



UNWIND THE GREEN THREAD

THE ECO-SYSTEM SHOWCASE



INTERFILIÈRE
HONG KONG



EDITORIAL

***Sustainable Development "meets the needs of the present without compromising the ability of future generations to meet their own needs".
(Brundtland Report, 1987)***

Corporate social responsibility, once considered a communicator's gimmick, has become a truly strategic imperative for businesses. It plays a key part in developing their brand image and in attracting new talent and investors. More than ever before, companies are therefore looking to reconcile business profitability with social responsibility, and the textile and apparel industry is no exception to this trend.

Moreover, our industry is faced with considerable environmental impacts on a global scale. It is indeed tempting for textile companies, who manufacture and market their products with a view to achieving the best price-quality ratio, to alter the quality factor in order to keep their costs down and increase their market shares.

In a context where global trade is made easier through the relaxation of tariff and non-tariff barriers, the degradation of social and environmental production conditions consequently becomes a real pitfall to avoid.

This makes it urgent for action to be taken. Sustainable Development has become a necessity in the global economy, with regard to problems of poverty, climate change and inequality in the world. It provides a solution to one of the greatest challenges of our times: changing our production and consumption habits!

In this leaflet, you will discover initiatives which are both innovative and respectful of the environment and social aspects. Ecodesign of products, monitoring working conditions and control over chemical substances are amongst the courses of action we propose.

Happy reading!

Delphine Nguyen
Exhibition Manager
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“The definition of courage is carefully watching over your spinning or sewing machine, ensuring that no thread breaks, while preparing a greater and more fraternal social order, in which the machine is the common servant of liberated workers.”

Jean Jaurès

WHAT ARE THE MAIN SOCIAL AND ENVIRONMENTAL CHALLENGES FACED BY THE TEXTILE AND APPAREL INDUSTRY?

Aside from the distribution stage, at least 5 main steps are needed for the production of a garment: growing the fibre, spinning, weaving or knitting, finishing (dyeing, printing...) and making the garment.

Nowadays, each of these production stages can be conducted in a different country. During these stages, men and women work, using raw materials, water, energy, chemicals and therefore “make demands” on the environment in one way or another.

If we look at the example of cotton, it is one of the most polluting materials to grow, as it consumes 25% of the insecticides and 11% of the pesticides used in the world, while it represents only 2.4% of cultivated land on the planet. It also requires a lot

of water: irrigation of cotton fields in Uzbekistan and Kazakhstan would thus be responsible for drying up the Aral Sea!

Spinning, weaving/knitting and finishing stages also consume energy, water and chemicals. Some of the chemicals, used in vast quantities in the finishing stages (dyeing, printing and dressing...), can pose a danger to the environment, as well as to workers' and consumers' health.

As for the garment making stage, it is subjected to tough competition in terms of labour costs... Thus, in an industry where it is harder and harder to maintain market shares, many companies outsource or delocalise product manufacturing to countries that are not subject to the same regulatory, social, and environmental constraints as those imposed in regions such as Europe. The textile and apparel industry has therefore frequently been widely talked about over the last few years: massive use of chemical inputs that are harmful



to the planet, the workforce and consumers, appalling working conditions, increased health and safety risks...

But nowadays, expectations of consumers, who have increasingly become “responsible consumactors”, growing regulatory pressure, the emergence of information overload... are pushing the textile and apparel industry to take all these social and environmental issues into consideration. All actors, whatever their position in the manufacturing or distribution chain, and all the products, whether they are low-end or luxury products, are affected.



HOW IS A COMPANY-WIDE SUSTAINABLE DEVELOPMENT PROCEDURE IMPLEMENTED?

According to the European Commission, CSR (Corporate Social Responsibility) refers to a “concept whereby companies integrate social and environmental concerns in their operations”.



CSR implies that businesses re-evaluate their economic model and their strategy by integrating environmental issues such as climate change or increasing scarcity of resources, social issues such as diversity or respect for human rights, while maintaining compliance with good governance rules. It has a bearing on both multinationals and small and medium-sized businesses, but takes different forms from one industry to another.

CSR policies, initiated through the management’s commitment and impetus, must also be built with the company’s stakeholders: employees, shareholders, suppliers, clients, consumers, as well as local residents and civil society in general, for

which, to a certain extent, NGOs play the role of spokespersons. When the decision is made to commit to a CSR approach, the next step is to identify the levers that will enable CSR to integrate as harmoniously as possible within the organisation, culture and existing constraints...

There are several international initiatives that can guide businesses in their efforts, such as “Global Compact” and “Global Reporting Initiative”, who offer general guidelines.

There are also several international management system standards. Some standards, such as **ISO 26000** or **SA 8000**, cover the three pillars of Sustainable Development, while others are aimed at improving a business in terms of specific areas such as quality management (**ISO 9001**), environmental management (**ISO 14001**) or health and safety management (**OHSAS 18001**).



ISO 26000 : EVERY ASPECT OF CSR

Drafting the ISO 26000 standard for Corporate Social Responsibility was a multi-party process (businesses, trade unions, consumer associations, NGOs, etc.), in which over 500 experts from 90 countries took part. This non-binding standard is of a “behavioural” nature, and may not be used for certification.

The standard establishes the first definition of CSR on a global scale and applies to any kind of organisation, whether it be a company, a local authority or an NGO.

Seven principles are defined:

- Organisational governance (transparency, dialogue with stakeholders, etc.).
- Human rights.
- Working conditions and relations.
- Environment.
- Good business practice.
- Consumer issues.
- Community engagement.

For each of the principles, action areas and good practices are specified. The frame of reference is broad and exhaustive, which allows it to cover most impacts of businesses, whatever their size.



STEP 1

THE CSR APPROACH TAKES THE ENVIRONMENTAL IMPACT OF PRODUCT DESIGN INTO ACCOUNT

“It is useless for man to conquer the moon if he has lost the earth.”
François Mauriac

WHAT IS ECODESIGN?

“Ecodesign consists in integrating the environment from the design of a product or service, and throughout all the stages of its life cycle” (AFNOR, 2004).

This integration is based on a global, multi-criteria approach to the environment, which entails preventing and/or reducing environmental impacts at their root (reducing consumption of raw material and energy, waste, emissions, etc.).

WHY DO WE MENTION ECODESIGN?

No product goes through its life cycle without consuming or polluting. We cannot avoid consuming mineral, plant or animal resources, etc. or for that matter energy resources, water, or natural areas linked to cultivation or farming. All products also generate substances which are released into water, air or soils: waste water, fumes, etc.

impacting on the environment and leading to depletion of natural resources, air and water pollution, generation of waste, etc.

For this reason, all products deserve to be given environmental attention by their designers. Ecological characteristics of each product can and must be improved.

HOW DO COMPANIES BENEFIT?

Nowadays, companies need to rely on innovation and creativity in order to stand out. Ecodesign brings these two characteristics together while better respecting the environment.

Setting up an eco-design approach therefore presents a company with several opportunities:

- To enhance its image.
- To maintain and possibly reduce some costs and thus increase its profit margins.
- To increase sales and access new markets, for instance with more innovative products.
- To meet expectations of consumers, who are becoming more and more sensitive to and aware of Sustainable Development.

- To build customer loyalty.
- To optimise its products.
- To stand out from competitors.

HOW CAN THIS BE ACHIEVED IN PRACTICAL TERMS?

A product’s Life Cycle Assessment (LCA) is the reference method in the area of environmental evaluation of products, and thus of ecodesign. It is defined by international standards ISO 14040 and ISO 14044. An LCA quantifies incoming/outgoing fluxes of materials and energy at each stage of a product’s life cycle, from the extraction of the raw materials of which it is made through to its elimination at the end of its life, including the production, distribution and utilisation stages, in other words *from cradle to grave*.



Source: Worldwatch Institute

A company which takes on an eco-design approach identifies the main environmental impacts at each stage (water and energy consumption, global warming, depletion of natural resources, acidification, eutrophication, aquatic and human toxicity, amount of waste generated, etc.) and attempts to act by selecting more “eco-friendly” fibres,

reducing greenhouse gas emissions, conserving water, etc. To name just some of the choices that have a direct effect on the environment.

WHAT ENVIRONMENTAL POTENTIAL DO THE MAIN TEXTILE FIBRES HAVE?

In the textile industry, the main inputs are the raw materials used for producing thread, fabric and finally the finished product.

In the absence of official definitions of “eco”, “sustainable” and “green”, it is still difficult today to make THE right choice in terms of “environmentally friendly” fibres.

TEXTILE FIBRES CAN BE CLASSIFIED INTO SEVERAL CATEGORIES

- **Natural fibres**
The textile material is found in nature in the form of fibres. They are **animal fibres** (wool, cashmere, alpaca, silk, etc.) and **vegetable fibres** (cotton, linen, hemp, etc.).
- **Chemical fibres**
The textile material is obtained through chemical transformation and does not exist in the form of fibres found in nature. They are **artificial fibres**, produced from materials of natural origin which undergo chemical treatment (viscose, lyocell, modal, etc.) and **synthetic fibres**, obtained through complex chemical reactions of raw materials (polyester, polyamide, elastane, etc.).

MATERIALS	FIBRES	ENVIRONMENTAL ADVANTAGES	ENVIRONMENTAL DISADVANTAGES	REQUIRED COMPOSITION LABEL
Organic cotton	Natural vegetable	Production of the cotton is non toxic, no fertiliser or weed killer used.	Crop rotation limits production, considerable use of water, grown in hot climates.	Cotton. Must not be labelled as "organic cotton": this is best promoted on a marketing label.
Recycled cotton	Natural vegetable	No impact from cultivation thanks to different sources of provision of the material: production discards from the thread and fabric stages, unsold and used garments which are reprocessed and re-spun.	None.	Cotton.
Linen	Natural vegetable	Very resistant plant, requires little water, pesticides, fertilisers.	None.	Linen.
Hemp	Natural vegetable	No treatment required during plant growth, aside from potential weeding.	The plant remains difficult to turn into thread.	Hemp.
Untreated wool	Natural animal	No chemical anti-parasitic treatment to the sheep's fleece, scouring with biodegradable soap, carbonising without sulphuric acid, oiling with vegetable oils, finishing without heavy metals or toxic dyes.	None.	Wool.
Lyocell	Chemical artificial	Solvent (NMMO) used for spinning is biodegradable and recycled. Fibre is Oeko-Tex® Standard 100 approved.	None.	Lyocell.
Bamboo viscose	Chemical artificial	Bamboo plant, which requires little water, very rapid growth and is biodegradable.	Viscose process is very polluting: toxic solvent release (caustic soda, sulphuric acid, etc.). <i>Note: it is possible to obtain lyocell from bamboo, much less polluting.</i>	Viscose.
Lenpur®	Chemical artificial	Use of pruned Canadian white pine branches; trees are not felled. Fibre is Oeko-Tex® Standard 100 approved.	Few data as the process has patent protection.	Viscose.
Fibre obtained from the shell of a crab	Chemical artificial	Biodegradable, raw material (chitin) is renewable and abundant.	Very polluting viscose process: toxic solvent release (caustic soda, sulphuric acid, etc.).	Viscose.
Fibre obtained from milk casein	Chemical artificial	Fibre is Oeko-Tex® Standard 100 approved.	Milk casein difficult to extract industrially, sulphuric acid used in spinning.	Protein.
Fibre obtained from soya	Chemical artificial	Soya plant is very resistant, reduced energy costs (transfer paper printing is possible at room temperature).	Transgenic cultivation and raw material also used in the food industry.	Protein.
Recycled polyester	Chemical synthetic	Recycling of used plastic from everyday consumer products and production discards from the thread and fabrics stages, unsold or used articles of clothing which are chemically reprocessed and re-spun.	Recycling by fusion which can only be performed twice due to impurities. Can be recycled by depolymerisation ad infinitum.	Polyester.
PTT	Chemical synthetic	Reduced energy consumption (-40%) and greenhouse gas emissions (-50%) compared with synthesis of conventional polyester.	Transgenic cultivation and raw material (sugar plant or corn starch) also used in the food industry.	Polyester.
Poly lactide	Chemical synthetic	Biodegradable, biocompatible and bioresorbable.	Transgenic cultivation and raw material (sugar plant or corn starch) also used in the food industry.	Poly lactide.
Recycled polyamide	Chemical synthetic	Reduced energy consumption and greenhouse gas emissions compared with synthesis of virgin polyamide, thanks to different material supply sources: production discards from the thread and fabrics stages, unsold or used articles of clothing which are chemically reprocessed and re-spun.	Few data available on chemical dissolving process used.	Polyamide.

Did you know?
A conventional cotton shirt has 7 times more impact than a linen shirt in terms of aquatic ecotoxicity and water consumption.



HOW CAN WE REDUCE GREENHOUSE GAS EMISSIONS?

The **greenhouse effect** is a natural physical phenomenon. Some gases, which are present in small quantities in the atmosphere, such as **CO₂ (carbon dioxide) or methane**, trap a large amount of heat from the sun's rays and by doing so, maintain an average temperature of 15°C. Without them, the average temperature on the planet would fall to -18°C.



However, economic development has led to increasing emissions, particularly CO₂ emissions. Since the Kyoto protocol was signed, in 1997, the wealthiest nations have agreed to halve their impact on the climate by 2050... There is, as of yet, no international agreement on a common approach to quantifying or communicating regarding greenhouse gas emissions.

Which is why conducting a GreenHouse Gas (GHG) assessment has become unavoidable in joining the fight against climate change, an issue which draws the attention of more and more stakeholders, both public and private.

Alongside essential measures for reducing energy consumption and developing renewable energies, the **voluntary carbon offset mechanism can provide an additional solution.**

This consists in measuring greenhouse gas emissions generated by an activity (transport, heating, etc.) and, after having searched for ways to reduce these emissions, in financing a greenhouse gas emission reduction or carbon sequestration project. It is a financing mechanism whereby an entity (administration, company, individual) partly or wholly substitutes reducing the source of its own greenhouse gas emissions with an equivalent quantity of "carbon credits", by purchasing them from a third party.



In practice, the idea is that a given quantity of carbon emitted in one place can be "offset" through reduction or sequestration of an equivalent quantity of carbon somewhere else.

HOW CAN WE CONSERVE WATER?

12 000 new chemicals are put on the market every day. In this constantly expanding world, over 49 million chemicals are marketed, with a lifetime which extends far beyond the use they were originally intended for. Many of them penetrate the air, soil, rivers and seas, thus continuously exposing humans and ecosystems to these invisible contaminants.

Water conservation is paramount and its management must be considered a competitive factor for each company.

The textile and apparel industry generates water pollution as water is used in many production steps:

- **Wool scouring**, which releases grease, suint and other impurities.
- **Weaving and knitting**, which commonly use gummig agents and lubricants.
- **Dyeing**, which uses dyes, auxiliary agents or detergents, etc.
- **Printing**, which consumes pigments, dyes, bonding agents and other thickeners.
- Fabric **coating** and **nonwoven** fabric.

There are solutions, however, which can reduce polluting emissions and water consumption by:

- **Managing and optimising the quantity of products used:** training and sensitising employees, monitoring the parameters of a process (pH, output...), conducting an inputs/releases assessment in order to identify priorities as well as environmental performance.
- **Selecting and/or substituting products** that are more polluting and difficult to eliminate with biodegradable products.
- **Optimising processes and materials.**
- **Saving and reusing some baths.**
- **Biological treatment**, with activated sludge for instance.

Pollutants linked to the textile industry that are most frequently encountered in waste water:

- **Dyes:** colour, metals, organohalogen compounds, etc.
- **Auxiliary agents contained in the formulation of dyes.**
- **Base chemicals:** alkalis, salts, oxidizing and reducing agents, etc.
- **Auxiliary agents used in the dyeing process:** carriers, wetting agents, dispersing agents, etc.
- **Products that are present in greige fibre:** pesticide residue, lubricants, etc.



STEP 2

THE CSR APPROACH TAKES INTO CONSIDERATION WORKING CONDITIONS IN WHICH PRODUCTS ARE MADE

“ Any human group draws its wealth from communication, mutual aid and solidarity towards a common goal: for each person to flourish while respecting differences. ”
Françoise Dolto

WHAT PROBLEMS CAN ARISE AND WHAT ARE THEIR CONSEQUENCES FOR COMPANIES?

The search for suppliers who can offer better pricing conditions has led to mass production delocalisation from developed countries to developing countries.

Meanwhile, this search for “low-cost” countries often leads to deterioration of social conditions of production and considerable structural problems.

The Rana Plaza accident (Bangladesh): the most recent and most tragic example...

The collapse of the Rana Plaza, on 24 April 2013 in Dacca, was the most deadly industrial accident to have happened since the Bhopal disaster in India in 1984, causing the death of nearly 1,200 people and injuring over 2,000.

The disaster led to an unprecedented mobilisation. Many brands were challenged for having had their products made in unsanitary factories with appalling working conditions. In fact, few of them had signed contracts with the Rana Plaza factories.

They denounced the unauthorised outsourcing conducted by their officially approved suppliers. This argument was deemed inadmissible by the public, governments, and NGOs who work towards improving working conditions in the textile and apparel industry, as this tragedy followed on the heels of a series of similar (though less deadly) accidents in the textile industry in Bangladesh and Pakistan since the mid 2000s.



Taking stock of the tragedy cast some light on the situation.

The international “Accord on Fire and Building Safety in Bangladesh”

The Accord aims to reinforce safety in textile factories in Bangladesh. It is a legally binding five-year plan which now includes over a hundred big western brands as well as international and local stakeholders.

It should be noted that companies who join the Accord must apply a collaborative programme for site improvement which sets a series of obligations:

- Provide information on their main production sites,
- Implement independent building inspections,
- Contribute to the costs of building repairs and improvements,
- Commit to order volumes for a period of at least two years.

Beyond their contribution to building securement measures, companies must also provide financing for the initiative based on the extent of their commercial engagement in Bangladesh. They may pay out up to

500,000 USD per year over 5 years, on the basis of the turnover they have reached in Bangladesh.

Most companies involved in Rana Plaza have also committed to contributing to the workers compensation fund, estimated at 54 million euros.

ASIDE FROM BUILDING SAFETY, WHAT OTHER COLLECTIVE MEASURES CAN BE ENVISAGED?

For some years now, companies and organisations have been coordinating to ensure that working conditions for textile and apparel industry employees are respected through social certification programmes and collaborative approaches to monitoring suppliers and sub-contractors. These tools are based on the respect of ILO (International Labour Organisation) principles.

THE INTERNATIONAL LABOUR ORGANISATION (ILO)

The ILO is a specialised agency of the UN whose mission is to bring together governments, employers and workers of its member states in the framework of a tripartite institution, with a view to taking common action for promoting decent work throughout the world.



SPOTLIGHT ON A SOCIAL ACCREDITATION PROGRAMME: WRAP

The Worldwide Responsible Accredited Production (WRAP) principles are standards for production sites which take part in the accreditation programme. The principles involve:



- Compliance with labour laws and internal regulations.
- Freedom of association and collective bargaining.
- Prohibition of harassment or abuse.
- Prohibition of discrimination.
- Prohibition of forced labour.
- Prohibition of child labour.
- Compensation and social benefits.
- Hours of work.
- Health.
- Customs compliance.
- Environment.
- Security.

The aim of this programme is to certify that products are made in socially responsible conditions.

Other social accreditation programmes include: **the Fair Labor Association (FLA)**, **the Social Accountability 8000 Standard (SA 8000)**, etc.

SPOTLIGHT ON COLLABORATIVE IMPROVEMENT MEASURES: BSCI

BSCI is an initiative which was launched by the Foreign Trade Association (FTA). Members of the BSCI (which comprises companies and associations) have drafted a code of conduct aimed at implementing socially acceptable production conditions in the industry. All suppliers for members of BSCI must comply with the requirements of this code of conduct, and are monitored by independent audit bodies.

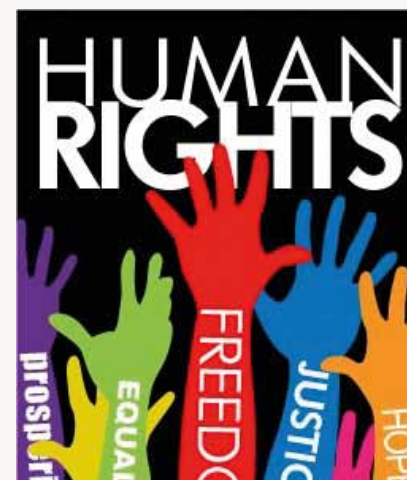
BSCI's social requirements are based on:

- The International Labour Organisation's labour standards.
- The United Nations' conventions on the rights of the child.
- The United Nations' conventions on the elimination of all forms of discrimination.
- The United Nations' Universal Declaration of Human Rights.
- The Declaration of the United Nations Conference.
- The OECD Guidelines for multinational enterprises.

Some basic environmental constraints are also included in the BSCI requirements.



Other examples of collaborative improvement measures include: **Ethical Trade Initiative (ETI)**, **Sustainable Apparel Coalition (SAC)**, etc.



“All human beings are born free and equal in dignity and rights.”

HUMAN RIGHTS AT WORK FOR ALL

The Universal Declaration of Human Rights, adopted in 1948, is the basis of international law relating to human rights.

It is the first international recognition of the fact that fundamental rights are universal, inalienable rights inherent to human beings. They guarantee dignity and respect for the life of each individual. The right to decent work is one of these human rights. Every worker's fundamental rights at work must be respected. These rights stem from international standards which define universal principles such as prohibition of forced labour, child labour exploitation, freedom of association, maximum hours of work. These rights apply to all workers, for any type of work, everywhere in the world. They are listed, promoted and protected in several international texts, drawn up within the context of the United Nations as industrialisation, globalisation and the increase in trade liberalisation evolve, to ensure that everyone is equally protected.



STEP 3

LASTLY, THE CSR APPROACH IS ALSO AND ABOVE ALL ABOUT TAKING CONSUMERS' HEALTH INTO ACCOUNT

“The greatest wealth is health.”
Virgile

Over the course of a few decades, concerns for well-being have gradually established themselves in the textile and apparel industry. The industry has now incorporated the obligation to guarantee a product which is not harmful to consumers.

Therefore, manufacturers take into account applicable regulations, and recommendations by NGOs and eco-labels, which are also an effective way of enhancing a product's value.

WHAT REGULATIONS ARE APPLICABLE IN EUROPE?

The European Union has implemented many legislations whose aims are to protect consumers' health. Compliance with these provisions are mandatory for commercialising a product on the market of the 28 Member States.

Directive of 3 December 2001: General Safety Requirement

This directive sets a general safety requirement for all products that come onto the market. A product is considered safe when “*in the absence of provisions in the European legislation, it complies with*

national regulations of the Member State in which it is being marketed”.

The person who is responsible for compliance with the safety requirement is the person who puts the product on the market. This is generally the importer, if the product is not made on the territory of the European Union, or the manufacturer, if he operates in one of the 28 Member States. This responsibility for the person who puts the product on the market implies self monitoring obligations. He must verify conformity of his products before marketing them: independent laboratory testing is therefore strongly recommended as a display of goodwill.

More broadly, producers and distributors must fulfil three obligations which stem from this general safety requirement:

- The obligation to inform consumers of cautions to be taken and of inherent risks.
- The obligation to provide notification of any dangerous product that is put on the market.
- The obligation of due diligence to keep documents that guarantee reliable traceability updated.

Regulation of 18 December 2006: REACH

REACH aims to ensure safe use of chemical substances, whether they are used as such or present in a product. The objectives are to limit risks linked to the production and use of these chemical substances, in order to protect the environment as well as workers' or consumers' health.

Manufacturers are responsible for managing risks that result from these chemical substances. This responsibility implies provision of information throughout the supply chain, from the manufacturer through to the end customer. Each chemical substance that is used will be assessed and registered in order to ensure risks are eradicated and to best protect workers as well as end customers (consumers) and the environment.



The regulation follows the “*no data, no market*” principle, meaning that unless information on the chemical substances is provided, they are prohibited from being put on the market.

Regulations imposed on companies vary depending whether they:

- Produce or import chemical substances.
- Use chemical substances (for instance in dyeing or finishing processes).
- Produce or import articles (finished or semi-finished products) which themselves contain chemical substances (for instance a dyed or coated jacket).

REACH has all the more impact on the textile and apparel industry as many chemical substances are used throughout



the manufacturing chain of textile articles and as consumers are directly affected. The complexity of the system established by REACH requires efficient training for requirements imposed on each company to be identified.

WHAT ARE THE MAIN CONSTRAINTS THAT COMPANIES IN THE TEXTILE AND APPAREL INDUSTRY FACE?

The requirement of providing information bears weight on suppliers in terms of certain chemical substances which articles contain.

Suppliers (manufacturer, importer or distributor) of articles which contain a chemical substance that is included in the “candidate list of substances of very high concern for authorisation”, in a concentration above 0.1% weight by weight, shall provide:

- *The recipient of the article* with sufficient information, available to the supplier, to allow safe use of the article. This information must include, as a minimum, the name of that chemical substance.
- *The consumers, on request*, with sufficient information, available to the supplier, to allow safe use of the article. This information must include, as a minimum, the name of that chemical substance. The relevant information shall be provided, free of charge, within 45 days of receipt of the request.

The “candidate list of substances of very high concern for authorisation” can be found on the European Chemicals Agency (ECHA) website. Thus far, the list comprises 151 chemical substances of which over half have been identified as being potentially

used on textiles. It is essential that this information be effectively communicated, for instance through the provision of certification.

Compliance with restrictions imposed by annex XVII of the REACH regulations

This annex summarises most of the existing restrictions regarding “toxic” chemical substances which can be present in textile articles.

The main restrictions relating to chemical substances found in the articles apply to certain azo dyes, phthalates, heavy metals, flame retardants and biocidal agents.

Did you know?

Some chemical substances, such as allergenic and carcinogenic dyes, formaldehyde or some heavy metals, are not subject to specific regulations but can have a known harmful effects on consumers’ health or on the environment. Resorting to technical specifications, such as those of the Oeko-Tex® Standard 100, is in this case a valued step in ensuring that the general safety requirement is respected.



WHAT REGULATIONS APPLY IN SOUTHEAST ASIA?

Chinese Standard GB 18401

Since 2003, this General Safety Code for textile products requires manufacturers and distributors to comply with certain safety requirements if they wish to sell their products in China. This standard was updated in 2010.

Products are divided into 3 categories, for which requirements can vary:

- Category A, which targets articles such as towels, clothes, pyjamas, gloves, socks, bedding, etc.
- Category B, which targets articles such as bras, swimming suits, shorts, shirts, skirts, trousers, sheets, etc.
- Category C, which targets articles such as jumpers, trousers, skirts, curtains, bedspreads, wall-hanging textiles, etc.

The product category is indicated on a label attached to the product.

The main tests to be performed relate to formaldehyde content, fastness of dyes, pH, as well as azo dyes which contain carcinogenic aromatic amines.

The KC Mark in South Korea

In South Korea, a distinction is made between the rules which result from the “Self Regulatory Safety Confirmation Act” and those which arise from the “Safety Quality Mark Act”. Both include requirements on formaldehyde content, organotins, dimethyl fumarate, flame retardants, phthalates, pH, and certain azo dyes which contain carcinogenic aromatic amines.

The “Self Regulatory Safety Confirmation Act” requires tests to be conducted by authorised laboratories and relates to children aged 0-3. Prior to customs clearance, if the safety assessment is successful, the importer must affix the KC mark and approval number to labels on each product.

The “Safety Quality Mark Act” relates to articles sold to adults and is only declaratory: it is not therefore a requirement for the tests to be conducted by an authorised laboratory. They can be administered by suppliers and above all, they must be recorded in toxicological data specifications. The KC mark must also be affixed to the product.

HOW MUCH POWER DO NGOS HAVE?

Many NGOs advocate for “safer” textiles to be put on the market. There are many such campaigns and they have a very strong impact on the general public.

The most significant campaign to date is still the “Detox” campaign led by Greenpeace. The NGO call for most big brands to commit to complete elimination of “dangerous” chemical substances by 2020. Since 2011, eighteen brands have already responded, to shift to a “cleaner” production process. While some make significant efforts towards greater transparency in the supply chain and the elimination of “dangerous” chemical substances, other companies, which are the focus of this study, are only just beginning to implement such measures.

“Detox” targets eleven families of “dangerous” chemical substances:

- Alkylphenol compounds, which are widely used in the textile industry for cleaning and dyeing.
- Phthalates, which are essentially used in artificial leather, rubber and PVC, as well as in some dyes.
- Brominated or chlorinated flame retardant agents.
- Some azo dyes, which release carcinogenic aromatic amines.
- Organostannic compounds, which are often used in manufacturing sports clothing, socks and shoes in order to prevent the odor caused by sweat decay.
- Perfluorinated chemicals, which are used to make textile and leather products both waterproof and stain-resistant.



- Chlorobenzene compounds, which can be used as solvents and as biocides in manufacturing dyes and chemical transmitters.
- Chlorinated solvents, which are used to dissolve other substances during manufacturing but also to clean fabrics.
- Chlorophenols, which are used as biocides.
- Short chain chlorinated alkanes, which are used in the textile industry as flame retardants and processing or finishing agents for leather and textile.
- Some heavy metals such as cadmium, lead or mercury, which are used in dyes and pigments, or chromium (VI) used for tanning leather.

Many of these chemical substances can be found in restriction lists of regulations which apply in Asia or Europe. The Greenpeace campaign aims mainly at enforcing existing legislations, but also at further developing these legislations with regard to the targeted chemical substances and/or to the set tolerance thresholds. The Greenpeace campaign has already proven that it plays a leading role in propositions made by some Member States to include additional chemical substances in annex XVII of REACH.

HOW CAN WE ENHANCE PRODUCTS AND COMPLY WITH REGULATIONS?

In order to progress further, companies can obtain a label which often sets more demanding rules than the regulations. These labels are a sign of quality which is protected by trademark law. The protected trademark can therefore only be used when the conditions for obtaining the label are met and proven (these conditions are generally listed in the technical regulations and verified by an independent accreditation body).

Many labels exist, but we will focus on only two of the best known labels in the textile and apparel industry: **Oeko-Tex® Standard 100**, and, to a lesser extent, **Bluesign®**.

Oeko-Tex® Standard 100

This label aims to guarantee that a product is free of “undesirable” chemical substances and sets different tolerance thresholds for 4 categories of products: baby articles, articles that have a contact with the skin, articles that do not have direct contact with the skin, and furnishing articles.

Testing for “harmful” chemical substances covers chemical substances which are subjected to regulations that are in force in the European Union (including REACH), but also in other regions of the world such as China and South Korea. The label also introduces requirement for some chemical substances which are not regulated but have, as a precautionary measure, been



identified as being a cause for concern.

The manufacturer can affix the label to those of his products which have satisfied the controls. A certificate is issued for one year. However, all textile products may be controlled and certified at any stage of the transformation process (threads, fabric, clothing...).

Bluesign®

The Bluesign® label is another system of independent accreditation, which is specific to the textile and apparel industry. It takes into account all stages of production, from raw materials to chemical components, from water to energy resources. This goes beyond questions of consumers’ health as it is based on five principles:

- Increasing the quality and surplus value of products with a low use of resources and minimal environmental impact.
- Putting products on the market which do not pose a risk to consumer health.
- Optimising energy use throughout the production chain in order to reduce CO₂ emissions.
- Controlling water releases and reintroducing purified water into the natural cycle.
- Ensuring health and safety at work for employees of the textile industry.



CONCLUSION

In conclusion, companies currently face a new challenge: how can they produce better?

The CSR approach is fitting with this perspective as it places companies in a position of responsibility for their organisation with respect to the impact its choices and actions have on society and the environment.

Ecodesign, respect of international workers' rights and concern for consumers' health are major lines which must be prioritised, especially as the media increasingly focuses on

these topics, highlighting different policies that big brands adopt, which can result in particularly detrimental consequences.

It is now essential to behave in a transparent and ethical manner, contributing to Sustainable Development and to society's health and well-being. It is therefore essential that companies take stakeholders' expectations into account, as well as compliance with applicable legislation and compatibility with international standards, in order to include these in their organisation as a whole, and to implement them in their trade relations.



TESTIMONIES

EXHIBITORS & PARTNERS

Here follow different testimonies and presentations of the involvement in CSR of renowned industrial exhibitors and partners of Interfilière Hong-Kong fair.

EXHIBITOR: EUROJERSEY



Eco-friendly range of fabrics

Sensitive®Fabrics are a patented range of fabrics (polyamide/elastane), made in Italy by Eurojersey. The entire production process is conducted with the lowest impact on the environment in terms of water and energy consumption as well as CO₂ emissions, thanks to the **SensitivEcoSystem®Project**. The company has achieved several certifications, such as the Environmental Product Declaration (EPD) which certifies the exact impact of a square metre of Sensitive®Fabrics on the environment.

By using **Eurojersey's patented Ecoprint**, they have reduced the annual water consumption by 16 million litres. This innovative technique creates high quality designs and colours while decreasing the consumption of water and energy needed to treat Sensitive® Fabrics.

Innovative machinery and production management

In order to optimise efficiency and energy savings, they have achieved different operations targeted at service systems, such as pumping water stations, compressors, and air conditioning systems, together with the introduction of machinery equipped with more efficient engines, enabling Eurojersey to decrease annual energy consumption by about 700,000 kWh, compared to 2007, which represents 8% of total consumption, equivalent to a non-issuance of approximately 400,000 kg of CO₂.

Sustainable initiative

With the SensitivEcoSystem® Project, as of the 1st of January 2010, Eurojersey has committed to protecting 1 metre of rainforest for every metre of Sensitive® Fabric sold.

The **SensitivEcoSystem® hangtag** certifies that consumers who purchase a garment made with this fabric are contributing to the protection of a part of the Yaboti Biosphere Reserve.

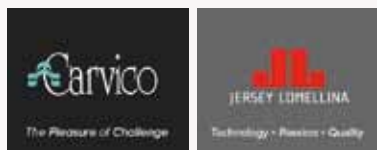


“As for the future, your task is not to foresee it, but to enable it.”
Antoine de Saint-Exupéry

The official certificate guarantees that the company has saved 29,103,794 square metres of rainforest since 2010, equivalent to 4,850 football fields or 23,283 Olympic Swimming Pools.

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EXHIBITOR: CARVICO / JERSEY LOMELLINA



Eco-friendly range of fabrics

With the aim of offering customers a full range of sustainable products, Carvico/Jersey Lomellina has chosen to use **Econyl® by Aquafil**: a recycled polyamide fibre, made from post-consumer and post-industrial materials such as discarded fishing nets, tulle and carpet fluff, which would otherwise be destined to the landfill and are instead turned into a new polymer and then into a new yarn. The operation has involved several organizations and companies all over the world, which deal with the collection of materials to be recycled. Thanks to the use of **Econyl®**, Carvico/Jersey Lomellina have so far managed to launch on the market several high performance fabrics which are also absolutely eco-friendly.

Innovative machinery and production management

ISO 14001 management system helps the company to find ways of minimising waste and disposing of it more effectively, and

teaches it how to use energy more efficiently. For businesses, it is a strategic tool that reduces costs by minimizing waste and errors, and increasing productivity. It has helped the company to access new markets, and facilitated free, fair global trade.

Carvico/Jersey Lomellina is increasingly focusing on developing manufacturing processes that consume fewer resources and eliminate higher percentages of pollutants. It has installed technologically advanced plants for the homogenization and chemical-physical treatment of waste water and has implemented a sophisticated system that separates rain water from municipal and industrial water. The rainwater is then recovered and reused in production.

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EXHIBITOR: CHANTY



Eco-friendly range of fabrics

The company has a tradition of using bamboo viscose, Tencel®, soya yarn and modal in its products. They have been offering articles made of organic cotton yarn (IVN-certified), recycled cotton and recycled polyamide. For instance, they have already been producing lace made of **Recot2® and Ecocare®** yarns: Recot2® is an innovative, eco-friendly yarn made of 75% organic cotton and 25% pre-consumer recycled cotton. Ecocare® is a polyamide fibre made from pre-consumer recycled polyamide chips which retain the same properties as virgin fibre.

The Oeko-Tex® Standard 100 certification is a satisfaction guarantee, because customers' health is very important. With this certificate, customers can be sure that there are no

chemical components in the articles which would pose a risk to the health.

Innovative machinery and production management

Chanty uses green electricity and takes part in climate efficiency networks and energy audits. The goal is to ensure good energy management to protect the environment while also providing potential savings for customers through the actions mentioned above. Furthermore, they run the latest machines, which are more energy efficient than in the past. They use green electricity and separate waste, so that it can then be easily recycled.

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EXHIBITOR: SITIP



Eco-friendly range of fabrics

Sitip offers a wide range of products called **Native EcoKnit® by Sitip**. This range of polyamide fabrics has been assessed and satisfies the requirements of the Global Recycle Standard (GRS), thanks to the **Q-Nova®** yarns made with 99% pre-consumer recycled polyamide.

Most of Sitip's fabrics have obtained Oeko-Tex® Standard 100 certification in order to ensure customers' safety.

Innovative machinery and production management

Supported by the perks of an ISO 9001 management system, Sitip has set up different machines in order to save water and energy, and to generate less waste

throughout the full process flow: spinning, warp and weft knitting, dyeing and finishing.

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EXHIBITOR: PAPILLON RIBBON & BOW



For over 20 years, Papillon Ribbon & Bow has been the global leader in the creation of new styles and trends for bows

and rosettes developed in France. Ribbons used for its main eco-friendly products are made of recycled yarns which come from PET bottles. Bottles are treated through multiple processes of cleaning, crushing, de-polymerization and re-polymerization. This is then melted and spun into fibre, and finally weaved into ribbon. A wide range of their products are Oeko-Tex® Standard 100 certified.

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Others exhibitors also took part in "The EcoSystem Showcase" project by sending "eco-friendly" fabrics to the PolyU students:

- **Nanjiang Yuyuang Textile** (recycled polyester).
- **Dongyang Hongji Industry** (bamboo charcoal fibre and organic cotton).
- **Utax** (hook and eye made with organic fabric).
- **Golden Horizon Industry**.

PARTNER: HKRITA



Funded by the Innovation and Technology Commission and HK-SAR Government, and hosted by the Hong Kong Polytechnic University, the Hong Kong Research Institute of Textiles and Apparel (HKRITA) provides one-stop services for applied research, technology transfer and commercialization. It has four R&D focus areas:

- New Materials and Textiles and Apparel Products.
- Advanced Textiles and Clothing Production Technologies.
- Innovative Design and Evaluation Technologies.
- Enhanced Industrial Systems and Infrastructure.

They conduct research projects mainly through three types of programmes: Platform Research, Collaborative Research and Contract Research. Applications for research funding are welcome throughout the year.

They have been devoting sustained efforts to promote successful projects for industry application. They have proactively liaised with potential partners. Exploratory meetings, technology demonstrations or site visits can be arranged for interested parties. They currently have over 41 technologies that are available for industry application. In the Interfilère HK fair, they showcase 2 projects concerning sustainable development and corporate social responsibility, namely **“Development of dyeing natural textiles in supercritical carbon dioxide”** and **“Activity-based Carbon Footprint Modelling of the Manufacturing Processes of Intimate Apparel Products”**.

In addition, Dr K C Ho, Director, Research and Development of HKRITA, will present a topic on **“Eco-friendly Production System”** for Intimate Apparel during the Interfilère seminar.

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PARTNER: HKPC



The Hong Kong Productivity Council (HKPC) is a multi-disciplinary organization established by statute in 1967. HKPC's mission is to promote productivity excellence for industry to enhance competitiveness and sustainability. Through the provision of integrated support across the value chain, HKPC strives to assist Hong Kong enterprises to achieve the more effective utilization of resources, to enhance the value-added content of products and services, and to increase international competitiveness.

Over the years, HKPC has developed an array of sustainable solutions to support the intimate apparel industry. These include automation solutions for bra cup products, from design to manufacturing. In addition to shortening the bra cup mould fabrication time by up to 50%, while saving up to 40% of aluminium materials, these solutions can also reduce the scrap rate by 80%.

Another low carbon solution, supercritical fluid dyeing system, was developed which



uses supercritical state carbon dioxide (CO₂) as the dyeing agent instead of water. It is far more environmentally friendly than the conventional dyeing method.

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PARTNER: HONG KONG
POLYTECHNIC UNIVERSITY



Eurovet Asia and the Hong Kong Polytechnic University have been working in close collaboration over the past several years in producing prototype projects for display at Interfilère Hong Kong. This year, students from the programme BA (Hons) in Fashion and Textiles with specialism in Intimate Apparel have been working on “The EcoSystem Showcase” project under the supervision of Dr. Kristina Shin, lecturer of the Institute of Textiles and Clothing.

The prototypes and storyboards projects are realized in cooperation with renowned fabric manufacturers exhibiting at Interfilère HK. This unique opportunity gives the students the possibility to showcase their talent and be recognised by industry professionals.

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