

**WORLD COLLECTIVE**  
**SOURCE**  
**GUIDE**

**MAKING AN IMPACT ON  
THE FUTURE OF FASHION**

**WORLD COLLECTIVE**

# **WORLD COLLECTIVE**

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**ACTIVATE | INNOVATE | TRANSFORM**

Dedicated to select, promote and educate global **SUPPLY CHAIN SOLUTIONS** and systems.

We stand for responsible innovation & values to create an impactful and systemic change in the fashion and lifestyle industry.

DEVELOPS AND  
DELIVERS THE MOST  
TRANSFORMING,  
INNOVATIVE,  
SUSTAINABLE &  
DATA-DRIVEN  
SOLUTIONS FOR REAL  
CHANGE IN THE  
FASHION & LIFESTYLE  
INDUSTRY.

## **MATERIAL HUB**

A careful selection of certified smart fabrics, ingredients, yarns, and fibers by some of the most cutting-edge companies and innovators across the globe. The wide range features only transparent and traceable products, which can be natural/organic, up to transformed (re-cycled/able), and innovative

## **BACK IN THE LOOP**

Innovative circular design, materials, manufacturing, and business model. Companies in this section are deeply committed to scaling circular fashion and give a second life to brands' production pre- or post-consumer leftovers, sourcing or manufacture circularly.

## **PROCESS X PROGRESS**

Smart technologies and applications for a sustainable supply chain. PROCESS X PROGRESS focuses on the art of manufacturing fashion sustainably out of the box. The innovations of this section encompass all the single steps of the supply chain: from smart machines' performances to dyeing, finishing, and all the possible applications and mobilizations, from the fields to distribution logistics.[ext](#)

## **FUTURE DEVICES**

The ultimate vehicle for innovation: digital sustainability. Discover Smart digital and visionary tools and innovations to advance and communicate responsible fashion.

**MA**

**TE**

**RIALS**

# NATURAL

Natural fibers are obtained from materials existing in nature and used by mechanical processes, which do not change their structure.

# TRANSFORMED

Unlike natural fibers, processed fibers originate precisely from the processing of secondary raw materials, which can be pre-or post-consumer, or pre-industrial. Pre-consumer waste comes from manufacturing waste that has not reached the consumer. Post-consumer waste is waste collected after the consumer has disposed of it. The transformation can occur through a mechanical process, with no use of chemical substances and additives, or through a chemical process, for which the use of chemistry is inevitably expected.

# INNOVATIVE

Innovative fibers represent a new generation of smart materials and cutting-edge technologies, resulting from a vision that integrates innovation, responsibility, nature, and creativity. This includes new generation polymers, bio-based materials, man-made materials and bio fabricated materials

# NATURAL

Centro Seta is a Florentine company active in the textile industry since 1981. The production process has always been focused on high quality, constant research for innovative materials and processes, all this effort to integrate novelties into historic, 100% silk collection.

BACX™ is the range of smart Silk fabrics entirely made in Italy. It offers transparency and traceability from the source: raw materials through all stages of the manufacturing and dyeing processes comply with the GOTS (Global Organic Textile Standard) certification process.

BACX™ premium silks are refined, unique, and fully sustainable produced using special, exclusive dyestuffs available in vivid colors that ensure colorfastness on almost any shade.

**Click [here](#) to discover more.**

**BACX** BY Centro Seta

## **Product Certifications**

GOTS (Global Organic Textile Standard)

## **Applications**



## **Region**

ITALY

# MATERIAL HUB

# NATURAL

Born from an innovative and socially responsible system granting sustainability, transparency, and traceability from the cotton seed to the garment while supporting family farmers and businesses at the foothills of Mount Olympus in Greece. It is GMO-free. It is a water-saving cotton cultivation thanks to a pioneering and smart satellite-powered drip irrigation system using Israeli ultimate technologies and expertise in water management. Varvaressos' customized sustainable technology allows reducing water consumption by up to 40%. Excellent yarn uniformity, superior strength, contamination-free, and long-staple eco-fibers.

The whole supply chain is located within 200 km from the company's location in Northern Greece, reducing the CO2 footprint drastically. Varvaressos has equipped the SUPREME GREEN COTTON® yarn collection with a QR code hangtag to provide detailed information concerning all the production phases, making the products 100% traceable and transparent.

**Click [here](#) to discover more.**

VARVARESSOS



### **Company certifications**

ISO 9001, ISO 14001  
STeP by OEKO-TEX®

### **Product Certifications**

MADE IN GREEN by OEKO-TEX®

### **Applications**



**Region**  
GREECE

## MATERIAL HUB

# NATURAL

The world-leading jersey manufacturer based in the Oporto region is bringing textile innovation to the next level. Naturally Advance Evolution in sustainable fabrics for fashion, athleisurewear, and lingerie. TINTEX includes 90% use of more sustainable materials that result in responsibly crafted jersey fabrics. The Naturally Advanced position means advancing organic and natural materials combined with unique, hybrid 'nature tech smarts, thanks to dedicated investments that serve the customers' demands.

COLORAU® is a unique project and process that received the Sustainable Solution award in the May 2019 edition of Techtextil. COLORAU® was created with a Portuguese consortium constituted by premium realities (TINTEX, Ervital, Bioinvitro, Citeve, Centi) and gives life to responsibly colored fabrics with antimicrobial properties, using natural dyes extracted from different types of natural plants resources that do not use salt in the production.

**Click [here](#) to discover more.**

## MATERIAL HUB

T I N T E X NATURALLY  
ADVANCED

COLORAU® stands for the following technical advantages:

Uses only compounds of natural origin such as thyme, boldo, peppermint, chestnut, and gambier in the production of functional and sustainable textiles in a variety of fibers such as cotton, lyocell, and wool.

Development of eco-efficient and low-temperature surface treatment to improve the affinity between the textile substrate and these natural compounds.

Selection of "performing" extracts for appropriate colorfastness to light and washing as well as color durability and antimicrobial functionality.

### Company certifications

ISO 9001, ISO 14001, and STeP  
by OEKO-TEX®

### Product Certifications

MADE IN GREEN by OEKO-TEX®

### Applications



### Region

PORTUGAL

# NATURAL

Lanificio Zignone has dedicated itself to wool with passion, endless imagination, and hard work for three generations. With a production entirely centered in the northern part of Italy, they carry on the local wool culture with new ideas and an open mind for an authentic Made in Italy in sync with today's world. Zignone fabrics bring together the best Biellese expertise with today's needs regarding style, comfort, and respect for the environment.

Zone Collection, first in the world made with certified organic wool fiber ICEA, Istituto per la Certificazione Etica ed Ambientale. A GOTS (Global Organic Textile Standard) certified traceable organic wool from Argentina and Australia, verified mulesing-free. The organic wool comes from animals who were not treated with hormones, steroids, antibiotics, vaccines, and nutrition is free from OGM, pesticides, chemicals, insecticides, fungicides, and herbicides.

Click [here](#) to discover more.



## Company certifications

ZDHC

## Product Certifications

GOTS (Global Organic Textile Standard)

## Applications



## Region

ITALY

# MATERIAL HUB

# TRANSFORMED

Bemberg™, by Asahi Kasei, is a one-of-a-kind, matchless and original, new generation material made from the smart-tech transformation of cotton linter pre-consumer material, converted through a traceable and transparent closed-loop process. Made in Japan, Bemberg™ also delivers on laboratory-verified end-of-life options and a finalized LCA study signed by ICEA.

Today an INNOVHUB report confirms that Bemberg™ filaments disintegrate at 100% and that Bemberg™'s very low concentration of hazardous substances complies with the limits specified by the UNI EN 13432.

Bemberg™ is cool and sensual with a unique, supple drape. It is antistatic and breathable, while its soft versatility makes it perfect for modern wardrobe fashions, athleisure, and everyday casual wear.

**Click [here](#) to watch 'Features of Bemberg' and discover more**



It feels so precious.

by ASAHI KASEI



## Company certifications

ZDHC

## Product Certifications

GRS (Global Recycled Standard)

## Applications



Region

JAPAN

# MATERIAL HUB

# TRANSFORMED

ECOSENSOR™ is the brand of Asahi Kasei - representing a range of fabrics standing for an eco high-tech concept, keeping the planet fit and healthy by harnessing the expertise in cutting-edge innovation for a most sustainable future. AKA is the cutting-edge department of a global material innovator whose DNA is about fineness, durability, laboratory approach, comfort, and sustainability. "A New Eco high-tech force of Nature," a bold claim, a daring attitude, and true facts. ECOSENSOR™ by Asahi Kasei has concentrated all its key values into Nature-driven and high-tech fabric collection that respects the environment and human being. Sustainability, active climate control, exquisite touch, and extreme performance co-habit the textiles: the collection is made of woven, and knits where certified recycled polyamide and polyesters, sometimes combined with ROICA™ recycled stretch yarns and dyed and finished with Standard 100 by Oekotex certified processes and/or by BlueSign® partners' companies.

Click [here](#) to watch the full video of ECOSENORÄ.



But there is much more than meets the eye. Behind the new collection is a great story of sustainability. Indeed, the company focuses on transparency and traceability of both materials and production, corporate responsibility at all levels.



## Company certifications

BlueSign®

## Product Certifications

GRS (Global Recycled Standard),  
Standard 100 by Oekotex

## Applications



## Region

JAPAN

# MATERIAL HUB

# TRANSFORMED

The “smart” cotton yarn produced with an exclusive, made in Italy, transparent, traceable, and certified process that transforms 100% pre-consumer cotton clippings into excellence.

ECOTEC® yarns can contain up to 80% of transformed pre-consumer cotton without compromising the quality, versatility, and richness of the yarn color palette (more than 70 colors are available in stock service). A really unique result. ECOTEC is a high-quality yarn range offering contemporary values as chemical safety and human health\*, as well as record savings, by an LCA, in comparison to the ones of conventional and organic cotton:

- up to 77,9% in water consumption,
- up to 56,3% in CO2 emissions,
- up to 56,6% in energy consumption

The unique Marchi & Fildi process and know-how, applied for ECOTEC® yarns, offer brands and retailers a concrete and direct opportunity to supply their own clippings of pre-consumer cotton fabrics and knits and see them transformed into high-quality yarns optimizing their joint endeavors and targeting a zero-waste position.

Click [here](#) to discover more.

## MATERIAL HUB

## ECOTEC®

MARCHI & FILDI

TRANSFORMING VALUES  
THROUGH EXCELLENCE



### Company certifications

Tessile e Salute nr. 14900092

### Product Certifications

GRS (Global Recycled Standard)

### Applications



### Region

ITALY

# TRANSFORMED

ILUNA Group was born in 1969 from an idea of founder Luigi Annovazzi: the production of pre-shaped bra cups. In 1985 ILUNA acquires the Ondoli di Cuggiono plant, which specialized in the production of stretch lace, challenging the French Leavers. Since 2014, Iluna Group Srl stands out for braiding together the values of beauty, innovation, and responsibility. ILUNA offers two cutting edge collections:

- Strictly Made in Italy starting from recycled ingredients, the Green Label collection is certified Global Recycled Standard (GRS). Its two key ingredients are the Q -NOVA ® by Fulgar fiber and the premium recycled stretch yarn ROICA™ EF. The Green Label includes the world's first 100% GRS certified flock: an exclusive development opening new possibilities for brands and retailers, which is entirely made from recycled ingredients and allows infinite printing possibilities by offering a highly customizable solution.
- The BIOLINE embraces Circular Economy and features AMNI SOUL ECO® and ROICA™ V550 premium sustainable stretch yarn.

Click [here](#) to discover more.



Iluna also offers an exceptional range of natural dyes made with vegetable dyestuff and a color chart featuring 14 shades - but it is constantly expanding. All the dyes are GOTS certified and, their colorfastness meets the OEKO TEX® Standard 100 requirements.

## Company certifications

Step

## Product Certifications

GRS (Global Recycled Standard)  
GOTS (Global Organic Textile Standard), OEKO TEX® Standard 100

## Applications



## Region

ITALY

# MATERIAL HUB

# TRANSFORMED

Re.VerSo™ a new, totally traceable, certified and transparent, Italian textile system for wool, cashmere, and baby camel-based materials. It is a fully integrated chain for truly unique and highly valuable materials. Production is based on pre-consumer clippings, supplied by the best Italian and international fashion brands and industry producers. This supply chain is based on the collaboration of premium Italian textile producers: Green Line and Nuova Fratelli Boretti for the raw material. A. Stelloni Collection by Mapel for fashion textiles and Filpucci for high-end, luxury knitwear yarns.

Compared to conventional products, the following savings have been confirmed by Prima Q with a LCA study :

For wool

- up to 89% in water consumption
- up to 96% in CO2 emissions
- up to 76% in energy consumption

For cashmere

- up to 92% in water consumption
- up to 97% in CO2 emissions
- up to 82% in energy consumption

Click [here](#) to discover more.

## ReVerSo™

In 2020, Re.VerSo™ has teamed up once more with the world's leading manufacturer of premium yarns Filpucci to introduce TAKE BACK, the new additional sustainable and traceable Re.VerSo™ sourcing option, which gives new life to dismissed garments and involves consumers as active players of circular economy processes.



### Product Certifications

GRS (Global Recycled Standard)

### Applications



### Region

ITALY

## MATERIAL HUB

# TRANSFORMED

The premium stretch fiber for the modern wardrobe. ROICA™ delivers advanced high-tech engineered new performances activating value with values into all garments through the ROICA™ range of world-unique functions. One of these functions is represented by the ROICA Eco-Smart™ family, a unique innovation solution underpinned by responsibility's added benefit. It is a world-first range of responsible made premium stretch yarns, made with two contemporary, advanced, unique, sustainable, innovative solutions:

- ROICA™ EF yarn has a percentage of pre-consumer recycled content that is 58%, and thanks to this, it has been GRS (Global Recycled Standard) certified. This is a certification by Textile Exchange, one of the most known and recognized in the international market. ROICA™ EF also guarantees excellent dyeability.

**Click [here](#) to discover more.**

**ROICA™**  
by Asahi Kasei



## Company certifications

BlueSign®

## Product Certifications

GRS (Global Recycled Standard),  
Standard 100 by Oeko-tex

## Applications



## Region

ASIA, EUROPE, USA

# MATERIAL HUB

# TRANSFORMED

Dauntless, a social and environmentally conscious producer based in Colombia is at the forefront of changing the way we picture sustainable fashion. With quality in mind, the company ethically sources materials, all of which are vegan while reducing waste.

The woman-owned and ran brand focuses on maintaining a responsible and modern supply chain allowing them to control fair trade standards and working conditions including equal pay. Facilities include practices such as producing only on demand and cutting out the creation of unnecessary paper waste and fabric scraps. All products are shipped in a compostable flyer making the company carbon neutral

Dauntless utilizes water-borne solvent-free polyurethanes, nickel-free aluminium in their buttons and zippers, and is currently researching low-impact alternatives to diminish their impact even more.

**Click [here](#) to discover more.**

DAUNTLESS



## Product Certifications

PETA Approved Vegan

## Applications



## Region

COLOMBIA & USA

# MATERIAL HUB

# TRANSFORMED

For over thirty years, Rivano has been producing various leather goods. Their product, which is composed of vegetable leather, has a high ecological content and is fit as a traditional leather replacement in briefcases, bags, belts, and footwear.

Rivano's leatherwork have a defined identity present throughout their high-end products.

Click [here](#) to discover more.



## Applications



## Region

Colombia

# MATERIAL HUB

# TRANSFORMED

GSG-TEX, available through MTI, a leader in sustainable & traceable raw materials in the garment manufacturing, produced DMF-free Polyurethane-based leather, recycled polyester fabric and fur, and recycled cotton.

For over 20 years, the company has focused on manufacturing sustainable fabrics. Although historically tied to outwear fabric, GSG-TEX currently produces sportive wovens and light weight items.

**Click [here](#) to discover more.**



## Applications



## Region

CHINA & USA

**MATERIAL HUB**

# TRANSFORMED

Italian leather supplier, Montebello, caters natural leather to prestigious fashion brands while emphasizing transparency, the circular economy, and their regenerative leather system.

Conceria Montebello provides full grain, suede, and bonvine leather suited for use in the clothing, leather goods, footwear, and interior design sectors. Their salt and plastic-free hides are created with recycled matter from the food industry for tanning.

Dedicated to lowering their environmental impact, the company utilizes a unique production process that allows for the reuse of resources throughout the entire supply chain. Montebello is equipped with an in-house pretreatment purification plant and a water recycling system that's internally monitored. They also have a 100% hair recycling rate giving the material a second-life in the agriculture industry. Finally, Production facilities are almost-entirely electrically self sufficient thanks to a combined photovoltaic and methane cogeneration system.

Click [here](#) to discover more.

## MATERIAL HUB



The creation of each line is backed by passion and stylistic research that when combined with technological innovation, results in a high-quality exclusive product.

### Company certifications

ISO 9001 ISO 14001  
UNIC Code of Conduct and  
Social Accountability  
ICEC Company Sustainability  
Certification  
ICEC TS406

### Applications



### Region

ITALY

# TRANSFORMED

Based on Colombia, VIVES is dedicated to the design and manufacturing of bag, hats, and other accessories. Ensuring excellence and high quality products the company focuses on leather and hand made fabrics.

They have a collection of lines described below:

- LINER LINE, are wallets and accessories made of leather T
- HE ARTISAN LINE: Mix of handmade fabrics, combined with leather
- LINE ECO-FRIENDLY: Wallets and woven accessories in recycled plastic bags, combined with Leather. With this last Line of products the company helps to reduce the contamination produced by the inadequate disposal of the plastic used.

**Click [here](#) to discover more.**



## Applications



## Region

COLOMBIA

# MATERIAL HUB

# TRANSFORMED

Founded in 2019, KLEIDERLY's mission is to keep clothing out of landfills to reduce the world's fashion footprint. KLEIDERLY solves two environmental problems with one solution with a technology that allows textile waste to be recycled and used as a plastic alternative. Designed to seamlessly fit into most brands' manufacturing processes by standard methods of use and accessible to manufacturers and brands looking for sustainable alternatives. Using circular economy principles to keep textiles out of landfills and incinerators while applying low energy technologies keeps the CO2 footprint low. Sending clothing to KLEIDERLY instead of landfills could provide a carbon equivalent saving of up to 86%. This unique solution creates positive revolutionary change to the environment and re-invent the supply chain when one hundred billion clothing garments are produced every year, with this number set to double by 2050. According to the Ellen MacArthur Foundation, 87% of the material used for clothing ends up in landfills, representing an entire truck full of textiles wasted every second.

Material Characteristics / Properties:

- It is made from recycled textiles
- It is recyclable
- produced in Europe

**Click [here](#) to discover more**

## MATERIAL HUB

## KLEIDERLY.

Converting Clothing

Why not wear  
your unwanted t-shirt  
on your face?



### APPLICATIONS



**REGION**

EUROPE

# TRANSFORMED



**MAEBA INTERNATIONAL**  
YOUR ITALIAN FABRICS

MAEBA INTERNATIONAL, a leader in selecting and repurposing premium Italian fabrics. They have 60 years of exceptional expertise in collecting high-quality materials from leading brands, textile manufacturers, and knitwear factories with a unique approach. Thanks to its unique and highly efficient business model, MAEBA is the first company of its kind at an international level to be accredited with the UNI EN ISO 14021 assertion, which grants the traceability of the collected materials. **Their new ReLive Tex brand, comprising the certified premium products, is a key range of BACK IN THE LOOP.**



Caban jacket made of MAEBA International upcycled saffron vinyl certified ReLive tex™

**Click [here](#) to discover more.**

## COMPANY CERTIFICATIONS

ISO 14021

## APPLICATIONS



## REGION

ITALY

# MATERIAL HUB

# TRANSFORMED

Mending for Good is a consulting agency that offers creative, ethical solutions to brands and designers for waste and excess stock issues. The repurposing is explicitly done through their network of high-quality craft projects linked to social cooperatives and artisans based in Italy and the UK.

Mending for Good values-driven solutions are mindful of the environment and deliver positive social impact, thus offering brands the opportunity to adapt their business models to show leadership the pressing issues of environmental sustainability and show recognition for the people behind products. Mending for Good is about a holistic approach to redefining honest fashion.

By bringing together, through innovative, creative, and sustainable projects, the world of fashion and highly skilled artisans from social cooperatives, 'mending' acquires a broader meaning. Mending for Good proposals to re-make, repurpose, re-craft excess raw materials and collections customized to each brand and serve to communicate the circular philosophy.

**Click [here](#) to discover more.**

## MATERIAL HUB

**MENDING  
FOR  
GOOD**



### APPLICATIONS



### REGION

ITALY & UK

# INNOVATIVE

"We believe technology can bring us back to a time when humans lived in harmony with nature. We're committed to pursuing innovations that can help maintain that balance for eons to come"

Redefining what it means to be cruelty-free, Vitrolabs is bringing cell-culture to the fashion industry. By using cells harvested from a harmless biopsy of a living animal, Vitrolabs has been able to produce authentic leather.

Once the sample is a decent size, the pieces go straight into the tanning process. Vitrolabs only grows what's needed, resulting in a streamlined and less impactful tanning process. The final product showcases leather that's cruelty-free, reduces waste, and with suitable properties for use in items such as bags and watches.

Click [here](#) to discover more.

## VitroLabs Inc



### Applications



### Region

USA

# MATERIAL HUB

# INNOVATIVE

Natural Fiber Welding manufactures high-performance bio-based materials. Their product MIRUM offers a 100% plastic-free alternative to traditional leather. Available in a range of colors and textures, MIRUM has endless options for customization. In addition, the material's manufacturing process is completely circular, meaning that MIRUM can be recycled and reused again and again.

Since the fabric is plastic-free, Natural Fiber Welding relies on a unique mixture of plants and minerals and not PU, EVA, or PVC to achieve their product. MIRUM's global warming potential is up to 86% less than that of synthetic rubber and 93% of chrome tanned leather and requires no water in its closed-loop manufacturing and dyeing processing making it the lowest ecological impact product in its category.

Click [here](#) to discover more.



MIRUM is also biodegradable and will degrade in a matter of months. While MIRUM is produced from a mix of virgin materials and agricultural sidestreams, Natural Fiber Welding is researching using regenerative resources as a feedstock.



## Product Certifications

USDA Certified 100% Biobased

## Applications



## Region

USA

# MATERIAL HUB

# INNOVATIVE

Composed from mycelium, the root system of mushrooms, MYLO Unleather is an innovative alternative to traditional leather cultivated by Bolt Threads



Invented as a way to combat a world that's increasing in population and depleting in resources, MYLO Unleather showcases how we can embrace a the future with a "green" lens.

The materials strikingly resemble traditional leather while maintaining a lower environmental impact including emitting less GHG.



Utilizing science to create beautiful designs and materials, MYLO Unleather can be utilized in a range of industries including garments, shoes, yoga mats, accessories, and in the automotive industry.

## Product Certifications

DIN CERTO Certified Biobased  
Verified Vegan Through Euro  
Chem Map Assessment Program

## Applications



## Region

USA

**Click [here](#) to discover more.**

# MATERIAL HUB

# INNOVATIVE

Produced by Ananas Anam, Piñatex presents an innovative replacement for traditional by utilizing waste pineapple leaf fiber. Their feedstock is the byproduct of existing agriculture, providing farmers with an additional income streamers for farmers. In addition, it's completely cruelty-free.

Piñatex invokes the principles of circular economy and Cradle to Cradle resulting in a supply-chain with minimized impact throughout.

Fibers are dried naturally by the sun, blended with PLA to create a non-woven mesh based, and is colored with GOTS certified pigments. Piñatex can be used in fashion, accessories, and upholstery applications and has been used by over 1000 brands worldwide.

Click [here](#) to discover more.

 PIÑATEX



## Applications



## Region

UK

# MATERIAL HUB

# INNOVATIVE

With a goal of creating a replacement for animal leather, Adriano Di Marti created Desserto: a leather made from nopal (cactus).

The nopal vegan leather's qualities make it fit for use in the accessories, apparel, interior, and sports equipment market. It's a natural biodegrade material with a soft pleasant hand. In the future, Adriano Di Marti is aiming to be completely cruelty, PVC, and phthalate free.

They also offer a version exclusively designed for the automotive industry called Desertex.

Click [here](#) to discover more about Desserto.

Click [here](#) to discover more about Deerttex

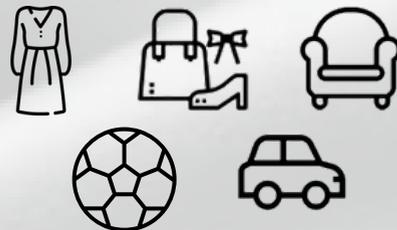
## DESSERTO®



### Product Certifications

USDA Organic  
PEETA Vegan, V-Label Vegan  
Global Recycled Standard  
OEKO-TEX Standard 100

### Applications



**Region**

MEXICO

## MATERIAL HUB

# INNOVATIVE

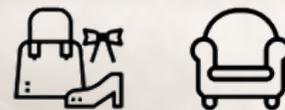
Sourced from Southern India's coconut industry, Malai is a completely organic material, grown bacterially on agricultural waste. They specifically use coconut water, preventing soil damage in the process and repurposing it as the bacteria's feedstock.

Compared to leather and paper it's both flexible and durable, and is available in a range of colors. They opt for natural solutions throughout including natural dyes. The material can be hand and machine sewn, cut, laser cut and more. Malai is a leather alternative designed for low-impact footwear, accessories, and interior products.

Click [here](#) to discover more.



## Applications



## Region

INDIA

# MATERIAL HUB

# INNOVATIVE

Biophilica's leather alternative Treekind utilizes a renewable resource all around us: leaves.



The unique material can be recycled or composted and uses less than 1% the amount of water used in animal leather production.



Treekind can be described as so: "A flexible, leather-like material, made from urban plant waste, agricultural waste and forestry waste. We combine lignocellulosic feedstock with a natural binder. Treekind® is local, fully biodegradable, and recyclable."

In addition, it's plastic, VOC, formaldehyde, and pesticide free.

Click [here](#) to discover more.

## Applications

Still in R&D

**Region**

UK

# MATERIAL HUB

# INNOVATIVE

Developer and manufacturer of functional materials based in Bregenz, Austria, is specialized in developing and producing new functional and high-tech materials for sports and lifestyle apparel. The company offers DYNTEX® Biosynthetic, the world's first ultralight biosynthetic functional fabrics that took three years of development thanks to specialists from Japan and Italy. These two extraordinary biosynthetic fabrics are: DYNTEX® Biological Origin, made entirely from renewable resources, with the castor oil plant serving as the basis for the ultralight functional fabric. A biopolymer is extracted from the plant that is then used to produce an exceptionally high-quality yarn; DYNTEX® Biodegradable, the world's first ultralight functional fabric made of the high-tech polyamide Amni Soul Eco®. The yarn has been developed by the research efforts of the Rhodia-Solvay group, and it is biodegradable in 5 years under anaerobic conditions. The fabrics developed from DYNTEX have the highest quality and the lowest weight. In addition, they are water-repellent, breathable, fluorocarbon-free, and extremely durable.

Click [here](#) to discover more.



*Innovative  
new  
generation  
polymers*

## Applications



## Region

AUSTRIA

# MATERIAL HUB

# INNOVATIVE

# VEGEA

The name VEGEA comes from the combination of VEG (Vegan) and GEA (Mother Earth. Found in 2016 in Milan to promote the integration between chemistry and agriculture by developing plant-based alternatives to synthetic oil-derived and animal-derived materials. By leveraging renewable resources, their production processes exploit biomass and vegetable raw materials. VEGEA steadily invests in research activities to continuously develop innovative and low-environmental impact technologies and processes.

## **Material Characteristics / Properties:**

- Vegan-coated fabric is produced and distributed by the homonymous company. Produced in several versions, which differ by technical and aesthetic properties such as thickness, elasticity, weight, finishing, texture, backing textile, and bio-based content.
- Characterized by a high content of vegetal and recycled raw materials such as vegetal oils and natural fibers from agro-industry.
- Compliant with REACH, materials are solvent-free, animal friendly, and Made in Italy.

**Click [here](#) to discover more.**

## **MATERIAL HUB**

## *Innovative Bio BASED Materials*

### **Company certifications**

compliant with REACH

### **Applications**

LEATHER ALTERNATIVE



### **Region**

ITALY

# INNOVATIVE

The premium stretch fiber for the modern wardrobe. ROICA™ delivers advanced high-tech engineered new performances activating value with values into all garments through the ROICA™ range of world-unique functions. One of these functions is represented by the ROICA Eco-Smart™ family, a unique innovation solution underpinned by responsibility's added benefit. It is a world-first range of responsible made premium stretch yarns, made with two contemporary, advanced, unique, sustainable, innovative solutions:

- ROICA™ V550 is a yarn made and engineered by the Asahi Kasei R&D team and is produced today in ROICA™ German plant only. On top of the ROICA™ quality premium stretch standard, this yarn is able to offer additional and relevant advantages linked to responsible innovation as proved by a Gold Level Material Health Certificate by the Cradle to Cradle Product Innovation Institute together with Hohenstein Environment Compatibility. ROICA™ V550 yarn allows excellent and durable printability.

Click [here](#) to discover more



**ROICA™**

by Asahi Kasei

*Innovative  
new  
generation  
polymers*

## COMPANY CERTIFICATIONS

BlueSign®

## PRODUCT CERTIFICATIONS

Gold Level Material Health Certificate  
by the Cradle to Cradle  
Product Innovation Institute,  
Hohenstein Environment Compatibility

## APPLICATIONS



## REGION

ASIA, EUROPE

# MATERIAL HUB

# INNOVATIVE

Founded in 2007 in Japan, SPIBER focuses on new-generation biomaterial development: Brewed Protein™. After establishing itself as an industry leader in the emergent field of protein materials through years of diligent research and development, SPIBER now focuses on the transition to mass production. SPIBER is scheduled to begin commercial operation in its Thailand plant in 2021 with an annual capacity of several hundred tonnes, and scale-up initiatives in the USA are underway to further reduce environmental burden and production costs. In addition, SPIBER collaborates with designers, creators, and top-tier companies in numerous industries to drive future progress, all working towards one goal—to bring the next stage of the protein revolution to fruition.

## Material Characteristics / Properties:

- Produced from plant-derived biomass using Spiber's proprietary fermentation (brewing) process. This unique microbial fermentation technology avoids ethical issues and reduces greenhouse gas emissions compared to the production of animal fibers.
- Applicable into various forms, from delicate filament fibers with a silky sheen to spun yarns with features such as the cashmere-like softness of wool's renowned thermal and moisture-wicking properties. It can also be processed into resins closely resembling tortoiseshell or animal horn.

[Click here to discover more](#)

## MATERIAL HUB



- Ethically, SPIBER's in-house technology allows for the production of compelling animal-free fur and leather alternatives.
- As biobased materials, Brewed Protein™ materials offer several critical environmental benefits. They do not create or break down into environmentally damaging microplastics.

## *Innovative Bio fabricated Materials*

### APPLICATIONS



### REGION

JAPAN, THAILAND, USA

# INNOVATIVE

## **Driven by a specific mission:**

Transform the material sphere without compromising nature, MODERN MEADOW operates at the forefront of biotechnology and believes that multidisciplinary collaboration between design, biology, and material science leads to smarter real-world problem-solving.

## **Material Characteristics/Properties:**

- Biofabrication creates materials from the protein up – using the molecular building blocks of nature. Materials designed from the molecular level deliver design and performance with harmless environmental impacts.
- Materials designed at the cellular level produces proteins tailored for optimal material attributes. The engineered cells grow into billions of protein-producing cell factories, which become the building blocks of Modern Meadow's materials.
- The biobased materials fulfill a wide range of properties that can fit the unique requirements of each application. Inspired by leather, Zoa™ is Modern Meadow's first premium branded materials platform created with their designed protein. Highly tunable, Zoa™ will deliver design and performance with beneficial impacts as the company continues partnering with thought-leading brands to push innovation forward.

**Click [here](#) to discover more.**

## **MATERIAL HUB**

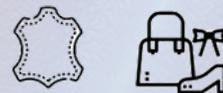


## *Innovative Bio fabricated Materials*



### **APPLICATIONS**

LEATHER ALTERNATIVE



### **REGION**

USA

# INNOVATIVE

Eastman Naia™ cellulosic fiber is a sustainable fiber made from wood pulp, the perfect choice for fabrics in womenswear. This bio-based fiber is made from fully traceable and sustainably sourced wood pulp from sustainably managed pine and eucalyptus forests and plantations to ensure no deforestation of protected forests. Naia™ is produced in a safe, closed-loop process where solvents are recycled back into the system for reuse. Naia™ has an optimized, low-impact manufacturing process with a low tree-to-fiber carbon and water footprint. Naia™ has a third-party reviewed life cycle assessment compliant with ISO 14044 and is ranked on the Higg Materials Sustainability Index.

Material Characteristics / Properties:

- 60% Renewable Wood Pulp
- 40% recycled plastic
- Biodegradable

**Click [here](#) to discover more**



*Innovative  
Man-made  
materials*

## COMPANY CERTIFICATIONS

ISO 14044

## PRODUCT CERTIFICATIONS

OEKO-TEX® 100 Product Class I, FSC, and ISCC-certified and in compliance with ZDHC Manufacturing Restricted Substances List.

## APPLICATIONS



## REGION

USA

# MATERIAL HUB

**PRO**

**CESSSES**

SMART TECHNOLOGIES AND APPLICATIONS FOR A SUSTAINABLE SUPPLY CHAIN. PROCESSES FOCUSES ON THE ART OF MANUFACTURING FASHION SUSTAINABLY AND OUT OF THE BOX. THE INNOVATIONS OF THIS SECTION ENCOMPASS ALL THE SINGLE STEPS OF THE SUPPLY CHAIN: 'FROM SMART MACHINES' PERFORMANCES TO DYEING, FINISHING, AND ALL THE POSSIBLE APPLICATIONS AND NOBILITIES, FROM THE FIELDS TO DISTRIBUTION LOGICS:

**DYEING PROCESSES**  
**COATINGS**  
**FINISHINGS**  
**PRE-TREATMENTS**

# PROCESSES

Colorifix uses nature to solve man-made problems. A biotech start-up in the emerging field of synthetic biology, Colorifix has developed a revolutionary dyeing process for the textile industry. Colorifix firmly believes that sustainable practices are key to restoring the balance between humankind and the earth.

## Characteristics / Properties:

- The technology dramatically reduces environmental impact across the water, energy, and chemicals use, all in a cost-effective manner. Traditional industry-standard dyeing processes use 6 trillion liters of water per year; Colorifix can reduce this by up to 90%.
- Using synthetic biology to produce, deposit, and fix dyes biologically; rather than the 70+ chemical processes in place today, the Colorifix process works on any textile type, natural or synthetic.
- Products are colorfast and can be machine washed or dry cleaned.
- Harnessing the power of natural biology to create a sustainable future.
- No acids. No alkalis. No solvents. Just color. Naturally.

Click [here](#) to discover more.



Colorifix



## APPLICATIONS



## REGION

UK

# PROCESSES

MTiX uses eco-friendly technology to treat fabrics. Their material synthesis process Multiplex Laser Surface Enhancement "MLSE" can be used on natural and synthetic textiles. It utilizes high frequency electrical discharge plasma combined with high power pulsed UV lasers to efficiently treat fabrics.

## Characteristics / Properties:

- MLSE is a method of textile processing that can be used for dyeability and printing enhancements, hydrophilicity, hydrophobicity, fire retardancy, and anti-microbial properties.
- MLSE has a wide variety of functions, all of which have significantly less energy waste and environmental impact than conventional fabric treatment methods.
- Use of irritant and bio-accumulative resources eliminated completely.
- Energy consumption reduced by 99.6%
- Greenhouse gas reduction over baseline of 90.9%
- Resource (chemical) use reduced by 94.8%
- Water consumption reduced by >75.5%
- MTiX has worked with multiple major textile manufacturers to develop the MLSE process to be innovative, efficient, and sustainable.



## Innovation In Textile Processing Technology.

### APPLICATIONS

Natural fibers | synthetic fabrics

### REGION

UK

Click [here](#) to discover more.



# PROCESSES

Alchemie uses digital dyeing and finishing technology to significantly reduce carbon emissions produced by traditional textile processing. Their Endeavour Waterless Smart Dyeing is cost efficient and environmentally sustainable as it minimizes water and energy usage.

## Characteristics / Properties:

- Clean-tech digital textile manufacturing is cost efficient and simple.
- Their Endeavor dyeing process accelerates dye diffusion and reaction, helping to develop colors quickly and precisely. This single-step process puts an end to downstream washing.
- Their digital finish application, Novara, uses advanced technology to reduce chemistry usage by only applying textile finishes where needed.
- Digital manufacturing agility: designed for e-commerce supply chains
- Reduction of energy consumption by > 85%
- Elimination of waste water emissions
- Significant cost reductions of > 50%

Click [here](#) to discover more.

Alchemie

**A world with  
zero  
pollution  
from textile  
dyeing and  
finishing**

## APPLICATIONS

Garments

## REGION

UK

# PROCESSES

Dryfiber LLC is a subsidiary of Drywired, a clean tech firm based in southern California working to develop eco-friendly coatings for finishing garments. They use nanotechnology to create a coating that can resist stains from various kinds of oils.

## **Characteristics / Properties:**

- Dryfiber was developed at Cornell university and it is the first fluorine-free and biodegradable fabric coating.
- While the process includes finishing the garment with a thin polymeric coating, there is no noticeable change in texture or quality of the fabric.
- Hydrophobic, hydrophilic, oleophobic and omniphobic properties
- Well-suited for leather products, athletic-wear, handbags and backpacks, shoes, and traditional clothing garments.
- Its parent company, Drywired, also produces sustainable coatings designed to protect electronics from moisture and corrosion, as well as finishes for glass and surfaces.

Click [here](#) to discover more.



## Providing Unique Solutions To The Problems of Today

### **APPLICATIONS**

Garments

### **REGION**

Los Angeles

# PROCESSES

Dimpora is working to eliminate the use of per- and polyfluorinated chemicals (PFCs) in the clothing industry. PFCs can often be found in outdoor gear and are extremely harmful to ecosystems. Their "leave no trace" philosophy has led them to develop waterproof and breathable equipment that creates minimal environmental impact.

## **Characteristics / Properties:**

- Dimpora designs fluorine-free and fully microporous membranes used to finish outdoor gear.
- Their technology is free from toxic chemicals including PFC, PTFE, DMF solvent, or C0 DWR on laminates
- The material allows garments to stay breathable, offer rain protection, and remain biodegradable.
- Their eco pur™ membrane involves a conventional lamination onto a textile and is mainly based on polyurethane.
- Their sane membrane™ was awarded the Global Change Award by the H&M foundation in 2019 due to its innovative efficiency.

Click [here](#) to discover more.

dimpora

**We put  
science at  
the service  
of nature  
and  
performance**

## **APPLICATIONS**

Outdoor gear

## **REGION**

Switzerland

# PROCESSES

The We aRe SpinDye®-coloring method melds pigments and recycled polyester together to create yarn without using water and minimal energy waste. The colored yarn is created exclusively from recycled materials such as water bottles or wasted clothing. Their mission to "put water out of business" has driven them to design a coloring method that adds color to the fiber, integrating the pigment from the beginning without water-dyeing.

## Characteristics / Properties:

- The process of coloring fibers without the use of water is called dope dyeing, spin dyeing or solution dyeing.
- Compared to traditional industrial dyeing methods, The We aRe SpinDye®-coloring process uses 75% less water consumption, 90% less chemical consumption, significantly improved energy consumption -25%, and CO2 imprint reduced by 30%
- Their Key Performance Indicators (KPI) are validated by 3rd part: RISE following the ISO Standard 14040.
- Their excellent color-fastness guarantees a longer garment lifetime and enhanced performance.

Click [here](#) to discover more.



**Supreme  
Colors  
Low Impact  
Radical  
Transparency**

## APPLICATIONS

Yarn

## REGION

Sweden

# PROCESSES

Huue specializes in making sustainable dyes for denim; the indigo coloring currently used requires the use of many toxic chemicals such as benzene, formaldehyde, and sodamide. The process also creates tons of carbon emissions. They have developed a biosynthetic indigo for jeans that is 5 times less polluting.

## **Characteristics / Properties:**

- Huue turns sugar into dye. They're bioengineers create microbes that consume sugar to enzymatically produce the color.
- In traditional dyeing methods, each kilogram of indigo produced uses 75x more petroleum than Huue.
- Their jeans are made without skin irritants or poisons such as formaldehyde and cyanide.
- Supporters and investors include IndieBio, Fashion for Good, and Melinda Gates' Female Founders Competition.

Click [here](#) to discover more.

# huue.

**We culture  
nature's  
rainbow to  
create a  
brighter future  
for the planet.**

## **APPLICATIONS**

Denim

## **REGION**

Oakland, CA

# PROCESSES

Graviky is working to drastically reduce the consequences of greenhouse gas emissions through carbon sequestration. Plastics, Ethanol, Liquors, and ink can be made from sequestered carbon. Their carbon based, black ink, AIRINK, is available in different forms such as markers and screen print, and began an international public art movement in cities such as Hong Kong, London, New York, Mumbai, Berlin, and Singapore.



## Characteristics / Properties:

- Huue began in the MIT Media Lab, where their team used candle soot in a printer cartridge, instead of traditional ink to print.
- They have designed technology to sequester PM 2.5 and PM 10 emissions. This air pollution waste is then used as pigments and ink, and tested for safety and stability.
- In collaboration with third party labs, the team analyzes and separates the pollution particulate to then be recycled. Their detailed analysis helps to ensure that the ink is then safe for consumer use.
- Graviky labs has partnered with major brands such as Mastercard, Heineken, and TED to develop sustainable products and support public art movements.

Everyday  
carbon-based  
products  
fueling an  
extraordinary  
future

## APPLICATIONS

Ink

## REGION

UK

Click [here](#) to discover more.

# PROCESSES

Smartex is the 4.0 groundbreaking technology provider operating in Europe, USA, and China, providing a unique patented system to improve production processes in the Textile Industry by integrating advanced Industry 4.0 elements, connecting manufacturing processes with IoT and Artificial Intelligence enabling, traceability and sustainability approaches to the textile production lines. Smartex attracted some of the most significant capital funds in the world, focusing on industrial technologies such as Momenta Partners, DCVC, Spider Capital, SOSV, and from the Fashion Industry such as Fashion for Good, a global initiative supported by C&A, Adidas, Kering Group, PVH, Stella McCartney, Target, Zalando and others.

## **Characteristics / Properties:**

- Smartex empowers circular knitting machines to improve production yields and reduce defective production by close to 0%. Thanks to scanning sensors, cameras, and powerful algorithms, the innovation can detect even the slightest flaw and communicate it to the machine.

**Click [here](#) to discover more.**

# SMARTEX.AI

- The estimated savings based on more than 50 systems installed in Portugal, Italy, and Turkey showed up to 21.613 liters of water can be spared if Smartex intervenes directly in the very first stage, avoiding defective production. Indeed, most of the time, defected textile rolls proceed to the dyeing and finishing stage, wasting time, water, and many other resources.
- The innovative technology has even allowed sparing 132 Kg of defective fabrics' weight per month per machine and saving 228 kg of CO2 and the usage of natural resources.

## **APPLICATIONS**

Circular Knitting

## **REGION**

EUROPE, USA, and CHINA

# PROCESSES

Created in 1919, Santoni is the very first Italian sock knitting machine manufacturer. In the last 20 years, Santoni has developed a series of circular electronic "Seamlesswear" knitting machines, becoming a worldwide leader in this technology. Initially limited to underwear production, their use has evolved into sportswear, beachwear, medical wear, knitwear, sweaters, and other types of outerwear apparel production. Thus, Santoni began focusing mainly on seamless machine production, including models which offered more flexibility in designing patterns and colors.

The constant drive in R&D and subsequent innovations in machines involves the fusion of two concepts; the hosiery concept joined together with the knitting technology concept has allowed SANTONI machines to have both huge potential and performance capabilities to enable them to shift easily between one sector of the textile field to another.

**Click [here](#) to discover more**

*Santoni*

With its range of several different types of machines, Santoni is the only Group that can cover most of the textile field segments to satisfy the various market requirements.

Santoni recently launched the X MACHINE, which offers the possibility to knit countless intarsia items for obtaining seamless uppers. The machine allows different mapping areas according to the type of yarn used, and the various combinations are chosen to produce a final product ready for application of the sole, the last manufacturing stage of the shoe.

## APPLICATIONS

Circular Knitting



## REGION

ITALY

**MANU  
FACT  
URING**

# MANUFACTURING

Beginning in 1981, Tonello has been manufacturing technology designed for sustainable garment finishing. They now develop washing and dyeing machines, accessories, and lasers. Their patented dyeing process, Obleach, uses ozone to create an environmentally friendly bleach, and their "Wake" dyeing system uses only plant and vegetable waste to create pigment.

## QUALITIES AND CHARACTERISTICS

- 90% of Tonello products and spare parts are designed and manufactured locally. By minimizing the impacts of shipping, they have significantly reduced fuel consumption as well as packaging waste and carbon emissions.
- Water used to test and inspect machines is reused and recycled. Machines are solar powered and green label certified.

**Click [here](#) to discover more.**

# Tonello

**We are the  
responsible  
reference  
point for the  
garment  
finishing  
industry.**

## APPLICATIONS

Textiles

## REGION

Italy

# MANUFACTURING

Profits Fund Global Holding Limited, PFGHL, is an international clothing enterprise focused on energy-efficient garment manufacturing. They have implemented advanced waste-reducing systems that include highly efficient lighting equipment, water cooling air conditioners, rainwater recycle, and solar energy. By improving the design of their factories, PFGHL has significantly reduced their carbon footprint and level of heat radiation.

## QUALITIES AND CHARACTERISTICS

- PFGHL develops socially responsible textile and fashion apparel production services including dyeing, weaving, garment manufacturing and worldwide delivery.
- Clients can receive one-day lab-dipping services and three-day sampling services due to the high-tech dye house and sampling room.
- PFGHL is Bluesign certified.

**Click [here](#) to discover more.**

The logo for PFGHL, consisting of the letters 'PFGHL' in a bold, orange, sans-serif font, with a small 'TM' trademark symbol to the right.

**Creating a future  
in which  
humanity, the  
environment,  
and productivity,  
mutually equate  
in a cycle of  
global  
innovation.**

## APPLICATIONS

Textiles

## REGION

Hong Kong

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## APPLICATIONS

Textiles

## REGION

Hong Kong

# MANUFACTURING

NIUVI is a white label resale platform for luxury brands. NIUVI allows brands to buy back their products in exchange for store credits enabling future purchases. Then NIUVI resells these preowned products under the brand's name through the brand's own resell e-commerce. Buy-back price is optimized through AI to ensure profitability.

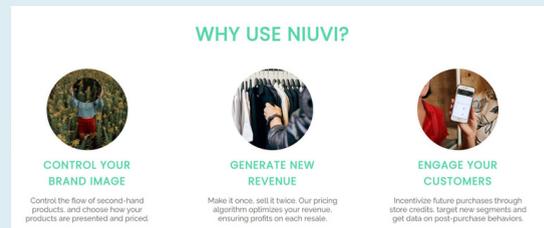
# NIUVI



## BENEFITS FOR BRANDS

- Increase revenue through repeat purchases of customers and acquiring new customer segment
- Control brand image and flow of products to the second-hand market protecting new collections
- Reduce your footprint: make your brand future-proof by meeting consumer expectations for sustainability

Click [here](#) to discover more.



## APPLICATIONS



## REGION

GLOBAL

**TRIMS**

# TRIMS

As an important member of society, a company survives through coexistence. When the benefits are shared, the value of the company's existence will be recognized by society. When pursuing his business in 1934, YKK's founder, Tadao Yoshida, was most concerned with that concept and would find a path leading to mutual prosperity. He believed that using ingenuity and inventiveness in business activities and constantly creating new value would lead to the prosperity of clients and business partners and make it possible to contribute to society. This type of thinking is referred to as the "Cycle of Goodness" and has always served as the foundation of YKK's business activities. "YKK has a long history of environmental stewardship, which is an integral part of our "Cycle of Goodness" philosophy. Our Environmental Pledge was signed by our CEO in 1994, and we created NATULON®, the first zipper made from recycled PET bottles and polyester remnants, 26 years ago", says Hiroaki Otani, president, YKK Corporation.

**Click [here](#) to discover more.**

# YKK

*Little Parts. Big Difference.®*

"Signing the Fashion Industry Charter for Climate Action signals to the world not only our continued commitment to sustainability in our product development and manufacturing processes but also our desire to work together with other organizations in the industry to accelerate the reduction of GHG emissions." YKK produces two types of NATULON® tapes; Chemically recycled polyester tape, which has the same quality as virgin polyester; therefore, it is continuously recyclable, or material recycled polyester tape aiming to limit the production of new materials.

## Product Certifications

bluesign®

## Applications



## Region

ASIA

**PACK**

**A**

**GING**

# PACKAGING

Bettering Packing Co. is a one-stop shop for environmentally friendly shipping supplies. Their catalog includes solutions for labels, tapes, stickers, garment bags, mailers, envelopes and more. They also fully customizable allowing you to take your branding to the next level.



While developing methods to become a 'zero waste' company, they currently offer a vast range of products including:

- Bags manufactured from 100% ocean bound plastic pollution
- A reusable mailer composed of natural materials including organic cotton and FSC certified paper
- compostable ziplock bags and mailers



Better Packing Co. is focused on continuous innovation, quality, and product stewardship. The last of which resulting in a collection network so that those without access to home compost can dispose of their product properly.

## CERTIFICATIONS

Home Compostible - AS 5810  
OK Home Compost  
Seedling Commerically  
Compostible / Industrially  
Compostible  
Carbon Neutral / Climate Positive  
BCorp  
REACH Certified  
RoHS Certified

## REGION

NZ

**Click [here](#) to discover more.**

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Compostible  
Carbon Neutral / Climate Positive  
BCorp  
REACH Certified  
RoHS Certified

## REGION

NZ

**FU  
TU  
RE**

**DEVICES**

THE ULTIMATE VEHICLE FOR  
INNOVATION: DIGITAL  
SUSTAINABILITY. DISCOVER  
SMART DIGITAL AND VISIONARY  
TOOLS AND INNOVATIONS TO  
ADVANCE AND COMMUNICATE  
RESPONSIBLE FASHION.

# FUTURE DEVICES

**bext** 

Bext360 develops technologies that strengthen local businesses and communities in emerging economies by increasing access to capital and streamlining critical supply chains. Bext360's platform revolutionizes supply chains with IoT, blockchain, machine vision, and artificial intelligence while bringing consumers and farming communities together to improve product quality, community livelihoods, and the consumer experience. Bext360 technology builds upon the fundamental shift in mobile access, microfinance, and mobile/digital payments in developing countries. A guiding principle of Bext360 is to build community by enabling buyers and other organizations with direct paths to improve the quality of both the product and the communities that produce their goods, whether it is coffee, seafood, cotton, or palm oil.

Click [here](#) to discover more.



## APPLICATIONS

IoT, blockchain, machine vision,  
and artificial intelligence

## REGION

GLOBAL

**COMPANY**

**CER**

**TI**

**FI**

**CA**

**TIONS**

## **BETTER COTTON INITIATIVE**

The Better Cotton Initiative (BCI) is the largest cotton sustainability programme in the world. Together with our partners, we provide training on more sustainable farming practices to more than two million cotton farmers in 21 countries. In the 2017-18 cotton season, licensed BCI Farmers produced more than five million metric tonnes of 'Better Cotton' – that accounts for around 19% of global cotton production! Find out more about our work and how we are progressing towards our 2020 targets in our 2018 Annual Report.

<https://bettercotton.org/>

## **BLUESIGN**

BLUESIGN is a system that provides safer and more sustainable environments for people to work in and everyone to live in. Powered by a holistic approach, BLUESIGN traces each textile's path along the manufacturing process, making improvements at every stage from the factory floor to the finished product. BLUESIGN changes the environmental impact of textiles for good. As a solution provider and knowledge broker, BLUESIGN acts as an independent verifier to secure trust and transparency. Corresponding to this approach, BLUESIGN encourages the industry to increase its efforts in sustainable processes step by step.

<https://www.bluesign.com/en>

## **DETOX by Greenpeace**

A global movement of fashionistas, activists, designers, and bloggers united by a belief that beautiful fashion shouldn't cause toxic pollution. The Greenpeace Detox campaign actually aims to eliminate all hazardous chemicals from the textile supply chain by 2020.

<https://www.greenpeace.org/international/act/detox/>

## **ISO 9000**

ISO 9000 is defined as a set of international standards on quality management and quality assurance developed to help companies effectively document the quality system elements needed to maintain an efficient quality system. They are not specific to any one industry and can be applied to organizations of any size.

ISO 9000 can help a company satisfy its customers, meet regulatory requirements, and achieve continual improvement. It should be considered to be a first step or the base level of a quality system.

<https://asq.org/quality-resources/iso-9000>

## **ISO 9001**

The acronym ISO 9001 identifies a series of standards and guidelines developed by the International Organization for Standardization, which define the requirements for the implementation, within an organization, of a quality management system, in order to manage business processes, improve effectiveness and efficiency in product development and service provision, achieve and increase customer satisfaction.

[www.services.accredia.it/context.jsp?](http://www.services.accredia.it/context.jsp?ID_LINK=1230&%3Barea=6)

[ID\\_LINK=1230&%3Barea=6](http://www.services.accredia.it/context.jsp?ID_LINK=1230&%3Barea=6)

## **ISO 14000**

The ISO 14000 family of standards provides practical tools for companies and organizations of all kinds looking to manage their environmental responsibilities.

<https://www.iso.org/iso-14001-environmental-management.html>

## **ISO 14001**

ISO 14001 identifies the standard that sets out the requirements for the environmental management systems (EMS) of any organization. It is part of the ISO 14000 family of standards developed by ISO/TC 207. The standard can be used for certification, for self-declaration, or simply as guidance to establish, implement, and improve an environmental management system.

[www.services.accredia.it/context.jsp?ID\\_LINK=1231&area=6](http://www.services.accredia.it/context.jsp?ID_LINK=1231&area=6)

## **ISO 50001**

The ISO 50001 international standard specifies the requirements for creating, starting up, maintaining, and improving an energy management system. The objective of this system is to allow an organization to pursue, with a systematic approach, the continuous improvement of its energy performance, including energy efficiency as well as the consumption and use of energy.

[www.csqa.it/CSQA/Norme/Energia-e-Gas-Serra/ISO-50001](http://www.csqa.it/CSQA/Norme/Energia-e-Gas-Serra/ISO-50001)

## **Leather Working Group (LWG)**

Founded in 2005, the Leather Working Group (LWG) is a multistakeholder organization comprised of brands and retailers, leather manufacturers, suppliers, traders, and technical experts working towards improving environmental stewardship within the leather manufacturing industry. The objective of the group is to provide, maintain and develop environmental auditing protocols, which assess the compliance and environmental performance of leather manufacturers across the globe, whilst also promoting sustainable and appropriate environmental business practices.

[https://www.leatherworkinggroup.com/contentfiles/files/32279\\_LWG\\_8pp\\_Brochure\\_Final\\_No\\_Crops.pdf](https://www.leatherworkinggroup.com/contentfiles/files/32279_LWG_8pp_Brochure_Final_No_Crops.pdf)

## **SA 8000**

The SA8000® Standard is the leading social certification standard for factories and organizations across the globe. It was established by Social Accountability International in 1997 as a multi-stakeholder initiative. Over the years, the Standard has evolved into an overall framework that helps certified organizations demonstrate their dedication to the fair treatment of workers across industries and in any country.

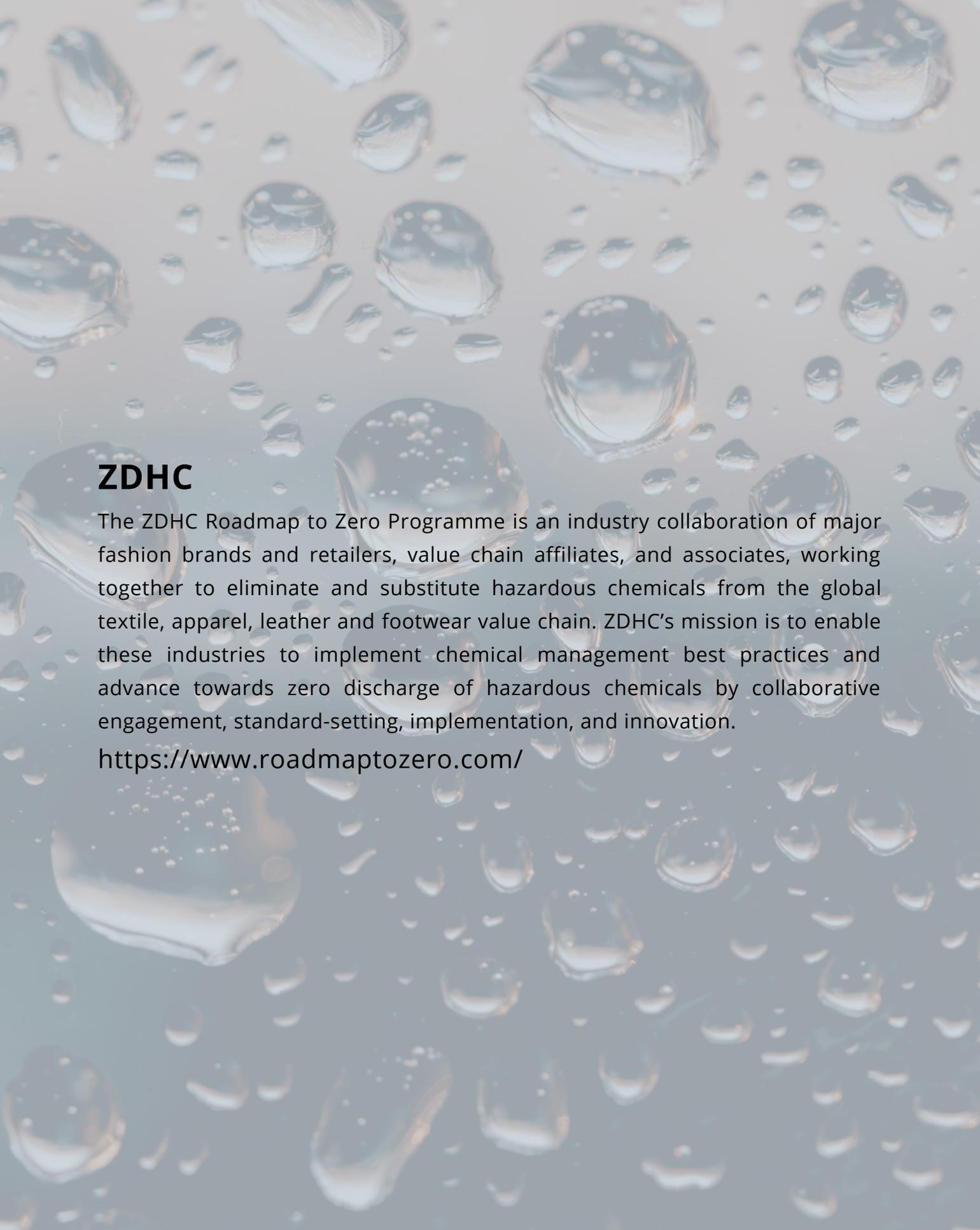
SA8000 measures social performance in eight areas important to social accountability in workplaces, anchored by a management system element that drives continuous improvement in all areas of the Standard. It is appreciated by brands and industry leaders for its rigorous approach to ensuring the highest quality of social compliance in their supply chains, all the while without sacrificing business interests.

<http://www.sa-intl.org/index.cfm?fuseaction=Page.ViewPage&PageID=1689>

## **STeP**

Standard STeP (Sustainable Textile Production) by OEKO-TEX® is an independent certification system for brands, retailers, and manufacturers in the textile industry who wish to inform the public, in a transparent and credible way, of the steps they are taking towards more sustainable production conditions. The STeP certification allows for a comprehensive analysis and assessment of all relevant company areas with respect to the use of environmentally friendly technologies and products, to efficient use of resources, and to the adoption of socially adequate working conditions.

[www.oekotex.com/it/business/certifications\\_and\\_services/step\\_by\\_oeko\\_tex/step\\_start.xhtml](http://www.oekotex.com/it/business/certifications_and_services/step_by_oeko_tex/step_start.xhtml)



## **ZDHC**

The ZDHC Roadmap to Zero Programme is an industry collaboration of major fashion brands and retailers, value chain affiliates, and associates, working together to eliminate and substitute hazardous chemicals from the global textile, apparel, leather and footwear value chain. ZDHC's mission is to enable these industries to implement chemical management best practices and advance towards zero discharge of hazardous chemicals by collaborative engagement, standard-setting, implementation, and innovation.

<https://www.roadmaptozero.com/>

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## **BLUESIGN**

BLUESIGN is a system that provides safer and more sustainable environments for people to work in and everyone to live in. Powered by a holistic approach, BLUESIGN traces each textile's path along the manufacturing process, making improvements at every stage from factory floor to finished product. BLUESIGN changes the environmental impact of textiles for good. As a solution provider and knowledge broker, BLUESIGN acts as an independent verifier to secure trust and transparency. Corresponding to this approach, BLUESIGN encourages the industry to increase its efforts in sustainable processes step by step.

<https://www.bluesign.com/en>

## **CRADLE TO CRADLE**

Cradle to Cradle Certified™ is a globally recognized measure of safer, more sustainable products made for the circular economy. Product designers, manufacturers, and brands around the world rely on the Cradle to Cradle Certified Product Standard as a transformative pathway for designing and making products with a positive impact on people and the planet. From fragrances to flooring, t-shirts and jeans to water bottles and window treatments, thousands of products are Cradle to Cradle Certified. What's more, a growing number of brands, organizations, and standards also recognize Cradle to Cradle Certified as a preferred product standard for responsible purchasing decisions.

The Cradle to Cradle Certified Product Standard is rooted in the Cradle to Cradle® design principles established by William McDonough and Dr. Michael Braungart. To receive certification, products are assessed for environmental and social performance across five critical sustainability categories: material health, material reuse, renewable energy and carbon management, water stewardship, and social fairness. A product is assigned an achievement level (Basic, Bronze, Silver, Gold, Platinum) for each category. A product's lowest category achievement also represents its overall certification level. The standard encourages continuous improvement over time by awarding certification on the basis of ascending levels of achievement and requiring certification renewal every two years.

<https://www.c2ccertified.org/get-certified/product-certification>

## **OCS**

The Organic Content Standard (OCS) applies to any non-food product containing 95-100 percent organic material. It verifies the presence and amount of organic material in a final product and tracks the flow of the raw material from its source to the final product.

The OCS 100 relies on third-party verification to confirm whether a final product contains the accurate amount of a given organically grown material. OCS allows for transparent, consistent, and comprehensive independent evaluation and verification of organic material content claims on products. OCS 100 covers the processing, manufacturing, packaging, labeling, trading, and distribution of a product that contains at least 95 percent certified 'organic' materials. It can be used as a business-to-business tool to give companies the means to ensure that they are selling quality and getting what they pay for.

<https://certifications.controlunion.com/en/certification-programs/certification-programs/ocs-100-organic-content-standard>

## **LEATHER STANDARD by OEKO-TEX®**

LEATHER STANDARD by OEKO-TEX® is a standardized worldwide testing and certification system for leather and leather items from all stages of production. This includes semi-finished products (wet-blue, wet-white, crust) up to finished products. You can certify finished leather, leather fibre materials, ready-made articles, accessories, leather gloves, leather bags, leather covers, and more in accordance with LEATHER STANDARD. We do not certify leather materials from exotic animals such as crocodiles, snakes, and armadillos.

<https://www.oeko-tex.com/en/apply-here/leather-standard-by-oeko-tex>

## **FSC**

The FSC is an independent, third-party, international certification specifically intended for the forest sector and for timbered and non-timbered forest-derived products. There are two types of FSC certification: Forest Management certification, for forest owners and managers, and Chain of Custody certification, for companies processing and/or trading forest products.

[www.ic.fsc.org/en](http://www.ic.fsc.org/en)

## **GOTS**

The Global Organic Textile Standard (GOTS), a certification recognized by all major markets, guarantees that organic textile products are made in compliance with stringent environmental and social criteria throughout the supply chain, from the harvesting of natural fibers to the subsequent manufacturing stages, up to the labelling of the finished product. This certification attests to the sustainable production of garments and textiles made from natural fibers from organic farming. GOTS parameters include technical and environmental quality, as well as toxicity and social protection, which are guaranteed throughout the supply chain by the certification itself.

[www.global-standard.org/certification.html](http://www.global-standard.org/certification.html)

## **GRS**

The Global Recycled Standard (GRS), promoted by Textile Exchange, is one of the most important non-profit organizations promoting responsible and sustainable development in the textile industry worldwide. The GRS provides tests and parameters for the following areas: product composition and recycled materials content; traceability maintenance throughout the production process; restrictions on the use of chemical agents; compliance with relevant environmental parameters such as supply, discharge of water resources and energy recovery; compliance with social parameters relating to workers' rights.

[www.textileexchange.org/wp-content/uploads/2017/06/Global-Recycled-Standard-v4.0.pdf](http://www.textileexchange.org/wp-content/uploads/2017/06/Global-Recycled-Standard-v4.0.pdf)

## **EDP**

An Environmental Product Declaration (EPD) is an independently verified and registered document that communicates transparent and comparable information about the life-cycle environmental impact of products. As a voluntary declaration of the life-cycle environmental impact, having an EPD for a product does not imply that the declared product is environmentally superior to alternatives.

<https://www.environdec.com/What-is-an-EPD>

## **IVN**

IVN has been involved in developing a standard for sustainable leather since 2001. The quality seal NATURLEDER IVN ZERTIFIZIERT certifies a high level of ecology and quality for the labeled product.

A high technical and ecological standard for the leather products it certifies is of prime importance to IVN. To that end, all stages of the production chain are evaluated, beginning with the raw material and including sales and usage of the finished leather (not the finished product).

A meaningful savings of resources, environmental and health protection in both the production and usage as well as user-friendly design are benchmarks for this evaluation. Both the product and its processing steps are evaluated from different perspectives. Environmental footprint, individual hazardous substances as well as the disposal and/or possibilities of recycling are appraised and documented. Health-related issues are an important criterion. These are evaluated both as they relate to persons involved in the production and to persons using the product.

<https://naturtextil.de/en/ivn-quality-seals/about-naturleder-ivn-zertifiziert/>

## **RCS**

The RCS (Recycled Claim Standard) is used as a chain of custody standard to track recycled raw materials through the supply chain. The standard was developed through work done by the Materials Traceability Working Group, part of OIA's Sustainability Working Group. The RCS uses the chain of custody requirements of the Content Claim Standard.

The RCS verifies the presence and amount of recycled material in a final product. This happens through input and chain-of-custody verification from a third party. It allows for the transparent, consistent, and comprehensive independent evaluation and verification of recycled material content claims on products. RCS can be used as a business-to-business tool to give companies the means to ensure that they are selling quality products and getting what they pay for. It is also used as a way to ensure accurate and honest communication with consumers. This includes companies in ginning, spinning, weaving and knitting, dyeing and printing, and stitching.

<https://certifications.controlunion.com/en/certification-programs/certification-programs/rcs-100-recycled-claim-standard>

## **RDS**

The Responsible Down Standard is an independent, voluntary global standard, which means that companies can choose to certify their products to the RDS, even if there is no legislation requiring them to do so. The RDS was developed and revised over three years, with the input of animal welfare groups, industry experts, brands and retailers. The standard recognizes and rewards the best practices in animal welfare.

<https://responsibledown.org/>

## **RESPONSIBLE WOOL STANDARD**

The Responsible Wool Standard is an independent, voluntary standard. On farms, the certification ensures that sheep are treated with respect to their Five Freedoms and also ensures best practices in the management and protection of the land. Through the processing stages, certification ensures that wool from certified farms is properly identified and tracked.

<https://responsiblewool.org/about-rws/>

## **STANDARD 100 by OEKO-TEX®**

The STANDARD 100 by OEKO-TEX® is a worldwide consistent, independent testing and certification system for raw, semi-finished, and finished textile products at all processing levels, as well as accessory materials used. Since its introduction in 1992, the central focus of the STANDARD 100 by OEKO-TEX® has been the development of test criteria, limit values, and scientific test methods. On the basis of its comprehensive and strict list of requirements, comprising several hundreds of regulated individual substances, the STANDARD 100 by OEKO-TEX® takes account of:

- important legal regulations regarding azo colorants, formaldehyde, pentachlorophenol, cadmium, nickel, etc;
- numerous harmful chemicals, dangerous for health, even if they are not yet regulated by law;
- the requirements of Annexes XVII and XIV of the European Chemicals Regulation REACH as well as of the ECHA SVHC Candidate List insofar as they are assessed by the OEKO-TEX® Expert Group to be relevant for fabrics, textiles, garments or accessories. Following discussions and developments that are considered relevant, the STANDARD 100 by OEKO-TEX® requirements are updated as quickly and effectively as possible;
- requirements of the US Consumer Product Safety Improvement Act (CPSIA) for lead;
- numerous classes of substances that are also relevant for the environment.

[www.oeko-tex.com/it/business/certifications\\_and\\_services/ots\\_100/ots\\_100\\_start.xhtml](http://www.oeko-tex.com/it/business/certifications_and_services/ots_100/ots_100_start.xhtml)

**NEW**

**VALUES**

## **Higg Index**

Developed by the Sustainable Apparel Coalition, the Higg Index is a suite of tools that enables brands, retailers, and facilities of all sizes — at every stage in their sustainability journey — to accurately measure and score a company or product's sustainability performance. The Higg Index delivers a holistic overview that empowers businesses to make meaningful improvements that protect the well-being of factory workers, local communities, and the environment.

<https://apparelcoalition.org/the-higg-index/>

## **LCA**

LCA stands for Life Cycle Assessment: it is a tool used to analyze the environmental impact of a product, activity, or process throughout all phases of the life cycle, by quantifying the use of resources (energy, raw materials, water) and the emissions discharged into the environment (air, water, and soil) associated with the system being assessed. When it is decided that an LCA should be carried out on a given product, it is first necessary to identify the processes involved in the life cycle of each component of the product and its packaging. Generally, the analysis takes into account: extraction and supply of raw materials; production; packaging; transport from the production site to the point of sale; use; disposal of the product, and packaging.

[www.etichettaambientale.it/lca.html](http://www.etichettaambientale.it/lca.html)

## **Tessile e Salute**

Associazione Tessile e Salute (Textile and Health Association) has developed a voluntary certification system that assesses the production process and confirms the absence of hazardous substances, with objective criteria and transparency. The twofold goal is to give importance to companies that operate in compliance with mandatory regulations and provide consumers with guarantees as to the origin, traceability, and safety of their clothing and footwear. Founded in 2001, Associazione Tessile e Salute sides with consumers and protects The Made in Italy. It deals with eco-toxicology in the Textile and Fashion sectors, combining the skills of the public system with those of the textile, leather, and chemical production chains.

[www.tessileesalute.it/en](http://www.tessileesalute.it/en)

## **TF - Traceability & Fashion**

TF - Traceability & Fashion is a voluntary system managed by Unionfiliera and promoted by Unioncamere and Italy's Chambers of Commerce. Its objective is to certify and increase the value of the products of the "made in Italy" supply chains.

Its aim is to create a voluntary certification scheme providing transparent information to consumers on:

- Locations of the main production stages of the production chain.
- The health values supporting the product, how environmentally friendly the product is, and the manufacturer's social responsibility.

<http://www.tfashion.camcom.it//P42A0C0S160/Il-sistema-di-tracciabilita.htm>

[www.oeko-tex.com/it/business/certifications\\_and\\_services/ots\\_100/ots\\_100\\_start.xhtml](http://www.oeko-tex.com/it/business/certifications_and_services/ots_100/ots_100_start.xhtml)

IF YOU ARE INTERESTED IN RECEIVING MORE  
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