



# Trends and drivers of change in the European textiles and clothing sector: Four scenarios

**Introduction**

**Scenario development process**

**Introduction to the scenarios**

**Scenario 1: Material girl**

**Scenario 2: Express yourself!**

**Scenario 3: Stayin' Alive**

**Scenario 4: We are the world**



# Introduction

In a rapidly changing world, it is not feasible to simply project the present into the future. Therefore, alternative views of the future can help to broaden understanding of issues that need to be addressed today. Such alternative views are often labelled ‘scenarios’. This report sets out four different scenarios for the European textiles and clothing sector.

A scenario depicts a plausible hypothesis about the future: it is a tool used in foresight exercises for policy analyses and policy formulation, and for strategic planning processes in private companies and among social partners. Each scenario aims to provide a coherent description of the drivers, trends and events that may influence and change the subject of analysis over a given period of time. However, a scenario is not a prediction, and the aim of scenario analysis and exercises is not to predict the future. Indeed, given the uncertainty of the future, it needs to be explicitly stated that the scenario is not a prediction, but only a possibility, as likely or unlikely as many other possibilities.

Policymaking is often driven by tensions between short-term considerations and long-term visions and strategies. Scenarios are a way of developing more robust, innovative and future-oriented strategies for particular future outcomes. Although a scenario is often set in a 10 to 15-year perspective, it can act as a navigation tool in the present and early warning system for current realities. Scenario building can also point to ideas and methods for putting into operation knowledge generated from case studies and market studies. Consequently, while scenario analysis may be a valuable tool for structured thinking about the future, as well as a catalyst for strategic discussions, it should not be regarded as an end in itself.

The four scenarios outlined in this report represent realistic, internally consistent and plausible pictures of alternative futures for the textiles and clothing sector:

- Scenario 1: Material girl
- Scenario 2: Express yourself!
- Scenario 3: Stayin’ alive
- Scenario 4: We are the world

# Scenario development process

## Objectives

The objective of this study is to present a scenario analysis that may be used as a vehicle to develop long-term visions (10 years into the future) of possible opportunities, barriers and threats for the European textiles and clothing sector and the sustainable development of its workforce. The objective is pursued as a task divided into the following two sub-goals:

- to develop exploratory scenarios for the macro drivers which influence the development of the textiles and clothing sector – macro drivers are understood as trends that only few companies or political actors can influence on their own;
- to present plausible implications of each scenario for the textiles and clothing sector in terms of business strategies, localisation choices, innovation, employment and skills demands.

## Methodology

As a tool for formulating policy and for strategic planning, a scenario should fulfil the following criteria:

- it should be plausible, but it does not have to be the most probable outcome;
- it should be internally consistent in order to be plausible and enable a coherent discussion;
- it should contain sufficient information to describe the functioning of a system.

In this case, the scenario-building has been designed as a two-stage process.

Stage 1 is devoted to developing exploratory (not normative) scenarios. These are partially based on existing work, but are mainly based on desk research by the scenario team without direct involvement of external sector experts. At this stage, the main macro drivers and important dimensions of change are examined to determine the most important elements of the future. When these drivers and dimensions have been identified, they are ‘fleshed out’ into plausible and concrete scenarios.

Stage 2 examines the plausible implications that different configurations of the macro drivers might have on companies and on those issues that companies must address in the future. This investigation work was carried out partly through desk research and partly through drawing on strategic discussions which took place between scenario experts, sector experts and company managers.

The European textiles and clothing sector is a global sector characterised by a complex value chain and several subsectors which differ quite substantially. Each scenario describes developments and implications for the sector as a whole; therefore, some of the general conclusions may be more or less relevant for specific subsectors. However, when establishing the scenarios for the textiles and clothing sector, the aim was to cover as many aspects and subsectors as possible, in order to allow for most companies and employees in the sector to reflect on future developments and identify possible implications for their sector or subsector.

## Construction of the scenarios

The construction of the scenarios builds on a conceptual framework designed to capture changes in the external environment of the sector by means of five categories of drivers and trends:

- sociocultural;
- technical;
- economic;
- ecological;
- political and regulatory.

The scenario team gathered and analysed opinions on major trends and drivers of sociocultural, technical, economic, ecological, and political and regulatory changes over the next 10 years in relation to factors that will have a significant impact on the textiles and clothing sector. These trends and drivers were then consolidated and assessed within the team according to two criteria:

- importance (i.e. importance: low, medium, high);
- certainty (i.e. likelihood of occurrence: low, medium, high).

Using assessments of a range of trends and drivers, the team identified the most important dimensions on which the scenarios could be built. Six dimensions were chosen to form the main structure of the four scenarios (Table 1).

Table 1: *Key trends and drivers of change identified*

Dimension	Development
Development of global economy	Expanding/growing against stagnating
Consumer demand for products	Functionality against identity
Public values	Individualism against community
Rate of technological innovation	High against low
Public involvement in the sector	Limited involvement against active involvement
Global protection of intellectual property rights (IPRs)	Strong against weak

Source: *Danish Technological Institute (DTI), 2007*

## Description of dimensions

### Development of global economy

Economic development is a key driver in any sector because it influences consumer demand. The demand for high value-added products will often be affected by economic developments, as more consumers will be able to buy high value-added goods when the economy is doing well and welfare is increasing. Economic developments differ from region to region and even within regions. For instance, the Chinese economy is currently booming and the European economy is performing well, while many countries on the African continent show stagnating or moderate economic growth rates. The economy of the United States is heading towards an uncertain period with several indicators suggesting a period of stagnating growth rates.

### Consumer demand for products

There are many reasons why consumers buy certain goods or services, such as lifestyle, fashion trends and purchasing power. An overall classification of consumer behaviour can be based on whether consumers buy products for their usefulness and functionality in terms of providing information to the individual user or as a means of expressing their identity and personality in the sense of ‘I am what I wear’.

### Public values

‘Public values’ is an elusive concept which nevertheless plays a crucial role in shaping the future. People’s values influence the way they choose to live, work and consume. A key distinction is made between individualism and community. Many aspects suggest that people are becoming increasingly individualistic. However, some trends exist opposing stark individualism, by claiming that people’s concerns should be less focused on themselves and more on environmental issues, or by upholding communitarian views. Consequently, in a 10-year perspective, it is not obvious in which way people’s shared value systems will develop.

In terms of public values, an individualism–community distinction is particularly simplistic. In fact, several additional dimensions are to be considered when examining public values. For instance, the sense of community can be directed towards quite different levels, such as the global community or focused on the local community with no interest in global issues.

### Rate of technological innovation

Expectations regarding the use of ‘new’ generic technologies – such as biotechnology, nanotechnology, information and communication technologies (ICT), and cognitive sciences – are high, especially in terms of the convergence between such technologies. However, these expectations could be exaggerated. It is extremely difficult to assess the rate of technological innovation in the next 10 years. The underlying question is whether the convergence of these generic technologies will in fact result in a breakthrough product or process innovation, or whether these technologies are ‘hyped’ in the sense of being overly promoted today.

### Public involvement in the sector

The public sector can be involved in the development of the European textiles and clothing sector in many ways. Key policy domains include public support for research and development (R&D) activities, support for small and medium-sized enterprises (SMEs), employment and educational policies, as well as regulation of areas such as IPRs, environment and waste management. Policies and regulation can both enable or hinder the development of the textiles and clothing sector.

### Global protection of intellectual property rights

IPRs are crucial to a sector relying heavily on design and product innovation as a means of remaining competitive in the global market. Many initiatives exist in this field today; however, it is unclear whether these initiatives will bring the production and sale of fake products to a halt – not least considering that some consumers will buy products although they are aware that the product at hand is an imitation only.

# Introduction to the scenarios

The six dimensions and their potential development make it possible to construct a total of 64 scenarios. For this study, four scenarios were selected on the basis that these are the most interesting, diverse, internally consistent and plausible ones.

Table 2 outlines the combination of the six dimensions which define the four possible scenarios in the textiles and clothing sector.

Table 2: *Four scenarios for the textiles and clothing sector*

Dimension / Scenario	Material girl	Express yourself!	Stayin' alive	We are the world
Development of the European economy	High growth	High growth	Stagnating	Stagnating
Consumer demand for products	Functionality	Identity	Functionality	Identity
Public values	Individualism	Individualism	Community	Community
Rate of technological innovation	High	Low	Low	High
Public involvement in the sector	Little involvement	Active involvement	Little involvement	Active involvement
Global protection of IPRs	Weak	Strong	Weak	Strong

Source: DTI, 2007

The 'Material girl' scenario is a high-tech scenario, in which the textiles and clothing sector is moving into material sciences and research-intensive product areas. The key words of the 'Express yourself' scenario are design and origin. In this scenario, the textiles and clothing industry focuses on providing high-quality products and building up strong brands which cover a wide range of very exclusive products. The 'Stayin' alive' scenario is a crisis scenario, in which the industry mainly concentrates on reducing costs. The final scenario, 'We are the world' is characterised by a focus on sustainability issues – both in terms of protecting the environment and global social responsibility. Corporate social responsibility (CSR) is a key word in this scenario.

All four scenarios offer opportunities for growth and innovation. Nonetheless, the main challenges for companies differ in terms of different skills needs and innovation paths. The scenarios provide four plausible stories about the sector's possible future. By considering several scenarios and their implications, companies in the textiles and clothing sector can broaden their understanding of issues that should be addressed today, as well as helping them to develop robust business strategies for the future.

# Scenario 1: Material girl

Table 3 presents an overview of the first scenario – Material girl – in terms of the six dimensions having a high influence on the future development of the textiles and clothing sector. It also compares the outcomes for each dimension across all four scenarios.

Table 3: *Scenario 1 – Material girl*

Dimension / Scenario	Material girl	Express yourself!	Stayin' alive	We are the world
Development of the European economy	High growth	High growth	Stagnating	Stagnating
Consumer demand for products	Functionality	Identity	Functionality	Identity
Public values	Individualism	Individualism	Community	Community
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Global protection of IPRs	Weak	Strong	Weak	Strong

Source: *DTI, 2007*

## Economy and market situation

The world economy is experiencing high growth rates and even the African continent now offers promising market opportunities for European companies producing high-quality goods. The European economy is also thriving and European citizens are experiencing a rise in real wages and an increasing purchasing power.

In 2017, consumers are demanding products which provide new functionalities, such as sensors or materials that adapt to changing weather conditions. The increase in welfare implies that consumers in most European countries can afford products with such functionalities although these products are relatively more expensive than the 'traditional' ones. Information is a priority for people and 'intelligent' products, which are able to gather and transmit information, are in demand by consumers and companies.

## Society and culture

Individual needs are in focus, and companies thus need to be able to adapt their products to individual preferences and needs. The focus on the individual, as well as on individual needs, has led to a high degree of customer involvement in the design processes in all economic sectors: customers are taking part in all aspects of the production process by designing their own products in choosing colours, shapes, materials and key functionalities. The development in ICT, along with increasingly sophisticated interactive design tools, has facilitated this trend. Consumers are designing their own clothes, carpets and the interior of their new car together with personal designers, so that each finished product is unique. The active involvement of consumers in the process of designing their products requires a highly-flexible and automated manufacturing process to be able to quickly adjust to the diversity of preferences.

## Technology

The rate of technological innovation in Europe is high due to the fact that substantial public funds are allocated for basic research in generic technologies, such as biotechnology, ICT and nanotechnology. Research at universities around Europe is being directed towards exploring the convergence between different technologies, resulting in the development of highly-innovative prototypes. In 2012, the European Materials Institute was established with the objective of exploring and exploiting generic technologies which could result in the development of new innovative materials. The

institute monitors European research activities within material sciences, facilitates knowledge transfer to European SMEs and also serves as a branding mechanism with the aim of getting more people interested in material sciences.

## Policy

However, the allocation of research funds has limited the public funds available to R&D activities dedicated to specific industry sectors. Moreover, public involvement in ‘traditional’ manufacturing sectors, such as textiles and clothing, metalworking and shipbuilding, has been reduced in favour of economic sectors which are considered to have a higher potential for innovation. It has also declined to the advantage of sectors where Europe is considered to be more competitive on a global scale, notably in sectors such as life science industry, space industry, software, transport and energy.

As a result, the traditional industry sectors are increasingly relying on private investors and are focusing innovation activities on applying new technologies. The reduced public interest in these sectors is also reflected in the protection of IPRs. Although legislation to protect IPRs is in place in Europe, there is no focus on monitoring or sanctioning violations of IPRs or trying to establish a well-functioning regulatory regime at the global level. Countries in Asia and Africa in particular have difficulties in providing sufficient protection of IPRs. This lack of protection of IPRs in these countries is hampering innovation in the sector and also prevents companies from sourcing activities there – they simply do not risk moving activities to these countries.

## Implications for the sector

### Overall situation of the sector

The European market for textiles and clothing is expanding and flourishing. The sector is research intensive and innovation in materials is the key to success. Large textiles and clothing companies are performing well. This situation is mainly due to the fact that they have the financial means to attract top-level researchers, enabling them to explore and exploit the potential of new technologies. Moreover, large textiles companies have the capacity to build strong relations with research institutions that are specialised in material sciences or they acquire small innovative companies. SMEs in the sector are facing considerable challenges, because they lack the necessary resources to carry out cutting-edge research and attract top researchers. However, the establishment of the European Materials Institute has improved the situation for SMEs, enabling these companies to gain access to highly-specialised knowledge.

Companies in North America and Europe have been leaders in terms of developing innovative technical textiles; however, companies in Asia are starting to move into the high technology area of the sector.

### Innovation

Information is a priority for people and intelligent textiles which are able to gather and transmit information about, for example, people’s health condition and performance are in demand. In terms of clothing, consumers are primarily looking for clothes that enable them to monitor their health condition and sporting performance and that communicate with other electronic personal devices, such as transmitting health data directly from clothes to a laptop at home, the doctor’s office or a personal coach. The demand for new functionalities is translated into the area of home textiles and textiles used in other economic sectors, such as the automotive industry and construction.

Textiles are an integrated part of a personal monitoring and communication system that gathers, selects and transmits data to personal mobile devices (pMODEs) on the basis of individual preferences; for instance, pMODEs then inform an individual that its current physical condition suggests a change of diet. pMODEs also inform individuals about more



practical issues of their daily life, for example, that the couch needs to be cleaned or to buy more milk<sup>1</sup>, change a light bulb in the bedroom or change the baby's nappy. Pervasive computing and interoperability between different communication systems are key issues for companies involved in the manufacture of products which gather and provide information. Therefore, the need for competencies in this field is also evident for companies in the textiles and clothing sector. The increasing use of ICT equally requires great efforts by textiles companies in adapting to global data standards in order to ensure the integration of different communication systems.

Nonetheless, ICT are not the only technologies which are used in conjunction with textiles and clothing. Cutting-edge textiles companies in the sector have turned to new technologies to supply innovative products. For these companies, business is all about material sciences. These highly-innovative companies no longer consider themselves as mere textiles companies but rather as materials companies supplying various industries, including clothes monitoring people's health, textiles adapting to changes in the environment, as well as flexible materials for the construction sector. A leading materials company recently launched artificial skin for the healthcare sector. This segment of the textiles and clothing sector is highly research intensive, and nanotechnology, ICT and biotechnology play a crucial role in the development of new products. New materials are developed as companies established a structured approach to exploiting and strengthening the convergence between various technologies.

However, the use of new technologies in clothing and textiles has sparked consumer concerns. A key issue is the use of extremely small particles – so-called nano particles – which could be harmful to an individual's health. Moreover, people are concerned about the increasing use of ICT in terms of whether electronic devices in clothing could cause cancer or whether the data are secure.

### Business strategy

Company size matters when it comes to companies' innovation capacity. Therefore, companies seek to strengthen their global position in R&D through mergers and acquisitions. As a result, many large companies are thriving and small research-intensive companies are also prospering. On the other hand, SMEs specialising in textiles and clothing manufacturing are facing considerable challenges due to increasing competition from countries outside the European Union (EU). These companies are working hard to keep prices low, provide specialised services and strengthen their relations with key costumers.

Key objectives for the companies in the sector include finding investors and recruiting researchers, as well as cooperating with either R&D-intensive companies or public research institutions to remain competitive. In order to exploit the full potential of industrial applications, technical textiles companies are establishing strategic alliances with companies in other sectors of the economy, such as the space, construction and defence industries.

### Value chain and localisation

The involvement of customers in the design process through the use of ICT and interactive tools has increased the need for integration between textiles suppliers and their clients, including clothing designers, home interior companies and companies in other industry sectors. Hence, communication between textiles manufacturing and other parts of the value chain is vital, and small textiles manufacturers are increasingly being acquired by their clients with the aim of strengthening the coordination and communication between the different parts of the value chain.

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<sup>1</sup> This is usually done by confirming the list of groceries to be ordered through an e-shop – a list generated by an e-refrigerator on a daily basis.

Companies in the textiles and clothing sector are global and move their activities to locations where they have access to low-cost labour, sector-relevant knowledge or markets – this includes moving R&D activities to countries outside the EU. However, several factors limit the opportunities to offshore or outsource certain activities to countries outside Europe. First, proximity between the different segments of the value chain remains key to ensuring efficient communication and speed of delivery. Producers and subcontractors are therefore interested in locating their activities within the same geographical area. This demand for proximity is an opportunity for manufacturing companies in the sector. Some large companies in other industry sectors are even setting up their own in-house textiles manufacturing division close to the production site if no textiles manufacturers are present in the area with which they could cooperate or which they could acquire.

Secondly, access to relatively cheap R&D personnel and research institutions in Asia which are specialised in material sciences represents an attractive option for companies in the textiles and clothing sector. However, the weak protection of IPRs in Asian countries is considered as a risk. Thus, companies tend to keep their high-value activities in regions such as the EU and US which are considered to be relatively safe – both in terms of the regulatory framework and a corporate culture conducive to the safeguarding of IPRs. In fact, the high level of specialised knowledge about materials, as well as the efficient protection of IPRs, is attracting R&D activities from countries outside the EU, resulting in increasing competition for material specialists in Europe and an inflow of researchers from third countries who are looking for job opportunities at leading research institutions and companies.

### Employment and skills in Europe

The strong global performance of the European textiles and clothing sector is reflected in increasing employment levels in the sector. Although there is less need for workers in manufacturing due to the automation of production, the sector's development triggers new skills demands. One such area relates to services as textiles companies need to ensure that products are working properly, including the fixing, replacing or updating of integrated devices and sensors if they are not working. In addition, the demand for services is expanding in the field of data application, namely using and analysing the data provided by sensors. Such service tasks are to a greater extent managed by independent and highly-specialised information services companies which manage data collection and analysis across a range of personal devices. One such example is the company specialised in providing systems for elite sports clubs, Elitex, to collect and analyse performance data from intelligent textiles which athletes wear during their training sessions. This company requires people with skills and knowledge in customer services, ICT, textiles and sports performance. Another area with a great demand for labour relates to the testing of materials in the sector in terms of quality assurance, as well as consumer protection.

Companies, public authorities and the social partners are involved in initiating and managing activities which aim to offer vocational training programmes to the sector's low and medium-skilled workers so that they can retrain for these new job functions in either the textiles and clothing sector or the fast-growing information services sector.

However, the transformation of the sector from a manufacturing to a research-intensive sector is proving to be a challenge for companies in the sector, particularly in terms of attracting highly-skilled workers due to the intense competition across sectors for 'brains' in Europe. In order to be on the cutting edge, companies must establish relations with research institutions and also strengthen in-house competencies within the fields of material sciences and generic technologies such as biotechnology and nanotechnology. Moreover, the importance of textiles for other industry sectors means that researchers with knowledge of these sectors are particularly valuable, since they are able to direct research towards the very specific needs of each sector.

At the management level, key competencies in demand relate to strategic management, sourcing, partnering, mergers and acquisitions, and research and innovation management.

## Main challenges for textiles and clothing companies

In this context, companies in the textiles and clothing sector are facing the following main challenges:

- attracting high-level researchers, and gaining access to technological knowledge and skills;
- ensuring consumer safety and trust;
- developing close relationships with companies in other industry sectors;
- embracing product innovation.

# Scenario 2: Express yourself!

Table 4 presents an overview of the second scenario – Express yourself! – in terms of the six dimensions influencing the future development of the textiles and clothing sector. It also compares the outcomes for each dimension across all four scenarios.

Table 4: *Scenario 2 – Express yourself!*

Dimension / Scenario	Material girl	Express yourself!	Stayin' alive	We are the world
Development of the European economy	High growth	High growth	Stagnating	Stagnating
Consumer demand for products	Functionality	Identity	Functionality	Identity
Public values	Individualism	Individualism	Community	Community
Rate of technological innovation	High	Low	Low	High
Public involvement in the sector	Little involvement	Active involvement	Little involvement	Active involvement
Global protection of IPRs	Weak	Strong	Weak	Strong

Source: *DTI, 2007*

## Economy and market situation

The European economy is developing positively and as a consequence living standards are rising. European citizens are experiencing real wage increases and a growing purchasing power. Due to this favourable economic development, the percentage of people's incomes spent on clothing and home interiors is increasing, and people can afford, and even prioritise, to buy expensive products. High-quality companies in other sectors are also benefiting from the positive economic developments. For instance, in the automotive industry, the sale of exclusive cars of brands such as Ferrari and Jaguar is booming which, in turn, is stimulating the demand for high-quality textiles for the interior design of these cars, such as textiles for seats and dashboards. As a result, the European home market for textiles and clothing is expanding and flourishing.

The focus is on the individual, as well as on the individual's needs and wishes. Consumers are looking for products that reflect their identity and that help them to express their personality – or at least the one that they wish others to perceive; in other words, 'you are what you wear'. High-quality or exclusive products with a unique history or unique features are particularly in demand. The key words shaping the textiles and clothing market are design, local brands, origin and storytelling – people want to be able to tell an interesting story about their clothes. In light of this context, handmade products – so-called crafts – are particularly desired. The common feature of consumer buying is the search for uniqueness and avoiding mainstream products.

Another market trend is the focus on tradition and origin: products with a clear mark of origin, such as knitted wool sweaters from a certain area in Iceland or male suits 'Made in Italy', are associated with quality, uniqueness and tradition. Thus, locating the manufacturing of products in certain European regions pays off by providing a platform for branding and selling in its own right.

## Society and culture

In 2017, people are concentrating on themselves and their individual needs. They do not want to fit into any category and demand that goods and services are adjusted to their individual preferences. As a result, manufacturers and service providers are required to customise products and services in communication with the consumers.

In terms of clothing, much of the product creation is taking place online through highly-advanced systems allowing for easy tailoring of products according to individual preferences. People are also increasingly involved in the design of all kinds of home interiors, thereby giving it a personal touch. Technical textiles are in demand by different industry sectors, such as the automotive, construction and healthcare sectors. The significant trend for product customisation requires that different parts of a product – such as for a car, for example – are designed on a product-by-product basis.

### Technology

The rate of technological innovation is low which is mainly due to a lack of public investments in new technologies such as biotechnology and nanotechnology. Instead, companies focus on innovation in terms of design, digitalisation of business processes and communication between them and their customers. Companies also concentrate their efforts on developing new ways of interacting, handling joint processes using ICT and establishing customer loyalty through virtual and exclusive communities of dedicated clients.

### Policy

The public sector is actively involved in the textiles and clothing sector, promoting business development and meeting the special needs of many SMEs. In addition, the strong interest in the area of product origin has made textiles and clothing manufacturing a part of overall national or regional tourism strategies which advertise ‘the visit to the manufacturers’, ‘the possibility to buy unique clothing on location’ or ‘the option to try and make your own clothes’. In one Italian region, a ‘unique Italian textiles’ bus takes tourists to six different clothes’ manufacturers to experience the Italian tradition of garment manufacturing and to design and produce a unique set of clothes to bring back home.

The protection of brands and IPRs are crucial for companies in the sector, and European governments have succeeded in establishing a global regime that effectively protects IPRs. This efficient protection of IPRs has led to an increased global mobility of European companies; R&D activities are to a great extent outsourced to countries which are able to provide highly-specialised staff and researchers at competitive prices.

### Implications for the sector

#### Overall situation of the sector

The textiles and clothing sector is doing well and especially SMEs are thriving. The overall turnover of the sector is increasing and so is the number of new companies in the sector, outweighing the number of company closures. The sector experiences relatively high numbers of entrepreneurs starting their own business in the textiles and clothing industry. In addition, the average lifetime of these new companies is increasing. Small companies in particular benefit from the ‘unique is more’ consumer demand, as well as from their ability to maintain a close relationship with their customers and thus meet customisation demands. Large international brands are no longer dominating the European market for high-quality clothing as people query the uniqueness in relation to these brands.

Since 2012, a boom in micro-brands has emerged providing for customised clothing designed and produced by local designers for consumers. Large brands now only sell limited collections, while also making it possible for customers to influence the design of their clothes through the use of ICT and the assistance of personal designers with the help of interactive design software. Such business operations require a highly-flexible and fast production capacity that must be located close to the customers.

In the field of technical textiles, the customisation trend requires extensive collaboration and communication with companies in other sectors and, as in other segments of the textiles and clothing sector, companies must be able to adapt

production quickly to new customer requests. In some cases, car manufacturers are setting up their own textiles production units rather than relying on subcontractors in order to ensure supply and ease of communication. In fact, a common development across sectors towards integrated value chains prevails, as the complete control of all business areas is of the utmost importance in order to be able to cope with consumer demands, rapidly changing fashion trends and high-speed delivery requirements.

### **Innovation**

Companies in the sector focus on product innovation. However, innovation is not based on new technologies but is rather user driven with a strong focus on design and interaction with consumers. Increased use of process, visualisation and 3D technologies allow customers to see how a piece of clothing would look on them or visualise how a range of carpets would look in their living room. Communication technology is highly important to guarantee an optimal production process and meet the high-speed delivery requirements, as well as to develop and maintain long-distance communication with consumers. The most innovative companies have started, through the use of ICT, to base the tailoring process of products, in accordance with consumer needs, on the automation of certain parts of the process.

### **Business strategy**

Given that consumer behaviour is driven by a search for uniqueness and avoiding mainstream products, companies are reducing the mass production of goods. Once a popular brand or a particular product starts to sell ‘too well’, it loses its appeal. Therefore, the predominant company strategy is diversification with several brands and offering high numbers of small collections a year. The many small companies in the sector are successful by focusing on products with a unique design, a clear marking of the product’s origin and/or traditional production techniques or handcrafted product features. A widely used business concept is that consumers can design their own clothes and garments with the help of professional guidance and individual counselling. Large clothing companies such as Hennes and Mauritz (H&M) and Zara are increasingly focusing on providing a platform for new upcoming local or national fashion designers. As a result, each shop offers a unique collection of new local and/or national brands, as well as selling less expensive ‘basic’ clothing of the company’s own label.

The lifecycle of each collection is extremely short, while the speed of fashion cycles is very high. Companies therefore need to be able to both change design and adapt production processes quickly to new trends and consumer demands. The customisation trend also demands that companies are particularly flexible in their services. Companies thus experience rising costs, but so far they have been able to translate these costs into higher item prices – consumers are aware of this situation and accept that uniqueness comes at a higher price. In fact, this phenomenon is regarded as a characteristic of product exclusiveness and hence rather promoted than avoided.

While companies pursue efficient production processes due to the crucial importance of constantly being able to translate new trends into finished products within a short time-to-market framework, they are less concerned by the introduction of any cost reduction measures. Companies’ competitiveness is based on the ability to forecast future trends ahead of their competitors, as well as on emphasising the uniqueness of garments rather than competing on prices. Thus, companies focus on strengthening their brand or brands, cooperating with creative people, trend spotting and developing close relations with consumers.

Product differentiation is vital to companies, as many competitors are present in the market. As part of this strategy, companies highly prioritise branding and brand protection. New media are used, with a marketing focus on specific target groups. Television commercials and online marketing remain a key element of product branding; however, these generally highlight the origin of a product or the story attached to a brand or product, rather than individual products themselves. The underlying idea of this strategy is that ‘people remember a product by a good story’.

Smaller companies concentrate on national or regional markets, and exports to other European countries. However, medium-sized and big companies continue to target the global market by selling licenses to retailers in other countries or setting up their own shops selling quality products manufactured in Europe.

### Value chain and localisation

Interaction with customers and close collaboration with other industries require communication between individual companies. For reasons of efficient communication, companies prioritise proximity. Meanwhile, companies in other economic sectors increasingly decide to integrate textiles companies in their value chain through mergers and acquisitions.

Some countries have tried to import high-quality textiles with ‘a story’ from non-European countries, but consumers seem to associate such products with the image of ‘low quality’ and ‘mass production’. As a result, the tendency to relocate production and manufacturing activities outside of Europe has declined and all activities are to an increasing degree undertaken within Europe. Likewise, imports of clothing from non-European countries have decreased.

Textiles and clothing manufacturing companies are particularly selective when it comes to choosing retail partners. This is due to the fact that the association with retailers which are perceived to be ‘mainstream’ or ‘low quality’ can be very damaging to a unique brand and result in poor future sales prospects for the particular brand or product.

### Employment and skills

The positive development of the European textiles and clothing sector is primarily reflected in an increasing number of companies in the sector, in addition to more of the sector’s activities being undertaken within Europe rather than existing large companies expanding elsewhere. The manufacturing activities are centred on small scale and high-value products.

In general, higher-educated and skilled workers are entering the sector, at the expense of low and medium-skilled people. At the same time, restructuring in the sector continues. While overall employment levels remain stable, the sector’s workforce composition has changed compared with that back in 2007: in fact, employment of unskilled workers is falling, while the number of workers with higher skills levels is increasing. It is thus a key issue for public authorities and social partners to ensure that the group of workers with lower skills levels receives re-training with the aim of finding employment in other industry sectors or supporting them to set up a small business in a local community.

The sector’s skills needs are diverse. First, it is crucial for companies to have access to creative resources, thus designers are vital for textiles and clothing companies. Furthermore, people with solid professional skills in trend spotting are high in demand. Traditional skills and crafts are experiencing little renewed demand, but these are hard to find. As a result, the social partners supported by public authorities have launched several initiatives which aim to encourage older workers with experience from the sector to re-enter the labour force.

Secondly, more generic skills are important within the triangle of traditional business management skills, visualisation and communication skills, and branding and marketing. Companies demand these generic skills in combination with sound sector knowledge. In terms of foreign language skills, English is the common sector language – other languages are only used as a little extra in the storytelling of products.

Finally, but not least, workers with specialised skills and fabric/material knowledge are in demand. These skills are vital in design activities, but were to a large extent lost in many western European countries due to the extensive outsourcing of manufacturing activities in the 1980s and 1990s.

## Main challenges for textiles and clothing companies

In the 'Express yourself!' scenario, the companies in the sector focus on uniqueness and branding and the key challenges that they face are as follows:

- branding and brand protection;
- high demands on flexibility, due to the increased customisation of products;
- process innovation;
- supply of 'old skills' for the crafts' segment of the textiles and clothing industry;
- access to quality creative resources.



# Scenario 3: Stayin' Alive

Table 5 presents an overview of the third scenario – Stayin' alive – in terms of the six dimensions having an impact on the future development of the textiles and clothing sector. It also compares the outcomes for each dimension across all four scenarios.

Table 5: *Scenario 3 – Stayin' alive*

Dimension / Scenario	Material girl	Express yourself!	Stayin' alive	We are the world
Development of the European economy	High growth	High growth	Stagnating	Stagnating
Consumer demand for products	Functionality	Identity	Functionality	Identity
Public values	Individualism	Individualism	Community	Community
Rate of technological innovation	High	Low	Low	High
Public involvement in the sector	Little involvement	Active involvement	Little involvement	Active involvement
Global protection of IPRs	Weak	Strong	Weak	Strong

Source: *DTI, 2007*

## Economy and market

The European economy is stagnating and the demand for high-quality products is suffering because of this economic slowdown. Asian companies are introducing high-quality products designed by well-known European designers. These brands are not strong enough to compete with existing European brands in Europe. However, they are gaining a foothold in their home countries, posing a serious threat to European brands in these markets.

The population is divided into two groups – a large group of people who are focused on price and a smaller group of people focused on high quality. Consumers in the former group mainly buy bulk products, while consumers in the latter group look for brand products and gadgets such as clothing that can monitor their health or allow them to interface with other electronic devices. However, the shopping behaviour of the average consumer is determined by the price of products.

## Society and culture

The economic situation has affected the values and world view of the European citizens. Global developments are mainly considered as a threat to the welfare of Europeans. People consider themselves as part of a local community and take no particular interest in developments of global issues or developments in countries outside their local community. Nobody gives pollution or working conditions in other countries much thought, while the fear of job losses and reduced welfare dominates the public agenda in Europe.

## Technology

The rate of technological innovation in relation to product development is low. Over the years, the European governments have invested significant amounts of money in new technologies, but unfortunately the innovation potential of biotechnology and nanotechnology has turned out to be exaggerated – revealing itself simply to be techno-hype. Companies focus on optimising production processes, and innovation is based on minor improvements of existing technologies or the creative use of existing technologies in other economic sectors. One such example is the increased use of plastics manufacturing equipment in the textiles and clothing sector, making it possible to speed up the production process. In fact, the concept of innovation is increasingly being abandoned in favour of the concept of imitation – producing the same type of products, but doing it more efficiently than the competitors.

## Policy

With a widespread public fear of job losses, governments are encouraged to implement extensive measures that regulate the import of goods and inflow of migrants. However, such measures also keep prices high in Europe, and the debate between advocates of low prices and advocates of job protection is raging. The EU Member States are divided on this question, which has paralysed trade negotiations in the European institutions, as well as in the World Trade Organization (WTO).

Public involvement in business development has been restricted to reactive measures. Governments are mainly involved in restructuring activities to reduce the negative socioeconomic consequences of redundancies. Innovation is not supported by any public initiatives and companies mostly have to rely on private investors when they seek to engage in innovative activities. However, private investors are wary of risks and thus give priority to projects with a high probability of a short-term return on investment.

In terms of protecting IPRs, Europe has a rather extensive regulatory regime set up. However, no activities exist in terms of monitoring or sanctioning violations of IPRs, or trying to establish a well-functioning regulatory regime at global level. Countries in Asia and Africa in particular have difficulties in providing sufficient protection of IPRs.

## Implications for the sector

### Overall situation of the sector

Textiles and clothing manufacturers are benefiting from their proximity and flexibility in an ever faster changing fashion market. However, cost is an issue and efforts are focused on reducing costs through process optimisation, automation, and mergers and acquisitions. As a result, companies in the sector are trying to increase their size to benefit from economies of scale.

A market for high-quality products still exists, but it is not growing in Europe. Companies in Europe thus look to emerging economies for growth opportunities.

### Innovation

Companies in the textiles and clothing sector focus on process optimisation, lean production processes and production process automation. Expensive manufacturing equipment with sophisticated sensor-technologies supports companies in cutting costs and increasing production speed, but only few companies in the sector have the financial resources available for such investments. Product innovation is limited and innovation is mostly driven by the imitating of innovation in other economic sectors.

Due to the threat posed by copy-products, some of the larger companies are investing in technologies that will allow people to determine original products from copy-products. By scanning RFID chips with personal mobile devices, consumers will be able to validate the authenticity of the product they intend to buy. However, people continue to knowingly buy copy-products. Some products can even be bought with false RFID tags in them.

### Business strategy

Companies in Europe focus on cutting costs and/or engage in the manufacture of niche products. The European market for high-quality goods is limited and companies which are manufacturing such products thus seek to go global. An increasing number of small companies in local areas are establishing local cooperatives in order to exploit economies of scale without giving up the control of their own production.

Private label products are to an increasing extent dominating the market, so companies find themselves in a situation where they have to rely on winning contracts as subcontractors for the larger retailers. These contracts are not lucrative. Textiles and clothing companies therefore face considerable pressure on costs, as well as the obligation to fulfil a significant amount of standards and requirements.

The production of niche garments represents a key opportunity for small companies. Some companies produce clothing based on ‘alternative textiles’ – textiles that are made from the fibres of certain plants which are considered to have an effect on different diseases. In 2013, a local cooperative in the Czech Republic launched a sweater made from natural fibres which was said to have an effect on different types of skin diseases. However, the production of niche garments is not a growing market in Europe and most SMEs lack the capacity to go global. In this regard, cooperatives have been considered as a good platform for joint marketing efforts and distribution.

### Value chain and localisation

The increasing dominance of private labels necessitates communication and quality assurance across the different parts of the supply chain. In some cases, this requirement is leading to the integration of the different supply chain elements through mergers and acquisitions, enabling the companies to offer a full range of products and services to retailers.

Some labour-intensive activities are kept in Europe to ensure speed of delivery and small companies in particular benefit from their capacity of handling production processes with a great flexibility – that is, quickly adapt to new market demands. However, most labour-intensive manufacturing activities are outsourced to countries outside Europe, especially to countries in Africa due to rising cost levels in Asia and South America.

### Employment and skills

The sector is facing massive redundancies, and companies, stakeholders and public authorities are making great efforts to help workers maintaining their employability in providing re-training and skills upgrading programmes. However, the economic situation in Europe implies that other industry sectors are equally under pressure and it is very difficult for former workers in the textiles and clothing sector to find a new job in other sectors of the economy. Unemployment in Europe is on the rise and especially low and medium-skilled workers are facing a difficult employment situation.

Due to the outsourcing of labour-intensive activities and mergers, the demand for unskilled and low-skilled workers is declining in Europe. Competencies in relation to handling and maintaining manufacturing equipment are required, but the net employment effect of the sector’s developments is negative. Two types of companies in the sector still require basic skills: companies which lack the means to invest in the automation of manufacturing processes and those which have found a niche market, allowing the company to charge a premium price for its high-value products.

The main skills needs are at the managerial level, particularly in terms of global supply chain management and marketing products in foreign markets. The increasing importance of private labels also requires that companies focus on customer and supplier relations.

### Main challenges for textiles and clothing companies

In this rather difficult economic context, companies in the sector face the following key challenges, namely to:

- reduce costs;
- invest in process technologies;
- find a niche market;
- expand globally focusing on emerging markets.

# Scenario 4: We are the world

Table 6 presents an overview of the fourth scenario – We are the world – in terms of the six dimensions influencing the future development of the textiles and clothing sector. It also compares the outcomes for each dimension across all four scenarios.

Table 6: *Scenario 4 – We are the world*

Dimension / Scenario	Material girl	Express yourself!	Stayin' alive	We are the world
Development of the European economy	High growth	High growth	Stagnating	Stagnating
Consumer demand for products	Functionality	Identity	Functionality	Identity
Public values	Individualism	Individualism	Community	Community
Rate of technological innovation	High	Low	Low	High
Public involvement in the sector	Little involvement	Active involvement	Little involvement	Active involvement
Global protection of IPRs	Weak	Strong	Weak	Strong

Source: *DTI, 2007*

## Economy and market

South American and Asian economies are booming, while the European and the US economies are experiencing a recession due to rising interest rates and decreasing competitiveness of companies in these regions – human resources have become too expensive and companies face extensive regulatory burdens. The economic situation means that consumers in Europe are not willing to pay for new functionalities or high-quality brands. Rather, consumers look for a good bargain and mainly shop at discount retailers. The markets for high-tech and designer products, as well as products that are based on expensive raw materials or costly manufacturing processes, are thus limited. As a result, companies in these market segments increasingly look to markets outside Europe for growth opportunities.

Although consumers are short of money, they still look for products which give them an opportunity to express their identity. The latest trend is that people make their own clothes – the ultimate opportunity for the expression of one's identity, and it does not cost the earth. This new trend has resulted in an increasing demand for yarns and textiles among individual consumers.

## Society and culture

People consider themselves a part of a global community and sustainability is a key issue. The world is experiencing an increase in awareness campaigns and initiatives which aim to promote sustainable production and consumption. For instance, the annual SUSTAIN rock concert launched in 2011 by a global coalition of environmental non-governmental organisations (NGOs) and several global labelling initiatives aims to support consumers in choosing sustainable products. However, consumers in Europe are generally not willing to pay the required price for sustainable products, such as clothing based on organic raw materials or longer-lasting materials, if these garments are more expensive than traditional clothing which has 'only' been produced in a sustainable way.

Consumers support sustainability as a concept; however, given the economic recession, the size of the wallet has a lot to say. As a result, the average consumer chooses to express their concern for the environment or social conditions by using an 'exit' strategy: if companies are unable to provide documentation of a sustainable production process or if anything should indicate that a company is not living up to the standards in terms of sustainability, the consumers will choose to buy their products somewhere else. Nonetheless, sustainability does not rule out industrial production processes and people are not environmental fundamentalists, but – at the very least – products have to be manufactured in a sustainable way to limit any negative impact on the environment, social conditions and working conditions.

CSR is a holistic concept covering both environmental and social aspects of manufacturing. In 2017, consumers will buy their products from the company which offers a 'clean' consciousness in terms of sustainability, as well as low product prices. This consumer demand puts companies in a somewhat difficult situation, as they have to keep prices low, while also adhering to high standards in terms of regulation and ethics in all parts of the supply chain.

### Technology

The rate of technological innovation in Europe is high, which is due to significant public investments in generic technologies such as nanotechnology. However, consumers are very concerned about the environmental impact of both biotechnology and nanotechnology on environment and public health. This consumer attitude reduces the market potential of products based on these two technologies. Public concerns about such technologies have also increased the level of regulation of companies applying these new technologies. As a result, biotechnology and nanotechnology are mostly used in the R&D phase of production creation and to improve manufacturing methods, while the direct application of these technologies to consumer goods, such as coatings or additives, is largely avoided.

### Policy

Companies in Europe face a range of standards and extensive regulation of all parts of the supply chain. These regulatory burdens are to a large extent focused on protecting consumers, public health and the environment. Furthermore, different initiatives have been taken at global level to ensure that manufacturing activities in both developed and developing countries are adhering to global standards in terms of working conditions and environmental protection.

Public authorities are also actively involved in supporting companies transforming themselves to 'sustainable companies'. In 2010, the EU launched its GreenTech initiative which aims to develop solutions and equipment that reduce the negative effects of manufacturing activities on the environment. This programme has been highly successful in developing new solutions and equipment. However, SMEs in particular find it difficult to raise the necessary funds to invest in these new technologies. On the other hand, the so-called green technologies which were developed as a part of the programme have turned out to be an export success, and especially companies in Asia invest heavily in these solutions.

Joint international efforts and the establishment of regional IPRs monitoring centres have resulted in a strong regime that protects these rights. As a result, the location of activities no longer has to take into consideration the risk of violating IPRs. This has increased the global mobility of companies' activities – not least in terms of R&D activities.

### Implications for the sector

#### Overall situation of the sector

The textiles and clothing sector is making great efforts to combine the need to reduce costs with the need to ensure and document the sustainability of their production methods and processes. It is a major challenge for companies to transform themselves from traditional manufacturing companies to sustainable companies – this transformation requires investments in technology, research and branding. SMEs in particular find it difficult to make the transformation, because they lack the financial means for investment in new technologies.

At global level, the European companies in the textiles and clothing sector benefit from their technological lead in sustainable production and sustainable products, as well as from their CSR reputation. As a result, EU exports of both sustainable textiles and sustainable technologies are growing.

## Innovation

Companies invest in both process and product innovation to provide sustainable products. While most larger companies have the necessary financial resources to make this transformation, the smaller companies are not in a position to invest heavily in green technologies. Regarding smaller companies, the underlying question is from where they would get the money to successfully transform their company into a sustainable one.

Companies are following a three-track innovation strategy. First, in terms of process innovation, companies focus on how to reduce costs by optimising production processes, reducing energy use and avoiding substances harmful to the environment, and by not using workers in the manufacturing of such products. Secondly, product innovation is mainly focused on developing textiles which are not as harmful to the environment as traditional textiles. For example, it focuses on textiles that last longer than traditional textiles, textiles that are re-usable, and textiles based on eco-materials. However, these innovative products have to be cheap if they are to be sold in Europe and the US. Due to the public concerns about the impact of biotechnology and nanotechnology on the environment and public health, companies in the textiles and clothing sector are wary of applying these technologies directly to the products, for example, to increase the longevity of textiles. Thirdly, with consumers focusing on CSR, companies also need to consider innovation in branding and initiating ‘never-seen-before’ activities, which are carried out as part of the company’s social commitments. Such initiatives are necessary, if the company wants to attract the attention of consumers, as well as that of the media.

## Business strategy

Companies in the sector are trying to keep prices low and ensure that their products are manufactured in a sustainable way. Companies successfully tackle this challenge through a combination of process optimisation and the use of equipment and substances which are not harmful to the environment or public health. An additional challenge is to provide documentation for the product’s green profile across all parts of the value chain – in terms of both the impact on the environment and working conditions. This business strategy necessitates a close relationship with subcontractors and suppliers, as well as a continuous monitoring of their adherence to international standards.

CSR represents a vital dimension of a company’s global competitiveness. Hence, companies must make efforts in communication and branding the company as a ‘green’ organisation which invests in the environment and society.

The demand for sustainable equipment and technologies by companies outside Europe is considered as an interesting market opportunity for European companies given their experience in this area. The companies in the European textiles and clothing sector have also explored this opportunity, and in recent years more and more of the sector’s companies are exporting their knowledge of sustainable manufacturing. In fact, some companies completely abandon the manufacturing of textiles and start developing new equipment and sustainable production methods on the basis of their knowledge and experience in the field.

## Value chain and localisation

Companies must be able to document the sustainability of the entire production process and of their products from fibre to finished garments. This requires some integration between the different parts of the supply chain through increased communication, as well as continuous monitoring of subcontractors.

Business activities are global, but European consumers prefer to have their products manufactured in Europe. The exposure to poor working conditions and the use of hazardous chemicals in countries outside the EU despite extensive regulation, monitoring and guarantees have severely impacted on the consumers’ trust in non-European products. In fact, while the European companies’ high standards and strict regulation increase their administrative burden, these standards constitute a competitive advantage for European companies. This is due to the fact that consumers in and outside Europe consider European companies more sustainable and more reliable than companies located outside Europe. However, in

some of these non-European countries which have managed to limit the environmental impact of manufacturing processes and to improve working conditions, the production costs are gradually increasing thus reducing the incentive for European companies to move activities to these countries.

### Employment and skills

Manufacturing activities are to a large extent located in Europe due to the sustainability concerns. This development in the sector has ensured that a labour force demand remains for low and medium-skilled workers in the textiles and clothing industry.

The growing number of companies, which enter the services sector focusing on developing and providing new equipment and production methods, has increased the need for workers with a high-level technical education, such as engineers and, to some extent, also post-graduates. Nonetheless, 'traditional' textiles companies are also looking for high-skilled workers who are specialised in manufacturing technologies and sustainable production.

In terms of management skills, CSR, sustainability strategy, external relations, quality systems and communication, as well as supply chain management, all are vital for European companies.

### Main challenges for textiles and clothing companies

In light of this drive towards sustainable manufacturing processes and CSR, companies face the following challenges:

- cost reduction;
- investing in sustainable manufacturing technologies;
- CSR, communication and branding;
- developing environmental friendly products and processes;
- documentation and labelling of products.

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