Textiles, wearing apparel and leather products sector

Comprehensive sectoral analysis of emerging competences and economic activities in the European Union
Submitted to the European Commission, DG Employment, Social Affairs and Equal Opportunities

Executed by:
Economix research and consulting

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Textiles, wearing apparel and leather products sector

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The seven-year Programme targets all stakeholders who can help shape the development of appropriate and effective employment and social legislation and policies, across the EU-27, EFTA-EEA and EU candidate and pre-candidate countries.

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2. monitoring and reporting on the implementation of EU legislation and policies in PROGRESS policy areas;
3. promoting policy transfer, learning and support among Member States on EU objectives and priorities; and
4. relaying the views of the stakeholders and society at large

For more information see:
http://ec.europa.eu/employment_social/progress/index_en.html

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Textiles, wearing apparel and leather products sector

Comprehensive sectoral analysis of emerging competences and economic activities in the European Union

Executive Summary

The full study is available under the link http://ec.europa.eu/restructuringandjobs

European Commission

Directorate-General for Employment, Social Affairs and Equal Opportunities
Unit F3

Manuscript completed in 2009
Education and training, in the context of a lifelong learning perspective, are an indispensable means for promoting adaptability and employability, active citizenship, personal and professional fulfilment.

Investment in human capital through better education, and the development of skills and competences should be increased. It is important to anticipate skills needs — and also skills gaps — which are emerging in the European labour market, as well as to improve the matching of knowledge, skills and competences with the needs of society and the economy, as a means to increased competitiveness and growth, as well as to greater social cohesion, in Europe.

This is more important than ever in the current situation of crisis that will undoubtedly lead to substantial changes in economic activities in Europe coming years.

With this in mind, the Commission has elaborated a set of analyses of emerging competences in 18 sectors. Those analyses are available to all economic, social and professional organisations, educations and training institutions, etc. They can help them to refine their strategies and to engage into forward-looking actions.

Robert Verrue

Director-General, Employment, Social Affairs and Equal Opportunities DG
Aims and methodology

The renewed Lisbon strategy and European Employment strategy stress the need for Europe to place more emphasis on a better anticipation of skill needs together with the need to reduce labour markets mismatches. These policies aims also at minimising social costs and facilitating adaptation during restructuring processes through a better anticipation and positive management of change. Globalisation, technological change, climate change and demographic developments (including ageing and migration) in that respect pose huge challenges, comprising both risks and opportunities. In that context, the Commission has launched recently the New Skills for New Jobs initiative together with other related European projects aimed at identifying future job and skills needs using quantitative modelling approaches. While having advantages of robustness, stakeholders as well as the European Commission identified a clear need for complementary more qualitative forward-looking analysis. Consequently, the European Commission commissioned in 2007 a series of 18 future-oriented sector studies (horizon 2020) on skills and jobs following a uniform, qualitative methodology. Results of these studies have become available in summer 2009, and will be followed by a number of other initiatives over the oncoming year and beyond. The current economic crisis calls for the reinforcement of policies aimed at developing the employability of the workforce. This project fits within this policy objective.

18 sector studies, one methodology

The results of this study aim to serve as a guide in launching further EU and other actions to promote the strategic management of human resources and to foster stronger synergies between innovation, skills and jobs, taking into account the global context and encouraging adaptations to national and regional level.

To validate, add and complement the findings of the project and to make sure that results are disseminated as broadly as possible across Europe, relevant stakeholders including European social partners, other services from the Commission with the expertise in the sectors analysed, representatives from the European Parliament, the European Economic and Social Committee, the Committee of the Regions, Eurofound and Cedefop were involved in the project from the beginning.
Aims and methodology

A standard predefined methodology was developed by a panel of experts under the direction of Prof Maria João Rodrigues and applied to all 18 studies to ensure consistency and comparability of the results, the studies being produced by different contractors.

Based on the basic methodological framework, each contractor executed 7 defined steps, starting with the mapping of main trends, key drivers of change, leading to scenarios of plausible evolution and their implication for employment at the year 2020 time horizon, the identification of implications for emerging competences and occupation profiles in terms of jobs expanding, transforming or declining, and their implications in terms of strategic choices and subsequent recommendations for companies, education and training systems, social partners and public authorities at all levels. This foresight methodology implies an approach combining desk research and expert knowledge.

At the end of each sector study a final European workshop for the sector was organised by the Commission to validate results as well as refine recommendations.

<table>
<thead>
<tr>
<th>Sectors Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive industry</td>
</tr>
<tr>
<td>Defence</td>
</tr>
<tr>
<td>Textiles, wearing apparel and leather products</td>
</tr>
<tr>
<td>Printing and publishing</td>
</tr>
<tr>
<td>Chemicals, pharmaceuticals, rubber and plastic products</td>
</tr>
<tr>
<td>Non-metallic materials (glass, cement, ceramic…)</td>
</tr>
<tr>
<td>Electromechanical engineering</td>
</tr>
<tr>
<td>Computer, electronic and optical products</td>
</tr>
<tr>
<td>Building of ships and boats</td>
</tr>
<tr>
<td>Furniture and others</td>
</tr>
<tr>
<td>Electricity, gas, water &amp; waste</td>
</tr>
<tr>
<td>Distribution, trade</td>
</tr>
<tr>
<td>Hotels, restaurants, catering and related services</td>
</tr>
<tr>
<td>Transport</td>
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<tr>
<td>Post and telecommunications</td>
</tr>
<tr>
<td>Financial services (bank, insurance and others)</td>
</tr>
<tr>
<td>Health and social work</td>
</tr>
<tr>
<td>Other services, maintenance and cleaning</td>
</tr>
</tbody>
</table>
addition to European Commission and Eurofound staff, about 20 experts per workshop from industry, academia and sector organisations including workers and employers’ representatives with a sound knowledge of jobs and skills were invited to comment and provide recommendations to the report as part of the methodology.

**Brief description of the methodological steps**

**Mapping**

The main purpose of this analysis was to provide factual background to identify key drivers used in the subsequent scenario development. Consequently, the Report analysed recent sector developments and trends and, at the same time, depicts the current state of play in the sector with an emphasis on innovation, skills and jobs. It was based on an analysis of available time series data and relevant existing studies. It analysed 1) structural characteristics (production, value added, employment in various dimensions, and related factors); 2) the value chain; 3) technological change and innovation; 4) trade and international competition as well as 5) regulation. The results of all sections were summarised in a SWOT analysis and were used as input to identify key drivers.

**Drivers of change**

On the basis of the mapping of the sector, a set of key drivers, sector specific or not, was identified. Literature review and expert knowledge of the sector were then used to define a conclusive list of sector-specific drivers. Drivers were classified as exogenous or endogenous depending on the ability for the sector’s stakeholders and policymakers to influence them. These lists of drivers were also discussed in the experts’ panel workshops.

**Qualitative scenarios and implications for employment trends**

The set of selected sectoral drivers of change served as an input to develop scenarios for the evolution of the sector and implications for different occupations (composition of employment / emerging competences) in the period 2008 to 2020.

**Implications of scenarios and emerging competences**

Scenarios were built to assess the implications for the level (absolute
Aims and methodology

Demand) and composition (relative demand compared to other job functions) of employment of different job functions by 2020. New and emergent skills required by different job functions were identified based on the analysis of the evolution of past data on employment by occupation, on the analysis from the present situation and of experts’ comments during the workshop. The focus was on identifying and describing key and critical competences for the future for each of the major occupational function in relation to the different scenarios elaborated. These formed the basis for the strategic choices identified in a next step.

Strategic choices for companies to meet emergent competence needs

Each sector study assessed possible strategic choices in terms of feasibility and actor involvement. The options comprised recruiting workers from other sectors, countries, recruiting graduates, re-training employed workers as well as changing work organisation.

Specific implications for education and training

Options to improve or to adapt education and training systems were looked at in this step of the methodology, focussing more particularly on the specific role to be played by sectoral organisations, educational institutions and governments such as a stronger cooperation between stakeholders or an increased flexibility through modularisation of education and training.

Recommendations

Each sector study contains specific recommendations to the sector. However, with the studies analysing Europe as a whole, the recommendations remain general and need a follow-up at the national and regional level. The intention of the project especially in the follow up phase is to use the results to stimulate stakeholders at lower territorial levels (national / regional) to work out results in more details, repeat and adapt this exercise to local needs rather than providing standardised solutions. Some general recommendations call for an intensified co-operation between relevant stakeholders, the need to invest strongly in human capital, more standardised regulations, enhanced VET to increase social mobility and coordinated National and European Vocational Qualifications.
European TCL industries have passed through stormy weather over the past decades\textsuperscript{1}: attacked by competitors from Asia and faced with heavy price competition on consumer markets, the industry was driven by globalisation – and used it as a sheet anchor at the same time. Big retailers emerged and organised global supply chains. Producers, in parallel, relocated parts of their production to low-cost countries in order to remain competitive. This was boosted by huge wage differentials on global labour markets and high profits from trade. Production could only sustain in low-cost areas of the European Union and in specialised high-quality market segments. Significant restructuring was needed to transform the industry into competitive producer networks, as was the case in Italy and France.

In 2005 gave these trends a further push. Mass-production largely disappeared from high-wage areas in the EU while low-cost areas – the New Member States, Portugal and Greece – could keep at least parts of TCL production.

In 2006 the TCL industry employed 3 million workers. In spite of slowly growing demand, low productivity and strong international competition, those firms which remained on the markets achieved profit rates comparable to other small-sized sectors. Also with the help of low wages, firms were able to survive and to perform economically well. This must also be attributed to the entry of the New Member States (NMS), Romania and Bulgaria in particular.

The industry developed three main strategies to meet competitive pressure:

- A \textit{cost-oriented approach} which used relocation to low-cost countries, including the NMS, as its major instrument
- An \textit{innovation-oriented approach} diversifying the spectrum towards high-quality and specialty textiles products

\textsuperscript{1}TCL is the acronym for the NACE sectors 17 to 19: manufacture of textiles, wearing apparel, leather, leather products and footwear.
• A *productivity-oriented approach* based on automation and IT-based supply chain management, which helped to increase flexibility and create global sourcing systems.

The three strategies contributed to the dichotomic change of skills structures in the EU: a sharp decline in the number of textiles and clothing trades’ workers and machine operating functions in high-cost areas, and the increase of such jobs in low-cost areas, the NMS in particular. The restructuring activities towards supply chain management and sales required more technical and business professionals in high-cost areas, while these functions declined in low-cost areas. This process indicates the expansion of management and marketing activities in one part of the EU and rising economic dependency in the other.

As cost-oriented strategies were not sufficient to stop the downward trend of TCL industries, the innovation-oriented approach seems to have become more and more important. Latest data from innovation surveys and other sources indicate that the TCL sector strengthened research and development broadly and now ranks at least at an average level of European manufacturing. Major efforts were undertaken in the area of technical (or functional) textiles, quality improvements, product and market diversification, production flexibility, and cost reduction. The textiles industry in particular developed new textile appliances which are used in construction, medicine, or engineering. These specialty textiles are equipped with electronic components, coated with new materials, and used for packaging, filtration, or for construction and mechanical engineering purposes. The use of these textile appliances is seen as the best escape from apparently tight consumer markets.

Based on a series of interviews and analyses of available research, the study achieved deep insights into the mechanisms of the sector and the rationale of actors. Strong links were detected between the different parts of the value chain, combining a sector with wide functional and regional disparities.
Textiles, wearing apparel and leather products sector

Main characteristics of TCL industries

Economic performance

Measured by value added, the majority of the industry comes from textiles manufacturing which contributed to 47% in 2004. Clothing had a share of 35%, leather and footwear produced 18%. Regarding employment, the structure is reversed: the clothing sector provides 46% of jobs, textiles 36%, leather and footwear 18%. This indicates strong productivity differentials between the sub-sectors.

Italy is the principal manufacturer of textiles, clothes and leather products in Europe. It contributed to one third of the EU27 value added in 2006, followed by Germany and France, both with a share of 11%, and Spain and the United Kingdom both with a share of 9%. Among the countries specialised in TCL production, Malta, Bulgaria, Portugal, Romania, Lithuania, Estonia and Italy all had shares of 10% and above in total manufacturing employment. The EU27 average was 3.6%.

TCL industries experienced a rapid decline of output and prices for ten years since 1996. Overall production shrunk at a rate of 4% annually, which meant a loss of one third of the production volume during this period. The textiles industry performed much better than the other two sub-sectors. Production volumes declined by 22% from 1996 to 2006, while clothing lost 45% and leather 32%.

EU 27 production index, 2000 = 100

Source: Eurostat (2007)
Private consumption has increased by 3.2% annually since 2000, mainly in the New Member States. The share of clothes in total EU consumption, however, decreased from 5.2% in 2000 to 4.7% in 2006.

Prices also increased much slower than manufacturing prices in total. While domestic output prices of manufacturing products increased by 25% between 1996 and 2006, textiles, clothes and leather products saw an increase of 8%. This means a relative decline of output prices of 13% during that period.

Extra EU trade of the European TCL industry is characterised by high deficits. In 2007, the trade deficit was around 52.2 billion euros. Deficits appear in most of the sub-sectors (except leather production), but are particularly big in clothing. China, meanwhile, has a share of 33% of EU27 textiles and clothing imports, and – most importantly – its share in footwear rose to 40% in 2006. In physical terms, meaning the number of shoe pairs, it increased even stronger to 65%. Import prices for clothes declined by 23% and by 6% for textiles in the period from 2000 to 2006.

Nevertheless, intra-EU trade still dominates the trade flows of the EU27 Member States: almost three quarters (71.9%) of the total intra and extra EU-exports are intra trade flows. This share is higher than for intra EU trade of industrial goods.

Several Member States achieved a trade surplus in 2006. Italy is the strongest among them with a positive export import balance for textiles, clothing and leather products of 16 billion euros. This, however, has been progressively narrowing in recent years due to the decline of exports to non-EU countries.

**Employment**

In terms of employment, TCL industries have been declining industries for a long time. Since 1996, TCL lost one third of its jobs within ten years. Compared to overall manufacturing, the decline was at a significantly higher speed and seems to be continuing indefensibly.

The biggest employers were Italy with 620,000 TCL jobs, Romania had 440,000 jobs, and Poland, Portugal, Spain and Bulgaria were all between 200,000 and 300,000 jobs. Apart from Bulgaria, none of the EU countries were able to increase the number of jobs during the period 2000-2006. Ireland, UK, Cyprus and Denmark were among the countries with the most severe reductions.
Traditionally, textiles, clothing and leather are industries with high shares of females, not only in services and administration but also in production activities. This did not change between 2000 and 2006: 59.2% of all persons employed in TCL in the EU15 region in 2006 were female slightly less than in the year 2000 (61.3%). The share of females in NM10 was even higher, and increased from 77.7% to 80.4%. Compared to the manufacturing sector, the shares of females were more than double in both regions.

In EU15 countries, TCL is an ageing sector. A clear shift from the 15-39 age groups to older workers occurred during 2000-2006. Younger workers lost 9.4 percentage points while the 40-49 and 50+ groups won 4 to 5 percentage points. In the NM10 countries, the middle age group (40-49) lost around 4 percentage points while the younger and the older attained about 2 percentage points.

**Occupations and formal education**

The change of occupational structures in the TCL industries reveals clear trends in the period 2000-2006: the share of managers
and professionals increased in the EU15 countries, while production related occupations decreased together with service and administrative work. Skilled production work was reduced in particular. In contrast, the New Member States extended the number of jobs for skilled production workers and assemblers, while the share of managers, other professionals, and service and administrative workers was cut.

This is the continuation of a long-lasting pattern of occupational change which is caused by the specialisation of high-wage countries on know-how-intensive activities, while standardised production is shifted to low-wage countries. The dominance of this pattern is shown by the fact that all three sub-sectors follow the same type of occupational change. It is most expressed in the clothing industry, where management and professional occupations in the EU15 gained even more than in the other two industries, while the share of unskilled production work increased strongly in the NMS.

**Occupational skills structure**

**Difference of % shares in TCL employment 2000-06**

Source: Eurostat (2008)
A high share of TCL workers in EU15 countries (57.6%) only have a basic formal education (ISCED 1, 2), one third have a medium level (ISCED 3, 4), and 9.3% have a higher education (ISCED 5, 6). In contrast to the NM10 countries, the majority of workers have a medium level of education (81.1%), and only 13.1% have a low level. 5.8% attained a high level. These profiles reflect the different structures of education and training systems in the EU countries, with a strong training orientation in the former socialist countries. Moreover, the workforce in the NMS is younger and well educated in comparison to the Old Member States.

Innovation and organisation of the value chain

European TCL enterprises of today seem to be as “innovative” and “R&D-engaged” as manufacturing enterprises in general. This is surprising considering the usual ranking of innovative sectors, and means that the transition of the European TCL industries towards a knowledge-based industry is already underway. Around 35%-50% of TCL enterprises are engaged in product and process innovation.

The transition of occupational structures is fostered by the emergence of big retail distributors – like H&M, Zara or Cortefiel – and the development of global brands – like Luis Vuitton, Armani. Based on global sourcing, these companies took advantage of the international labour division and wage differentials while distribution was concentrated under a single brand. The control over the value chain remained with the global retailers, as did the design, quality control, and marketing. Production activities, however, were developed in low-cost countries. This was accompanied by the use of “trend scouts” to detect the most recent preferences of consumers, the shortening of the “time to market” with frequent changes of fashion patterns, and the establishment of real-time IT networks to observe both sales and production.

Global retailers have a strong impact on value chains as they keep control of all strategic functions while sub-contracting production. Even high-value brands are produced in low-wage countries under the strict control of the leading companies. Products are developed in these companies and pre-collections are produced, materials are ordered and transferred to producers. Production
in the sub-contracting firms is controlled by engineers and production specialists in order to guarantee quality standards. Finally, marketing strategies are designed in the headquarters and products are sold in company-related sales chains. The change of occupational structures clearly reflects this organisation of value chains.

A series of TCL producers transformed into brand-based companies, engaged in trading rather than production. The process can be explained by price structures on textiles and clothing markets which are characterised by a dominant share for wholesale and retail trade and minor shares for production. Trade appears to be the profitable activity compared to internationally competitive production.
Starting with a long list of potential drivers the study selected four areas which can be expected to have strong impacts on the development of European TCL industries:

**Global competition**

Strongly rising competitiveness of Asian countries (China in particular) is a major threat to the European TCL sector. As Asian countries are developing the sector efficiently, the NMS are in more of a defensive than a leading position.

**Knowledge base**

New textiles for application in construction, medical technologies and other areas are currently being developed. “Technical” and “intelligent” textiles are the growth markets with a strong potential to substitute other materials. The sector, however, is characterised by widespread skills shortages due to its weak position on labour markets.
Markets

Consumer markets are strongly price-sensitive, a driver which enforces global competition and increases the importance of global distribution chains. “Time to market” is becoming a key competitive factor. International brands emerge fostering the disappearance of regional fashion.

Environmental costs

Energy prices and the costs of climate change are going to affect the world economy in a way which is not fully visible yet. Textiles and leather production have to reassess the chemicals used for production (REACH), clothing and footwear are reorganising their logistic systems due to rising energy prices, and all industries meet consumers who are increasingly aware of the environmental and social effects of production.

Strengths and weaknesses of European TCL industries

Due to the different position of companies in high-cost and low-cost areas of the EU, the analysis of strengths and weaknesses results in scattered picture:
## Strengths and weaknesses – opportunities and threats

<table>
<thead>
<tr>
<th></th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
</table>
| **High-cost areas**<sup>(1)</sup> | • Leading in fashion design and branding  
• Strong position in top market segments  
• Good position in specialty textiles  
• Value chain management  
• Efficient production networks  
• Innovative machinery industries  
• Experienced labour force  
• Functioning training institutions | • Weak cost position  
• Weak position in mass markets  
• Weak attractiveness for young people  
• Declining training participation  
• Experience in manufacturing processes is weakening |
| **Low-cost areas**<sup>(2)</sup> | • Competitive wages  
• Experienced labour force  
• Proximity to large consumer markets  
• (partly) new capital stock | • Large-scale production  
• Weak market position  
• Weak innovative culture and few brands  
• Lack of highly skilled professionals (design-ers, engineers)  
• Few training institutions  
• High transport cost |

<table>
<thead>
<tr>
<th></th>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
</table>
| **High-cost areas**<sup>(1)</sup> | • Increasing demand for specialty textiles  
• Rising worldwide demand for high-level products  
• Preferences for European fashion style  
• Strong attendance to environmental issues | • Closing-up of emerging countries in high-value products and specialty textiles  
• Rising productivity in emerging countries  
• High price sensitivity of consumers  
• Disappearance of textiles and clothing machinery producers  
• Closure of training institutions |
| **Low-cost areas**<sup>(2)</sup> | • Europeanisation of demand  
• Short-distance transportation  
• Cost advantages compared to high-cost areas | • Rising cost advantages of emerging countries  
• Skills shortages due to low attractiveness of the sector  
• Relocation of production |

<sup>(1)</sup> AT, BE, DK, ES, FI, FR, GE, IE, IT, LU, NL, SE, UK  
<sup>(2)</sup> BG, CZ, CY, EE, GR, LT, HU, MT, PO, PT, RO, SL, SV  

Source: Economix
• **High-cost countries** have achieved a leading position in fashion design and branding, produce high-level qualities, and are innovative. They are managing value chains and dispose of efficient production networks, machinery producers and a skilled labour force. However, they have a weak cost position – on mass markets in particular – and the skills basis is eroding. They can profit from their strong market position in specialty textiles and high-quality products. Moreover, their attendance to environmental aspects appears as an opportunity. However, these markets only provide limited volumes and their position will not remain unchallenged by the (Asian) competitors.

• **Low-cost countries** have competitive wages and an experienced labour force, and they profit from the proximity to large consumer markets. These advantages are reduced by the weak market position of producers and the weak innovative culture, the lack of skilled professionals and high transport costs. The opportunities for producers in these countries lie in short-distance transportation which may be fostered by the Europeanisation of demand and cost advantages. However, their cost position is attacked by the emerging countries. Without a clear strategy how to develop TCL industries in these countries, relocation of production might further erode the industrial basis.
Emerging competences

Competence profiles in the European Union are determined by a series of interfering trends, and they appear to be different between high-cost and low-cost areas. Skills developments in TCL industries are dominated by

- Technology and application oriented engineering in specialty textiles
- The rising importance of marketing and sales
- Value chain management on global TCL markets
- Relocation of machine operating and assembling functions
- Rising importance of environmental aspects
## Emerging competences

<table>
<thead>
<tr>
<th>High cost area(^1)</th>
<th>Textiles</th>
<th>Clothing</th>
<th>Leather</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing, sales</td>
<td>Technology-oriented International High-standard client services</td>
<td>Brand oriented Individualised Rapid change</td>
<td>Brand oriented Quality oriented Ecology oriented</td>
</tr>
<tr>
<td>Engineering, production, logistics</td>
<td>Small batches Flexible production Strong customer orientation Sound understanding of processes and quality requirements</td>
<td>Organisation of value chain Supervision and control International Small batches High quality production</td>
<td>High quality production Small batches Craft oriented Environmental protection</td>
</tr>
<tr>
<td>R&amp;D, Design</td>
<td>Interdisciplinary research Application oriented Cross-border thinking</td>
<td>Rapid fashion Customisation of garments High quality fashion</td>
<td>Reduction of water consumption Substances with low pollution</td>
</tr>
<tr>
<td>Management</td>
<td>Change management Technological leadership Quality oriented</td>
<td>Sales oriented Brand oriented Value chain management</td>
<td>Brand oriented Flexible</td>
</tr>
<tr>
<td>Marketing, sales</td>
<td>Rapid delivery Price oriented</td>
<td>Value chain oriented Price oriented domestic markets important</td>
<td>Rapid delivery Price oriented</td>
</tr>
</tbody>
</table>

### Low cost area\(^2\)

<table>
<thead>
<tr>
<th>Engineering, production, logistics</th>
<th>Textiles</th>
<th>Clothing</th>
<th>Leather</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency oriented Large scale production Standardised production</td>
<td>Efficiency oriented Large scale production Standardised production</td>
<td>Efficiency oriented Large scale production Standardised production</td>
<td></td>
</tr>
<tr>
<td>R&amp;D, Design</td>
<td>Process innovation</td>
<td>Process innovation</td>
<td>Process innovation</td>
</tr>
<tr>
<td>Management</td>
<td>Efficiency and price oriented</td>
<td>Efficiency and price oriented</td>
<td>Efficiency and price oriented</td>
</tr>
</tbody>
</table>

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\(^1\) AT, BE, DK, ES, FI, FR, GE, IE, IT, LU, NL, SE, UK  
\(^2\) BG, CZ, CY, EE, GR, LT, HU, MT, PO, PT, RO, SL, SV  

Source: Economix
The future of European TCL industries is far from being decided. The three scenarios show considerable scope for variation and various policy options:

- Scenario 1 called “Globalisation limited” sees considerable effects from climate change. Rising environmental costs will change the system of global trade and set new priorities for consumers, governments and producers. TCL industries will become more European or even regional under these conditions. Relocated production facilities will once again be relocated back to Europe. Even with continuing technical advances, skill needs will shift towards production and craft-related competences rather than to professionals.

- Scenario 2 called “Asian dominance – European excellence” assumes present trends to be reinforced. While environmental problems will be actively addressed, emerging countries will improve their specialisation in industrial manufacturing and the EU will strengthen its technological lead. Production activities will largely disappear from European TCL industries but a great need for technical specialists and natural scientists will emerge.

- Scenario 3 called “Advanced New Member States” describes how the European Union and low-cost countries among the Member States are going to defend the industrial basis in Europe. Facing the strongly negative effects of globalisation on manufacturing employment (not only TCL employment), a comprehensive policy programme aims to revive industrial jobs, which will reinforce the segmentation of skills needs in Europe: strong demand for production-related skills in low-cost countries and professionals in high-cost countries.
Three scenarios up to 2020

Scenarios and drivers

1 Globalised limited

2 Asian dominance - European

3 Advanced New Member States

Source: Economix
## Main characteristics of scenarios

<table>
<thead>
<tr>
<th>Driver</th>
<th>Scenario 1: Globalisation limited</th>
<th>Scenario 2: Asian dominance – European excellence</th>
<th>Scenario 3: Advanced New Member States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental costs</td>
<td>Rising significantly; Climate risks are strongly visible; Environmental policies with limited efficiency;</td>
<td>Rising; Environmental policies are effective; Climate risks remain manageable;</td>
<td>Rising; Environmental policies are effective; Climate risks remain manageable;</td>
</tr>
<tr>
<td>Markets</td>
<td>Consumers strongly concerned about climate risks; Global economy disintegrates due to environmental conflicts; Slow macro-growth;</td>
<td>Consumers appreciate environmental politics; Global market for top quality-ties; Global labour division is developed further; Strong macro-growth;</td>
<td>Consumers prefer job creation and remain price-sensitive; Medium macro-growth;</td>
</tr>
<tr>
<td>Knowledge base</td>
<td>Innovation concentrated on ecological technologies; Revival of traditional crafts; Switch from labour productivity to energy productivity;</td>
<td>Strong product innovation for specialty textiles; Design, marketing and sales very important; Management of the value chain;</td>
<td>Mainly process innovation provided by machinery and organisational changes; Strong increase of labour productivity;</td>
</tr>
<tr>
<td>Competitiveness</td>
<td>Declining competitiveness of emerging countries due to high environmental costs; Ecological and social criteria have strong impact on competitiveness;</td>
<td>Strong position of emerging countries in low and medium quality segments; Strong position of European producers on high value markets and specialty textiles;</td>
<td>Strong position of low-cost areas in Europe in medium quality segments; Strong position of high-cost areas on high value markets and specialty textiles;</td>
</tr>
<tr>
<td>Branch structures</td>
<td>Locally concentrated value chains due to high transport costs; Small-sized production networks; Rising share of craft business;</td>
<td>Closure of mass production; Small-sized innovative companies; Global networks of producers; Highly specialised crafts businesses;</td>
<td>Mass production remains in European low-cost areas; Switch from sub-contractors to independent suppliers: Top quality and international brands in high-cost areas;</td>
</tr>
<tr>
<td>Foreign trade</td>
<td>Low growth of world trade;</td>
<td>Strong growth of world trade;</td>
<td>Medium growth of world trade;</td>
</tr>
</tbody>
</table>

Source: Economix
Global impact on employment

Employment trends
EU27 employment in TCL industries (1000 persons)

Source: Economix

The scenarios result in different employment trends. According to the “Asian dominance – European excellence” scenario, a job loss of 50% is to be expected by 2020 due to the rising competitive strength of emerging countries and increasing specialisation in Europe. The “Globalisation limited” scenario and the “Advanced New Member States” scenario are less pessimistic in terms of job reduction, assuming that 20%-25% of jobs will be lost. The “Globalisation limited” scenario profits from the return of production to Europe, but suffers from low growth of the world economy. The “Advanced New Member States” scenario is based on a successful development strategy in the New Member States and other low cost areas which shows returns by the end of the scenario horizon.
Implications for competences and occupational profiles

The change of occupational structures shows diverse patterns. The “Globalisation limited” scenario brings a considerable shift towards production-related activities due to the strengthening of local and regional clusters in Europe. The “Asian dominance – European excellence” scenario reinforces the need for technical and commercial professionals but reduces the demand for production-related work – except highly specialised craftsmen. The “Advanced New Member States” scenario raises the demand for specialists due to the dynamics in the New Member States.

Occupational change
Change of relative employment shares; EU27

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Managers</td>
<td>+</td>
</tr>
<tr>
<td>Computing professionals, associated prof.</td>
<td>+</td>
</tr>
<tr>
<td>Engineers, associated engineers</td>
<td>+</td>
</tr>
<tr>
<td>Business professionals, associated prof.</td>
<td>−</td>
</tr>
<tr>
<td>Other professionals</td>
<td>−</td>
</tr>
<tr>
<td>Office clerks and secretaries</td>
<td>−</td>
</tr>
<tr>
<td>Service and sales workers</td>
<td>−</td>
</tr>
<tr>
<td>Textile, garment and related trades workers</td>
<td>++</td>
</tr>
<tr>
<td>Pelt, leather and shoemaking trades workers</td>
<td>++</td>
</tr>
<tr>
<td>Other craft related trades workers</td>
<td>+</td>
</tr>
<tr>
<td>Textile, fur and leather products machine operators</td>
<td>=</td>
</tr>
<tr>
<td>Plant and machine operators, assemblers</td>
<td>−</td>
</tr>
<tr>
<td>Labourers</td>
<td>−</td>
</tr>
</tbody>
</table>

++ strong increase, + increase, = no change
− − strong decrease, − decrease

Source: Economix
Competence profiles are different for all scenarios. The “Globalisation limited” scenario will ask for ecological competences in all occupations but will also foster demand for technical competences. Traditional crafts techniques will be revitalised. The “Asian dominance – European excellence” scenario will mainly ask for professionals employed by trading sectors and the application of advanced textiles technologies. The demand for production-related intermediary skills will decline rapidly, except for some specialists in top quality products. The “Advanced New Member States” scenario will require the expansion of business-related competences in these countries in order to build independently operating companies and develop marketing and sales.

Generally, crossing the borders of traditional occupations will become even more important than in the past. The integration of material science, chemistry or physics will help innovation in the area of specialty textiles. Environmental technologies will be applied in all parts of the industries, and finally management and commercial aspects will be important for all professions.
Critical competences

Due to their principal orientation and strategic choices, the scenarios demand for different types of workers with specific competences:

- The “Globalisation limited” scenario will have to achieve the transformation into a self-sustaining European TCL sector which is less dependent on international trade and complies with rising environmental standards. This asks for strong change management towards efficient and highly specialised company networks. Marketing channels will have to be established, apart from the existing retail business, and new brands will have to be created. Marketing specialists will, therefore, have a strong consumer-orientation with social and environmental responsibility. In parallel, administrative departments will be able to imply the new environmental standards efficiently. R&D experts will need to know about sustainable products and will have a good knowledge of traditional production technologies. Process engineering will focus on energy efficiency and emission control, and quality control will concentrate on environmental standards. This will include logistics, which will have to improve energy efficiency rather than shortening delivery times. Production will be small-scale and specialised and will reuse traditional crafts.

- In the “Asian dominance – European excellence” scenario, a strategic, visionary, and intercultural management will be needed which is able to establish a high-tech TCL sector in Europe. This will require interdisciplinary, multi-skilled and creative R&D staff, including engineers and designers. A strong client-orientation will be needed not only among marketing and sales workers but among production workers as well. Small batches of customised high-value products will be produced which require a sound knowledge of clients’ businesses, markets and technologies. Process engineering will mainly supervise global production chains with diversified standards and short delivery times.
**Critical competences**

<table>
<thead>
<tr>
<th>General management</th>
<th>Change management, Network management</th>
<th>Strategic, visionary, intercultural</th>
<th>Quality management, market-oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing and sales</td>
<td>Consumer-oriented, socially and environmentally responsible</td>
<td>Client-oriented, technical know-how, trend-setting, intercultural</td>
<td>Competition-oriented, Market knowledge, Intercultural</td>
</tr>
<tr>
<td>Administration</td>
<td>Environmental legislation (REACH)</td>
<td>International business</td>
<td>International business</td>
</tr>
<tr>
<td>Research &amp; development</td>
<td>Sustainable products and technologies, Traditional techniques</td>
<td>Interdisciplinary, multi-skilled, creative</td>
<td>Market-oriented, efficiency oriented, creative</td>
</tr>
<tr>
<td>Process engineering</td>
<td>Energy and emission control, Cost control</td>
<td>Supervision of global value chain</td>
<td>Cost control, Quality control</td>
</tr>
<tr>
<td>Production</td>
<td>Small scale, specialised, crafts-oriented</td>
<td>Client-oriented, Technical know-how</td>
<td>Quality-oriented, mass-production</td>
</tr>
<tr>
<td>Quality control</td>
<td>Environmental standards, Network operations</td>
<td>Diversified standards</td>
<td>Large-scale control systems, network operations</td>
</tr>
<tr>
<td>Logistics</td>
<td>Energy-efficiency-oriented</td>
<td>Delivery-time-oriented</td>
<td>Delivery-time-oriented</td>
</tr>
</tbody>
</table>

Source: Economix

- The “Advanced New Member States” scenario will be based on a market and quality oriented management which is able to establish an independent TCL industry in the low-cost areas of Europe. This will require strong cost control, high efficiency of production processes and tight control of quality standards. Improvements of intermediary production skills will be particularly needed. In parallel, this strategy will rely on innovative and creative capacities of designers, engineers and
business professionals, both in product development and marketing. The task is to establish an efficient and flexible type of mass-production at low costs – something which is indeed ambitious. Administrators will have to support the strategy with sound knowledge of international business and markets. Delivery time will also be important for logistic services.
Strategic impacts from the scenarios

Adjustment strategies at company level

The adjustment strategies which could be followed by TCL companies are completely different for each of the three scenarios:

In the “Globalisation limited” scenario, production networks will be established in high-cost areas in order to use a broad range of competences for upgrading products and advance environmental innovation. With lower competition from Asian mass-production, producer networks will be the answer to differentiated consumer needs. In parallel, however, subcontracting will remain important for mass-products which will mainly be produced in low-cost areas.

Main adjustment strategies

<table>
<thead>
<tr>
<th>Main adjustment strategies</th>
<th>Scenario 1 Globalisation limited</th>
<th>Scenario 2 Asian dominance – European excellence</th>
<th>Scenario 3 Advanced New Member States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand and design strategy</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Networking strategy</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Industry-retail strategy</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Subcontracting strategy</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Technological leadership strategy</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
</tbody>
</table>

Source: Economix
The “Asian dominance – European excellence” scenario is a technological leadership scenario where European producers will only serve the upper end of markets and will abandon not only mass production but large parts of medium quality production to Asian and Mediterranean competitors. It is a brand and design strategy where marketing will be at the centre of activities. In this sense, it will also be an industry-retail strategy as large producers will transform into traders. Production networks will not survive in face of Asian competition.

The “Advanced New Member States” scenario assumes the transformation of TCL industries in low-cost areas to competitive production networks which will develop their own brands. Companies will be able to escape from the prevailing subcontracting system and achieve a much higher degree of independence.

**Strategic choices for sector organisations, training institutions and governments**

In Scenario 1 sector organisations will present the TCL sector as a sustainable industry which complies with environmental norms. Career guidance will emphasise traditional production and business principles which will help to strengthen production networks and sustainability. Regional labour markets will be very important.

Environmental policies will be mainstreamed in all sub-policies, including emission-based restrictions for foreign trade, promotion of environmental technologies through innovation and the creation of energy-efficient clusters which will reduce transportation distances.

Public campaigns for Scenario 2 will underline the high-tech image of the sector which needs strong specialists in engineering, science, design and value chain management. R&D policies will promote non-company based institutions in order to receive the maximum input from independent research.

The scenario describes a world of liberalised markets where full advantage is taken from specialisation and the changing allocation of production. Europe, therefore, will concentrate on using professionals in science and engineering with wide interdisciplinary knowledge. Research centres and R&D cooperation will be more important
than defending existing TCL clusters. The sector will be on the way to a high-tech industry, which has little in common with the present type of products and technologies. Large parts of consumer markets will be in the hands of big retailers. Industrial policy will be reluctant to interfere with the restructuring process.

In *Scenario 3*, TCL industries will appear as a European industry which is not only able to compete with the strong Asian countries but reattracts some parts of the production to Europe. A strong business development orientation will prevail with the focus on management, marketing and design. The networking approach will lead to a considerable change of work organisation in small and technology intensive firms. Regional labour markets will be very important.

It is the alternative with the strongest demand on industrial policies which explicitly support business foundations, strengthen regional clusters and promote process innovation, design and marketing. Governments also protect the sector by enforcing narrow anti-dumping rules and a stronger protection of intellectual property.
Human resource policies to meet skill needs

The common challenge in all scenarios is the further decline of employment. Company restructuring appears to be difficult in such a situation. While markets demand a high speed of restructuring in all areas – products, technologies, and organisation – the human resource policy in companies is determined by low labour turnover, the great importance of internal labour markets, and an ageing workforce. Particular skills shortages appear among emerging skills which are scarce due to low labour supply and strong competition among employers.

In parallel, wages are limited by strong cost pressure from abroad. This restricts wage offers to highly skilled workers who would be needed to increase innovation and improve economic performance. Specialty textiles are particularly affected by this phenomenon as this sector requires highly innovative engineering staff. Restructuring in the New Member States is also restricted as highly qualified workers search for jobs in high-wage areas rather than their home countries.

Finally, training is at risk in highly specialised but declining industries. Decreasing training participation puts training courses at risk or even leads to the closure of training centres. Students and workers also have little incentive to invest in training if they face limited labour demand and high unemployment risks. Market forces alone, therefore, lead to a downward spiral of extending skills shortages in face of declining employment. Governments are, therefore, under particular pressure to compensate such market failures and provide training facilities for the sector in those regions where TCL can be expected to survive.
Implications for education and training

The accumulation of human capital remains a pivotal task in all three scenarios as the strategic reorientation of businesses can only be achieved on the basis of a well educated staff with the training required to create an efficient workforce.

In Scenario 1, vocational training will promote the reorientation through knowledge transfer in the areas of environmental protection and crafts-related skills. Training will be strongly company-based in order to achieve the transfer of practical knowledge. Training institutions will have to gradually adjust to the new types of work, different from industrial standards in the past. Vocational training, however, will not only focus on environmental issues but will also entail the full spectrum of vocational training in order to develop intermediate skill levels in particular.

Training in Scenario 2 will be strongly opposed to the first scenario: It will focus on tertiary education in engineering, design, business management, and marketing. Large parts of production related training at the intermediary level, however, will be abandoned. A new material science based on fabrics will be created in close cooperation with interdisciplinary research centres. Parts of training will be professionalised and internationalised. The other part will concentrate on sales competences at low and medium skill levels.

For Scenario 3, institutional vocational training will be more important than company-based training as rapid upgrading of knowledge is required in many areas, particularly in business and management practices. The scenario will also strongly rely on human capital investments, in low-cost areas in particular, in order to achieve economic independence. This requires knowledge transfer, especially from high-cost areas, but also improvements of career structures and image campaigns. Recruitment from abroad will be important as well as retraining the labour force. Training policies try to fill the skills gaps by promoting studies in business administration, engineering and intermediary skills. This seems to come from public investment as companies in the low-cost area can hardly fund additional training.
Conclusions and recommendations

With these expectations the European Union faces the principal choice between the transition into a de-industrialised economy and defending manufacturing production capacities by means of intelligent adjustments in industrial branches.

The way to a de-industrialised economy is certainly what present transition trends indicate. As the production of manufactured goods – TCL products in particular – is less profitable than the production of services, the growth potentials lie in services. The transition to a service economy, which has been underway for a long time, follows the economic rationale of the international labour division. Liberal global markets are seen as the basis for achieving the economic optima.

This, however, appears as constrictive logic which, on the one hand does not fully account for the external ecological costs of a global economy, or the imbalances on European labour markets on the other hand. These two arguments are the basis for the alternatives to the “Asian dominance – European excellence” scenario.

Climate change can be expected to cause enormous costs, which will become evident from increased expenditure on environmental protection or various climate catastrophes. The appearance of environmental costs will transform economic incentives and weaken the advantages of global labour division. Moreover, environmental disasters may rapidly change public opinion and policy action. They can be expected to change normative reference systems of societies substantially and thus lead to a conversion of economic regimes.

As far as jobs are concerned, rapid industrial change can avoid imbalances on labour markets only if the job potentials of growing sectors are strong enough to absorb human resources from declining industries. The experience from European countries (and the US), however, reveals that this was not the case over the last decades. Facing this experience, the option of defending industrial jobs in Europe is not that far away.

Of course, this cannot be done with a conservative approach. Preserving existing jobs appears to be the guarantee for disappearance. However, using the potentials of European economies – existing wage differentials in particular – and creating competitive firms in
promising regional clusters is an alternative to the pretended advantages of the global labour division.

None of the scenarios come without a price. While the price of carrying the present regime forward (“Asian dominance – European excellence” scenario) lies in neglecting environmental risks and job destruction, the alternative scenarios will curb overall growth. The “Globalisation limited” scenario will see slower growth due to the disintegration of the world economy. The “Advanced New Member States” scenario intends to invest in low-productivity sectors and thus depends on low wages.

These negative impacts reveal that the scenarios are real alternatives: Europe has the choice between the continuation of its growth strategy, an ecological economy or a “jobs first” strategy. All three scenarios can hardly be achieved in parallel. At least at EU level the scenarios are exclusive. This, however, does not mean that Member States might not follow different approaches. In contrast, the diversity of approaches reduces the risk of wrong expectations and helps identifying promising strategies. A uniform industrial policy at EU level, therefore, is not intended with this appraisal.

The study does not prefer any of the scenarios in the sense of a clear recommendation for one of the pathways. This is attributed to the ambiguity of the scenarios. It will be a political decision to evaluate the different strategies, and to develop new ones. Nevertheless, there are some common recommendations resulting from all scenarios:

- **Developing the knowledge base:** facing the situation of an eroding training system, it is recommended to apply a strongly selective HR policy concentrated on the regional centres of TCL production in Europe, particularly in France, Italy, Portugal, Belgium, Germany and some of the New Member States. Public investments in training structures need to be concentrated in order to modernise training. Universities could be at the centre of regional clusters in close cooperation with firms and intermediary training facilities. Strong links are necessary between employers, training institutions and workers (trade unions).

The New Member States need particular attention as training structures are not fully developed. Beyond engineering and design, companies require
strong inputs from professional business specialists who are able to organise the value chain efficiently, undertake convincing marketing initiatives, and optimise human resource management. This should create the basis for a greater independence of TCL companies. National and local governments are particularly stipulated in this respect. Highly qualified engineers, designers, and business professionals are required for this. The critical competences which appeared in the scenarios should be developed.

**Innovation strategies:** Innovation will be a precondition for the survival of European TCL industries. Private investments in the development of specialty textiles should be supported by promoting the cooperation between textiles and other branches like chemistry, construction, and medical science. Machinery producers should contribute to the development of new methods of garment production. Logistic systems should be improved to lower transportation costs. An interdisciplinary approach should be fostered rather than segmented specialisation.

The European Technology Platform suggested a “niche-strategy” exploiting the technological leadership of European producers in many ways. There is little doubt that highly specialised products are better protected from international competition, usually address clients’ needs better than mass products, provide higher shares of value added and above average profit rates, and are located in growing rather than declining markets. However, this can hardly be a strategy for the three million jobs in European TCL industries.

**Regional policies:** TCL industries in Europe need a strategy to defend the share in mass consumption markets. The New Member States are those which would be best positioned to compete with the Asian competitors. As this competition is not only driven by labour costs, the game is not single tracked: flexibility and speed of production, marketing channels and logistics, high productivity of labour, organisation and machinery are all important ingredients of competitiveness and should be developed. The development of regional TCL clusters – as was undertaken by China – might, therefore, help
to improve the competitiveness of European mass producers. This requires a low-cost strategy supported by trade unions and workers, a human-capital strategy developing regional labour markets, an efficient organisation of the business environment, and a marketing strategy expanding the sales networks worldwide.

Past experience has shown that the escape from the S-efficiency model is the only way to achieve economic sustainability. As competition among pure subcontractors is price driven rather than quality driven, competence building in design, branding and marketing is pivotal for an escape. The French Val de Loire is a good example of this strategy. This example also points to the fact that individual companies are hardly capable of achieving a more independent market position. Cooperation and networking are therefore required among regional producers, and public support is needed to implement regional strategies. A selective regional development strategy should be developed, which evaluates the economic potential of TCL suppliers, identifies its strengths and weaknesses, implements development programmes and – most importantly – creates the links between actors.
## List of recommendations

### Topic 1: Industrial policies

| EU | • Evaluate alternative industrial policy approaches  
• Assess alternative regional clusters  
• Develop a portfolio of alternative policy approaches with Member States |
| --- | --- |
| National authorities | • Select the optimal approach  
• Assess alternative regional clusters  
• Develop a strategy to safeguard low-skill workplaces |
| Social partners | • Contribute to the identification of optimal approaches considering economic growth, employment levels and environment |

### Topic 2: Employment and human resource policies

| EU | • Support good practices in restructuring  
• Support active ageing policies |
| --- | --- |
| National authorities | • Reduce non-wage labour costs  
• Contribute to TCL related human resource investment  
• Support good practices in restructuring  
• Support active ageing policies |
| Companies | • Create a positive image on labour market with the help of leading companies  
• Improve internal adaptability of the workforce  
• Preserve the knowledge base by lifelong learning  
• Set up good HR practices and career path developments to struggle against turnover and attract newcomers in the sector  
• Build mobility solutions within the sector instead of lay-offs |
| Social partners | • Support HR policies without early retirement and an effective ageing policy, new career paths  
• Promote agreements about employment, restructuring, ageing policies |
### Topic 3: Skills adjustment

| EU | • Support training structures in regional clusters  
• Promote R&D in regional clusters  
• Create cross-border training networks with companies, training institutions and workers  
• Support interdisciplinary approaches with material science, chemistry, physics, and business administration  
• Reinforce new competence standards  
• Support research on ecological aspects of TCL production and consumption  
• Promote lifelong learning  
• Promote exchange of students  
• Redirect ESF funds towards human capital investments |
|---|---|
| National authorities | • Concentrate investments in education and training structures (universities) on regional production centres  
• Develop skills at intermediary levels  
• Focus on critical competences:  
  – Strategic and visionary management  
  – Intercultural competences in many functions  
  – Network-based value chain management  
  – International marketing and branding  
  – Interdisciplinary and multi-skilled engineering  
  – Quality-oriented production  
  – Ecological knowledge as a cross-occupational competence  
• Envisage complementary factor to training: R&D, regional policies establish and support training structures in regional clusters  
• Modernise training  
• Develop management, marketing, business administration, engineering and design in the NMS  
• Support branding in the NMS controlling  
• Support cooperation between companies and training institutions |
| Regional authorities | • Develop regional TCL clusters if appropriate  
• Envisage complementary factor to training: R&D, regional policies establish and support training structures in regional clusters  
• Focus on critical competences (see above)  
• Support cooperation between companies and training institutions |
| Companies | • Promote lifelong learning  
• Develop intermediary skills  
• Preserve learning abilities of the workforce |
| Social partners | • Reinforce involvement in training issues |
### Topic 4: Innovation

<table>
<thead>
<tr>
<th>EU</th>
<th>National authorities</th>
<th>Regional authorities</th>
<th>Companies</th>
<th>Social partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Support R&amp;D investments</td>
<td>• Improve interdisciplinary research</td>
<td>• Develop regional centres of TCL innovation</td>
<td>• Expand R&amp;D activities</td>
<td>• Improve the image of regional clusters</td>
</tr>
<tr>
<td>• Support knowledge transfer</td>
<td>• Create research centres in regional clusters</td>
<td>• Invest into training infrastructure</td>
<td>• Create R&amp;D networks and improve collaboration</td>
<td>• Support networks and improve collaboration</td>
</tr>
<tr>
<td></td>
<td>• Support company based R&amp;D and knowledge transfer</td>
<td>• Consider the high interdependency of the knowledge base with regional economic and social conditions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Topic 5: Equal opportunities

<table>
<thead>
<tr>
<th>Companies</th>
<th>Social partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provide equal opportunities for men and women in both technical and design oriented tasks</td>
<td>• support and negotiate agreements about equal treatment of men and women</td>
</tr>
<tr>
<td>• promote women in management positions</td>
<td></td>
</tr>
</tbody>
</table>

### Topic 6: Regional policies

<table>
<thead>
<tr>
<th>EU</th>
<th>National authorities</th>
<th>Regional authorities</th>
<th>Social partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify and support regional TCL clusters</td>
<td>• Identify and support regional TCL clusters</td>
<td>• Concentrate resources according to regional conditions</td>
<td>• Address employment issues at the local level</td>
</tr>
<tr>
<td>• Focus on NMS</td>
<td>• Provide economic and technical research evidence</td>
<td>• Develop regional labour markets</td>
<td></td>
</tr>
<tr>
<td>• Avoid mainstreaming of development approaches</td>
<td></td>
<td>• Develop regional knowledge base</td>
<td></td>
</tr>
</tbody>
</table>

Source: Economix
Where to find more information?

The following information can be found on the Europa website under the address:

http://ec.europa.eu/restructuringandjobs

The other 17 sector studies on the analysis of the sector’s evolution and future skills needs
   The Restructuring in Europe report
   The thematic restructuring forums
   The checklist and the toolkit on restructuring processes
   The training guide for SMEs
   The national seminars on restructuring in 27 EU countries
   Official documents related to restructuring policies