Responsibility (CSR), which considers three dimensions: environmental, social, and economic. Specifically, 45 indicators were evaluated to conduct the analysis, using data from published sustainability reports and financial statements. [16]

This chapter aims to analyze how these three internationally renowned fashion companies have addressed the challenge of the ecological transition.

## 4.1 Brunello Cucinelli

Brunello Cucinelli S.p.A. is a clothing company specializing in the production and distribution of apparel for men, women, and children. Founded in 1978 in Ellera di Corciano (a small town near Perugia) with the aim of offering exclusive Made in Italy garments and accessories, as a result of continuous stylistic research on materials and craftsmanship.

Initially, the company's business was solely focused on the distribution of cashmere knitwear. Over time, Brunello Cucinelli progressively expanded its product portfolio through a series of investments in companies like Rivamonti and Gunex (both fully acquired in 2011), while always maintaining direct control over production and distribution to ensure the highest quality of its garments.

This approach enabled Brunello Cucinelli to position itself in the luxury market segment.

It is in this target market that the company surely stands out for its commitment to promote the Made in Italy industry: in fact, currently it collaborates with approximately 273 raw material suppliers, 94.5% of whom operate in Italy; the same applies to the sourcing of leather and cashmere, which mainly come from Italian tanneries. Regarding external production, Brunello Cucinelli works with 393 small and medium-sized artisanal businesses, all located in Italy (see figure below). All the products are sold through directly operated stores, franchising and multibrand stores, both in Italy and abroad, along with direct and multibrand online sales. [7]



Figure 9: Distribution of artisanal businesses across Italy. [7]

Secondly, the company stands out for its entrepreneurial model, based on an ethical and humanistic vocation: in fact, Brunello Cucinelli has decided to combine profit with social responsibility, which can be represented, for instance, by the protection of the cultural heritage and the revitalization of peripheral areas. A key example of this commitment is the purchase and restoration of the 14<sup>th</sup> century Solomeo Castle, which was transformed into the company's first headquarters and workplace (later replaced by a wider site in Solomeo, home to the clothing sample production).

Furthermore, as outlined in the 2023 Consolidated Non-Financial Statement, environmental protection is a fundamental part of the company's philosophy. To this end, Brunello Cucinelli has established a Corporate Environmental Sustainability Policy, aligned with the 2022-2028 Sustainability Plan.

In particular, the 2022-2028 Sustainability Plan formalizes the company's qualitative and quantitative sustainability objectives in environmental, social,

economic, and governance areas. Most importantly it identifies three key priority areas:

- Fighting climate change: in 2023, the Science Based Targets initiative (SBTi) validated the company's decarbonization plan, deeming it consistent with the 2015 Paris Agreement. The validated targets include a 70% reduction in Scope 1 and 2 GHG emissions by 2028 (compared with 2019 levels) and a 22.5% reduction in Scope 3 emissions. In this regard Brunello Cucinelli started a transition towards 100% renewable electricity sourcing, which was completed in Italy in 2021 and is still ongoing across the rest of Europe. [7]
- Sourcing and management of raw materials: the high quality of the company's product is ensured through a careful selection of raw materials, primarily sourced in Italy.
- Regenerative approach: the company invests in practices aimed at reducing environmental impact across the entire production chain; a key example of this commitment is the Himalayan Regenerative Fashion Living Lab.

## 4.1.1 Raw Materials and Supply Chain Traceability

Brunello Cucinelli is committed to researching alternative materials and lowimpact solutions, with a particular focus on packaging:

- The bags used for packaging are made from bio-based plastic and are returned to the supplier for reuse as secondary raw materials.
- In 2022, the company launched a project to replace paper/cardboard packaging for semi-finished products with recyclable polystyrene boxes, which have a lifecycle of 3-4 years, thus implementing a closed-loop circular model.

- Furthermore, in 2022 the company has introduced a waste recovery program; specifically, production scraps are reused to create new materials (such as yarn, fabric, or paper), in line with the circular economy principles. Approximately 50 artisanal workshops were involved in this initiative, leading to the development of a fabric composed of 50% production scraps, which is now used to create packaging components such as garment covers and shoes bags. [7]
- Finally, Brunello Cucinelli has also increased the use of recycled wood fiber for hangers, replacing plastic, with the goal of eliminating its usage in the near future.

As briefly mentioned above, Brunello Cucinelli stands out for its strong focus on quality of life and human capital, respect for the environment, and support for socioeconomic development.

For this reason, the company's suppliers must adhere to specific environmental conduct rules when signing contracts, including:

- Operating in compliance with environmental regulations.
- Respecting applicable environmental laws and standards.
- Ensuring proper waste management.
- Guaranteeing raw material traceability.

All supply chain partners have been regularly monitored from 2023, through the collection of qualitative and quantitative data, enabling the company to assess their level of environmental maturity.

## 4.1.2 Himalayan Regenerative Fashion Living Lab

As a member of the Fashion Task Force of the Sustainable Markets Initiative, Brunello Cucinelli is committed to make a positive contribution to the climate and the environment, as well as to financially support the Himalayan Regenerative Fashion Living Lab (since 2022).

This project aims to help small local communities in certain areas of the Himalayas, addressing global challenges related to climate change and biodiversity loss.

Specifically, it plans to restore degraded landscapes and support local economies related to cashmere, cotton, and silk. These activities represent the starting point for creating a sustainable value chain.

The areas of interest include landscapes in both Eastern and Western Himalayas, specifically in the Assam province and the Ladakh region:

- In the first case, the goal is to regenerate soil in deforested areas by planting numerous species of native trees (in 2022, approximately 1 million trees were planted). Additionally, agroforestry development is planned, with appropriate training for local farmers.
- While in the second case, the project aims to develop the cashmere value chain by involving local communities to improve local production in a sustainable way. In 2023, the first phase of testing for the implementation of regenerative agrosilvopastoral system was completed. [7]

The Himalayan Regenerative Living Lab has also benefited from on-the-ground support by the Reforest Action association (a B-Corp enterprise dedicated to reforesting certain areas of the world) and the Circular Bioeconomy Alliance.

## 4.2 OVS

OVS S.p.A. is a leading company in Italy in the distribution of apparel for men, women, and children, with a 9.6% market share, listed on the Milan Stock Exchange, since March 2015.

The company is an integral part of a group composed by OVS S.p.A. itself and its subsidiaries, which operate abroad in managing the retail network (both direct and franchised) and in overseeing product development and production. Part of the retail business is developed through commercial partnerships with third-party brands, with OVS acting as a distributor through its store network.

The company operates in numerous international markets with over 2,245 stores (integrated with e-commerce) and offers a diversified portfolio of clothing brands, including OVS, OVS Kids, BluKids, Stefanel, and Les Copains. It also owns Upim (a family department store) and Croff (a home decoration brand). The 2023 financial results reveal net sales of €1.536 billion, reflecting a 1.5% growth compared to the previous year. [24]

#### 4.2.1 Sustainability Strategy

Sustainability is a key pillar of OVS's business model, that is why the company has developed a structured strategic plan, which includes primarily its decarbonization plan. This plan has been assessed and approved by the Science Based Targets initiative (SBTi), setting a goal of reducing emissions by 46.2% by 2030, compared to the 2019 baseline. [23]

To achieve this target, OVS has adopted several initiatives, including:

- Increased use of more sustainable raw materials.
- Implementation of low-impact production processes.
- Installation of solar photovoltaic systems to improve energy efficiency.

• Use of renewable energy sources.

The 2024-2026 Sustainability Plan focuses on four key areas:

- Design for Circularity: by selecting raw materials and production processes with a lower environmental impact, plus reducing the use of harmful chemicals, and minimizing water consumption in the production of cotton and eco-denim garments.
- Being Fair and Transparent: by utilizing the Higg Index (FEM, FSLM, BRM, MSI) to monitor the supply chain and ensure transparency in data sharing.
- 3. Design a Better Work: by promoting training programs and projects, or through a series of initiatives in developing countries.
- 4. Making Fashion a Better Choice: by sharing clear and precise sustainability information with stakeholders.

The group is also committed to reduce plastic and packaging usage, in fact:

- 100% of packaging is made from FSC-certified paper, except for recycled plastic packaging.
- Plastic tags are being replaced with direct garment printing.

## 4.2.2 Raw Materials

Sourcing sustainable raw materials is a top priority for OVS. In 2021, the company achieved a major milestone by sourcing 100% of its cotton from more sustainable sources.

The group has developed the Better Products criteria, which define a product as sustainable if it meets at least one of the following requirements:

- It is made using one or more sustainable alternative fibers.
- It undergoes a low-impact production process.
- It holds a social or environmental certification for the finished product.
- It is part of a special social impact or upcycling project.

By 2023, 90% of OVS's total assortment was classified as Better Products.

Currently, all cotton used by OVS is either recycled, organic, or sourced under the "Better Cotton" standard, an international program promoting sustainable agricultural practices in the cotton industry.

In 2022, OVS launched a project to revive Italian organic cotton production, establishing cultivation in Palermo (Sicily), in partnership with Santiva. The first harvest in 2023 yielded approximately 20 tons of cotton, which was then used to create the 'OVS Cotone Italiano' collection. The company aims to meet 5% of its total cotton demand through Italian-grown cotton. [26]

Additionally, some denim garments combine cotton with CIRCULOSE®, a fiber produced through an innovative textile waste recycling process.

Polyester is the second most commonly used fiber in OVS collections. Since polyester is a non-renewable resource, OVS is increasing the use of recycled polyester, which reached 22% in 2023; this material is obtained through advanced plastic waste regeneration technologies, ensuring the same quality and performance standards as virgin polyester. [8]

Although wool is a renewable and biodegradable material, its environmental impact is significant due to emissions associated with livestock farming. Therefore, OVS is committed to increasing the percentage of recycled wool in its products.

## 4.2.3 Transparency

Transparency is a fundamental requirement for OVS's corporate strategy. That is why every year, the company publishes its Sustainability Report, detailing its achievements and future challenges; furthermore, it has launched various projects to enhance supply chain traceability, including a supplier evaluation program.

OVS's commitment to transparency has been recognized internationally:

• In the 2023 Fashion Transparency Index by Fashion Revolution, OVS ranked first among the world's 250 leading fashion brands for the third consecutive year, with a score of 83%. [8]

OVS constantly monitors the environmental and social performance of its suppliers through various initiatives:

- Since 2017, OVS has been a member of the Cascale alliance (formerly the Sustainable Apparel Coalition) and it uses the Higg FEM, Higg FSLM, Higg BRM, and Higg MSI tools to assess and improve sustainability in the supply chain.
- It is part of the Steering Committee of the Circular Fashion Partnership,
  i.e. an initiative aimed at promoting circular economy practices in
  Bangladesh.
- It has signed the Accord on Fire and Building Safety, i.e. an OECDbacked initiative created after the Rana Plaza disaster, to improve working conditions in Bangladesh. The Accord has recently been extended to Pakistan, with participation from nearly half of the 121 international fashion brands operating in the country.

Currently, OVS operates in 16 countries, collaborating with over 600 suppliers and engaging approximately 90,000 workers. The company has also representative offices in Bangladesh, Pakistan, and Turkey. [8]



Figure 10: OVS supply chain. [8]

## 4.2.4 Sustainable Denim: Blue Infinity

A further collaboration with a strong sustainability focus is represented by the denim project launched in partnership with Adriano Goldschmied, i.e. a fashion designer widely regarded as the "jeans guru" (see figure below). Specifically,

the garments undergo the innovative Blue Infinity treatment: a dyeing process devised by the Pakistani company Crescent Bahuman; which saves energy, reduces CO2 emissions, and lowers significantly water consumption (by up to 62% compared to conventional methods). [25]



•••

La nuova colorazione Blue Infinity, nuove forme e nuovi capi per realizzare uno stile perfetto per te. Divertiti con la nuova collezione denim OVS.

https://www.ovs.it/.../republic-of-denim-by-adriano.../ #OVS #DenimCollection #AdrianoGoldschmied



Figure 11: Facebook post about the new Blue Infinity dyeing process. [22]

The resulting denim markedly reduces its environmental impact: specifically, the introduction of ozone and laser treatments creates the iconic "worn effect" of denim without resorting to harmful chemicals such as potassium permanganate. Moreover, thanks to an innovative dyeing process based on fibers with a high capacity for color absorption and facilities for wastewater reuse, water consumption can be reduced by up to 80%.

Finally, starting with the Fall/Winter 2023 collection, the denim clothes are made with 10% recycled cotton and as previously mentioned, the cotton used is either organic or cultivated according to the "Better Cotton" guidelines.



Figure 12: Instagram post about the Denim Collection created by Goldschmied. [27]

## 4.2.5 Fashion Retail Reloaded Project

A recent initiative by OVS focused on circularity is the Fashion Retail Reloaded Project: with the goal of fostering an increasingly circular economy, the group plans to establish a new hub of technological innovation in Puglia, featuring state-of-the-art logistics facility and a center for innovation and research in digitalization and circularity. The total investment in this project amounts to approximately 33 million euros, including smart automation measures and the use of artificial intelligence technologies. Finally, in line with the OVS Circular Operating System program, the group is committed to reducing the use of different materials within the same garment to facilitate recycling, and to extending the useful life of its products by selecting more durable materials.

## 4.3 Moncler

Moncler S.p.A. is an Italian textile company, headquartered in Milan, specialized in the distribution of apparel for men, women, and children. It was founded in 1952 by René Ramillon and André Vincent, initially focusing on the production of mountain equipment such as sleeping bags and tents. The name Moncler derives from the acronym of the city where the company was founded, the French ski resort Monestier-de-Clermont.

It was only in 1954 that the first Moncler down jackets were produced, originally designed for the company's workers, who wore them over their work overalls. Thanks to the alpinist Lionel Terray, a friend of René Ramillon, Moncler later developed its first specialized high-altitude mountaineering line, called "Moncler pour Lionel Terray".

In 1992, Moncler became an Italian brand as it was acquired by Pepper Industries, which later sold it to Finpart. In 2003, the company was acquired by Remo Ruffini.

In 2021, Moncler acquired the Stone Island brand, becoming in this way a group.

Since then, the business has experienced strong growth and expansion, which continues to this day. In fact, in the first quarter of 2024, Moncler Group's revenue reached €818 million (+16% at constant exchange rates compared to early 2023). [10]

Furthermore, the results of early 2024 confirm a strong connection with customers, extending beyond mere aesthetics. This underscores that integrating sustainability into the business model is not just a cost but a strategic investment.

## 4.3.1 Sustainability and Environmental Goals

Among its corporate sustainability goals, Moncler aims to achieve net-zero emissions by 2050. This ambitious target requires a well-structured strategic plan, outlined in the 2020-2025 Sustainability Strategic Plan (Born to Protect, see figure below). Key priorities include:

- Fighting climate change and protecting biodiversity: in 2023, Moncler joined the Unlock Programme (led by The Fashion Pact) and the Cotton 2040 initiative (promoted by ESMC) to encourage cotton suppliers to adopt regenerative and low-impact agricultural practices. Additionally, Moncler launched a regenerative agriculture project for its wool supply chain in Australia, in collaboration with PUR Projet. The group is also committed to promote the energy transition across its entire supply chain.
- Circular economy: one of Moncler's successful initiatives involves the recycling of all nylon waste generated during production. Specifically, recycled nylon is transformed into new yarns, fabrics, garment components, or design objects. In 2023, 100% of nylon waste from production sites in Italy and Romania was recycled. Furthermore, Moncler manages unsold products through outlet channels, "Family & Friends" sales initiatives, and the "Warmly Moncler" program, which donates surplus stock through partnerships with NGOs. In 2022, Moncler joined Re.Crea, a consortium focused on managing the end-of-life of textile and fashion products and fostering research into innovative recycling solutions. [10]
- Responsible supply chain: the company launched a traceability project for strategic raw materials (nylon, polyester, cotton, wool, and down), verifying the reliability of collected data through laboratory tests and certifications.



Figure 13: Instagram post about the 2020-2025 Sustainability Strategic Plan. [19]

## 4.3.2 Raw Materials and Sustainable Innovation

Sustainability is an integral part of Moncler's business model. The group is constantly searching for innovative, high-quality, and low-impact solutions, including "preferred" fabrics, which consist of recycled, organic, or certified materials.

Recently, Moncler introduced a bio-based and carbon-neutral down jacket, designed using plant-based fabrics and accessories. This garment is made with fabric, lining, buttons, and zippers derived from castor seeds, a raw material that reduces CO2 emissions by approximately 30% compared to fossil-based alternatives. Additionally, castor plants are a renewable and sustainable resource, cultivated in arid regions unsuitable for food production, requiring minimal water to grow.

To offset the emissions generated throughout the life cycle of the Moncler biobased down jacket, the company participates in certified REDD+ projects (Reducing Emissions from Deforestation and Forest Degradation), promoted by the United Nations (UNFCCC) to support Amazon rainforest conservation. [20] Moncler is also increasing the use of sustainable materials in its collections: in 2023, over 25% of the fabrics and yarns used had a lower environmental impact compared to conventional options (with a target of surpassing 50% by 2025). [10]

## 4.3.3 The Fashion Pact

In 2019, Moncler joined The Fashion Pact, i.e. a coalition of leading fashion and textile companies committed to sustainability in three key areas:

- Protecting oceans: by eliminating all plastic from B2C packaging by 2025 and from B2B packaging by 2030. Additionally, ensuring that at least 50% of B2C packaging is made from 100% recycled plastic by 2025, with the same goal for B2B packaging by 2030.
- Restoring biodiversity: members commit to developing biodiversity action plans and promoting zero deforestation and sustainable forest management by 2025.
- Stopping global warming: members aim to source at least 25% of their raw materials from low-impact sources and achieve 50% renewable energy usage, by 2025 (with a goal of reaching 100% by 2030). [10]

To track and measure progress, The Fashion Pact has developed a digital KPI dashboard with the Boston Consulting Group (BCG) as a strategic advisor.

## 4.3.4 Sustainability Ratings

Every year, Moncler reports its sustainability performance and goals in the Consolidated Non-Financial Statement. The company's sustainability efforts have received numerous awards:

- In 2023, the company ranked second in the ESG Overall Score for the Specialized Retail Europe sector, and it was also awarded the highest rating in the CDP Climate "A List".
- While in 2024, Moncler was once again recognized as Industry Leader in the "Textile, Apparel & Luxury Goods" sector within the Dow Jones Sustainability World and Europe indices and it received the highest rating in the MSCI ESG Ratings Assessment.

## Conclusion

As previously stated, the clothing sector is undergoing a long-term transformation towards sustainability. While significant progress has been made, substantial challenges still remain, as the fashion industry continues to be one of the most polluting sectors globally.

Some key obstacles concern ensuring transparency and harmonizing sustainability standards. In response, numerous third-party certifications and global initiatives have emerged to foster collaboration and enhance transparency. Furthermore, another critical challenge facing the sector in its ecological transition is the sourcing and use of raw materials, given that the market remains dominated by synthetic fibers (one of the main causes of environmental pollution in the fashion industry). Consequently, current innovations in the fashion industry focus on replacing traditional resources with alternative ecological materials.

In an era where consumers are increasingly aware of the environmental impact of their purchasing decisions, it has become crucial for fashion brands to communicate their sustainability efforts accurately, through reliable channels. As demonstrated by the case study analysis, sustainability has become a competitive advantage for businesses. By analyzing these companies' successes and challenges, valuable insights can be gained for other fashion businesses "navigating" the complex path toward a more sustainable future.

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