IN-DEPTH ASSESSMENT OF THE SITUATION OF THE EUROPEAN FOOTWEAR SECTOR AND PROSPECTS FOR ITS FUTURE DEVELOPMENT

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Task 5: Training

Final Report

prepared for

DG Enterprise & Industry

RPA

April 2012

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by

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EXECUTIVE SUMMARY

Training and education within the footwear sector play an essential role as manufacturing companies look to strengthen their position in European and other markets. Over the past ten years, the industry has seen an increasing number of companies relocate their production capacity to countries offering cheaper labour costs, mostly in Asia and at times to eastern Europe. This has not just been characteristic of European companies; by 2010 over 62% of the world's footwear production was concentrated in China. Other Asian countries such as India, Pakistan, Indonesia and Thailand were also among the top ten producers, accounting for an additional 20% of the total[1].

While production facilities were moved, the base for commercialisation, marketing and design has remained in Europe. This has allowed the potential and skills related to these areas to be retained and disseminated. However, the diminishing number of companies manufacturing in the EU has led to an important loss of skills. One of the reasons industry representatives gave as a driver of relocation is the lack of skilled workers in certain areas.

The three case study regions show a very diverse picture in terms of industry capacity, as well as the availability of education and training institutes. The main details of the training facilities of the regions are summarised in Table 1 (over page).

There is a variety of educational and training facilities in the three case study regions. These institutes, and their relationships with industry, provide opportunities for students to participate in research projects, exhibitions, competitions and apprenticeships. Training is available for secondary to tertiary level, with specialist courses ranging from design to marketing and IT.

[1] APICCAPS (2011): **World Footwear 2011 Yearbook,** Portuguese Footwear, Components & Leather Goods Manufacturers' Association.

Table 1: Training Institutes in the Case Study Regions			
Institute	***Courses***	***Outreach***	***Industry Links***
Rheinland-Pfalz			
International Shoe Competence Centre	*A range of specialist short, modular training short courses tailored to the specific needs of industry and trade.*	*Wide national and international appeal; it has about 400 national and international students.*	*Undertakes research for industry partners and co-operates in the 'Step up Shoes' campaign to encourage young people to apply for employment in to the sector.*
Pirmasens campus of the University of Applied Sciences Kaiserslautern	*Degree course on leatherwork and shoe technology leading to a Bachelor's degree in product and process engineering.*	*In 2011, 9 students enrolled in the Leatherwork and Shoe Technology programme. Overall, the school has 20% of its students from outside Germany.*	*Practical experience in industry is a key part of the bachelor degree course.*
Pirmasens School for Vocational Education	*A 3 year vocational course in shoe manufacturing and a 2 year course in leather processing.*	*Of the 42 students enrolled into the school in 2011, 20 are from companies in Rheinland-Pfalz the remaining 22 come from other German federal states.*	*Students participate in international competitions and work with manufacturing companies on specific projects. The students spend the majority of their training course at companies.*
German College of Footwear Design and Technology	*Vocational further education in technical design and industrial engineering (in footwear technology).*	*This is the only school for the footwear sector in the country. It has an international appeal.*	*Students work closely with industry and are also offered practical training at the facilities of the ISC.*
Veneto			
Politecnico Calzaturiero	*There are 51 courses listed in the catalogue of the school for the year of 2010/2011, ranging from secondary vocational to masters level degree programs.*	*A very wide national and international appeal and well established relationships with universities as well as manufacturers from all over the world.*	*Students participate in competitions organised jointly with industry (e.g. BASF). Collaborations with industry include the possibility for students to receive grants from and internship at local companies.*
Southern Poland			
Krakow School of Art and Fashion Design (Malopolska)	*Non-degree vocational design course of 2.5 years, which includes a 3 semester-long footwear design module.*	*A wide national appeal with 65% coming from other regions than Malopolska; also open to international students (with Polish language skills).*	*Students regularly take part in international fashion competitions.*
Leather Training Institute (Malopolska)	*Arranges specialist courses at the request of the manufacturing companies. These typically take place at the manufacturing site. No regular training courses.*	*National, with departments in Lodz, Warsaw and Poznan.*	*Acts as a platform for manufacturers of children's shoes in Malopolska.*

Business Strategies Related to Training

The employment and training practices that an enterprise adopts are critical in ensuring that the skills available to the operation match its business requirements. Based on the type of operation of the company and the subsector it is working for, there can be different skill requirements.

In both formal and informal training, apprenticeships and on-the-job training play an important role. This is one area that has been impacted by the reduction in manufacturing operations in Europe. In addition, the less significant an industry becomes in terms of production capacity, the less emphasis the education and training system will put on related courses.

The involvement of industry professionals in business courses is an important incentive for students. With the use of information technology becoming ever more advanced within the industry, it is important that experienced industry professionals work side by side with graduates. Similarly, working with and learning from designers can provide added value to the students by allowing them to experience not only the creative aspect of the work itself but the limits of everyday reality – what creation is actually makeable, wearable and can be sold.

Mentoring programmes that provide the possibility for personalised guidance in emerging and advanced technologies can also play a crucial role in supporting students with the most promising potential. Within these programmes, students can participate in working group sessions alongside an industry professional, developing products and directly interacting with customers.

While footwear manufacturing is an industry which relies primarily on manual labour, innovations are important in both the technological and the design field of the sector. Innovation in certain sub-sectors is more prominent than in others, therefore the reliance on skilled staff differs as well.

There is increasing awareness of the role that training and education can play in maintaining competitiveness, as well as of how development of human resources should be a key part of long-range business strategies. Initiatives for specific industry-related training and education can be launched by the enterprises as well as regional or national policy makers.

Collaboration

Collaboration between industry and education centres can become a key factor when providing training for employees and can serve as a point of information for policy makers and education centres on the changing skill requirements of the industry.

An additional important aspect is the strong regional concentration of the industry, which can result in close ties between stakeholders, thereby helping to develop projects that can encourage young people to seek employment in the sector.

From the point of view of the education institutes, cooperation with industry can ensure that the current challenges and requirements of the industry are included in the curriculum and that time students can be provided with the possibility to find placement at enterprises.

Collaboration between industry and research centres can also lead to the development of research projects through which university-industry-research centre relationships may function as knowledge intensive networks. While accessing funds for research might prove difficult, the creation of these networks is important as the research activity itself provides a rich basis for teaching and learning at both undergraduate and graduate level[2].

Challenges

One of the most serious problems for the industry in the EU is the aging workforce and the difficulties in attracting young workers. The economically active population in the EU has been increasing but there is a change in the age distribution of the population. The number of young people aged 15-19 is expected to reduce by 1 million (-5 %) and the number of those between 20-29 years by 9 million (-17 %). By contrast, the 50-59 age group will increase by 5.5 million (+ 12 %) and the 60-64 age group by 1 million[3].

An additional concern is that young people are generally turning away from the footwear manufacturing sector in favour of high-tech industries and the service sector. The reasons for this are various; the nature of manual work in the footwear manufacturing sector is not appealing, salaries and other benefits are uncompetitive.

In order to make the industry more appealing to the new generation, education institutes and companies are using a range of communication and other technology tools.

Companies in all three case study regions identified similar skills as being the most important. While design skills are especially important for companies that produce their own brands, no significant problems are being experienced with recruiting sufficiently qualified designers. The main problem lies in recruiting skilled production staff.

Marketing, sales and customer service are also an important skill requirement for the industry in all three case study regions. Some loss of customer service and sales skills has been experienced, due to the fact that some retailers have - as a cost cutting measure - scaled back on employee training.

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2 Aura Mihai (2010): **Relationship Between Higher Education and Research in Footwear Design**, paper presented at the 4th Scientific-Professional Symposium Textile Science and Economy, 26 January, 2011, Zagreb, Croatia, downloaded from http://www.shoe-design.ro

3 TEI Piraeus (2007): **Comparative Analysis of the Leather and Footwear Industries Concerning Aged Workers in Greece, Italy, Spain & Portugal**, downloaded from http://footwearsinfolinethree.tripod.com/greece_italy_spain_portugl.pdf

Best Practices

A number of best practice initiatives have been identified in the case study regions reflecting the stakeholders' willingness to identify solutions to their common challenges. As the industry is stabilising after a period of significant restructuring, companies are increasingly looking for new employees. Best practices highlighted in the individual case studies show joint efforts between varieties of stakeholders facilitating this process, including the involvement of young professionals.

Best practices in collaboration between industry stakeholders have been identified both in Italy and Germany. In both case studies, training institutes involve local enterprises to provide apprenticeships and implement promotional activities to encourage increased participation by young people. Similar initiatives have not been found in Silesia, where the manufacturers have not yet established a basis of cooperation.

Collaboration with companies that are part of the wider supply chain can also facilitate research as well as provide an expansion of the contacts the training institutes maintain - such as the case of BASF and its collaboration with the Politecnico Calzaturiero and other manufacturing companies across Europe. These contacts also enhance the development of knowledge in relation to the specific areas of collaboration, for example polymers. As the relevance of this knowledge for the industry is likely to increase in future, it can contribute to the maintenance of the specific production techniques in Europe. The areas of research can consequently have an influence on the content of training and a spill-over impact on the job market.

The successful engagement of industry stakeholders in education programmes is highlighted through examples in both Veneto and Rheinland-Pfalz. The close collaboration between the education centres and other regional stakeholders is crucial for maintaining an up-to-date curriculum that takes into consideration the best available technology as well as the limitations and necessities of the regional industry. These relations provide apprenticeship opportunities for students which can increase their future employability.

The visibility of the industry on a regional and national scale is also an important factor in attracting prospective young workers to the sector. Stakeholders in Rheinland-Pfalz have initiated projects to attract young people into the industry, such as the 'Step up Shoes' campaign. This campaign is part of a larger, regional initiative called the "Footwear Industry Roundtable" set up in late 2010. Participants include local footwear companies, the Central Federation of the German Footwear Industry (Bundesverband der Schuhindustrie), ISC Germany, the Pirmasens Job Fair, the Chamber of Industry and Commerce, and the Pirmasens School for Vocational Education.

Recommendations

Based on the information gathered in the case study regions, the challenges identified by the stakeholders and the literature review, a number of recommendations aimed at

bringing in line the needs of the industry with the capacity of the training and education institutes have been identified.

The economic significance of the footwear manufacturing sector is different in each of the case study regions, which affects the availability and type of courses offered by the training centres. The recommendations listed in Table 2 aim to correlate with the views, ambitions and planned future initiatives of the stakeholders related to development of the industry.

The recommendations target two main areas, the improvement of relationships between stakeholders and the evaluation of the capacity and composition of the labour force in the regions. Improvements in these two areas could on the one hand mitigate differences in the networking and training needs forecasting abilities of stakeholders in the different regions. On the other hand, they could contribute to the strengthening of representation of the sector at the national level.

Cross border initiatives between education and training centres could provide a platform for collaborations and knowledge transfer. As industries in the Member States can differ significantly in size and value, some experiences and processes cannot be transferred without taking into consideration national and regional specificities such as the characteristics of education and training systems.

The goal of education is often to help students utilise their knowledge by applying it to new situations or procedures. Within the footwear sector, the practical experiences students gain throughout the course of their studies can support their employability as well as their personal development. Apprenticeships and placements are also important for the companies, as they gain insight how well fitted the curricula are to the local industry requirements.

Strong ties between educational institutes, manufacturing companies and industry associations can help foster a mutually beneficial environment where education and training centres receive feedback from the companies regarding the content of the courses. In the absence of such relationships between stakeholders, the support of regional or national organisations and the establishment of a joint platform might be necessary in order for companies of all sizes to benefit from an apprenticeship or placement program and increased communication.

Moreover, information exchange and joint projects between stakeholders can support the promotion of the industry among young people and help to understand the reasons for their reluctance to join the sector. The decreasing appeal of the industry, and low wages compared to other sectors, as appear to be the main reasons why young people turn away from employment opportunities in the sector. Investment in the development of human resources is crucial to the future of the industry. Most of the available training courses reflect regional and/or national industry requirements and are self-financed by the students in hope of finding employment in the sector. Without further initiatives targeting the development of the industry, the availability and diversity of the education and training courses could potentially reduce.

Table 2: Recommendations		
Areas	***Rationale***	***Activities***
Promote the improvement of cross border relationships between training institutes	*Education and training institutes could benefit from increased communication related to industry trends and research areas, as well as offering opportunities for student exchange programs.*	*Encourage joint projects to aid integration, facilitation of exchange programs etc.*
Promote the extra-regional relationships between training centres and businesses	*Stakeholders in regions such as Silesia, where currently there is no specialised training centre for the industry, could benefit from the exchange of best practices.*	*Facilitate knowledge transformation by initiating wider collaboration between training institutes and local businesses.*
Promote the improvement of local business relationships	*Improving relationships between local businesses in regions such as Southern Poland, where there is no real collaboration could help the identification of solutions for common training-related challenges.*	*Facilitate the establishment of a platform for the stakeholders for communication and integration. This could also support strengthening the representation of the industry at the regional and the national level.*
Involvement of wider groups of stakeholders, such as research institutes, companies in the supply chain etc. in joint projects	*Facilitating wider collaborations between footwear businesses, training institutes and supply chain companies can initiate further research projects and contribute to the strengthening of the knowledge base and provide graduates able to meet future skill demands.*	*Facilitation of projects involving graduates, businesses (particularly SMEs), research centres and other stakeholders such as employment authorities for new lines of research, cutting edge technology and the dissemination of knowledge at training centres.*
Improve the image of the sector amongst young people	*The industry is less appealing for young people as it is seen to be technologically outdated.*	*Initiate local small-scale projects, specific to industry requirements in the regions/cities, such as promotion of the diversity of opportunities available and the different technological skills required.*
Dissemination of information regarding to the potential impact of demographic changes	*The aging workforce and the lack of skilled workers in certain region may require companies (especially SMEs) to develop new training techniques.*	*Educate stakeholders on future prospects for employment in the regions and the changes in training methods this might require.*
Optimisation of recruitment and retention techniques	*Effective recruitment policies and HR management can help companies to retain skills and make optimum use of their employees.*	*Support on recruitment and employee retention practices for footwear companies - especially SMEs – through collaboration with local/regional industry associations, and training institutes.*

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES (continued)

LIST OF FIGURES

LIST OF BOXES

LIST OF ABBREVIATIONS

APICCAPS	Associação Portuguesa dos Industriais de Calçado, Componentes, Artigos de Pele (Portuguese Footwear, Components & Leather Goods Manufacturers' Association)
BA	Bundesagentur für Arbeit (Federal Employment Agency, Germany)
BiSS	Berufsintegrierte Studiengang Schuhtechnik (Integrated Professional Study Programme in Shoe Technology Germany)
CAD	Computer Aided Design
CAM	Computer Aided Manufacturing
EQF	European Qualifications Framework
ESF	European Social Fund
EU	European Union
GARA	Górnośląska Agencja Rozwoju Regionalnego (Upper Silesian Regional Development Agency (Poland)
GCFDT	German College of Footwear Design and Technology
HDS	Bundesverband der Schuh und Lederwarenindustrie (Federation of the German Footwear Industry)
HR	Human Resources
ICT	Information and Communication Technology
IHK	Industrie – und Handelskammer für die Pfalz (Chamber of Industry and Commerce, Germany)
ILI	Institute of the Leather Industry (Poland)
ISC	International Shoe Competence Centre (Germany)
KSA	Krakowskie Szkoły Artystyczne (Krakow School of Art and Fashion Design Poland)
LLP	Lifelong Learning Programmes
PFI	Prüf- und Forschungsinstitut für die Schuhherstellung e.V. (Test and Research Institute for Footwear Production Pirmasens, Germany)
PILI	Polish Chamber of Shoe and Leather Industry
PoS	Point of Shoes (German Fair)
RPA	Risk & Policy Analysts Ltd.
SAPU	Szkola Artystycznego Projektowania Ubioru (Fashion Design Centre of the Krakow School of Art and Design, Poland)
SATRA	UK Footwear Technology Centre
SME	Small and Medium Sized Enterprises
VLC	Voluntary Labour Corps (Poland)
VS	Vocational School, Pirmasens (Germany)

1. INTRODUCTION

1.1 Background

The European footwear industry has been subject to an elongated period of transition since the early 1990s, following increasing competition from China, Brazil, and Indonesia. During these years EU manufacturers have maintained their competitiveness by outsourcing the most costly production processes to Asia or to eastern European countries, as well as through a number of bilateral trade restrictions on imports of footwear. Nonetheless, industries in the Far East have gained a competitive advantage and European manufacturers have been forced to introduce cost cutting measures, which have included a reduction in employment within the sector.

In response to the challenges the footwear industry is facing, the European Commission has contracted RPA to undertake an assessment of the situation of the footwear sector in the EU and prospects for its future development. The assessment focuses on the current trends in research and innovation, restructuring, education and training and on small and medium-sized enterprises (SMEs), with specific focus on selected EU regions. The main goal of the study is to better equip stakeholders, including national/regional authorities as well as social partners and the business community, to respond to a potential crisis and minimise its socio-economic consequences, particularly in the less-favoured regions which are heavily dependent on footwear manufacturing.

The study consists of seven tasks:

- Task 1: EU survey;
- Task 2: Research and Innovation Centres;
- Task 3: Small and Medium Enterprises;
- Task 4: Restructuring and Modernisation;
- Task 5: Training;
- Task 6: Research and Innovation; and
- Task 7: Preparation of a Synthesis Report.

This report sets out the findings of Task 5.

1.2 Objectives

The aim of Task 5 of the study is to carry out a retrospective analysis of what has been done in the footwear sector in the last 10 years in terms of workers' training in three regions of the European Union and what were the main impacts. Furthermore, the assessment shall consider the means to support footwear workers' adaptability to industrial change. The assessment focuses on the changes that have taken place in the last 10 years in terms of employee training in the sector. Moreover, the analysis looks at the changes in the employment structure brought by the increasing competition of

third country manufacturers and changes in the production systems. The key areas of the study are:

- changes in qualification structure, gender and age distribution amongst employees in the sector;
- types of training provided;
- relationships and cooperation between training institutes; and
- use of support mechanisms.

As a conclusion the assessment shall present best practices and deliver recommendations on how to match training and education skills and business needs in the sector to improve the competitiveness of the European footwear industry.

1.3 Approach to Task 5

In agreement with the Commission, three regions were selected as case studies under Task 5. These are:

1. Poland: Southern Poland (Silesia and Malopolska);
2. Germany: Rheinland-Pfalz; and
3. Italy: Veneto.

Brief descriptions of the three regions are given in Box 1.1 (over page). In each region, we carried out interviews with the main education and training centres, to understand the status of education and training in the footwear sector as well as to identify the changes that had taken place during the past 10 years. We also interviewed enterprises that needed to introduce new skills into their workforce, to examine how they had achieved this objective. Table 1.1 sets out the number of organisations we contacted in each region and the numbers of organisations interviewed.

Table 1.1: Number of Stakeholders Contacted in the Case Study Regions

Country	Number of Stakeholders Contacted	Number of Organisations Interviewed
Poland	29	5
Germany	17	8
Italy	48	6
Total	**94**	**19**

The interviews were conducted using a semi-structured format and focussed on gathering details on education and training activities, policy and regulatory environment, implementation of results and potential barriers.

Box 1.1: The Case-Study Regions

Southern Poland (Silesia and Malopolska**)**: Poland is the largest footwear manufacturing nation out of the new Member States that joined the European Union in 2004. Although there is some inconsistency in the data, the country's annual footwear production was valued at €253 million in 2008 with 44 million pairs of shoes manufactured[4]. According to the Polish Statistical Office there was a slight – around 2% - reduction in the total number of leather and footwear companies between 2009 and 2010 and the number is around 4 600 while the sector employs around 40 000 people. The number of companies and employees in shoe manufacturing is significantly lower, but data are inconsistent. Malopolska and Silesia have the highest density of footwear manufacturers. This is partly due to the fact that 25 years ago the major state owned shoe manufacturing conglomerates were located in these two regions. The industry is concentrated around the cities of Czestochow and, Myszków. Data from 2008 indicates that 30% of overall footwear output of Poland was produced in Malopolska. The regions are also an important academic centre in Poland. Silesia hosts, amongst others, the University of Silesia, the University of Economics and the Academy of Fine Arts (all in Katowice[5]) while Malopolska hosts the Institute of Leather Industry (ILI) and the Krakow School of Art and Fashion Design.

Rheinland-Pfalz: Rheinland-Pfalz is one of 16 German states; it is located on the borders of France, Luxembourg and Belgium. The Rheinland-Pfalz economy is influenced by its geographical position in Central Europe, its overall (intra as well as extra EU) export share being continuously above the German average (46% in 2009). More detailed information on the economic background of the region is given in Task 4 report. The region has been a traditional footwear manufacturing sector with a major proportion of it centred around the city of Pirmasens. Located in the West Pfalz sub-region, Pirmasens and Zweibrücken are important centres for the industry, and are characterised by medium-sized businesses. The International Shoe Competence Center Pirmasens gGmbH (ISC Germany) is a training and research centre for the leather and footwear industry and trade. It was officially opened in June 2008. The institute works in close collaboration with other universities such as University of Applied Sciences and the Pirmasens School for Vocational Education. Shoe Production has a long tradition in the area of Pirmasens; however, in recent years the region has been faced with increasing competition. This is reflected by decreasing number of manufacturing enterprises, which has shrunk to around 20 over the last 10 years. Nonetheless, the shoe industry remains one of the most important sources of employment in this sub-region, with major production plants[6].

Veneto: Traditionally, Italy is one of the most important centres of footwear manufacturing in the world, while the region of Veneto is a key centre of manufacturing within the country. In terms of its population, the region is the fifth largest in Italy. Veneto is highly industrialised and is one of the most important footwear manufacturing centres in Europe. The region is the second in Italy (following Marche) in terms of textile, garments and footwear exports. The textile/garments/footwear sector registers a turnover of approximately €9 million, accounting for 21.9% of the national exports of the entire sector. Over 80% of the regional exports are from the provinces of Vicenza, Treviso and Verona.[7] Moreover, Veneto hosts of the world famous district of Montebelluna, in the province of Treviso, which accounts for 70% of the Italian production of sports shoes and about 65% of the world production of ski-boots[8]. The area of the Brenta Valley is one of the most prestigious artisan centres for footwear manufacturing and also houses the Politecnico Calzaturiero, one of the primary training centres in Europe, which was founded in 2001.

4 CBI Market Survey (2010): The Footwear Market in Poland

5 Region of Silesia, official site, available at http://www.slaskie.pl/en/

6 IHK24, Economic Region: The German Palatinate (Pfalz) Important Facts and Figures available at http://www.pfalz.ihk24.de/en/servicelabels/575344/Economic_Region_The_German_Palatinate.html

7 Facility Project: Veneto region Market Analysis, available at http://repository.regione.veneto.it/facility-project/Attivita/WP3/SWOTveneto.pdf

8 Information from the Foreign Trade Centre of the Veneto Chambers of Commerce, available at http://www.centroesteroveneto.com/eng/made.html

As part of Task 5 we have also undertaken a detailed review of relevant literature, statistics and studies, which provide a useful context for the information obtained through the face-to-face interviews and the survey.

1.4 Structure of this Report

The remainder of this Report has been organised as follows:

- Section 2 provides a brief introduction to the concept of training and education in the footwear sector;
- Sections 3-5 contain the findings of the case studies undertaken in the three selected regions;
- Section 6 provides an evaluation of the key factors affecting the success of training and education; and
- Section 7 provides the conclusions and recommendations of the Task.

2. TRAINING IN THE FOOTWEAR SECTOR

2.1 Training and Education in the Footwear Sector

Training and education in the footwear sector has been increasing in significance as the industry has undergone significant changes during the last decade. (These changes are explored in detail in the Task 4 report). Table 2.1 (over page) illustrates the decline in the number of enterprises within the sector, which is due to a number of reasons. In certain sub-sectors, the delocalisation of production facilities to third countries has contributed to the reduction of enterprises, while other sub-sectors also faced challenges from declining demand. Sub-sectors such as medium price fashion shoes are facing further pressures from the trend towards rapid changes of collections whereas athletics and sports shoe manufacturers are increasingly investing into innovation of products as well as production systems.

Education and training institutions are required to respond to the changing industry demands and to work in close collaboration with businesses in order to be able to forecast the emerging skills needed and, consequently, to ensure that the education system and curricula are updated to reflect regional and product-specific needs.

During the past decades, changes to the industry have been matched by changes to the system of education, including the introduction of the Bologna Declaration on the European Space for Higher Education (1999). The declaration created a common European structure for higher education that enhances employability and mobility of citizens and at the same time it increases the international competitiveness of European higher education institutions. This is especially important in design and fashion training where some countries have a longer tradition in footwear manufacturing, and thus a better established training system, than others. An additional appeal of these centres can be that they are operating in close collaboration with industry, even located within footwear manufacturing clusters and providing internships and work placement possibilities for students.

Table 2.1: Number of Companies in the Footwear Manufacturing Sector in Europe

	2004	2005	2006	2007	2008
Austria	101	102	103	77	90
Belgium	:	:	:	58	56
Bulgaria	384	388	394	387	444
Cyprus	61	46	44	42	40
Czech Republic	342	225	263	218	:
Denmark	45	40	34	30	29
Estonia	22	23	18	22	21
Finland	82	77	77	76	70
France	507	484	453	473	379
Germany	482	431	421	426	371
Greece	919	923	918	909	:

Table 2.1: Number of Companies in the Footwear Manufacturing Sector in Europe					
	2004	**2005**	**2006**	**2007**	**2008**
Hungary	502	433	403	382	372
Ireland	:	:	:	:	:
Italy	11,582	11,022	10,751	10,583	10,091
Latvia	29	41	31	29	19
Lithuania	44	49	55	48	41
Luxembourg	0	0	0	0	0
Malta	:	:	:	:	:
Netherlands	105	105	75	110	100
Poland	4,129	2,964	3,104	3,133	2,540
Portugal	:	3,149	2,962	2,855	2,734
Romania	1,594	1,629	1,625	1,624	:
Slovakia	76	73	85	64	92
Slovenia	132	114	118	113	109
Spain	4,556	4,389	4,276	4,097	4,111
Sweden	105	98	98	92	87
United Kingdom	273	251	249	247	204
EU 27	28,941	27,125	26,624	26,100	:
Source: Eurostat Annual detailed enterprise statistics on manufacturing subsections DA-DE and total manufacturing (NACE Rev.1.1 D) [sbs_na_2a_dade]					

Another key point of the Bologna declaration is that universities and other institutions can develop their own curricula in degree courses, at both the undergraduate (bachelor) and the graduate (masters) level. The implementation of the Bologna process ultimately impacted education and training, especially in the field of design, by the introduction comparable degrees as well as facilitating the mobility of students and inter-institutional cooperation.

The six objectives contained in the Declaration of Bologna are:

- the adoption of an easily legible and comparable system of qualifications, by means of the introduction, among other questions, of a Supplement to the Diploma;
- the adoption of a system based, fundamentally, on two principal cycles (undergraduate and graduate);
- the establishment of a credit system, such as the ECTS system;
- the promotion of European cooperation to assure a level of quality for the development of comparable criteria and methodologies;

- the promotion of a necessary European dimension in Higher Education with particular emphasis on curricular development; and

- the promotion of mobility and removal of obstacles to its free exercise by students, teachers and administrative staff of universities and other European institutions of higher education[9].

The above objectives, especially those relating to mobility and cooperation, are of key importance in the footwear sector, where traditional skills can be difficult to find and the dissemination of new, emerging techniques and technologies often requires collaborative efforts. Footwear training courses can be categorised in terms of both the level of training and their content. The main categories are described in Table 2.2.

Table 2.2: Levels of Footwear-Related Training	
Vocational courses	Provide training on specific vocation (e.g. footwear production, footwear management), generally for existing employees. Can take place either in a classroom or at the workplace. Generally short in duration; can be part of an apprenticeship programme.
Specialist courses	Provide training on specific aspects of a vocation (for example footwear marketing or sales) for existing employees. Can take place in educational institutes or in the workplace.
Degree courses	Academic courses at bachelors or masters levels in subjects related to the footwear industry, such as shoe technology, Generally full-time and based at academic institutes, but may incorporate periods of (paid or unpaid) placement in industry.
Apprenticeships	Training aimed mainly at young people and based primarily in the workplace, supplemented by vocational courses in training institutes, in which the apprentice acquires the skills and knowledge required of the skilled worker[10].
In-house training	Formal or informal training by the employer which provides workers with the skills needed to carry out a specific job (or part of their job).

These courses may be either full or part time, and involve different proportions of academic study within an educational institute and practical experience within the industry. These aspects differ between different countries, as described in the case studies.

By content, courses can generally be divided into three categories, based on the specific phase of the production process they are targeting:
- design;
- engineering/production; and
- managerial (marketing, sales, public relations etc.).

Design courses can include technical and graphic design and IT (including the use of CAD/CAM – see Box 2.1, below). Meanwhile, education related to the

9 Confederation of EU Rectors Conferences and the Association of European Universities (2000): **Bologna Declaration on the European Space for Higher Education: an explanation**, ec.europa.eu/education/policies/educ/bologna/bologna.pdf

10 Centre for Economic Performance (2005): **Apprenticeship in Europe: Fading or Flourishing?**, CEP Discussion Paper No 710 http://cep.lse.ac.uk/pubs/download/dp0710.pdf

manufacturing process can include classes on stitching and cutting as well as adhesion or quality control.

A number of education and training centres related to footwear manufacturing operate in the European Union. While there are some that focus on footwear manufacturing and design exclusively, for example the Politecnico Calzaturiero in Padua or the German College of Footwear Design and Technology in Pirmasens, a more general phenomenon is that footwear aspects are being taught within a wider context of design and art.

Box 2.1: Computer Aided Design

Computer-aided design (CAD) can be used in a wide range of sectors that rely on a design element in the manufacturing process. CAD designers in the fashion industry use computer software to draw sketches to create clothes, accessories, shoes, intimate apparel, and more.

Computer-aided design is fast becoming the future of sketching in the fashion industry. The software allows designers to translate hand sketches to the computer, thereby to view designs on virtual models and in various colours and shapes. This can save time by requiring fewer adjustments of prototypes and samples later.

CAD courses are run by a large number of education centres and universities for a wide range of industries. An example of a degree program in CAD design is being run by the University of the West of Scotland. The course is a tertiary level two year program which upon completion can be followed up by a PgD/MSc Computer-Aided Engineering programme at postgraduate level.

Sources: *University of the West of Scotland* *http://www.uws.ac.uk/courses/ug-courseinfo.asp?courseid=317* *and* http://www.fashion-schools.org/fashion-careers

2.2 Needs of Business for Training

2.2.1 Key Skills

The employment and training practices that an enterprise adopts are critical in ensuring that skills of its staff match its business requirements. Based on the type of operation of the company and the subsector it is working for, there can be different skill requirements. The footwear manufacturing industry can be divided into segments based on the end user, the type of product, the price and the material used.

Table 2.3: Segments Within the Footwear Market

End user	Type of footwear	Price	Material
Women	Casual	Super premium segment (Luxury)	Leather
Men	Formal	Premium segment (Fine)	Textile
Children	Evening	Medium Segment (Medium)	Plastic/rubber
	Sport	Lower Segment (Economical)	Other
	Safety/protective		

While the operations required for the manufacturing process are similar across the segments, there is a varying level of emphasis on design. Moreover, in certain sub sectors such as athletic footwear, products are increasingly being manufactured in third countries; this means that knowledge and awareness of the technological processes typical for those segments are limited in the labour market in Europe.

A variety of skills are required for employees involved in the manufacturing process, including:

With regard to manual labour:
- practical skills, manual dexterity;
- the ability to follow design patterns and instructions;
- the ability to work quickly and accurately;
- the ability to work in a team and individually;
- awareness of health and safety; and
- normal colour vision to match stitching, patterns and dyes[11].

With regard to design:
- a good eye for colour, texture and shape;
- an understanding of the properties of fabrics and how they can be used;
- technical skills such as pattern cutting and sewing;
- the ability to spot and develop trends;
- drawing skills;
- the ability to use computer aided design (CAD);
- understanding of production processes;
- the ability to solve problems;
- commercial awareness; and
- the ability to work as part of a team[12].

The overall view of the stakeholders in the industry, as identified in the case study interviews for this and the other Tasks in this study is that the education system may be producing too many designers and not enough technical professionals with the skills necessary for modern production approaches. One of the drivers industry representatives have identified for companies to relocate production from their home countries is the lack of skilled workers in certain areas. High labour costs are also listed as a significant factor.
Furthermore, even those students that graduate and start working in the footwear industry can often be unprepared for challenges such as dealing with multinational competition, overseas manufacturing bases, highly computerised environments and complex logistical pipelines[13].

[11] Get Me a Cool Job (nd): **Footwear Manufacturing Operative Key Skills**, downloaded from http://www.getmeacooljob.com/Key%20Skills/Footwear-Manufacturing-Operative-Key-Skills.html.

[12] Get Me a Cool Job (nd): **Fashion Designer Key Skills**, downloaded from http://getmeacooljob.com/Key%20Skills/Fashion-Designer-Key-Skills.html

[13] Just Style (2008): **Apparel Industry Training Falls Short on Sourcing Skills**, downloaded from http://www.just-style.com/analysis/apparel-industry-training-falls-short-on-sourcing-skills_id101361.aspx.

In Italy, the strong presence of local networks, the traditional skills that manufacturing companies have built up as well as the continuing focus on local production has helped to maintain highly skilled top end manufacturing in the region. Yet for companies operating in the mass and lower end of the market and with manufacturing bases overseas, the skills gap is significant.

Some education institutes address this issue by running programmes for both students and industry professionals in parallel, thereby ensuring that the educational content is kept up-to date. These professional development classes can be short courses (less than 9 months or a school year) delivered during the working day.

In some cases, tertiary education institutes such as the London College of Fashion run classes for all areas relevant for the footwear manufacturing sector including business management (e.g. managing oversees production) as well as manufacturing (e.g. colouring processes). The undergraduate courses are generally two to three-years long and the follow-up Masters courses require an additional two-year engagement. Manufacturing and technical skills professionals can also enrol in mid-term courses organised in summer schools to further develop their skills and expertise.

2.2.2 Challenges in Training and the Availability of Skilled Staff

In the Task 1 report of our study, an online survey was undertaken of enterprises, industry associations, trade unions and research and education institutes. Within the survey, stakeholders were asked to identify what have been the most significant challenges they had faced during the past five years. The responses of the enterprises are summarised in Figure 2.1 (below).

The availability of skilled staff was listed as the fifth most significant obstacle for companies. Overall, the key challenges faced by respondents surveyed were broadly consistent (albeit in a different order) with those identified in the general survey for the Eurobarometer 'Access to Finance' report[14] as:

- finding customers (29%);
- access to finance (16%);
- competition (13%);
- availability of skilled staff (8%) ; and
- costs of production or labour (8%).

[14] Gallup Hungary (2009): **Access to Finance**, Flash Eurobarometer Series 271, Commissioned by DG Enterprise and Industry, in cooperation with the European Central Bank (ECB) downloaded from http://ec.europa.eu/public_opinion/flash/fl_271_en.pdf.

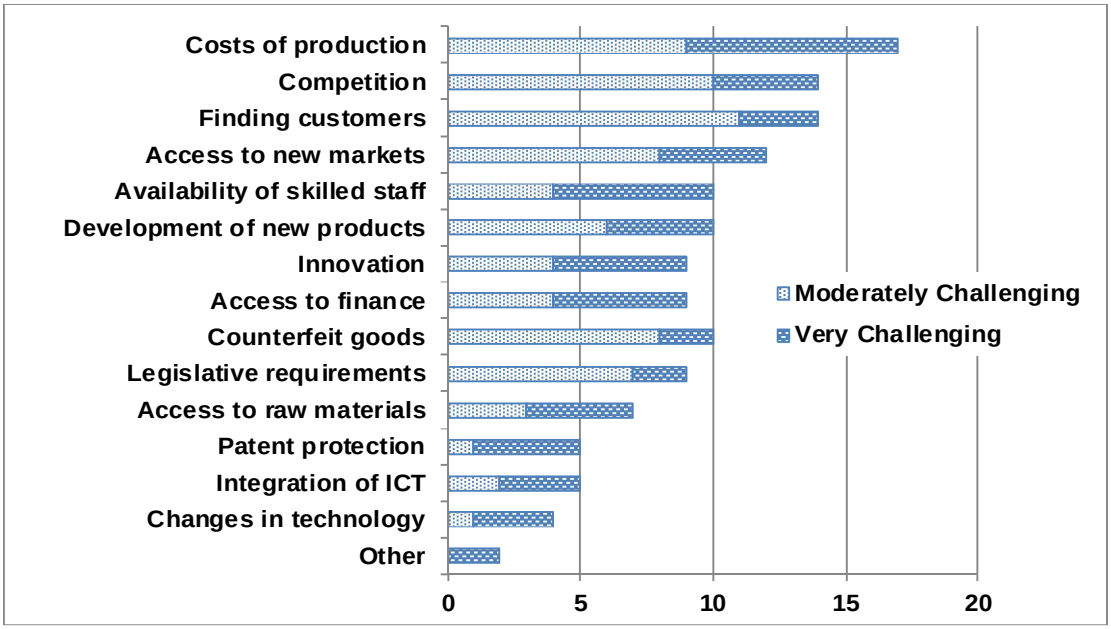

Figure 2.1: Responses of Task 1 Report from 23 Companies to: *What have been the most significant challenges for your company in the last five years?*

The availability of skilled staff was also identified as one of the key concerns of stakeholders during case study visits for Task 3, which focused on the state of small and medium sized enterprises. In the region of Emilia-Romagna (Italy), companies were facing challenges in retaining skilled staff, mostly due to the poor image of the industry and the low wages.

Similarly, enterprises in Timis County (Romania) expressed difficulties in attracting a skilled workforce. In response, some companies in Italy have established partnerships with local or regional education institutes; however, these do not always result in the recruitment of permanent staff. Other companies are hiring unskilled workers and providing them with in-house training. The continuing difficulties suggested a need for better HR planning in the companies and in the regions.

Responses to a further question to stakeholders in the Task 1 survey highlighted what problems they anticipate in the near future. In the responses, availability of skilled staff was listed as the second most significant concern, as shown in Figure 2.2 (overleaf).

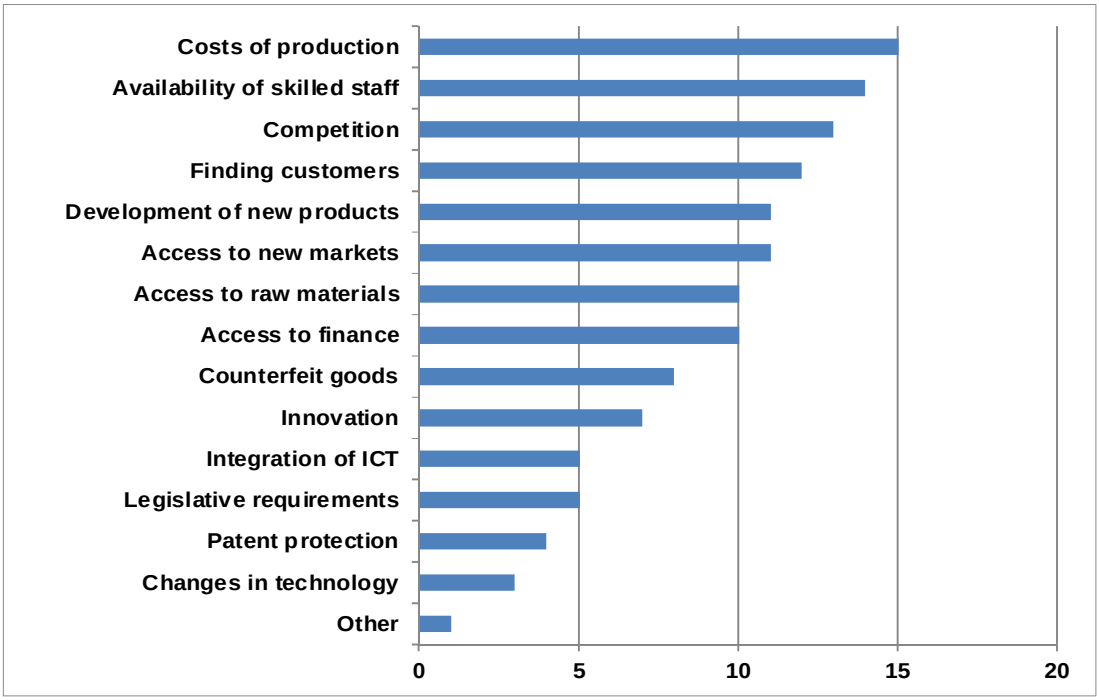

Figure 2.2: **Responses from 24 Companies to:** ***Which challenges will your company face in the next 5 years?***

The cost of production was listed as the key challenge facing companies, followed by the availability of skilled staff and increasing competition. As noted previously, interviews with stakeholders in the specific case study regions underlined these concerns.

One of the findings of the Task 4 report on Restructuring and Modernisation was the importance of closer collaboration between industry and education institutes to promote the sector amongst young people. Furthermore, the report suggests increased information exchange project between countries as a way to enhance recruitment activities.

Regarding the question as to what kind of investments enterprises have made in the past five years, 12 out of the 24 respondents mentioned employee training and all but one had implemented some sort of training for their employees. Respondents were also asked about changes in availability of courses in their countries; the responses are shown in Figure 2.3.

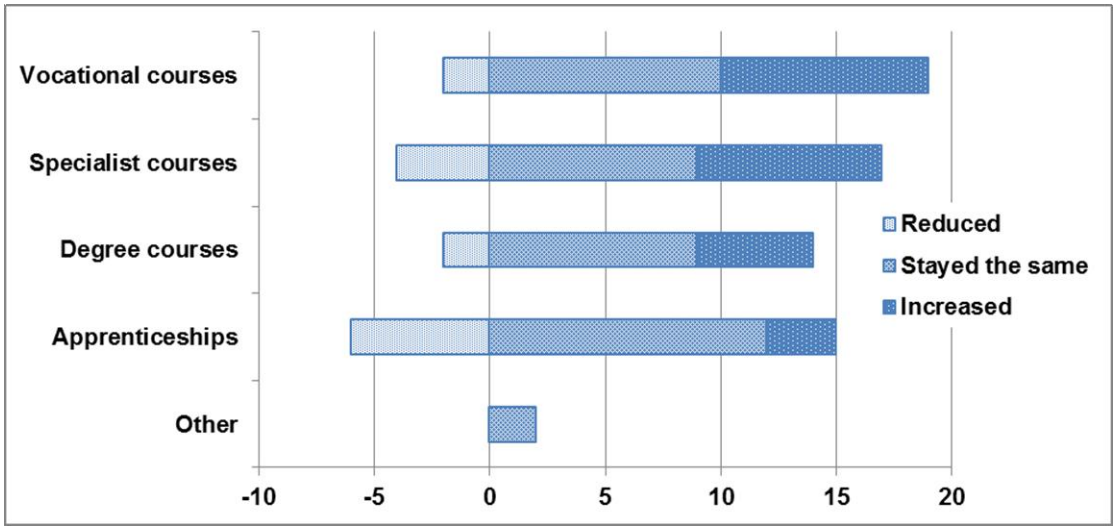

Figure 2.3: Responses from 24 Companies to: ***Has the availability of training in your country for those who wish to be employed in the footwear sector changed in the last 5 years?***

As can be seen from Figure 2.3, the overall availability of courses has remained broadly the same, with some increases (particularly in vocational courses) being offset by some decreases (particularly in apprenticeships).

For their part, the industry associations agreed that overall availability had remained the same or had increased (particularly for specialist courses). Although, from the union viewpoint, there had been an increase in the availability of specialist courses, there had been a decrease in other forms of training identified.

Businesses have identified a range of skills that would be required, including manufacturing skills as well as IT and marketing. The findings of the case studies in Tasks 3 and 4, and this current Task, have underlined the importance of collaboration between training institutes and manufacturing companies as a way to identify skill shortages and to develop skills and knowledge applicable to the local and regional needs.

2.2.3 The Role of Training and Education in Business Strategies

The competitiveness of a country's manufacturing sector is critical to its long-term economic prosperity and growth. Generally, policies governing education and training are implemented and managed by the national governments of the Member States, thus the strategic roles of certain sectors of the economy are critical in setting educational priorities. Countries that have a traditionally strong presence in the footwear manufacturing industry might place greater emphasis on footwear-related training and education than other nations. The impacts of relationships between the

footwear sector and national policy-making are explored further in the Task 4 report, which focuses on restructuring and modernisation.

Access to talent to support innovation is a key contributor to competitiveness, well ahead of traditional factors such as costs of materials and energy policies[15]. These aspects have been repeatedly underlined in the case study interviews, where one of the reasons behind the relocation of the industry players in addition to increasing the cost-efficiency of production, was the lack of skilled staff.

While footwear manufacturing relies primarily on manual labour, innovations are important in both the technological and the design field of the sector. Innovation in certain sub-sectors is more prominent than in others, therefore the reliance on skilled staff also differs. This issue is explored further in the Task 6 report on Research, Development and Innovation.

Initiatives for specific industry-related training and education can be launched by the enterprises as well as regional or national policy makers. There is an increasing awareness of the role that training and education can play in maintaining competitiveness, as well as of how development of human resources should be a key part of long-range business strategies.

Business strategies provide an overall view of a firm's goals, policies and actions while at the same time they can also detail the planned utilisation of the workforce (human capital), the technology (physical capital) as well as the financial capital. These strategies can therefore have a strong impact on the type and intensity of employee training. There can be varying elements of an employee training programme depending on the specific needs of employees, or groups and divisions within a company, as well as whether the training is on-going or serves to answer a particular problem or challenge

Responses to our survey undertaken in Task 1 indicated that the majority of companies provide some form of training to their employees. Full-time training in-house and/or apprenticeships were provided by nearly half of the responding companies as shown in Figure 2.4 (next page).

[15] Deloitte Touche Tohmatsu, U. S. Council on Competitiveness (2010): **Global Manufacturing Competitiveness Index,** downloaded from http://www.deloitte.com

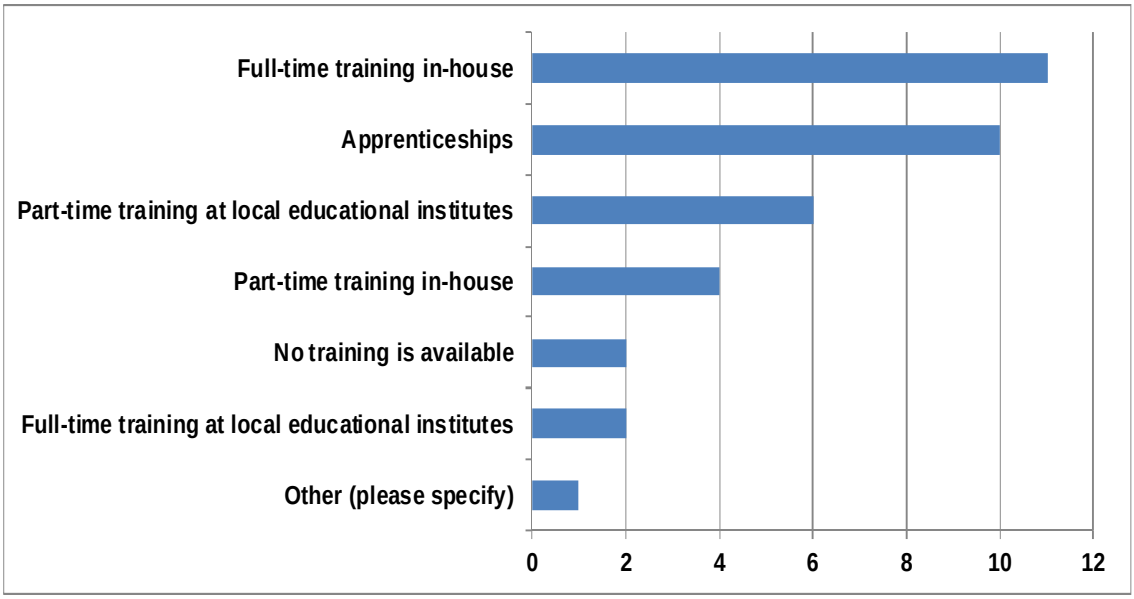

Figure 2.4: Responses from 25 Companies to*: What sort of training do you provide?*

The results of the case studies undertaken for Task 3, as well as interviews conducted in relation to this Task, have underlined the importance of in-house training, especially in cases where there is no accessible training institute. Moreover, case study visits undertaken for Task 3 found that enterprises in both Emilia-Romagna (Italy) and Valencia (Spain) have formed partnerships with regional centres to develop training programmes.

2.2.4 Networks and Relationships with Business

Collaboration between industry and education centres can become a key factor when providing training for employees and can serve as a source of information for policy makers and education centres on the changing skill requirements of the industry. Additionally, from the point of view of the education institutes, cooperation with the industry can ensure that the current challenges and requirements of the industry are implemented into the curriculum and, at the same time, students can be provided with the possibility to find placements at enterprises.

Moreover, collaboration between industry and research centres can lead to the development of research projects through which university-industry-research centre relationship can function increasingly as knowledge intensive networks. While accessing funds for research might prove difficult, the creation of these networks is important as the research activity itself is a rich basis for teaching and learning both for undergraduate and graduate level as well as for doctoral studies[16].

[16] Aura Mihai (2010): **Relationship Between Higher Education and Research in Footwear Design**, paper presented at the 4th Scientific-Professional Symposium Textile Science and Economy, 26 January, 2011, Zagreb, Croatia, downloaded from http://www.shoe-design.ro

The involvement of industry stakeholders in these research and education programs can also create information channels regarding the support mechanisms accessible and provide a platform for future participation. One example of collaboration outside the direct supply chain is that of the chemical company BASF, whose polymer materials can be used in footwear products.

Box 2.2: Research Collaborations Between Education Centres and Industry

The chemical company BASF is engaged with the manufacturing of polyurethane, a key element of synthetic footwear. As part of its marketing activities, the company sponsors a footwear design contest for students of the Politecnico Calzaturiero in Padua, Italy, for sole designs using polyurethane, collaborates with the PFI testing institute in Germany as well as with several individual footwear manufacturing companies all over Europe.

The example of collaboration with the Politecnico Calzaturiero demonstrates that not only footwear manufacturing companies, but also chemical companies indirectly related to the supply chain, are willing to engage with the training of future footwear industry employees. Such co-operations provide BASF with a way of ensuring that students are familiar with the properties of the products they supply and may therefore be more willing to use them in their future work.

BASF also collaborates with PFI in Pirmasens by offering apprenticeship trainings within a jointly organised vocational education program for biology lab technicians. The range of services offered by the PFI laboratories includes microbiological tests on products and materials such as consumer goods and clothing.

Source: BASF Footwear News edition 1/2011 downloaded from http://www.polyurethanes.basf.de/pu/solutions/us/function/conversions:/publish/content/group/News_und_Medien/FootwearNews/Footwearnews_01_11.pdf

PFI Test and Research Institute (2008): Two Biology Lab Technicians Complete Their Training, Newsletter Issue 5/2008, downloaded from http://pfi-germany.de/fileadmin/user_upload/media/PFI_Newsletter_Juni_2008.pdf

The involvement of industry professionals in business courses is also an important incentive for students. As the use of information technology becomes ever more advanced within the industry, it is essential that experienced industry professionals work side by side with graduates. Similarly, learning from designers can provide added value to the students, by allowing them to experience not only the creative aspect of the work itself but the limits of everyday reality, what creations can actually be manufactured, are wearable and can be sold.

Mentoring programmes that provide the possibility for personalised guidance on emerging and advanced technologies can also play a crucial role in supporting students with the most promising potential. Within these programmes, students can participate in working group sessions alongside an industry professional, learning to develop products and directly interacting with clients.

2.3 Training Infrastructure in the European Union

2.3.1 Institutes

Table 2.4 lists the main footwear education and training institutes within the European Union and the types of courses they offer.

Table 2.4: Main Footwear Training and Education Institutes in Europe

Country	City	Organisation	Type of Course Offered
Austria	Linz	Kunst Universitat	Degree courses
Belgium	Sint-Niklaas	Academy for Fine Arts, Teacher Shoe Design Course	Degree courses
Czech Republic	Usti nad Labem	Faculty of Art and Design JEP University	Degree courses
Czech Republic	Prague	Academy of Arts, Architecture and Design	Degree courses
Denmark	Copenhagen	Danish School of Design	Degree courses
Denmark	Kolding	Kolding Design School	Degree courses
Estonia	Tallin	Estonian Academy of Arts	Degree courses
Finland	Lahti	Lahti Polytechnic - Institute of Design	Degree courses
Finland	Rovaniemi	University of Lapland - Faculty of Art and Design	Degree courses
France	Cholet	Centre Régional des Pais de la Loire - Institut Colbert	Degree courses, , vocational courses
France	Lyon	CTC Groupe - Centre Technique du Cuir, Chaussure, Maroquinerie	Vocational, Specialist courses
France	Cholet	Lycée de la Mode	Degree courses, vocational courses
France	Paris	Lycée d'Alembert GRETA de la mode	Degree courses, vocational courses
Germany	Pirmasens	International Shoe Competence Centre	Vocational, Specialist courses
Germany	Pirmasens	University of Applied Sciences Fachhochschule	Degree courses
Germany	Pirmasens	Pirmasens School for Vocational Education	Vocational, Specialist courses
Hungary	Budapest	Moholy-Nagy University of Art and Design	Degree courses
Ireland	Dublin	The National College of Art and Design	Degree courses
Italy	Florence	Polimoda	Degree courses, vocational, specialist courses
Italy	Milan	Politecnico di Milano	Degree courses, vocational courses
Italy	Vigonza	Politecnico Calzaturiero S.C.A.R.L.	Degree courses, vocational, specialist courses
Italy	Vigevano	Politecnico Intern. per lo Sviluppo	Specialist courses

Table 2.4: Main Footwear Training and Education Institutes in Europe			
Country	**City**	**Organisation**	**Type of Course Offered**
		Industriale ed Economico PISIE	
Italy	Milan	Istituto Tecnico Internazionale Arte Calzaturiera e Pellettiera (ARS SATORIA)	Vocational, Specialist courses
Italy	San Mauro Pascoli	Cercal	Vocational, Specialist courses
Italy	Milan	Domus Academy	Degree courses. Vocational, specialist courses
Poland	Radom	Technical University of Radom	Degree courses
Poland	Krakow	Krakow School of Art and Fashion Design	Degree courses
Portugal	Lisbon	IADE - Instituto de Artes Visuais, Design e Marketing	Degree courses. vocational, specialist courses
Romania	Iasi	Gheorghe Asachi Technical University of Iasi	Degree courses
Spain	Igualada	Escuela de Tenería de Igualada	Degree courses
Spain	Barcelona	Institut Quimic de Sarriá	Degree courses
Sweden	Stockholm	Beckmans College of Design	Degree courses
Sweden	Stockholm	University College of Arts, Crafts and Design	Degree courses
The Netherlands	Eindhoven	Design Academy	Degree courses
UK	Leicester	Leicester College	Vocational, specialist courses,
UK	Northampton	Institute for Creative Leather Technologies (ICLT)/ University of Northampton	Degree courses
UK	London	University Of the Arts London, College Of Fashion	Degree courses
UK	Leicester	De Montfort University, Leicester	Degree courses
UK	London	Paul Thomas Shoes shoemaking classes	Specialist courses
Various EU	Milan, Turin, Venice, Cagliari, Florence, Madrid, Barcelona	Istituto Europeo di Design (International Higher Educational Network in Design, Fashion, Visual Communication and Management of creative industries)	Degree courses, specialist courses
Source: ShoeInfoNet,(http://www.shoeinfonet.com/) additional internet research			

In addition to courses at the training institutes, in-house training by businesses can also involve teachers and professors from training and education centres. Moreover, these institutes often collaborate with one another on projects that can support the future success of their alumni. Examples of such collaboration are highlighted in the individual case study descriptions.

While data from Eurostat suggests that in the EU27 an average 30% of the companies within the sector of manufacture of textiles and leather products provide in-house training for their staff members, this number is significantly lower in two of the case study countries (14% in Poland, 13% in Italy) while it is higher (56%) in Germany.

2.3.2 Curricula

In an industry that is rapidly changing and requires flexibility, the curriculum is crucial. In order to understand the specific requirements included in the curriculum, a thorough assessment of the job requirements in the industry is needed. In the following subsections the requirements for the three main operational phases of the footwear sector (design, production and marketing and sales) are detailed.

Footwear Design

The design of footwear products is an integral and crucial part of the production process. Depending of the subsectors, designs can either change rapidly within a year or only slightly over many years. Subsectors such as medium price ranged fashion footwear can introduce many collections, often changing monthly, while the luxury segment is more likely to introduce a spring/summer and an autumn/winter collection.

Businesses we interviewed complained of the lack of specific practical knowledge amongst new graduates, as well as their lack of awareness of the industry factors including supply chain mechanisms. This could lead to design taking priority over the price and practicality of the products. Besides following trends and predicting market dynamics, footwear designers therefore need to understand the local supply chain and at the same time make sure that the products remain wearable.

Shoe designers are responsible for conceptualizing new designs for footwear lines. They create technical illustrations for their designs and must be able to communicate their ideas to those in charge of production. Individuals in this line of work should have good manual dexterity, as well as a flair for fashion and foresight regarding upcoming trends in the industry.

Footwear design is a specialist field within fashion design, which typically requires earning at least an undergraduate degree. Earning a bachelor's degree in footwear design takes at least two years to complete and consists of coursework in both the creative and business side of the fashion industry. Students who enrol in a degree programs generally take classes in footwear collection development, marketing strategies and creative design. Additionally, degree and specialist programs can teach students how to design shoe patterns with computer-aided design (CAD) software[17].

Although many shoe design programs are offered through fashion design schools, footwear design courses are also available through specialized footwear schools as well as art and design tertiary education institutes

[17] Education-Portal (nd): **Shoe Design School and College Program Information**, Associate of Arts in Footwear Design, downloaded from http://education-portal.com/shoe_school.html

Manufacturing

Footwear manufacturing operatives use a range of handcraft tools and semi-automated equipment to create footwear products. The specific tasks depend upon the type of footwear being produced (with premium segment shoes, for example, generally involving a larger amount of work by hand) and the scale of production (high volume production is more likely to be semi-automated).

A manufacturing operative would complete the different stages of production by working to a pattern supplied by the footwear design team. Typical duties could include:

- cutting (‘clicking’) – trimming and shaping leather or fabric pieces for the 'upper' section;
- stitching (‘closing’) – sewing together all the individual sections to complete the upper;
- lasting – moulding the uppers into their final shape on a wooden or metal pattern called a 'last';
- making – attaching the soles with adhesive or stitching;
- finishing – fitting and trimming heels to shape, and staining the soles, heels and edges before waxing and buffing; and
- ‘shoe room’ – working on the final stage of production, polishing the shoe for the desired colour and effect.

Quality control of the products can also be part of the job of a manufacturing employee. In the larger footwear manufacturers, employees specialise in one particular production stage while in a smaller company, one person might work on the entire process[18].

Sales and Marketing

Sales and marketing skills are essential to the success of footwear manufacturing companies. Understanding market trends and consumer behaviour are extremely important factors. In most footwear subsectors, trends and design change rapidly and finding the right marketing approach to maintain sales performance can prove to be a challenge.

In order to maximise the impact of a brand, footwear producers – similarly to the apparel sector – try to convey a message that differentiates their product on the market. Marketing communication can include:

- advertising (on and off-line);
- public relations;
- promotion; and
- direct marketing.

[18] DirectGov (2010): **Footwear Manufacturing Operative**, Image for the Job Profile, Skills Funding Agency, downloaded from https://nextstep.direct.gov.uk/planningyourcareer/jobprofiles/JobProfile0856/Pages/default.aspx

In addition to marketing, sales techniques that can include the ability to quantify key retail trends and accurately predict future retail growth are equally important for all enterprises and can provide crucial information about key drivers of the market. New marketing trends for footwear include promotion through the internet and social media while new sales techniques include customisation. These trends are further detailed in reports for Task 2 and Task 6 on research and development and Task 4 on restructuring and modernisation.

The above aspects indicate the significance of business strategies that assist enterprises in accurately forecasting upcoming trends, as well as predicting the consumer purchasing behaviour.

2.3.3 Students

In 2010, there were 172.6 million young people aged under 30 in the 27 countries now integrated in the European Union, this is a 15.5% decline since 1985. A considerable majority, 79% of young people in the EU aged 20-24, successfully completed upper secondary education (ISCED3) in 2010, which confirms the upward trend shown across Europe since 2000.

One of the factors encouraging young people to take up tertiary education is the employment options which it provides. The 2012 Eurydice report on Education in Europe found that on average, 86 % of tertiary graduates between 25 and 39 years of age are working, as opposed to 78 % of those with upper secondary qualifications, and to only 60 % of young people with lower level qualifications. The difference is even more pronounced for the 40-64 age group, where tertiary graduates are 37 % more likely to be in employment than non-graduates holding qualifications up to lower-secondary level[19].

Tertiary education graduates can also find it easier to integrate into the job market. At European Union level, the average duration of the transition to the first significant job was five months for people with tertiary qualifications, while for people with upper secondary level education it took on average over seven months and almost ten months for people with lower education levels.

Despite he above, according to the Eurydice report, there is a general tendency in Europe for the number of tertiary graduates to outweigh the number of employment opportunities. Therefore, more than one in five tertiary graduates is now overqualified for the type of employment they find.

While there is no central source of information available on the number of students studying footwear related courses in the individual Member States or the EU as a whole, statistics are available for manufacturing process-related courses, as well as art and design courses.

[19] EURYDICE (2012): **Key Data on Education in Europe 2012**, Education, Audiovisual and Culture Executive Agency, downloaded from http://eacea.ec.europa.eu/education/eurydice/documents/key_data_series/134EN.pdf

These statistics can provide an indication of the changes that have taken place in the number of people studying to be involved in the sector; they are summarised in Table 2.5 for countries with a significant footwear sector (the case study countries are highlighted). Figures relating to a trend in education are especially important in light of the fact that one of the concerns of industry stakeholders had been the lack of skilled, young professionals joining the sector.

Table 2.5: Numbers of Tertiary Students in the Field of Manufacturing and Processing

	2005	2006	2007	2008	2009
Austria	3,080	3,178	1,455	1,741	1,880
France	:	17,316	17,226	21,347	20,551
Germany	**18,319**	**18,815**	**19,183**	**19,216**	**20,610**
Italy	**14,206**	**15,503**	**16,003**	**13,484**	**13,076**
Poland	**27,782**	**57,855**	**61,599**	**:**	**63,252**
Portugal	4,469	4,031	4,117	4,368	4,251
Romania	32,767	31,781	28,895	21,955	23,782
Spain	16,084	15,118	13,976	13,211	12,926
EU 27	227,329	228,356	228,713	164,041*	223,980

Source: Eurostat, Tertiary students (ISCED 5-6) by field of education and sex [educ_enrl5]
**figures for Poland were unavailable for 2008*
Notes:
1. No explanation was provided for this significant drop in the number of students for Greece, which could be due to changes in definition.

Table 2.5 shows that the number of students engaged in manufacturing studies across the EU reduced by over 60 000 between 2006 and 2008. However, from 2008 to 2009 a significant (30%) increase was registered, leading to a number of students only 3 000 lower than in 2005. Traditional footwear manufacturing countries such as Italy and Spain, as well as the countries of eastern Europe including Romania, have seen a reduction in the number of students while the numbers in Germany and Poland have increased.

While the area of arts encompasses many subjects, and only overall figures are available, some inferences regarding potential trends in the number of students in the footwear design sector can be drawn. The number of students in the area of arts has increased by nearly 20% between 2005 and 2009.

Table 2.6: Tertiary Students in the Field of Arts

	2005	2006	2007	2008	2009
Austria	9,964	10,520	10,998	14,741	14,986
France	:	93,367	91,064	90,412	89,208
Germany	**84,258**	**83,647**	**81,951**	**79,974**	**80,624**
Italy	**112,872**	**115,086**	**115,019**	**80,123**	**107,747**
Poland	**20,899**	**23,214**	**24,446**	**:**	**27,645**

Table 2.6: Tertiary Students in the Field of Arts					
	2005	**2006**	**2007**	**2008**	**2009**
Portugal	15,977	16,585	18,040	19,460	19,747
Romania	10,015	12,985	12,888	12,648	13,839
Spain	82,477	82,741	84,175	84,552	86,461
EU 27	634,267	733,128	757,611	699,778	759,103
Source: Tertiary students (ISCED 5-6) by field of education and sex [educ_enrl5]					

This increase is reflected by the number of students registered in this field in the individual Member States with a significant footwear sector (see Table 2.6; the case-study countries are highlighted).

2.4 Support Mechanisms

There are a number of on-going European and national initiatives supporting training and education, including financial support through the EU's funding programmes. Their aims and targets of the relevant funding programmes are summarised in Table 2.7 below. These mechanisms operate through different channels, generally through the designated authorities in the different Member States or through the offices/organisations set up by the European Commission.

Table 2.7: European Funding Programmes Supporting Training and Education		
Name	**Timescale**	**Objectives**
European Social Fund (ESF)	The current implementation mechanisms is set for the period of 2007-2013	ESF is one of the Structural Funds implemented across the various regions of the European Union. Its objective is to reduce differences in prosperity and living standards across EU Member States and regions, therefore promoting economic and social cohesion. Its aims are to improve the skills of the workforce and to help people who have difficulties finding work. Over the period of 2007-2013 an estimated amount of €75 billion is expected to be distributed to Member States; this represents an increase of 7% from the previous programme period of 2000-2006. 34% of funding is directed towards improving human capital. The fund is disseminated via the responsible authorities designated by the individual Member States. Beneficiaries of ESF projects can be of many different types, including public administrations, NGOs and social partners active in the field of employment and social inclusion[20].
European Globalisation	The Fund has been running since 2006	The European Globalisation Adjustment Fund aims to support workers who lose their jobs as a result of changing

[20] European Commission (nd): **European Social Fund**, Employment, Social Affairs & Inclusion, downloaded from http://ec.europa.eu/esf.

Table 2.7: European Funding Programmes Supporting Training and Education		
Name	**Timescale**	**Objectives**
Adjustment Fund (EGF)		global trade patterns so that they can find another job as quickly as possible. The Fund is activated, upon a request of a Member State when one or more companies (national, multinational or SMEs) announce at least 1,000 redundancies either in an enterprise, or in a sector within a region, due to structural changes in world trade patterns. The Fund is designed to intervene in cases where the redundancies have a significant impact on a region or a sector and therefore there is an EU dimension in terms of scale and impact A maximum amount of € 500 million per year is available to the EGF to finance such interventions[21].

Beside the financial assistance available under the Funding Programmes, a range of European Union policy measures provide support for education and training. These include the Community Framework Programmes for Research and Technological Development, e.g. the Lifelong Learning Programme or the Marie Curie Actions. The New Skills for New Jobs initiative of the European Commission is also designed to help Member States in adapting and linking education and training needs more closely to the requirements of the industries.

The EU's Lifelong Learning Programme supports the training, and re-training of employees as well as the training of trainers. The framework programme's budget is disseminated through Institutes of the European Union and in certain cases national agencies. There are four sub-programmes within the Lifelong Learning Programme that fund projects at different levels of education and training, these are:

- Comenius for schools;
- Erasmus for higher education;
- Leonardo da Vinci for vocational education and training; and
- Grundtvig for adult education.

The Leonardo da Vinci Programme is particularly relevant for footwear training purposes. It funds many different types of activities and includes 'mobility' initiatives that enable people to train in another country, as well as co-operation projects to transfer or develop innovative practices and networks focusing on topical themes in the sector. A recent example on the use of Leonardo da Vinci programme in the field of fashion and design is presented in Box 2.3.

The main aim of the Grundtvig programme, which could also be of importance to the footwear sector, is to respond to the educational challenge of an ageing population in

[21] European Commission (nd): **European Globalisation Adjustment Fund**, Directorate General for Employment, Social Affairs & Inclusion, downloaded from http://ec.europa.eu/social/main.jsp?catId=326&langId=en.

Europe as well as provide adults with an opportunity to improve their knowledge and competence. The programme undertakes different types of activities including mobility projects, partnerships, multilateral projects for good practice, knowledge transfer and networks. Applications for tenders are open to institutions, associations, education and training centres[22].

Box 2.3: EU Support to Promote Fashion Design

The European Fashion Designer Competition was held at the Victoria & Albert Museum in London and entailed a Europe-wide garment design competition, open to groups of students studying fashion across Europe. It was part funded by the Leonardo da Vinci action of the European Commission's Lifelong Learning Programme.

The competition was aimed to raise awareness of the projects work and the benefits of studying and working within the European fashion sector.

Teams of two to five students studying fashion at levels 3 or 4 in a European educational institution were competing against each-other. A maximum of two entries per institution were accepted.

Source: CIPS- Centre for Innovation and Partnerships: European Fashion Designer Competition *http://www.ciponline.com/what_we_do/transnational/european_fashion_designer/european_fashion_competition.aspx*

Another part of the Lifelong Learning Programme is the European Qualifications Framework (EQF) which uses eight reference levels based on learning outcomes (defined in terms of knowledge, skills and competences) to define qualifications thereby shifting the focus from input (lengths of a learning experience, type of institution) to what a person holding a particular qualification actually knows and is able to do. It creates a common European reference system linking different countries' national qualifications systems and frameworks together to make qualifications more readable.[23]

The EU has also developed the European Framework for Key Competences for Lifelong Learning, which is an annex of a Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning[24]. It defines eight key competences for personal fulfilment and development, active citizenship, social inclusion and employment.

22 European Commission (2010): **Grundtvig: Practical Learning for Adults**, Education & Training, Lifelong Learning Programme, Grundtvig for Adult Education, downloaded from http://ec.europa.eu/social/main.jsp?catId=326&langId=en.

23 European Commission (2012): **The European Qualifications Framework for Lifelong Learning**, Education & Training, Lifelong Learning Policy, downloaded from http://ec.europa.eu/education/lifelong-learning-policy/eqf_en.htm

24 Official Journal of the European Union (2006): **Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning** (2006/962/EC), downloaded from http://eur-europa.eu/LexUriServ/site/en/oj/2006/l_394/l_39420061230en00100018.pdf.

3. CASE STUDY: SOUTHERN POLAND

3.1 Introduction

3.1.1 The Regions of Silesia and Malopolska

Both regions of Silesia and Malopolska are situated in the southern part of Poland and are important industrial regions of the country. The capitals of Katowice and Krakow have good connections with the trans-European transport network. Silesia is 14th in terms of the area occupied, a 2nd in terms of population in Poland.

Within the relatively small area of 12 331 km^2 (3.9% of Poland's territory), there are over 4.6 million inhabitants (12.3% of the general population) which is the highest population density in Poland (382 people/km^2 versus 122 people/km^2 in Poland and 116 people/km^2 in the EU)[25]. In comparison, Malopolska has a total area of just above 15 000 square kilometres and produces 7.4% of the country's GDP. Malopolska also has reserves of oil, sulphur, gypsum, zinc, lead, sandstones and limestone.[26]

The footwear industry is concentrated in a few main Polish cities: Czestochowa and Myszków (both in Silesia), Laskarzew (Masovia), Nowy Targ and Kalwaria Zebrzydowska (Malopolska), Slupsk (Pomerania) and its surroundings. Malopolska and Silesia Regions have the highest density of footwear manufacturers. This is partly due to the fact that 25 years ago the major state owned shoe manufacturing conglomerates were located in these two regions. In the early 1990s, the factory properties were sold to number of private investors, who were free to decide whether they wished to carry on the original activities of the enterprises. Currently, there are no big state owned manufacturing conglomerates and it was estimated that 97% of Polish firms are in private hands and 90% of firms are Polish owned. Companies mostly manufacture shoes in low and medium price range.

According to information from the Institute of Leather Industry (ILI), Malopolska accounts for between 70% and 80% of total employment in the footwear sector in Poland. The region hosts the School of Art and Fashion Design, providing the industry with training and education and has recently seen an increase in the number of footwear manufacturing companies as economic conditions stabilised after the crises. More information on the changes of the regional economy of the past decade can be found in Task 4 report.

3.1.2 Background on the Polish Footwear Industry

Poland is the largest producer of footwear by volume amongst the new Member States that joined the EU in 2004 to 2007. Data on the number of footwear companies

[25] Silesian Voivodeship (nd): Education, Marshal Office of the Silesian Voivodeship, downloaded from http://www.slaskie.pl/en

[26] Wojewodztwo Malopolskie (nd): **Potencjal Gospodarczy Malopolski**, downloaded from http://www.malopolskie.pl/Gospodarka/Promocja

operating in Poland vary, probably due to differences in definitions of the 'footwear sector'. According to data from the Polish Statistical Office provided during one of our interviews, there was a slight reduction in the total number of footwear manufacturing companies in Poland between 2009 and 2011, to a total of 4 600. According to this source, there were 1 650 companies based in Malopolska and 1 010 in Silesia. However, SATRA[27] and Sroka[28] and the CBI survey[29] indicate that the numbers of companies are much lower. The discrepancy between the number of companies may be due to different definitions used in the collection of data. The Polish Statistical Office includes for footwear manufacturers with other leather industry companies, such as manufacturers of footwear components, accessories and shops[30].

Estimates of the number of employees also vary widely. The Polish Chamber of the Shoe and Leather Industry indicates that the footwear sector in Poland "provides employment to approximately 40 000 people working directly in shoe factories and companies strictly related to the leather industry (e.g. producers of components, chemicals, glues, soles etc.)".

Only about 100 of the companies operating in the footwear industry are of medium size, with most employing no more than 100 workers. The rest of the industry comprises very small and micro enterprises with 'craft workshop' characteristics. There are only a few significant domestic companies, such as But-S, Eksbut, Rylko, Bata, Conhpol, Nord, Lesta and Wojas[31].

Poland is the fifth largest footwear producer in Europe, after Italy, Spain, Portugal and France. During our interviews in Malopolska, the Institute of the Leather Industry (ILI) indicated that between 40 and 50 million pairs of shoes are manufactured yearly in Poland.

According to the CBI[32] 2008 report, Poland's imports of footwear were valued at €533 million, or 81 million pairs, in 2008; this compares with a figure of 91 million pairs from SATRA. SATRA data for 2008 indicate that the majority of imports (55 million pairs) came from China, with fewer than 24 million pairs from Germany.

According to the figures of the Polish National Statistic Office, between 2000 and 2009 Poland's footwear exports to EU countries grew by 38% and by 2010 with an

27 SATRA (2011): **World Footwear Markets** 2010.

28 Sroka J (2010): **Representativeness of the European Social Partner Organisations: Footwear Industry – Poland**. Eurofound, Dublin. Document PL0907019, downloaded from: http://www.eurofound.europa.eu/eiro/studies/tn0907017s/pl0907019q.htm

29 CBI Market Survey (2010): **Market Survey, The Footwear Market in Poland**, Confederation of British Industry, May 2010.

30 Polish Chamber of Shoe and Leather Industry (2011), Personal communication

31 Sroka J (2010): **Representativeness of the European Social Partner Organisations: Footwear Industry – Poland**. Eurofound, Dublin. Document PL0907019, downloaded from: http://www.eurofound.europa.eu/eiro/studies/tn0907017s/pl0907019q.htm

32 CBI (2010d): **Market Survey. The Footwear Market in Poland**, May 2010

additional 23% to €304 million (representing around 25 to 30 million pairs). The main destinations for exports were Germany, followed by Russia and Spain. Footwear imports into Poland from EU countries grew by 27% from 2000 to 2009 and by an additional 15% to 2010.

Table 3.1: Value of EU-Poland Trade in Footwear Products (€ millions)			
	2000	**2009**	**2010**
Imports to Poland from other EU Member States	135	172	199
Exports from Poland to EU to other EU Member States	178	248	304
Source: Central Statistical Office (2011): Foreign Trade of Poland			

One noticeable development of the industry has been its increasingly strong ties of the industry to German stakeholders, who are simultaneously Poland's main client and supplier[33] (the border regions between Germany and Poland have traditionally good institutional and personal trade relationships). Information on the value of trade in footwear products between Poland and Germany is shown in Table 3.2.

Table 3.2: Value of Poland-Germany Trade in Footwear Products (€ millions)		
	2009	**2010**
Exports from Poland to Germany	18.704	9.234
Imports to Poland from Germany	141.971	25.564
Source: Eurostat EU27 Trade Since 1988 By CN8 [DS-016890] products category 64 (footwear, gaiters and the like; parts of such articles) *Figures for 2007 and 2008 were not available*		

Information from the case study companies interviewed in the region regarding the extent and destination of exports is shown in the Table below. The data suggests that companies focus on the domestic market and their main export markets, especially Germany and neighbouring eastern-European countries, but also countries as far away as New-Zealand (see Table 3.3).

Table 3.3: Export Markets of Enterprises Interviewed		
Production Sub-sector	**% of Production Exported**	**Export Markets**
Women fashion shoes	40	Germany, Belarus, Latvia, Ukraine, Czech Republic, Slovakia, occasionally Canada and the UK
Children textile shoes, men and women textile slippers	35	Germany, Czech Republic, Slovakia, Bulgaria, Armenia, and Ireland

[33] APICCAPS (2011): **World Footwear 2011 Yearbook**, Portuguese Footwear, Components & Leather Goods Manufacturers' Association

Table 3.3: Export Markets of Enterprises Interviewed		
Production Sub-sector	**% of Production Exported**	**Export Markets**
Men's shoes	60	Germany, Czech Republic, Slovakia, Ukraine, Belarus, Latvia, Lithuania, Estonia, Romania, Russia, Slovenia, Azerbaijan, New Zealand, UK, Ireland, Spain and Sweden
Source: Case Study Interviews in Southern Poland		

In terms of consumption, Polish consumers bought 99 million pairs of shoes in 2010, placing the country 30th in terms of world ranking.

3.1.3 Footwear Training Institutes in Southern Poland

Education in Poland is compulsory until the age of 18 and commences during the calendar year in which the child reaches seven years of age. Attending both primary and lower secondary schools is obligatory. The Polish education system has undergone significant changes in the last 20 years and, following a reform undertaken in 1999, the types of schools listed below have been established:

- 6-year primary school;
- 3-year gymnasium;
- post-gymnasium schools:
  - 3-year specialized lyceum;
  - 3-year general lyceum;
  - 4-year technical secondary school;
  - 2 or 3-year vocational school;
  - 2-year complementary lyceum; and
  - 3-year complementary technical secondary school[34].

The total number of years students spend in primary and secondary education is 12 or 13, at the end of which they can take the maturity examination - i.e. standardised national secondary school achievement examination, and receive the maturity certificate[35]. There are also a variety of post-secondary and tertiary education centres in the country specialising in specific subjects.

The majority of footwear training in Southern Poland takes place in Malopolska, where the **Institute of Leather Industry** (ILI) and the Krakow School of Art and Fashion Design provide training and education.

[34] Embassy of the Republic of Poland in London (2005): **Education System in Poland**, downloaded from http://www.london.polemb.net/index.php?document=57

[35] Joanna Jung-Miklaszewska (2003): **The System of Education in the Republic of Poland**, Bureau for Academic Recognition and International Exchange, downloaded from http://www.buwiwm.edu.pl/publ/edu/System.pdf

The main aim of the ILI is to provide research and training for the footwear and leather tanning industries. The institute has several branches, including the office in Krakow (Malopolska). The Krakow office of the Institute is a research and development organisation, which has been active for 40 years. Its activities include:

- scientific research and development (including functionality, comfort and usable quality of footwear; examinations of children's and the adults' feet; innovative materials and plastics, including nanomaterials; and technology of production);

- quality expertise and expert opinions, investigation and valuation of: materials, footwear, adhesives, components and other shoe materials; and

- training, consultation, advisory activity for the shoe industry; materials engineering.

The Institute is financed to a minor extent by the Polish state, which covers approximately 2% of its expenses; and to a much larger extent by other, private sources e.g. property rental, research projects (including those supported by the European Commission), grants, training and expert consultancy.

ILI manages a number of different training courses. During our interview, representatives of the ILI indicated that there is a shortage of skilled workers of some types in the sector, for example seamstresses. Moreover, positions involving manual skills are no longer popular among young people. Therefore, a number of vocational schools have closed down on the grounds of insufficient number of students.

The **Krakow School of Art and Fashion Design** (Krakowskie Szkoły Artystyczne, KSA) is a group of post-secondary schools focusing on arts and fashion design. The institute, which has a private tuition system in place, comprises five schools:

- Fashion Design;
- Photography;
- Interior Design;
- Visual Merchandising, and
- Drama.

The fashion design centre of the school, Szkola Artystycznego Projektowania Ubioru (SAPU), which is also open to international students, offers a two-and-half-year full time program for designers, with an average of 25 to 30 classes per week (see Box 3.1). The majority, over 90%, of the students are women.

Box 3.1: Footwear Design Training at the Krakow School of Art and Fashion Design

Footwear design modules are offered by KSA - Krakowskie Szkoly Artystyczne (Krakow School of Art and Fashion Design), specifically in Szkola Artystycznego Projektowania Ubioru (SAPU). The course offered by SAPU runs for two and half years and includes modules in:

- design;
- jewellery design;
- hat design; and
- shoe design.

The shoe design module is run for one and half years (3 semesters). There are no entry exams for students wishing to attend a course in SAPU. On average, SAPU has 450 students every year (three levels of education) and on average 200 students decide to join the design course.

Source: Krakow School of Art and Fashion Design http://ksa.edu.pl/

Within the training program, the school allows students to prepare a portfolio of their works (sketches, prototypes etc.). The courses include classes as well as workshops and cost €900 for EU citizens and €1 400 for non EU citizens per semester. On average, approximately 80 students finish the course on design in SAPU per year.

There are no specific training or education centres linked to footwear manufacturing in Silesia. However, Silesia is one of the largest academic centres in Poland. In the region, there are 37 schools of higher education as well as 13 regional branches and divisions - 9.5% of the units in Poland (see Box 3.2).

Box 3.2: Educational Institutes in Silesia

The most important elements of the higher educational base in Silesia comprise:

- The University of Silesia in Katowice with branches in Cieszyn, Chorzów, Jastrzębie Zdrój, Sosnowiec;
- The Silesian University of Technology in Gliwice with the branches in Katowice, Rybnik, Zabrze
- The Częstochowa University of Technology;
- The Academy of Medicine in Katowice with the branches in Bytom, Zabrze, Jaworzno, Cieszyn;
- The Academy of Music in Katowice;
- The University of Economics in Katowice with the branches in Bielsko-Biała, Rybnik;
- The Academy of Physical Education in Katowice;
- The Academy of Fine Arts in Katowice;
- Higher Schools of Pedagogy, Foreign Languages and Colleges for Teachers in Częstochowa, Mysłowice, Racibórz;
- Higher schools of business, accountancy and finances in Dąbrowa Górnicza, Chorzów, Bytom, Bielsko-Biała, Katowice; and
- Higher schools of management, marketing and information technology in Częstochowa, Zawiercie, Chorzów, Sosnowiec, Katowice, Tychy, Żywiec, Bielsko-Biała.

The main areas of study at the two largest universities, the University of Silesia and the Silesian University of Technology, include management, mathematics, physics and engineering and material sciences. Amongst the faculties, both the Faculty of Computer and Material Sciences and the School of Management include subjects and courses potentially of relevance to the footwear industry.

In total, the Silesian higher education institutes provide courses for over 190,000 people, which

Box 3.2: Educational Institutes in Silesia
accounts for approximately 10% of the total number of students in Poland. The greatest proportion is of graduates from the schools of economics (32% of the total number of graduates in the region), technology (24%), and the University of Silesia (18%).
Source: Silesia Official Regional Website http://www.slaskie.pl/ and Slaskie Voivodeship Business Guide http://gospodarka.silesia-region.pl/en/edu.php

The **Technical University of Radom** houses an important national centre for footwear education in Poland. It is located in central Poland (between Warsaw and Lodz). Within the Faculty of Materials Science, Technology and Design the school offers a footwear design and technology course (for a bachelor's degree) and a footwear design and technology course as a specialization within the five-and-a-half year chemical technology course (for a master's degree).[36]

3.2 Evolution of Employment in the Footwear Sector in Southern Poland

Evolution of employment in the country is closely tied with the restructuring processes that have been undertaken since the 1990s (these are explored in detail in the Task 4 report). In Poland, between 1990 and 1996, over 66% of the once state owned manufacturing companies underwent ownership transformation and in 22.4% of the cases the privatisation procedure is complete[37].

Unemployment levels in both Silesia and Malopolska are lower than the national average. Moreover, unemployment levels in Malopolska have declined in all provinces between 2006 to 2010. There is, however, considerable variation in unemployment rates amongst the provinces within Silesia, as shown in Table 3.4.

Table 3.4: Rates (%) of Unemployment in Silesia and Malopolska by Provinces (for People 15 years and over)

	2006	2007	2008	2009	2010
Silesia	**14.2**	**8.1**	**6.6**	**6.7**	**9.1**
Czestochowski	16.3	8.2	6.6	7.5	:
Bielski	12.9	8.2	4.4	3.8	:
Rybnicki	13.3	7.7	6.6	7.0	:
Bytomski	12.2	7.2	8.7	8.5	:
Gliwicki	18.5	12.4	6.6	7.0	:
Katowicki	13.1	6.3	6.7	7.0	:
Sosnowiecki	15.6	9.0	7.7	7.9	:
Tyski	12.0	6.4	4.4	4.9	:
Malopolska	**12.6**	**8.5**	**6.2**	**7.9**	**9.1**
Miasto Kraków	11.9	7.9	5.4	7.2	:

[36] Politechnika Radomska (2011): **Faculty of Materials Science, Technology and Design,** downloaded from http://pr.radom.pl/redirect.php?action=setcategory&id=1677

[37] Barbara Blaszczyk, Richard Woodward (1999): **Privatisation and Company Restructuring in Poland**, Centre for Social and Economic Research, CASE Reports number 18.

Table 3.4: Rates (%) of Unemployment in Silesia and Malopolska by Provinces (for People 15 years and over)					
	2006	**2007**	**2008**	**2009**	**2010**
Krakowski	12.2	8.0	6.3	7.3	:
Nowosadecki	13.6	9.8	7.3	9.5	:
Oswiecimski	14.1	9.4	6.5	8.3	:
Tarnowski	10.8	7.1	5.2	7.5	:
Poland	**13.9**	**9.6**	**7.1**	**8.2**	**9.6**
Source: Eurostat Unemployment rates by sex and age, at NUTS levels 1, 2 and 3 (%) [lfst_r_lfu3rt]					

The difference in Silesia amounted to 4.7 percentage between Bielski (the lowest level in 2009) and Bytomski (the highest level) provinces. The leading sector of the regions in terms of employment in Silesia used to be the mining industry and, despite significant employment reduction resulting from long-term restructuring processes, the largest number of people are still employed in this sector - nearly 19% of the total number of workers. The share of the employees working in the "trade and repairs" sector is also high at 12.6%, as well as those working in "servicing real-estate and companies; science" at 8.8% and in building engineering at 8.5%.

While the region of Silesia has a high number of skilled workers, this does not necessarily translate into a high level of education. The majority of the population has primary education (27%) or vocational school education (27%), and 14.6% has university level qualifications. The unemployment market reflects this, as nearly 54% of unemployed people do not have secondary education, which considerably reduces their chances to find jobs in today's competitive labour market.

This can indicate a lack of job opportunities for the people who finished education at different levels in the recent period. One of the essential causes of this situation might be maladjustment of the level of education and qualifications to the demands of the potential employers[38]. One footwear company that we interviewed had tried to address this problem in its recruitment processes (see Box 3.3).

Box 3.3: Examples of Recruitment Processes by Footwear Manufacturers

A Silesian company has been operating since 1996. Its main products include comfort, casual and sport shoes for men (45% of the production), youth (35%) and women shoes (20%) for all seasons. The company has an average annual production of 180,000-200,000 pairs of shoes a year.

In recent years, the company's number of employees has ranged from 130 and 140 people. The vast majority of workers are unskilled. The main source of new employees is the Voluntary Labour Corps. The Voluntary Labour Corps is a state organization, its key functions include: actions intended to support the system of education through social, occupational, and economic engagement of young people; actions to improve vocational qualifications of people or to retrain them; support for initiatives intended to counteract unemployment and to nurture young people in

[38] Beata Ślusarczyk, Aneta Herbuś: **University Education Level and the Unemployment in the Silesian Voivodeship and the City of Czestochowa**, Polish Journal of Management Studies, 2011 Vol. 4

Box 3.3: Examples of Recruitment Processes by Footwear Manufacturers
the process of work performance, including employment process organization and organization of international co-operation between young people. Positions filled by people from VLC are partly financially supported by the state. Myszkow area, where the company is based, is an area with the highest unemployment in Silesia Region therefore there is no problem to enlist new workers through the VLC.
Source: Case Study Interview in Silesia

Many companies recruit production workers through advertisements or signs outside factories. Those who are employed at the production line might have some previous background of working in factories, but not necessarily in to the footwear industry. For these people, the companies offer short in-house training.

The restructuring processes undertaken in the region have been accompanied by changes in the employment structure, which has resulted in an increasing number of people being employed in industry and building engineering, with the simultaneous growth in the service sector. Restructuring in the case of footwear manufacturing companies has meant the introduction of more variety and design as well as a faster production cycle with the improvement of the machinery (discussed in more detail in the Task 4 report). Box 3.4 gives an example of this.

Box 3.4: Examples of Changing Employment
This Silesian footwear company is yet to be privatised. In July 2008 its structure of ownership was changed to a limited company; however, 100% of shares remained in the hands of the Government. The company currently employs 320 people, but the level of employment has been reduced by 40% during the last four years due to a reduction in output. The company produces its own brand shoe and also produces shoes under contract for a major German retailer. Its main products are children's textile shoes, men's and women's textile slippers. Its production is estimated to be around two million pairs a year, the majority (80%) of which are children's shoes.
Source: Case Study Interview in Silesia

There has been a similar phenomenon in other Eastern European countries as well; to increase foreign direct investment, incentives are given to high-tech companies to relocate to the countries. These companies absorb the workforce from the more traditional manufacturing sectors, which often struggle to compete in terms of wages and other employment benefits.

In terms of average monthly wages, the Silesian region is second while Malopolska is fifth out of the 16 regions in the country (see Table 3.5). This translates into a sum of 3 726 and 3 464 PLN respectively which is approximately €840-770 per month. This indicates that the regions have a fairly good position in terms of wages within the

country, which may make it difficult for footwear companies to compete for skilled staff.

Table 3.5: Average Monthly Wage and Salary in the Third Quarter of 2011 in Poland	
Region	**Average monthly wage (in PLN)***
Dolnośląskie	3 584.44
Kujawsko-pomorskie	3 141.02
Lubelskie	3 272.35
Lubuskie	3 140.74
Lódzkie	3 316.60
Małopolskie	**3 464.41**
Mazowieckie	4 516.23
Opolskie	3 335.29
Podkarpackie	3 074.48
Podlaskie	3 220.88
Pomorskie	3 646.08
Silesia	**3 726.95**
Swiętokrzyskie	3 196.60
Warmińsko-mazurskie	3 052.28
Wielkopolskie	3 353.16
Zachodniopomorskie	3 341.55
Source: Central Statistical Office (Główny Urząd Statystyczny) *http://www.stat.gov.pl/gus/5840_12193_ENG_HTML.htm* **exchange rate 1 EUR =4.5 PLN data from December 2011*	

With regard to the balance of genders the organisations interviewed in the regions listed twice as many women working in the factories suggesting that the less technical aspects - sewing, stitching as the traditionally women owned parts of the production are the focus of the manufacturing process. This is due in large part to tradition, as women were generally employed in higher numbers in the light industries owing to the nature of the work, which did not require hard physical labour.

3.3 Footwear Education and Training in Southern Poland

3.3.1 Number of People in Education and Training

There are two prominent challenges for education and training in the footwear sector in the region which were highlighted in our interviews. One is that the manufacturing sector is no longer appealing to young professionals, so fewer choose manufacturing-related training or employment. The second is that the downward trend of the industry and the significant reduction in the number of companies may encourage young people to believe there is no future in the industry.

While no data are available regarding education specific for the footwear sector, an indication of potential trends can be gained from examining data on numbers of people entering education and training in general in the region.

There is downward trend in the overall number of students entering education, especially in Silesia, as shown in Table 3.6. This may be due to demographic factors or other social factors such as migration.[39]

Table 3.6: Total Number of Students in Education						
	2004	**2005**	**2006**	**2007**	**2008**	**2009**
Poland	9 836 615	9 719 296	9 503 410	9 279 002	9 040 339	8 926 687
Silesia	1 125 310	1 103 197	1 070 335	1 035 361	998 623	981 706
Malopolskie	882 227	884 619	874 623	862 256	846 968	846 447
Source: Eurostat Number of students by level of education orientation sex and region [educ_renrlrg1]						

According to Eurostat, the percentage of students in upper secondary or post-secondary non-tertiary level education in both Malopolska and Silesia is very similar to the national average. Although there is some variation in the numbers, the percentage difference does not exceed 2% at the regional level. At the national level the trend of previous years has reversed and a 1.4% increase in the number of students for post or upper-secondary education was registered in 2009.

Table 3.7: Total Number of Pupils And Students in Upper Secondary and Post-Secondary Non-Tertiary Education as % of the Population Aged 15-24 Years						
	2004	**2005**	**2006**	**2007**	**2008**	**2009**
Poland	37.8	37.9	37.2	36.8	36.5	37.9
Silesia	37.6	37.7	37.3	37.0	36.9	38.9
Malopolska	37.7	38.0	37.5	37.0	36.8	38.3
Source: Eurostat Pupils and Students in upper secondary and post-secondary non-tertiary education (ISCED 3-4) - as % of the population aged 15-24 years at regional level						

Table 3.8 below indicates only 5.6% of adults participate in education and training courses in the region of Silesia and the proportion is even lower in the region of Malopolska, at 4.8%. These figures are significantly lower than the EU27 average of 9.1 % but in the case of Silesia it is slightly higher than the median average amongst the region in the country which is 5.1%. Again there are significant differences within the country itself, with 3.4% from Podkarpackie and 7.7% in Mazowieckie.

Table 3.8: Total % of Adults Aged 25-64 in Education and Training,			
	2008	**2009**	**2010**
Lódzkie	3.1	3.9	4.2
Mazowieckie	7.2	7.2	7.7
Region Poludniowy	4.3	4.2	5.3
Malopolska	**4.4**	**4.1**	**4.8**
Silesia	**4.3**	**4.2**	**5.6**

[39] Beata Ślusarczyk, Aneta Herbuś: **University Education Level and the Unemployment in the Silesian Voivodeship and the City of Czestochowa**, Polish Journal of Management Studies, 2011 Vol. 4

Table 3.8: Total % of Adults Aged 25-64 in Education and Training,			
	2008	**2009**	**2010**
Lubelskie	4.8	5.3	5.9
Podkarpackie	2.9	3.1	3.4
Swietokrzyskie	3.9	4.2	4.3
Podlaskie	4.7	4.0	5.2
Wielkopolskie	4.1	3.7	4.7
Zachodniopomorskie	5.5	5.3	5.0
Lubuskie	4.0	3.3	4.5
Dolnoslaskie	5.0	5.1	5.6
Opolskie	5.1	4.9	4.8
Kujawsko-Pomorskie	4.3	3.8	4.3
Warminsko-Mazurskie	4.4	4.4	3.9
Pomorskie	4.5	5.4	6.6
Poland	**4.7**	**4.7**	**5.3**
Source: Eurostat Regional Statistics - Participation of adults aged 25-64 in education and training, at NUTS levels 1 and 2 (from 2008) - % [trng_lfse_04]			

3.3.2 Footwear Training Courses

The largest education and training centre in Southern Poland is SAPU, the design institute of the Krakow School of Art and Fashion Design in Malopolska. The course includes classes on design, textiles, fashion illustration, garment construction and garment styling.

In 2011 the school received 30 international students and has classes in English as well as Polish. The majority of Polish students arrive from outside the region and only 35% of them are from Malopolska. The course gradually builds up the knowledge required for the industry. Throughout the first semester students are introduced to the basic skills necessary to develop their creativity. There are separate workshops for shoe design as well as a number of other subjects (e.g. life drawing, colour study, composition, painting, fashion drawing, jewellery and apparel design).

The second semester provides students with the opportunity to further develop their skills and new workshops are introduced, i.e. patternmaking, shoe design and textile design. Different colour techniques, modes of expression and numerous presentation methods are offered to the students. At the end of each semester students present their work at a scheduled fashion show.

The second year (third and fourth semester) allows students to build upon the basic skills they have learnt so far and to develop a personal style through research. At this stage students practice sketching men, women and children, and they research fashion trends, fabric choices, colour cards, and current season's publicity material. In this year emphasis falls upon definition, development and creation of collections. New workshops are introduced, i.e.: accessories including millinery, textile technology,

fashion photography and the history of fashion. Again, at the end of each semester, students' works are presented at fashion shows.

The fifth and final semester concludes with an opportunity to design and manufacture a collection. The best collections are presented at the Diploma Show Krakow Fashion Awards, in late March, the highlight of the school's academic year. The Diploma show is accompanied by the Exhibition of graduates' paintings, drawings, photography and jewellery works[40].

Apart from educational institutes, training can also be provided in-house at companies. While data from Eurostat suggests that in the EU27 an average 30% of the companies within the manufacture of textiles and leather products sector provide in-house training for their staff members, this number is significantly lower in two of the case study countries (14% in Poland, 13% in Italy) while it is higher (56%) in Germany.

In fact, in-house training was found to be commonly used amongst the stakeholders interviewed (see Box 3.5); however, they were mostly focused on training the staff to use newly purchased equipment.

Box 3.5: In-house Training in Silesia

A large footwear company follows a standard recruitment process; prospective employees can directly contact the company, while the HR Department also actively seeks employees, for example through job advertisements.

The company provides in-house training for newly employed staff members, which generally lasts one month. In addition, training is also provided to existing staff members every two to three years; the last training took place in 2009. Provided there are enough new workers who are specialised in one part of shoe production process, general training is provided on the basic aspects of shoe making.

The training sessions generally last two days and are held at the company's premises by experts from the Institute of Leather Industry. Office workers tend to spend no more than two days on training covering basic knowledge of shoe making processes.

Source: Case Study Interview in Silesia

3.3.3 Key Skills

Design skills are important for companies that produce their own brands, which is an area of increasing importance for footwear companies in the region. Therefore, these enterprises encourage and support their designers to attend industry exhibitions and trade fairs. With regard to the production phase, the technicians employed are required to undergo relevant training either within a company or at a training institute for the fields of cutting, stitching and assembling the final product.

[40] Krakow School of Art and Fashion Design (nd): **Fashion Design**, downloaded from http://ksa.edu.pl

Stakeholders mentioned quality of products as a main driver for future changes which requires both skills and equipment. Increased competition can require companies to invest in new machinery and there will be a need to introduce new technologies. The case study visits provide some examples of investments already made. With regard to the implementation of new technologies, new skills are expected to be required, especially in connection with the use of IT (CAD/CAM) and the internet.

The marketing of Polish brand products will also increase and, for this, collaboration between the stakeholders, including the currently competing manufacturers, will need to be extended. Increasing the presence of the brands on the internet can also improve awareness of the Polish footwear manufacturing sector. Additionally collaboration between manufacturers of different types of shoes could potentially lead to the creation of consortiums and to the joint ownership of retail.

The skills required for business and commercial activities, including marketing, seem to be lacking in the area. It is noteworthy that many of the companies are small and medium sized; in fact manufacturers employing less than 100 employees represent 91.6% of all footwear manufacturers in Poland and they are responsible for 50% of employment and 50% of shoes sold. These small and medium sized companies do not generally find it necessary to invest in business planning, commercialization or even specialised education for the managers.

In relation to future scenarios, no significant problems are expected with the quality and volume of designers. As many of the companies depend on orders from large foreign retailers, it is expected that original Polish design will not be an important aspect in the footwear sector. Footwear manufacturers will concentrate on further development and improvement of already existing shoes (and designs). Due to the nature of the footwear market in Poland, manufacturers value predictability therefore they are driven by potential for good revenues. As such, they would rather enter a market where competition is already high (but revenues are more promising) than a new niche market.

Box 3.6: Future Skill Requirements

A family company has been operating for 25 years, the company designs its own brand of fashion shoes for women over 40. The production varies between 40 000 and 50 000 pairs of shoes a year, 40% of which is exported mainly to Germany, Belarus, Latvia, Ukraine, Czech Republic, Slovakia, occasionally Canada and UK.

The company has 20-30 full time employees - the exact number depends on the quantity of orders. Their employees come from very diverse educational backgrounds which are not always relevant to the field of work; for example, one designer has a degree in environmental protection.

With regard to future expectations, the company aims to maintain its production capacity and competitive position in the market. Maintaining quality is the main driver of the company's operation, consequently the company has invested in laser cutters and aims to intensify its production.

Source: Case Study Interview in Silesia

3.4 Networks and Relationship with Businesses

There are very limited relationships between businesses in the footwear sector and training centres. In fact, relationships between stakeholders rarely go beyond occasional cooperation.

There is no regional trade association representing industry stakeholders; therefore the position of the individual companies is rather weak. Stakeholder relationships are often tense, as companies see each other as competitors only. The Polish footwear sector is facing increasing competition both from producers in the Far-East, in the lower price ranged segment, and from other European countries on medium and high price range products. In these circumstances, manufacturing companies in the region aim to protect their market position by limiting collaboration with direct competitors. Their collaboration efforts are more focussed on cross-border partnerships to secure shares in foreign markets. This has, included collaboration - such as subcontracting or outsourcing parts of the production process - with stakeholder in neighbouring countries (including Slovakia, Czech Republic, Ukraine and Russia), to compensate for the skill shortages.

ILI indicated that there have been some examples of willingness to cooperate between companies in Malopolska; however, these are only between larger market players, as small and medium sized enterprises do not see the need to cooperate with their competitors within the sector.

Collaboration and networking with industry can be more common in other sectors within the region. A good example of this is the wide relationships built up by the University of Technology of Silesia. Amongst others, the university is engaged in research and technology alliances which have resulted in the development of new technologies, creation of new workplaces and an improvement in competitiveness. Its research programs include technology of production, application of modern materials and biotechnology as well as environmental engineering[41].

Enterprises in Southern Poland could potentially benefit from collaboration with the Technical University of Radom located in the Masovian region. The University has a special footwear design course within the Faculty of Materials Science, Technology and Design. The design course is three and a half years long and offers the specialization of footwear and clothing designer.

3.5 Use of Support Mechanisms

Support mechanisms are available for the footwear manufacturing companies in the region, either directly from European Union programmes such as the Lifelong Learning programmes or via the regional development programs promoted through

[41] Prof Jan Ślusarek, Blazej Sobota, Ewa Mendec (2010): **Collaboration Between Universities and Industry Based on Experience of the Silesian University of Technology**, Paper Presented at the International Conference on Engineering Education July 18-22 2010, Gliwice Poland.

the use of the Structural Funds. The Upper Silesian Regional Development Agency (GARA - Górnośląska Agencja Rozwoju Regionalnego) is responsible for the dissemination of the Structural Funds in the region.

A national organisation, the Voluntary Labour Corps (VLC), which is represented in Silesia through its regional office, makes use of the financial support allocated through the European Social Fund (see Box 3.7, below). The primary objective of VLC is to create adequate conditions for proper social and vocational development of young people, including special actions that are addressed to disadvantaged youth addressing issues such as poverty, unemployment, and social pathology effects. One of the companies we interviewed had employed young people being trained by the VLC.

Box 3.7: Use of the European Social Fund

In reaction to the needs of young people facing the problem of marginalization and social exclusion, the Voluntary Labour Corps, began to implement projects that are co-financed with ESF in 2004. It was one of the first Polish institutions to do so. VLC has successfully completed 15 nationwide projects, the total value of which is dozens of millions Polish Zlotys.

One example of such a project is one entitled "Your knowledge – Your success". Its main goal was encouraging social and vocational activities of the young people through their return to the educational system, gaining a profession and becoming independent. Young people took part in vocational training; educational workshops and active job search, business classes; psychological and therapeutic trainings; foreign language and computer courses. Over 800 beneficiaries from the Lubuskie Voivodship participated in the project and one of the footwear companies that we interviewed had participated in vocational training of young people (see Box 3.3 above).

Examples of other projects are: „Opportunity 18-24 A way to independence", „18-24 – High time to become independent", "Individual Career Project – Portfolio for the Youth". The Integrated Operational Programme for Regional Development includes the project "Your knowledge and skills as the key to success". Thanks to these activities, projects participants have improved in both personal and professional life.

Source: Voluntary Labour Corps http://www.lubuska.ohp.pl/strona.php/109

While awareness of the availability of support from the Structural Funds appeared to be widespread, the stakeholders interviewed had no experience using national or regional programmes supported by the European Globalisation Fund or the Lifelong Learning Programme. Overall, the use of support mechanisms was not widespread amongst the companies interviewed; they indicated that this was mainly due to the perceived administrative burden that application for funding, and management of these projects, would require.

According to ILI, accessing financial support from EU funds has become more difficult in recent years. It believes that recent changes in policy by the Polish Government and the Regional Development Agency mean that less funding will be made available for traditional sectors such as footwear.

3.6 Best Practices

Enterprises in Southern Poland have used a variety of routes to provide training for their employees. One way is by enlisting experts from the ILI based in the neighbouring region of Malopolska and providing in-house training. Alternatively, companies can seek design talent from the Krakow School of Art and Fashion Design.

One of the most all-encompassing in-house training programs is provided at a large footwear factory in Silesia that is currently undergoing privatisation. The four designers that are employed at the company regularly attend industry fairs and exhibitions to update their knowledge of fashion trends. Meanwhile, newly employed unskilled workers also receive one month's on the job training. Moreover, the more experienced staff of the company also participate in general training to update their knowledge of the shoe making process. This example, however, is unique; it is more common for enterprises to offer training for employees only if new machinery is being purchased. This training generally takes one to three days and helps to maintain or increase production efficiency, as well as provide employees with new skills using more modern equipment.

Collaborations between stakeholders within the sector in Silesia are quite limited. However, there are examples from Malopolska involving ILI as a platform and focussing on a closer collaboration within the supply chain involving sales and purchasing raw materials. In general, said it appears that industry representation on the regional and national level is sporadic.

One Silesian company has enlisted the Voluntary Labour Corps as a source for new employees. The VLC is an example of good practice in identifying training and development options for unemployed especially young people. VLC is a government body financed by the state budget (and supported by EU funds) which aims to find employment for and avoid the marginalisation and social exclusion of people between the ages of 15 to 25. The organization is also involved in providing general and vocational training. Through the Vocational Training Centres, VLC organizes training courses to improve skills and qualifications so that participants can keep their current job or acquire new skills that are adaptable to the local skill requirements.

3.7 Summary

Southern Poland contains two regions that have the highest density of footwear manufacturers in Poland. This is partly due to the fact that 25 years ago the major state owned shoe manufacturing conglomerates were located in these two regions. However, in the early 1990s the factory properties were sold to number of private, who were free to decide whether they wished to carry on the original activities of the enterprises.

Collaboration between footwear companies in the region are quite limited, not only in relation to training but overall within and between the supply chains. We found no

examples of cooperation between companies in the field of training and. However there are initiatives in Malopolska for cooperation in sales of footwear products and purchases of raw material.

There are no specific training or education centres linked to footwear manufacturing in Silesia. The majority of training takes place in the neighbouring region of Malopolska where the Institute of Leather Industry (ILI) and the Krakow School of Art and Fashion Design provide the necessary training and education.

Apart from educational institutes, training can also be provided in-house by companies. While in-house training has not been widespread, there were individual examples of it, mostly focused on training the staff to use newly purchased equipment.

In relation to future requirements, no significant problems are expected in relation to designs. However, stakeholders mentioned improving the quality of products as a main driver for future changes in both skills and equipment. Increased competition can require companies to invest in new machinery and there will be a need to introduce new technologies, especially in connection with the use of IT (CAD/CAM) and the internet. These will require additional training of staff.

The skills required for business and commerce, including marketing, seem to be lacking in the area. It is noteworthy that many of the companies are small and medium sized; in fact, manufacturers with fewer than 100 employees represent 91.6% of all footwear manufacturers in Poland and are responsible for 50% of employment and 50% of shoes sold. These small and medium sized companies do not tend to invest into business planning and commercialization and are reluctant to hire highly qualified managers as it would impose too great a financial burden.

4. CASE STUDY: RHEINLAND-PFALZ

4.1 Introduction

4.1.1 The Region of Rheinland-Pfalz

Rheinland-Pfalz is one of 16 German states; it is located on the borders of France, Luxembourg and Belgium. The West Pfalz sub-region, in which Pirmasens and Zweibrücken are important centres, is characterised by medium-sized businesses and industries, including shoe-making. Pirmasens specialises in ladies shoes (Baden-Würtemburg is the centre for men's shoes).

Shoe production has a long tradition in West Pfalz, with regional expertise in both leather and footwear. Pirmasens is the capital of Germany's footwear industry and hosts the International Shoe Competence (ISC) Center Pirmasens, a subsidiary of the Pirmasens Testing and Research Institute. Regional training institutes include the Pirmasens School for Vocational Education (Berufsbildende Schule Pirmasens), which also hosts the German College of Footwear Design and Technology Pirmasens (Fachschule für Schuhtechnik*)* and the Pirmasens Faculty of the University of Applied Sciences Fachhochshule. West Pfalz is also an important centre for shoe retailing; initiatives such as Shoe City outlet centre in Hauenstein, allow producers to get their products on the shelves locally. There is also a shoe museum within the region.

4.1.2 Background on the Footwear Industry

Following years of decline, the German footwear industry stabilized its level of employment at around 11 thousand employees and has increased its production volume by 13% to 30 million pairs of shoes. Over the last decade German imports and exports have also been increasing and European main markets are concentrated in neighbouring countries such as the Netherlands, France, Poland and Austria while sales in the United States have been falling.[42]

Much of the footwear industry in Rheinland-Pfalz is centered around the city of Pirmasens, which has a long history of footwear manufacturing - focussing on women's shoes. The city is situated close to the border with France and has a population of around 40 000.

The origins of shoe production in Pirmasens can be traced back to the 18th century. The cottage production and selling of shoes was one of the only ways of making a living in an area with few natural resources and far from established trade routes. The development of industrialised shoe production in the city from 1840 onwards led to a geographical expansion of markets, with shoes from Pirmasens being sold throughout

[42] APICCAPS (2011): **World Footwear 2011 Yearbook,** Portuguese Footwear, Components & Leather Goods Manufacturers' Association

Europe and overseas. In the 1950s the city developed into a "shoe metropolis", with visitors from the whole world flocking to the international shoe fairs held in the city. The 1970s saw growing competition from Asian producers, forcing domestic shoe manufacturers to relocate their production. By the middle of the 1990s, Pirmasens was showing signs of a major crisis amplified by the announcement of the American military forces, one of the city's major employers, to shut down a number of its bases in the Rheinland-Pfalz region and in Pirmasens itself[43].

In recent years the decline in the footwear sector has continued and by 2011 the number of employees had reduced from over 30 000 to around 1 600 in production and around 3 000 in administration. Similar changes can be observed on a larger scale in the German footwear industry; from 1997 to 2007 the number of employees in the sector reduced by 77%.

Restructuring has also affected the German retail sector, where the number of specialist shoe shops has reduced by around 25% over the last decade to approximately 5 000, as shop owners went out of business[44]. Further details on the restructuring and modernisation processes undertaken in the footwear sector in the region can be found in the Task 4 report.

4.1.3 Background on the Footwear Training Institutes

There are four main centres of education for footwear manufacturing in the region located at three premises, these are:

- Pirmasens School for Vocational Education (Berufsbildende Schule Pirmasens);
- German College of Footwear Design and Technology (Fachschule für Schuhtechnik);
- Pirmasens campus of the University of Applied Sciences, (Fachhochshule Kaiserslautern; and
- the International Shoe Competence Centre in Pirmasens.

The main activities of the education and training centres are detailed in Table 4.1 below.

Table 4.1: Footwear Education and Training Centres in Rheinland-Pfalz

The Pirmasens School for Vocational Education	The Pirmasens School for Vocational Education (official name: *Berufsbildende Schule Pirmasens* but also referred to as *Berufsschule Pirmasens*, abbreviation BBS) provides vocational training as part of the 'dual system'. This system combines classroom training with training in the workplace . The school had 42 students in 2011.

[43] Sabine Weck (2011): **Dealing with Peripheralisation in Urban Development – the Case of Pirmasens**, Research Institute for Regional and Urban Development, Paper Presented at the REAL CORP 2011 Tagungsband, 8-20 May 2011, Essen, Germany, downloaded from http://www.corp.at/archive/CORP2011_81.pdf

[44] Anon (2011): ***Quo vadis Pirmasens?* Schlabbeflicker forschen am Schih der Zukunft**, 25 October 2011, downloaded from: http://www.hds- schuh.de/PDF/PM/Schuhindustrie2011.pdf.

Table 4.1: Footwear Education and Training Centres in Rheinland-Pfalz	
	The School offers two footwear related training courses: • a three-year course in industrial shoe manufacturing, offered only in Pirmasens, in cooperation with the Chamber of Industry and Commerce; and • a two-year course entitled 'skilled worker in the field of leather processing'. This is a less-demanding course than that in industrial shoe manufacturing but, if successful, students can go on to complete the course in industrial shoe manufacturing. This is a new course, which began in 2011. It replaced a previous course entitled 'shoe and leatherstitching' Vocational training is full-time, with students' time split between the school and their workplace (see Box 4.1).
The German College of Footwear Design and Technology	The German College of Footwear Design and Technology (GCFDT) , (official name: *Fachschule für Schuhtechnik* but also commonly known as *Deutsche Schuhfachschule*) is part of the Vocational School Pirmasens but not part of the dual system. This school had 27 students in 2011. It is the only professional school for the footwear sector in Germany. It offers two programs which take two years (full time) to complete. These are "Modelling Technician" and "Business Technician". The former is more focused on design/fashion while the latter is more focused on organising production. The courses are aimed at those with professional experience in the footwear sector. Entry criteria include a completed vocational educational course (such as that offered by the BBS) plus one year professional experience or simply five years of professional experience.
Pirmasens campus of the University of Applied Sciences Fachhochshule	The Pirmasens campus is one of three campuses of the University of Applied Sciences (Fachhochshule Kaiserslautern); the others are at Zweibrucken and Kaiserslautern. Pirmasens hosts the faculty of Applied Logistics and Polymer Science, which offers courses on product and process engineering, including leatherwork and shoe technology, and technical logistics. The campus has around 500-550 students altogether. Shoe technology is offered as a course leading to a Bachelor of Engineering degree in product and process engineering. However, as it is a modular course, other students who do not specialise in shoe technology can also take some courses. The focus of the course is on engineering rather than design, although footwear design is included in the course, with an emphasis on CAD and biomechanics.
International Shoe Competence Centre in Pirmasens (ISC	The ISC is a training and research centre for the leather and shoe industry set up in June, 2008 by the Test and Research Institute Pirmasens, the Association of the German Footwear Industry, and the City of Pirmasens. It is a privately-owned public-interest institution (gGmbH). The school has on average 400 students per year attending short modular type courses. ISC courses are funded by fees paid by the students or (more commonly) their employers; the school receives no government support for these. In addition to its general courses, the ISC also submits tenders to companies to provide tailored courses for them and these companies pay the costs.

The training facilities offer a wide range of educational content and are aimed at both young people seeking to enter the footwear sector and professionals wishing to adapt their skills to changing technological requirements. Courses at the ISC, for example are being developed continuously. In addition, by providing tailor-made training courses for individual firms, the centre can accurately target the needs of the specific companies.

In comparison to the ISC, the curricula of the Vocational School and the University of Applied Sciences Fachhochshule are decided by State Ministries of Education

The Vocational School is responsible for vocational education within the German 'dual system' of vocational training (see Box 4.1).

Box 4.1: The 'Dual System' of Vocational Training in Germany

The 'dual system' is the typical post-secondary non-tertiary training in Germany which is highly regulated in close cooperation with the German business community. It is called dual because the vocational school teaches general education and trade-specific-theory while the students receive practical training in companies (formerly called apprenticeship) where they are formally employed or participate occasionally in workshops ran by chambers.

These sections of theoretical and practical education can be organised in a system of 1-2 days school and 3-4 days practical training; alternatively in larger blocks of several weeks if there is only one vocational school in the whole country offering this particular vocational training (as is the case for the industrial shoe manufacturing course at the Berufsschule). In this case, students generally have 60-70 days of school per year and depending on the year of the course students are attending; they typically spend two weeks at the school followed by four weeks in the company.

At the end of the training course, the students need to have passed school exams. There is then an additional assessment of more practical skills with the Chamber of Industry and Commerce. Finally, they are awarded a vocational training certificate which is their entry card to the labour market.

Source: Interview with Vocational School Pirmasens, November 2011

The curriculum of the Vocational School is decided by the State Ministry of Education, Science, Further Education and Culture (in this case state of Rheinland-Pfalz). However, the content of the courses (valid all over Germany) are set by a commission under the Federal Ministry of Economy, where representatives from stakeholders (such as chambers of commerce, industry associations and trade unions) can define the certificates of apprenticeship for the sector.

The German College of Footwear Design and Technology (Deutsche Schuhfachschule) is linked to the Vocational School but has administrative responsibility and provides its own teachers for the courses it offers.

The University of Applied Sciences Fachhochshule opened its campus in Pirmasens around 20 years ago, at first in an old shoe factory room which it has now relocated into a new, purpose-built home. This followed the policy of the Rheinland-Pfalz state government to relocate institutes to an area affected by the withdrawal of a US military base. The University is the only one in Germany offering courses in shoe technology, although courses in the related field of leather technology are offered at the universities of Freiburg, Chemnitz and Reichenbach as well.

4.2 Evolution of Employment in the Footwear Sector

Footwear manufacturing companies in the region have undergone major reorganisation processes in the last two decades and many have outsourced their production to countries offering cheaper labour thereby preserving their competitiveness. The number of footwear manufacturing enterprises in the city of Pirmasens, which is the regional centre of the industry, has reduced from 400 to around 15 to 20. In general, though, the number of companies in the sector has remained fairly stable in the last eight years.

Previously, Germany was the main market for companies based in the region, although there was always some exporting. Now the focus is much more on exports; mainly to other EU Member States, however there are examples of companies exporting to the USA and Canada, with some sales to Russia and Japan. Further details on how industrial reorganisation and modernisation impacted the region can be found in the Task 4 report of this study.

While the reorganisation was taking place, the city of Pirmasens has been continuously loosing population, due to reasons such as outward migration, low birth rates and suburbanisation in recent years. Disproportionately high levels of well-educated, young people are leaving the city and the region, to seek appropriate work. Some of the local companies, and especially technology-oriented ones, are experiencing difficulties in recruiting highly qualified employees.

While the local unemployment rate is high, there is a gap between the locally available (low-qualified) workforce being made redundant by the shoe industry, and the profile of workforce local companies today are looking for.[45]

As Table 4.2 shows, in the area of Pirmasens the number of unemployed people – for reasons mentioned above - has been decreasing steadily over the years.

Table 4.2: Decline of Employment in Footwear Production in the Pirmasens Area

Year (31/12)	Pirmasens Region			Pirmasens Town	
	Employees[1]	Low Paid or Part Time Employees[2]	Unemployment Rate (%)	Employees[1]	Low Paid or Part Time Employees[2]
1997	4 831	-	14.5	-	-
1998	4 624	-	13.3	-	-
1999	4 407	-	12.5	1 995	-
2000	4 192	271	11.2	1 962	74
2001	3 997	266	10.2	1 940	62
2002	3 355	229	10.5	1 588	58
2003	2 613	274	12.1		70
2004	2 135	246	12.4	1 119	62
2005	1 990	222	13.5	1 074	56

[45] Sabine Weck (2011): **Dealing with Peripheralisation in Urban Development – the Case of Pirmasens**, Research Institute for Regional and Urban Development, Paper Presented at the REAL CORP 2011 Tagungsband, 8-20 May 2011, Essen, Germany, downloaded from http://www.corp.at/archive/CORP2011_81.pdf

Table 4.2: Decline of Employment in Footwear Production in the Pirmasens Area					
Year (31/12)	**Pirmasens Region**			**Pirmasens Town**	
	Employees[1]	**Low Paid or Part Time Employees[2]**	**Unemployment Rate (%)**	**Employees[1]**	**Low Paid or Part Time Employees[2]**
2006	1 954	235	11.0	1 062	55
2007	1 766* (1 940)	242	9.6	1 067	69
2008	1 678* (1 847)	247	8.7	1 074	75
2009	1 622*		9.4		
2010	1 557*				

Source: Bundesagentur fuer Arbeit, personal communication, 18.03.2010
Notes:
1. People in the area subject to social insurance contributions
2. Employees earning less than €400 per month (so-called Minijob)
** New system of job classification introduced*

The Federal Employment Agency (BA Bundesagentur fur Arbeit) carried out a review of the current workforce in the sector in the region as part of a national 'employment monitor' initiative, which mapped the characteristics of the labour force and provided an analysis of future trends both in relation to skills demand and supply.

The review found that 41% of the employees working in the sector belong to the 50-65 age group, and the majority of these people are expected to retire in the next five to 10 years. While companies have indicated a need for further recruitment even in production jobs, it has been difficult to attract young people into the sector because of the adverse effect of previous job losses – shoe making is seen as an industry with no future.

It was noted by the trade unions that extending the age of employment cannot provide a solution, as retirement age is partly determined by the workers' health. Interviewees highlighted a concern related to the state of health footwear workers. The physically demanding work and lack of ventilation in factories were mentioned as a reason for workers in the footwear sector often being unable to work until the full pension-qualifying age.

The emphasis of footwear companies within the region is increasingly on quality, design and market access. Therefore, there is a need to bring together the skill and knowledge present in the region as a basis for educating the future generations. Box 4.2 describes an initiative designed to contribute to this aim.

Box 4.2: Step up Shoes Campaign
There have been a number of initiatives aimed at raising the interest of young people in footwear manufacturing as a prospective career path. The International Shoe Competence Centre has co-operated with local industry and the Federal Employment Agency in a project called 'Step up Shoes'. This is a campaign to encourage young people to apply for jobs in the footwear sector and overcome the negative perceptions of the industry. This initiative involved presentations to students, as well as organising a fashion show where companies exhibited their products. One of the most important messages the campaign is trying to convey towards young people is that the industry has an international nature (so employees have opportunities for travel as well as the ability to find work locally) and that it is possible to advance to a senior level without necessarily having a formal university education.
Source: Case Study Interview in Rheinland-Pfalz

Most companies remaining in the region have outsourced a significant proportion of their production, mainly to eastern Europe, Asia and even South America, but the three largest companies still retain some local manufacturing. Some companies that initially outsourced production to China have since then relocated back to Europe (but not generally to Germany). Such moves are very individual to companies and the reasons are often not publicised. However, drivers for their relocation include:

- increased costs of manufacturing in coastal China and companies' reluctance to move to other parts of China because of the hassle of continuous relocation; and

- the need to be prepared for economic instability by having more options open – not relying on a single source of products.

This process could potentially lead to companies returning to Romania, where there are also bankrupt plants. Further information on relocation and production outsourcing of footwear manufacturing companies in the region can be found in Task 4 report of this study.

Companies continue to manufacture in Germany in order to retain skills and competence in shoe manufacturing, as well as to maintain control over the type of shoes produced (companies cannot retain design and marketing without technical competence; they need to understand how shoes are made and what makes a good shoe). It also allows them to manufacture smaller-run brands, for example ecological or 'Made in Germany' brands and to explore their market potential

4.3 Education and Training in the Footwear Sector in Rheinland-Pfalz

4.3.1 Number of People in Education and Training

According to Eurostat in 2010 over 20% of the regional population – a percentage that has remained consistent over the last five years - was made up of pupils and students participating in some level (ISCED 0-6) of education. Furthermore over 54% of

people aged 20-24 participate in tertiary education, which is higher than the national average of 51.8%.[46]

In 2011, the **Vocational School** had 42 applicants for footwear related courses (34 for "Shoemaking" and 8 for "Leather Processing"). This number exceeds that of the previous years; 27 in 2010 and 31 in 2009.

The **German College of Footwear Design and Technology** currently has 12 students in the first year and 15 students in the second year (in "Modelling Technician").

The Bachelor of Engineering degree in Leatherwork and Shoe Technology at the Pirmasens campus of the **University of Applied Sciences** enrolled 9 new students in 2011, out of a total of 97 new students enrolled for all Bachelor of Arts and Master of Arts courses. The Pirmasens campus attracts students from a variety of locations with the following approximate distribution (no data are available specifically for the leatherwork and shoe technology course):

- 50% are from the region;
- 30% from elsewhere in Germany and
- 20% from outside Germany (including China (30), Cameroon, (22), Maghreb countries (10), Vietnam (1) and Thailand (2)).

The University also has a direct co-operation agreement with a Chinese University on logistics and also has students from Cameroon funded by the German Government. In 2010, the university founded the Institute for Polymer Technology (Institut fur Kunststofftechnologie Westpfalz), a new scientific facility within the Department of Applied Logistics. The main tasks of the institute are research, development and support teaching in the areas of plastics engineering and polymer composite materials and cooperation with industry.

Altogether there are on average about 400 students per year attending courses at the **International Shoe Competence Centre**. The ISC also provides the practical aspects of training for students from the footwear vocational school (15 students per year on a two year course) and the University of Applied Sciences (40-50 students per year).

Data on the gender distribution of courses is only available for the Vocational School. The data are summarised in Table 4.3.

Table 4.3: Gender Distribution of Courses at the Vocational School (%)

School	Course	Women	of Men
Vocational School	Leather processing	99	1
	Shoe manufacturing	50	50

Source: Case Study Interview in Rheinland-Pfalz

[46] Eurostat (2012): **Regional Education Statistics**, Regional Indicators, downloaded from http://epp.eurostat.ec.europa.eu/portal/page/portal/region_cities/regional_statistics/data/database

Whilst the three-year shoe manufacturing course is split 50-50 between men and women, the shorter and less-demanding leather processing course recruits almost entirely women. The school offered no reason for this difference; however, it may be related to the fact that the leather processing course was previously titled 'shoe and leather stitching'. During our company visits, it is clear that there is still a significant gender split in manufacturing, with stitching dominated by women.

Both the International Shoe Competence Centre and the University of Applied Sciences have reported a mixed representation of the genders, but without specific ratios. The ISC has noted that, while gender proportions vary by type of course, the technical courses are still largely male-dominated.

4.3.2 Footwear Training Course

The four footwear education and training centres have different courses.

The **Vocational School** offers a "dual training" approach (see Box 4.2 on page 50), which includes training at companies and in the classroom.

Box 4.3: Example of Education and Training at the Pirmasens School for Vocational Education

The Vocational School offers training courses in shoemaking or leather processing. Halfway through the course, there is an interim exam which focuses both on practical and theoretical aspects. The "Shoe manufacturing" course has a final exam after three years which again includes both theoretical and practical aspects (the latter is conducted by the IHK (Chamber of Industry and Commerce). The content of the exam is determined by committees which include representatives of the IHK, footwear industry (foremen, etc.) and teachers.

There are also optional subjects taught at the school which cover practical skills which are not acquired during the students' time at the company. Students have worked on a range of projects with the footwear industry, including ones with a major European retailer and a Swiss boot maker. Cooperation is established both by means of the School actively searching for such opportunities as well as the School being approached by companies.

Source: Case Study Interview in Rheinland-Pfalz

The **German College of Footwear Design and Technology** offers courses in footwear design and technology. It also planned a "Business Technician" course, but this course has not proved popular and. while there were two or three applicants this year, this was not sufficient to open a class and this programme is currently not run.

Further information on the Vocational School and the German College of Footwear Design and Technology courses is given in Boxes 4.3 and 4.4.

Box 4.4: Example of Education and Training at the German College of Footwear Design and Technology

The German College of Footwear Design and Technology (GCFDT) is located at the premises of the Pirmasens School for Vocational Education but is not part of the dual system but rather an establishment providing further education. It is the only professional school for the footwear sector in Germany. The School offers a two year long courses in footwear design and technology. Entry

Box 4.4: Example of Education and Training at the German College of Footwear Design and Technology
criteria include a completed vocational educational course (Shoemaking or similar) plus one year professional experience or simply five years of professional experience.
Source: Case Study Interview in Rheinland-Pfalz

The Pirmasens campus of the **University of Applied Sciences (Fachhochschule** Kaiserslautern) is currently phasing out the leather and shoe diploma degree programme as part of the Bologna process. (It now only has one remaining student who is finishing this program within the old context). The course has been replaced by a programme leading to a Bachelor of Engineering degree in Leatherwork and Shoe Technology. Between 2000 and 2010, the school also ran an Integrated Professional Study Programme in Shoe Technology (BiSS - Berufsintegrierte Studiengang Schuhtechnik), which had a peak enrolment of 17 in 2003/04. Further information is given in Box 4.5.

Box 4.5: Example of Education and Training at the Pirmasens Campus of the University of Applied Sciences (Fachhochschule Kaiserslautern)
The University opened its campus in Pirmasens around 20 years ago, at first into an old shoe factory though it now has a new, purpose-built home. It offers a Leatherwork and Shoe Technology course with a Bachelor of Engineering degree. Overall, the University has more than 5,400 students. Pirmasens campus has 500-550 students, but only a small proportion of these study shoe technology. In September 2011, 9 new students enrolled in the Bachelor of Engineering Product and Process Engineering Leatherwork and Shoe Technology programme and a total of 97 new students enrolled for all BA and MA courses at the Pirmasens campus. Government policy in recent years has been for University of Applied Sciences to switch from granting diplomas to conferring Bachelor's degrees, in line with the Bologna system. This has been a major challenge; some revisions have already been made to courses but more are expected (as the University will be subject to re-accreditation next year).
Source: Case Study Interview in Rheinland-Pfalz

The University has close ties to the local industry and, as it is a technical university, placements with industry are a major component of the bachelor's degree courses. New initiatives include the university's own programme to combine standard university courses and flexible practical training (for example, this could be students spending one day a week with industry or working full time with industry over a short period to undertake a particular project).

The **International Shoe Competence Center** Pirmasens (ISC Germany) opened in 2008 and currently has a staff of 21 people, a mixture of trained educators and industry experts. The ISC differs from the other training institutes of the region as it focuses on short courses for companies who recognise the need for additional training for their staff members. Further information on the ISC's courses are given in Box 4.6 (over page).

The ISC has plans to continue expanding and would like to become even more international. There are many potential opportunities that have not yet been explored, such as specific training for global companies. In line with these plans, the ISC explored the potential for developing an international college; however, the administrative requirements proved too demanding and those plans have been halted. Instead, it is now seeking to developing international courses with other institutions. It is undertaking discussions with the Bata school in the Czech Republic, for possible cooperation on a one-year course, with six months theory in the Bata School and six months practical training in Pirmasens.

Box 4.6: Example of Education and Training at the International Shoe Competence Centre

The International Shoe Competence Center is a training and research centre for the leather and shoe industry and for the footwear retail sector. It runs a range of modular training courses, which are generally two day long but can be longer according to the requirements of the companies. Therefore these courses can be tailored to the specific needs of the sector to update the skills of its staff. Courses can be conducted either at the school premises in Pirmasens or at the customers' premises anywhere in the world.

The ISC offers a wide range of courses, including courses tailored to the needs of particular companies, and also has contracts with the Professional School and the University to allow their students to use ISC equipment. The ISC has a state-of-the-art training factory where students can put their theoretical knowledge into practice under the supervision of the ISC's experienced staff. This facility is also used to produce samples and carry out pilot runs, work on developments and to test innovative production techniques to establish their suitability for use in footwear production.

Source: Case Study Interview in Rheinland-Pfalz

While the ISC is planning to expand internationally, the Vocational School in Pirmasens is struggling with opening up to foreign students. It is uncommon for the school to have foreign students and the main obstacle is that the language of instruction remains German.

4.3.3 Key Skills

The key skills in the industry are associated with commercialisation and sales. According to the International Shoe Competence Centre, that some of its most popular courses are for sales people on shoe making; an indication perhaps of the changes in shoe retailing in recent years, with the closure of many specialist shops. In the past large retailers tried to save money by not training their staff, with the result being that the knowledge that specialist retailers had in the past was lost. Now they are trying to regain that knowledge through training, to offer a better service to customers.

Technical skills needed for the production process are also an important factor; as many German companies have relocated production to third countries, these skills have been lost and the fear is that with it the distinctiveness of the products will be lost too. These technical skills include making shoes from scratch.

An example is one large German retailer that used buy in shoes from around the world. In the last 10 years, though, it has begun to design and develop its own collections and currently has its own last production facility in Pirmasens (due to lack of expertise in this area amongst suppliers; those in China, for example, tend to be good at copying designs but lack a 'European feel'). This retailer's staff now participates in training at ISC, which includes making a shoe from scratch.

4.4 Networks and Relationships to Businesses

Overall cooperation between stakeholders in the region is primarily organised via industry associations, trade unions and the training institutions.

The University of Applied Sciences co-operates closely with the International Shoe Competence Centre Pirmasens, which is located adjacent to the University. The ISC has a workshop with very modern shoe manufacturing equipment, which allows University students to get hands-on experience.

However in the view of the University, collaboration with other institutes can be difficult, due to incompatibilities in timing. For example, the Integrated Professional Study Programme in Shoe Technology caused problems because of the need to co-ordinate with enterprises and the Chamber of Industry and Commerce. The timings were incompatible – the plan was that students would spend two weeks in industry and two at the University, but this did not fit in with the timings of the standard University courses and so would have needed the University to set up separate courses for these students. This was not practical with the small numbers of students, as it would have been too expensive. The University is therefore developing an alternative approach (see Box 4.7)

Box 4.7: Example of Collaboration at the Pirmasens campus of the University of Kaiserslautern

The Pirmasens campus of the University of Kaiserslautern is now working to develop its own programme to combine standard university courses and flexible practical training (for example, this could be students spending one day a week with industry or working full time with industry over a short period to undertake a particular project).

It has approached some footwear companies to participate in such a programme and some (outside the region) have shown an interest. The Ministry of Education is keen to encourage joint courses at the moment. The University also collaborates with ISC to offer the practical element of the bachelor of engineering degree on shoe technology. The course requires six weeks practical training, which the ISC provides. Following this, students are certified to use machinery. The University covers the costs, but the link is more important for the image of ISC and for imparting expertise.

Source: Case Study Interview in Rheinland-Pfalz

The International Shoe Competence Centre works closely with industry; amongst its founders are the German Footwear Industry Association (HDS) and the Test and Research Institute for Footwear Production (PFI). The Centre has a number of industry partners and sponsors, including shoe manufacturers, equipment

manufacturers, suppliers (e.g. chemical and packaging companies). These relationships are not restricted to German firms, but rather are international (see Box 4.8).

Box 4.8: Example of Collaboration at the Professional School for Shoe Technology Pirmasens
Students of the Professional School have worked on projects with the industry, including ones with leading retailers who also manufacture their own brand shoes using local manufacturers. Cooperation is established both by means of the School actively searching for such opportunities as well as the School being approached by companies.
Source: Case Study Interview in Rheinland-Pfalz

The machine manufacturers that provide equipment for the school find collaboration with the ISC to be helpful, as it provides them a place to demonstrate how their machinery works in practice to potential customers. These manufacturers used to be able to take their customers to nearby assembly plants for such demonstrations but most of these plants have been closed down due to restructuring.

The Professional School also benefits from good working relationships with the ISC, though initially the ISC was not prepared to provide space for the School. Currently, space is rented from the ISC and machinery used by the school is also owned by the ISC, which has the advantage that the ISC is responsible for their maintenance.

The dual system provides a closely integrated system between enterprises and education institutions. Companies are involved in the practical training aspects of the curriculum and the Chamber for Industry and Commerce which sets the statutory training regulations. However this dual education system does more than just provide internship and technical skills to the students, it also interlinks the training needs of companies with the curricula of the classes and supports collaboration between stakeholders.

The system also has its weaknesses, however; one of these is that an economic downturn can limit the available training opportunities in industry, especially at smaller companies that might be more sensitive to the costs of trainees.

4.5 Use of Support Mechanisms

While there are examples of stakeholders utilising European Union financial support, these initiatives are not wide spread in the region. The ISC has participated in an EU project under the Leonardo da Vinci life-long learning programme, together with Slovenian/Italian and Portuguese partners. The programme funds practical projects in the field of vocational education. The project involving ISC developed a handbook on different aspects of footwear production and will provide training based on this (see Box 4.9).

Box 4.9: ISC Lifelong Learning Project on the Education of New Generation of Leather and Footwear Expert Profiles

The project seeks to educate experts who will contribute to the future success of footwear companies and focuses on added value areas of knowledge and expertise covering: (1) footwear technologist, (2) shoe and haberdashery designer, (3) last developer, (4) sole developer, (5) CAD expert for shoe and haberdashery computer modelling, (6) quality manager.

The project is led by the IRCUO technology centre in Slovenia and, beside ISC, its members are the Arpel Footwear School from Italy, University Tomas Bata from the Czech Republic and CTCP – Technical Centre for the Leather Industry, Portugal. The project has set ambitious benchmarks in terms of planned impact. It seeks to educate at least 15 young (age between 20 and 45 years) experts per profile, which means a total of 90 people, able to take over or improve the efficiency of their positions in the companies.

Source: Projects and products portal for Leonardo Da Vinci http://www.adam-europe.eu/adam/project/view.htm?prj=7665

In the view of the Federation of the German Footwear Industry (HDS), the European Union could play a greater role in helping to retain competence in shoe manufacture, through support to training centres.

One field in which the city council of Pirmasens would like to do more is in accessing EU funding and involving local benefactors (agencies, local and regional associations) to support future initiatives including the identification of opportunities and administrative support through the tendering process. The authority has sent staff to a Federal Government seminar giving guidance on EU funding availability to address this issue.

Local stakeholders have further suggestions as to what could be done to improve the current position of the industry in Pirmasens. One of them is the so-called employment guarantee, i.e. a guarantee to those who undergo training that they will be employed for a certain period (five years). Given the age structure of the current workforce and the large number of imminent retirements, it was noted that such a scheme would involve no risk for the guarantor.

Another idea is for the area of Pirmasens to become an educational centre in a similar way to Rosenheim, which hosts the Fachhochschule Holz (University of Applied Sciences for Wood), though stakeholders disagree on how to initiate this process. Another plan is to revitalise the trade fair held in Pirmasens, the 'Point of shoes' exhibition, which has seen declining attendance in recent years (see Box 4.10). The Centre decided to modify the date of the exhibition, which used to take place just after the trade fair in Bologna. Now the date of the next Point of Shoes exhibition has been changed and it takes place prior to the Bologna fair; it is hoped that this will improve visitor numbers.

Box 4.10: Point of Shoes Exhibition
The Point of Shoes is an exhibition organised by the International Shoe Competence Center Pirmasens. Each PoS show addresses a new Keynote Topic and offers relevant workshops and discussions to update professionals on the latest developments in the industry and thus help to maintain their competence. The Keynote Topic of the 2011 November show is "Ten Years into the Future – Global Scenarios for the European Shoe Industry 2021". Point of Shoes is the venue for fashion materials and components, as well as for technologies and services, for the footwear and leather industries. Yet it is far more than just a meeting place for exhibitors and show attendees: the PoS also aims to intensify communication between experts.
Source: http://www.point-of-shoes.com

4.6 Best Practices

The four main training organisations in the region have very well established and functioning relationships with each other, where they cooperate on training courses and share facilities.

The two biggest challenges for the footwear manufacturing sector in the region of Rheinland-Pfalz are the relocation of the companies to third countries and replacing the aging workforce (attracting young people).

Stakeholders have initiated a number of projects to attract young people into the industry, such as the 'Step up Shoes' campaign. Amongst the achievements of the initiative was an increased number of students taking up vocational training places which, as reported by the Federal Employment Agency in 2010, increased to 20 in 2011[47]. Following this success, the campaign is now being transferred to other regions within Germany.

This campaign is part of a larger, regional initiative called the Footwear Industry Roundtable, which was initiated in late 2010. Participants include local footwear companies, the Central Federation of the German Footwear Industry (Bundesverband der Schuhindustrie), ISC Germany, the Pirmasens Job Fair, the Chamber of Industry and Commerce and the Pirmasens School for Vocational Education.

Further projects of the roundtable include:

- regular meetings with local industry stakeholders to focus attention on vocational and career opportunities in the footwear industry;
- a fashion show at the Vocational Information Fair; and

[47] International Shoe Competence Centre (2011): **Jobs in the Footwear Industry**, Newsletter from 17 September 2011, downloaded from http://www.isc-germany.com/index.php?option=com_content&view=category&layout=blog&id=6&Itemid=4&lang=en&limitstart=3

- increased number of vocational training places (which has been achieved through the 'Step up Shoes' campaign, see above).

The Chamber of Industry and Commerce has also implemented other training initiatives (see Box 4.11).

Box 4.11: Training Initiative of the Chamber of Industry and Commerce

The Chamber of Industry and Commerce (IHK- Industrie – und Handelskammer für die Pfalz) has also developed other training initiatives in the sector. Together with a large European footwear wholesaler, it developed an e-learning platform called 'sales manager'. The course consists of 200 hours of online training and provides a store manager or regional sales manager certificate for those participating. This built on an existing IHK e-learning platform, which the company wished to access, so the two organisations cooperated on its development. The IHK would like to expand the platform to other sectors and other regions (the existing course in German but it was suggested that it may be useful to translate it into English).

Together with the ISC, the IHK is in the process organising a further education course leading to the qualification of a "Shoemaking Foreman" (Industriemeister Schuh), which is a new course that will start in 2012. The IHK stated that there are already 13 registrations for the course starting January 2012.

IHK is also involved in organising final exams for the practical aspects of vocational education courses organised by the Pirmasens School for Vocational Education.

Source: Case Study Interview in Rheinland-Pfalz
IHK Pfalz Wirtschaftsmanazin March 2011
http://www.pfalz.ihk24.de/linkableblob/1266194/.6./data/gesamt_ausgabe-data.pdf

The Professional School has also run several training programs that include practical skills and, while no internship is provided, students do work with the industry on specific projects.

4.7 Summary

The West Pfalz sub-region, in which Pirmasens and Zweibrücken are important centres, is characterised by medium-sized businesses and industries, including shoe-making. Pirmasens specialises in ladies shoes (Baden-Würtemburg is the centre for men's shoes).

Much of the footwear industry in Rheinland-Pfalz is centered around the city of Pirmasens, which has a long history of footwear manufacturing– focussing on women's shoes. The city is situated close to the border with France and has a population of around 40 000people.

Footwear manufacturing companies in the region have undergone major reorganisation processes in the last two decades and many have outsourced their production to countries offering cheaper labour thereby preserving their competitiveness. The number of footwear manufacturing enterprises in the city of

Pirmasens, which is the regional centre of the industry has reduced from 400 to around 15 to 20. In recent years the decline has continued and by 2011 the number employees has reduced from over 30 000 to around 1 600 in production, together with around 3 000 in administration. More information on the economy of the region and the restructuring processes that have taken place can be found in the Task 4 report of this study.

There are four main centres of education for footwear manufacturing in the region located at three premises, these are:

- Pirmasens School for Vocational Education (Berufsbildende Schule Pirmasens);
- German College of Footwear Design and Technology (Fachschule für Schuhtechnik);
- Pirmasens campus of the University of Applied Sciences, (Fachhochshule Kaiserslautern; and
- International Shoe Competence Centre Pirmasens (ISC).

The four education and training centres offer different types of footwear-related training. This includes traditional 'dual system' vocational training as well as the only national professional school for the sector. Apprenticeships have a long tradition in Germany and still play a prominent part within the dual system of the country. Tertiary education was introduced to the region via a state decision to locate part of the University of Applied Sciences in Pirmasens some 20 years.

The key skills in the industry are associated with commercialisation and sales. According to the International Shoe Competence Centre its courses for sales people, which include practical experience in shoe-making, are the most popular ones. Technical skills for the production process are also important; as many German companies have relocated production to third countries, these skills have been lost and the fear is that with it, the distinctiveness of the products will be lost too.

The training centres and other stakeholders cooperate closely with each other and have launched a number of initiatives to increase enhance the interest of young people, which include fashion shows and other industry events. These collaborations may offer opportunities in the future to involve retailers and distributors and increase the scope of the projects.

5. CASE STUDY: VENETO

5.1 Introduction

5.1.1 The Region of Veneto

The region of Veneto is located in the north-eastern part of Italy with its capital being Venice. Veneto is among the wealthiest, most developed and industrialised regions of Italy. With a surface area of 18,387 sq. km., it is the 8th largest region of Italy.

Veneto relies heavily on its approximately 140 000 artisan businesses. The structure of the Venetian economy is made up of small and medium-sized enterprises, which form a widespread web of business interests over the region (there are 446 000 business units) characterized by flexibility and quick response to the demands. The main production sector is manufacturing, represented by over 70 000 business units. This includes a vast number of production sectors, such as the:

- clothing, textile and footwear sector;
- metal engineering sector, which is the most important in terms of the number of companies and employees, and which has continued to expand so that over 24 000 firms are now involved; and
- woodworking and furniture sector, which includes 13 000 enterprises and represents a sector of considerable importance even on a national scale.

Footwear enterprises in the region produce an average of 115-120 million pairs of shoes annually with a turnover of more than US$ 1 500 million per year (86% of which comes from export)[48]. Regional distribution of the companies covers six of the seven provinces and every province has its characteristics. There are five shoe-making areas with different specialisations: the Riviera del Brenta (Venice and Padua), Montebelluna (Treviso), Rovigo, Verona and Vicenza.

- the Riviera del Brenta hosts approximately 600 companies specialised in the production of fine luxury shoes, belonging to the most important international fashion labels;

- Montebelluna is a world renowned cluster of sports shoes, ski boots, and comfort shoes with around 400 companies including Geox, Rollerblade, Lotto and Tecnica;

- the province of Rovigo province hosts approximately 100 companies that manufacture medium to high-end products, with 55% bound for export;

[48] Foreign Trade Centre of the Veneto Chambers of Commerce (2003): **Made in Veneto**, downloaded from http://www.centroesteroveneto.com/eng/made.html

- the province of Verona hosted large-scale manufacturing plants covering the middle segment of the market; much of the production has by now been outsourced, leaving just the design and marketing in the area; and

- in the province of Vicenza few companies have survived, with highly qualified personnel and the remaining companies maintained strong market positions.

The region is the top exporter of footwear in Italy, with over €2 billion worth of products being sold outside the country in 2010. As the table below indicates, 30% of all Italian footwear exports come from the region of Veneto.

Table 5.1: Italian Footwear Exports by Region and Share of the Total

	Exports (€ millions)		% Exports 2010	% change 2009-2010
Region	**2009**	**2010**		
Veneto	**1 836**	**2 046**	**29.5%**	**11.5%**
Tuscany	1 162	1 369	19.7%	17.8%
Marche	1 206	1 320	19.0%	9.4%
Lombardia	751	827	11.9%	10.1%
Emilia Romagna	407	448	6.5%	10.1%
Puglia	180	242	3.5%	34.3%
Piemonte	189	205	3.0%	8.3%
Campania	170	200	2.9%	17.5%
Others	240	273	3.9%	13.9%
Total Italian Exports	**6 142**	**6 930**	**100.0%**	**12.8%**

Source: ISTAT Coeweb (ANCI processing of 04/04/2011)

With regard to the provinces, Treviso, which includes the area of Montebelluna – is the highest exporter, accounting for almost 43% of all exports in Veneto. The provinces of Venice and Padua, both of which include manufacturers around the Riviera del Brenta, are third and fourth on the list with 16% and 14% of all exports.

Table 5.2: Veneto Footwear Exports by Province in Value (€ millions)

Provinces of Veneto	**2009**	**2010**	**% Change 09/10**	**% of total exports 2010**
Treviso	821	875	6.6%	42.8%
Verona	337	375	11.2%	18.3%
Venezia	295	334	13.4%	16.3%
Padova	246	283	15.1%	13.8%
Vicenza	112	142	27.4%	7.0%
Rovigo	24	35	45.8%	1.7%
Belluno	1	1	5.6%	0.1%
Total	**1 836**	**2 046**	**11.5%**	100.0%

Source: Italian foreign trade in value for REGION AND PROVINCE Shoes & Parts of footwear, ISTAT Coeweb (ANCI processing of 04/04/2011)

As the footwear manufacturing industry is an important part of the regional economy, training and education of the workers are also seen as an important aspect of future development. The Politecnico Calzaturiero is the centre of training for the industry in the region and is located just outside Padua, in the area of the Riviera del Brenta.

5.1.2 Background on the Footwear Industry

Out of the five former industrial clusters of the regions, only three have managed to maintain their positions as an industrial cluster. The three main footwear manufacturing clusters in the region are specialised in production for different sub-sectors in the industry. While the Riviera del Brenta is a hub for luxury footwear manufacturers, the enterprises in Montebelluna specialise in the outdoor and ski boots sector and the Verona area is focused on medium price ranged products. Details of the three production clusters of the region are presented in Table 5.3.

Table 5.3: Main Footwear Manufacturing Clusters in the Region of Veneto

Clusters	Geographical Area	Type of products	Number of Companies	Number of Employees
Riviera del Brenta	11 communes along the Riviera del Brenta, eight of which are in the province of Venice and three in the province of Padua	High-price ranged, luxury footwear	600	11 000
Montebelluna	16 communes surrounding the town of Montebelluna, in the province of Treviso	Football, cycling, basket, tennis and athletics, cross-country race, snow-board, after-ski boots and ice skates	400	9 000
Collina Veronese	11 communes, all based in the province of Verona	Medium price ranged footwear products	500	5 000

Source: Union of Chambers of Commerce Veneto, EIC Veneto and Region of Venice official site information available at: http://www.distrettidelveneto.it/index.php?option=com_content&task=blogsection&id=21&Itemid=175

As there are a variety of stakeholders representing different subsectors in the region, interaction between them and their supply chains has become a significant factor behind the success of products. Smaller companies have recently been at a disadvantage in developing to successful marketing strategies, as they can be less visible and less easily identifiable by the final consumer. The current environment in footwear manufacturing in the region can be summarised by:

- production split between manufacturing own brands and working for large fashion labels;
- development of more specific marketing strategies and faster production cycles, with decline in the significance of seasonal fashion in favour of a ranges that

develop throughout the year and are governed by specific marketing strategies;

- increasing use of new technology such as CAD/CAM and Internet communication leading to improved communication between the supply chain; and

- internationalisation of businesses, with outsourcing limited mainly to areas of the Verona and Montebelluna districts and to the production process. Design and marketing have remained in the area.

The region has maintained strong representation for the manufacturers at the national and global scale, via industry associations such as ACRIB (the regional association for footwear manufacturers in the Riviera del Brenta). Links amongst companies have also remained strong, ensuring continuity of collaboration with local suppliers.

5.1.3 Background on the Footwear Training Institute

The key training and educational centre in the region is the Politecnico Calzaturiero located in the town of Stra just outside of Padua. The institute was founded in 1923 under the name Scuola Festiva per Artigiani di O. Tombolan Fava. At this time, shortly after the First World War, the school was created to support the needs of a newly booming industrial economy, when companies in the region moved from agricultural to industrial production.

Industrialisation of the footwear industry was introduced by Giovanni Luigi, an Italian expatriate who had brought modern manufacturing technology from the United States upon his return to Italy and opened his first factories in the town of Stra. The Politecnico gradually developed following the changes brought along by the industrial development after the Second World War. In 1976 a reorganisation of traditional footwear manufacturing courses and the introduction of new design courses took place with the foundation of the Consorzio Maestri Calzaturieri.

A decade later, in 1986, new management and technology courses were launched that included courses on the use of CAD. Finally, in 2001 the school changed its name to Politecnico Calzaturiero and established its main objective as supporting the growth and development of the Venetian Footwear Industry.

The school has continued to evolve and grow alongside the regional industry and in 2010 it had over 800 students and 108 teachers, with classes divided into 29 projects over 109 courses (including degree and specialisation courses as well as high-school education). The strategic objectives of the Politecnico Calzaturiero remained the support of the regional footwear industry, developing research initiatives and technology transfer systems as well as enhancing training activities and services to support the maintenance of quality.

While the school has developed good relationships with tertiary education centres as well research institutes all over the world, its base in the area of the Riviera del Brenta provides an important connection to the surrounding industry (see Box 5.1). The area has close to 600 companies most of which are SMEs that employ altogether

approximately 11.000 workers and produce nearly 20 million pairs of shoes with a production value of €1.6 billion.

Box 5.1: The Importance of Training Collaboration for Regional Enterprises

The appearance of the large brands in the area of the Riviera del Brenta has contributed to the stabilisation of the industry in the region. One family owned manufacturing company which was established nearly 30 years ago manufactures 70% of its products for large brands while the remaining capacity is directed to their own brand.

The company works in close collaboration with the Politecnico, with 30% of the staff receiving some form of training and all of their designers (five people) coming from the school. Special focus is given to employee training on IT and the use of the CAD/CAM.

Source: Case Study Interview Veneto

The footwear design courses organised by the Politecnico have contributed significantly to the success of the industry, as many of the Italian footwear designers have graduated from this institute. Further information on the type and number of courses as well as overall data on education can be found under section 5.3.1.

5.2 Evolution of Employment in the Footwear Sector

The footwear manufacturing industry in the region has undergone several changes in the past couple of decades. The types of reorganisations that had taken place differ in the individual industrial clusters, due to the high degree of specialisation in the region. These changes are explored in more detail in the Task 4 report. As Table 5.4 shows, there has been a continuous reduction in employment in the region, with a 3% drop in 2009, the most significant decline over the last five years. The reduction of employment has been slowing down and by 2011 stabilised at around 1% overall.

Table 5.4: Change (%) in employment in the Textile and Footwear sector in Veneto

	2007	2008	2009	2010	2011
Micro enterprises	-2.5	-1.9	-2.3	-1.9	-1.0
Small and medium enterprises	-2.7	-1.1	-3.1	-1.9	-1.0
Total	-2.7	-1.2	-3.0	-1.9	-1.0

Source: Veneto Congiuntura http://www.venetocongiuntura.it/it/topind/2011/2d-trim-2011-ind.html
**all data refer to the second trimester*

In the Montebelluna district (within the Province of Treviso) the restructuring process was dominated by multinational groups acquiring historic local brands and local companies buying foreign brands. For instance, the Italian Tecnica company (leader in the manufacturing of ski boots, moonboots, trekking and winter footwear and in line skates) acquired the enterprises of Asolo (trekking shoes and hiking boots) and Nordica (ski boots and accessories) from Benetton, the Italian Think Pink sportswear manufacture and the German Lowa (trekking shoes, hiking and winter boots). The French Rossignol bought the ski boots manufacturing Lange and Caber. The Dutch-Austrian Head-Tyrolia-Mares group (leading manufacturer of tennis racquets, alpine

skis and snowboards, ski bindings and diving equipment) merged with Brixia embodying the historical brands Munari (ski boots) and San Marco (trekking shoes). Further information on the restructuring and modernisation that had taken place in the footwear sector of the region can be found in Task 4 report of the study.

The internationalisation process began in the area in the 1990s, with parts of the production and especially the low end products moved to East Europe and Asia (see Box 5.2). The relocation of production is explained partially by the lack of skilled workers and the high labour costs; the industry is responding by involving a higher number of migrant workers in the production process.

Box 5.2: Example of Employment Changes

One medium sized company in the district of Montebelluna has been designing, manufacturing and selling trekking and outdoor shoes (trekking boots 35%, ski boots 65%). The company started out with 6 people but currently has 60 workers in Italy, 90 people working in their factory in the Czech Republic and 150 in Romania.

The Romanian factory was bought 10 years ago, while the one in the Czech Republic opened in 1994; it originally started out as a production facility for uppers. The Czech factory has now evolved and carries out a complete manufacturing process.

The company produces 650 000 pairs of shoes per year with an average retail price of €90. Out of this, 350 000 are produced in two factories in Romania and 150 000 are produced in the Czech Republic. The enterprise has grown in recent years, recording an average 30% growth, which had shrunk to 15% in 2011. It has a turnover of €25 million and the strategy is on maintaining the quality or the products rather than increasing growth.

The reasons behind the relocation and foreign expansions were that the company needed to grow and not enough skilled personnel were available in Italy. Also, the management found that administratively it was easier to open new factories in Romania and the Czech Republic than in Italy.

Source: Case Study Interview Veneto

In the area of the Riviera del Brenta, the entry of the major fashion labels into the footwear market during the 1990s transformed the sector from own brand production to contractual work for luxury labels. At that time the domestic market had become saturated and, due to the exchange rate crisis, companies had difficulties maintaining their Northern-European and overseas market positions. As a consequence, the enterprises had welcomed the emergence of labels that provided a steady rate of orders and ensured predictability in their operations.

In both cases the transformation of the industry had impacted on employment in the region. Jobs had not been lost to a great extent, even though some companies went out of business, as skilled workers were absorbed by other enterprises in the region. An additional impact on employment arose from the emergence of new technologies such as 2D and 3D CAD systems, which became part of the design process, while software based management systems as well as the use of communication and social media tools have become an essential part of marketing and brand development.

Companies in the region have experienced a loss of interest from young people, which is ultimately one of the reasons for the skill shortage, and it is the emergence of communication and other technology tools that are expected to reinvigorate their interest. On the part of the educational institute, however, a certain amount of gender shift had been noted, especially in connection with the technical courses which are mostly attended by men.

It has been pointed out that students who start the courses usually finish them and, due to the high need for skilled workers, they are likely to find employment immediately.

5.3 Education and Training in Veneto

5.3.1 Number of People in Education and Training

The total number students involved in upper or post-secondary, but non-tertiary, education in the region is close to the national average. In most of the Italian regions, over 45% of pupils between the ages of 15 to 24 attend some sort of a training course outside of the university system (see Table 5.5).

Table 5.5: Pupils and Students in Upper Secondary and Post-secondary Non-tertiary Education in all Subjects as % of the Population aged 15-24 years at Regional Level

	2005	2006	2007	2008	2009
Italy	**45.3**	**46.5**	**47.2**	**47.3**	**46.9**
Piemonte	46.7	:	48.5	47.1	47.7
Valle d'Aosta/Vallée d'Aoste	47.1	:	51.9	46.0	44.0
Liguria	46.9	:	49.1	61.6	47.9
Lombardia	42.4	:	45.1	45.4	45.1
Provincia Autonoma Bolzano/Bozen	38.4	:	44.2	44.8	44.1
Provincia Autonoma Trento	46.4	:	49.3	49.5	50.6
Veneto	**44.7**	**:**	**49.4**	**49.2**	**49.0**
Friuli-Venezia Giulia	49.4	:	50.8	55.2	49.1
Emilia-Romagna	46.8	:	48.6	50.9	48.5
Toscana	48.2	:	47.9	48.1	47.0
Umbria	46.6	:	47.4	49.8	46.3
Marche	46.3	:	48.9	48.7	48.1
Lazio	47.2	:	48.1	48.6	47.6
Abruzzo	45.8	:	47.2	48.1	47.0
Molise	46.5	:	48.2	47.9	47.5
Campania	44.7	:	45.7	46.8	45.7
Puglia	43.3	:	46.3	50.3	47.5
Basilicata	49.2	:	50.4	50.9	50.4
Calabria	45.3	:	47.2	46.0	45.1
Sicilia	46.1	:	46.7	46.5	46.0
Sardegna	45.9	:	47.3	47.1	46.5

Table 5.5: Pupils and Students in Upper Secondary and Post-secondary Non-tertiary Education in all Subjects as % of the Population aged 15-24 years at Regional Level
Source: Eurostat Education and Training EU Regions, Regional indicators [educ_regind]

Data from Eurostat shows that 6% of the population aged 25 to 64 in the region of Veneto participate in education and training programs (see Table 5.6). While this number is well below the EU 27 average of 9.1%, it is close to the average amongst the regions in Italy.

Table 5.6: % of Adults aged 25-64 Participating in Education and Training, on all Subjects in Italy by Regions			
	2008	**2009**	**2010**
Italy	**6.3**	**6.0**	**6.2**
Piemonte	5.1	5.1	6.2
Valle d'Aosta/Vallée d'Aoste	5.0	:	:
Liguria	7.0	7.4	6.8
Lombardia	6.0	5.8	6.2
Provincia Autonoma Bolzano/Bozen	7.2	7.7	7.4
Provincia Autonoma Trento	9.0	8.9	8.3
Veneto	**6.6**	**6.1**	**5.9**
Friuli-Venezia Giulia	7.4	7.1	8.2
Emilia-Romagna	6.7	7.0	6.8
Toscana	6.8	6.8	7.2
Umbria	7.7	7.3	7.3
Marche	5.5	4.6	4.6
Lazio	8.2	7.4	7.2
Abruzzo	7.0	5.6	6.3
Molise	7.3	7.0	6.5
Campania	5.2	5.0	5.6
Puglia	5.7	5.1	5.2
Basilicata	6.9	6.2	5.8
Calabria	6.3	6.2	5.6
Sicilia	5.2	4.9	4.7
Sardegna	7.6	6.5	7.2
Source: Eurostat Regional Education Statistics trng_lfse_04]			

5.3.2 Footwear Training Facilities

The Politecnico Calzaturiero runs a variety of footwear-related courses at both the secondary as well as the tertiary level. Moreover, the school organises visits for primary school students to introduce them to the idea of footwear manufacturing.

Altogether there are 50 courses listed in the prospectus of the school for 2010/2011, which include specialist, vocational and degree courses. Apprenticeships are also an important element of education and are typically offered for the courses. There are

courses aimed at full-time students as well as workers currently active in the sector and unemployed people (include additional skills or re-qualification). For the school term of 2011/2012 the Politecnico has begun its first year as a high school, with 25 pupils enrolling.

Furthermore, Masters courses on footwear design and marketing are run in collaboration with the Polidesign centre of the Politecnico di Milano while two other postgraduate courses, in the fields of collection coordinator and production manager, are held at the Politecnico. More information on the training courses offered at the Politecnico Calzaturiero can be found in Table 5.7.

Table 5.7: Footwear Related Courses at the Politecnico Calzaturiero

Type of Course	Length	Number of students	Tuition Fees Paid by Students	Additional Funding
Specialist courses	2 400 hours	60-70 per year	€ 1 650- €1 800	Government support
Masters courses	700-1 000 hours	NA	€ 3 000- €11 000	Grants from industry are available
Courses for Unemployed people	100-900 hours	60 per year	-	100% Government funded
Short Training Courses	66 hours	*2 000	€ 1 000	N.A.
High School Course	4 years	25	-	Government funded

Source: Case Study Interview Veneto
** An approximate number of people participating in such courses since its introduction*

Within the specialist courses, the Politecnico runs classes on the following thematic areas:

- design;
- industrialisation;
- marketing and sales management;
- CAD 3D; and
- business administration.

The specialisation courses target students with very different background. They can be offered as basic courses for students or unemployed people coming from outside the sector or as advanced courses for experienced professionals who are looking to add specific new skills. The basic courses require good manual dexterity and an aptitude for drawing, design and technical matters. The advanced courses generally require prior qualification as a designer or technician or experience working in companies or design studios having acquired the basic skills. Specialist training courses are held either during the evenings on weekdays or at the week-ends.

The average intake of the school is 100 to 150 students for its design courses – including degree and short courses - -each year, while an additional 60-70 people

participate in the specialisation courses. More information on the design courses is presented in box 5.3 below.

Box 5.3: Courses for Footwear Designers, Model makers and Technicians at the Politecnico Calzaturiero

The Politecnico has been providing diploma courses for designers since its founding in 1923. The basic courses last for two years (240 hours per year) and are divided into three sections: women, men and sports/technical shoes. The specialisations courses last for one year (240 hours per year) and are also divided into three sections: creative model maker (designer), technical model maker (engineering manager) and collection coordinator (designing a collection and managing production).

Courses for technicians include new technology courses such as CAD/CAM, computer graphics and computer systems. These courses are characterised by the use of up-to-date IT systems for designing shoe models as well as for managing data and images.

Source: Case Study Interview Veneto

As the success of the footwear manufacturing companies of the region guarantees work, people often join for re-qualification courses, short courses on IT, CAD/CAM etc. Since the start of the courses to 2011, around 2 000 people have participated in such courses.

Requalification has become increasingly important in the region as external workers join the sector. There is an on-going need for skilled workers in the industry which is highlighted by the employment figures. Although the numbers employed in the region fell significantly between 2001 when an estimated 22 000 people worked in the sector in the region, to 10 000 to 12 000 in recent years as production has been on the rise again and the need for skilled workers is reappearing. Additionally young people have increasingly been turning away from the industry which had lost some of its appeal against the high-tech companies.

Courses for unemployed people are funded by the government. The majority of the participants are expected to find work primarily to cover high season skill shortages at the factories. Approximately 60 people participate in these courses per year. Classes include laboratory training exercises that emphasize the practicalities of everyday work. Competence development is an important area of the Politecnico's work and this is one portion to which SMEs - that make up the majority of the industry in the region - are very sensitive to. The aim of the courses is to provide students with skills that can not only be used but further developed at the workplace and eventually benefit the companies. The process for the students and the companies is a mutually beneficial one that results in an increase of efficiency and competitiveness.

Apart from the training and educational content offered at the Politecnico di Calzaturiero, companies also provide in-house training. The types of training offered at the companies can be different depending on the sub-sector of their operation. Companies manufacturing high-price ranged fashion shoes are more likely to focus on training for IT as well as CAD/CAM technology. In other sectors where research and

development is more important, as in the cases of sports shoes or shoes with a specially patented technology, the focus of training can be more diverse.

An example of this is a multinational company, which runs an extensive training programme for its employees all over the world. The content ranges from sales techniques to IT and language courses (see Box 5.4).

Box 5.4: In-House Training in Veneto

The additional element of staff training is important to this multinational company based in the area of Montebelluna; this is mainly aimed at retail personnel through both direct and E-learning.

The company school was founded in 2002, driven by the belief that in-house training is of paramount importance for the development of an enterprise and that the success of an industrial group is based mainly on the skills of its workers. For this, the company organizes annual Masters courses in order to select future employees which provide the theoretical and practical tools to better manage their profession.

A variety of training courses is offered to fit the different level of operation; a store manager can receive training on HR, cash flow, organization, leadership, logistics and public speaking which culminates in a Masters award, whereas non-management personnel can be trained on product information and selling techniques. This approach has been used in Italy and was planned to be rolled out in France later in 2011 and Germany in 2012.

The company also offers placements, for up to 10 talented young people, from universities or schools of the sector. The course merges training on the job experience- during which specific lectures are interspersed with practical experience of project management work under the supervision of a tutor who supports the student throughout the course of their study. The highest achievers are selected for permanent positions with the company.

At the conclusion of the initiative, tutors and a special commission of the company verifies the performance of the training and projects. The training program is open to graduates in Economics and Communication Sciences from the Institute Graphic Designer or the European Institute of Design in Milan. The total duration of the training period is two months, while the work location will be the headquarters of the company in Montebelluna.

Source: Case Study Interview Veneto

5.3.3 Key Skills

Regarding the future skills needs of enterprises, generally, business and HR planning does not feature prominently within the management of smaller, family businesses in the sector. These companies tend to rely on informal communications rather than formalised reports or business plans. At the same time larger, multinational companies do engage in thorough planning of their activities, including human resources.

Retaining the distinctiveness of Italian design is one of the most important factors for the industry in the region. Therefore a lot of emphasis is placed on providing high quality education and training for future designers. This involves close industry collaboration and participation in competitions and exhibitions.

Additionally, preserving the technical skills is essential, especially for the luxury and the fashion shoe sector. These sub-sectors rely on manual work in all production processes and the loss of stitching techniques, for example, can significantly influence the manufacturing processes. Some of these techniques can be learnt on the job and are passed on from generation to generation, others are taught in education and training institutes such as the Politecnico Calzaturiero.

In addition, manufacturing companies generally require an increasing number of staff for administration and communication. Customer service staff are also needed for maintaining contact with buyers and retailers as well as customers through the internet.

5.4 Networks and Relationships with Businesses

In order to adapt to the changing requirements of the footwear manufacturing industry, the Politecnico is closely involved with industry representatives from the region as well as with a number of other education and research centres. Collaboration with industry includes the participation of industry specialists and entrepreneurs in training programs as lecturers, as well as the possibility for students to receive grants and internship at local companies. The school covers approximately 20% of its annual budget from private funding. This co-operation is beneficial for the education institute, as it receives direct information on the skill needs of the industry.

These collaborations can also be beneficial for the local industry, as the current trend in internationalisation requires companies to maintain an up-to-date knowledge on management techniques – including marketing, design, production - and to create a flexible organizational structure.

In line with technological developments, the curriculum of the school had been placing more emphasis on the use of communication tools, including social networking sites such as *Facebook* and *Twitter*, for real-time communication with buyers, retailers as well as customers through the internet has become crucial. The use of social media sites are important for maintaining customer base as well as for attracting young people to the industry who tend to think of the sector as outdated.

Additionally, utilising the public relations potential of the interactive platforms including those created by the extended use of smart phones is increasing in importance for the manufacturing companies as they seek to extend their market reach and especially when selling customised design products. The importance of the use of the internet and interactive communication with customers and retailers has also been highlighted in Task 3 report of our study.

Besides education and training the Politecnico offers a range of services to its collaborating industrial partners that include:

- laboratory services for shoe factories;
- research on new materials;

- quality system certification;
- environmental analysis for shoe factories; and
- safety manager training.

The school also participates in research projects aimed at product, process innovation, testing and dissemination of new technologies. Moreover it has two facilities to support its research: within its quality laboratory the school services on quality assurance and testing while the rapid prototyping laboratory is used for developing prototypes for heels, soles and lasts.

The use of the laboratories extends beyond research, as the Politecnico incorporates laboratory training within the course activities. Competence development is an important area of the school's education profile and this is one are to which SMEs, which make up the majority of the industry, are very sensitive.

The aim of the training courses is to provide students with skills that can be further developed at the workplace and eventually benefit the companies. The process for the students and the companies is to mutually benefit each other to increase efficiency and competitiveness.

Collaborations with enterprises in and outside the region are also of key importance for the Politecnico. These partnerships can benefit the schools by attracting students via offering internships and work placements and at the same time can provide an opportunity to maintain a curriculum that is in line with the industry requirements.

Establishing productive relationships between universities is equally as important as the involvement of the industry. These partnerships can increase the prestige and influence of the training institutes, provide new ideas and at the same time increase the visibility of work. The Politecnico has built up an extensive network to support its educational activities that include collaborations with:

- Politecnico di Milano (Polidesign);
- University of Padova;
- University of Venice;
- IUAV Institute of Architecture, Venice; and
- Parsons School of Design, New York.

Box 5.5 gives examples of inter-institutional collaboration.

Box 5.5: Examples of Inter-Institutional Collaborations

The Design course of the Politecnico is carried out in collaboration with the **Polidesign School of Milan**. The course takes 15-22 students per year and the tuition fees are €11 000 (this includes a three month internship placement). The course includes lectures, workshops and the design of a prototype. The workshops take place in Milan.

Collaborations with businesses include a design contest jointly organised with the chemical manufacturer **BASF**. The Footwear Design Contest took place for the fourth time in 2011 to reward the best and most attractive designs by students of Politecnico Calzaturiero. The aim of this collaboration is to disseminate knowledge among the new generation of designers on the use of polyurethane. In 2011 students were competing in sneaker designs using polyurethane soles. The first prize is a €500 scholarship.

Box 5.5: Examples of Inter-Institutional Collaborations
Cooperation between the Politecnico Calzaturiero and the **Parsons School of Design in New York** has resulted in a number of collaborations that included the showcasing of the designs of Politecnico students at a New York Charity event. Graphic designs created by Parsons students were transformed into 48 prototypes by students of the Politecnico Calzaturiero.
Source: Case Study Interviews Veneto

Knowledge transfer is one of the most important outcomes of these collaborative processes. Institutes such as the Politecnico, which mix teaching and research, can preserve and disseminate knowledge and at the same time initiate new lines of activities via research. Preservation and dissemination of knowledge is a key importance for the footwear manufacturing sector of that area as it relies heavily on manual labour and fashion design.

5.5 Use of Support Mechanisms

There are both national and EU level support mechanisms available for stakeholders to develop competences and invest in training. The Politecnico Calzaturiero has received financial support from the European Social Fund through the Ministry of Labour for a project supporting the recognition, validation and certification of skills.

The main aim of the project is to develop skills adaptable to the expectations of a highly competitive market environment. The project intends to formalize a methodology behind the artisanship of the production process, and to identify best practices with regard to the individual steps in manufacturing and creating/mapping out a pattern (see Box 5.6). With this technique, a more thorough certification system can emerge, building on the best techniques used.

Box 5.6: Use of EU Support
The Politecnico Calzaturiero has been participating in the consortium for the IDEAFOOT project, funded through the 7th EU Framework Programme for Research and Technological Development. The project, which finished at the end of 2010, had a budget of €1.5 million spread amongst nine partners from three EU countries. The IDEAFOOT project addresses European SMEs working in the footwear industry and in particular in the market segment of classical and casual shoes. Increasing competition is requiring companies to reduce time to market and at the same time to increase product diversification, with small batch production while maintaining the high fashion and quality content of the product. Therefore the main objectives of the project were: • standardization of certain geometrical features of shoe components according to industry requirements; • the development of CAD software modules to assist the design of components according to the standards; • the development of a CAM software which transfers the production parameters from the CAD models to the production machineries; and • the development of an automated production cell, where the material handling is done by manipulators and the machines are compliant with the developed CAM software.
Source: Case Study Interview Veneto

5.6 Best Practices

Close collaboration between the Politecnico Calzaturiero and other regional stakeholders is crucial for maintaining an up-to-date curriculum that takes into consideration the best available technology and the limitations and necessities of the regional industry.

Education-research-industry relationships are vital for the exchange of information outside the classroom as well. Companies often engage in training of employees in-house while implementing technological innovations. However, in some subsectors such as fashion footwear, it is not the use of the latest invention but rather retaining the skills that is important.

Box 5.7 below presents two different examples of approaches to meet the training needs of the region.

Box 5.7: Examples of Training to Meet Different Skill Needs

An Italian multinational company runs its own in-house training school. The element of staff training is important to the company and is mainly aimed at retail personnel through both direct and E-learning. Training of the staff varies with the level of personnel – for example, a store manager will receive training on HR, cash flow management, organization, leadership, logistics and public speaking, whereas non-management personnel will be trained on product information and selling techniques. This approach has been used in Italy was planned to be rolled out in France later in 2011 and Germany in 2012.	The Politecnico recently held a training course for a US multinational company on the know-how of Strobel stitching. The Strobel-stitched method (or sew in sock) is one of many force lasting techniques. The upper is sewn directly to a sock by means of an overlooking machine (Strobel stitcher). The upper is then pulled (force lasted) onto a last or moulding foot. Unit soles with raised walls or moulded soles are attached to completely cover the seam. This is a skill that has been dying out; however, the school has managed to find an elderly woman who could show how it is done without machines. (Processes such as stitching have now become industrialised).

Source: Case Study Interview Veneto

The future of the enterprises in the region depends to a large extent on whether or not they will be able to connect R&D and training to achieve continuous development in line with the trends and the expectation of the consumers.

According to the latest available figures of Eurostat (for 2009) 23.7%[49] of all tertiary students in Italy attended courses on science, mathematics, computing, engineering, manufacturing, construction while only 15.4% attended courses on humanities and arts. The aim of the Politecnico is to serve as a bridge between the theoretical education content presented in classes and the practicalities expected by the industry

[49] Eurostat (2012): **Education and Training Database**- indicators on tertiary education participation, downloaded from http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database

creating a more technical culture this is achieved by integrating elements of practical training into the curricula (via apprenticeships) as well as by involving industry stakeholders as guest lecturers.

5.7 Summary

The region of Veneto is an important centre for footwear manufacturing within Italy. Footwear enterprises in the region manufacture an average of 115-120 million pairs of shoes annually, with a turnover of more than US$ 1 500 million per year (86% of which comes from export)[50]. There are five shoe-making areas with different specialisation: the Riviera del Brenta (Venice and Padua), Montebelluna (Treviso), Rovigo, Verona and Vicenza.

The key training and educational centre in the region is the Politecnico Calzaturiero located in the town of Stra just outside of Padua. The school has continued to evolve and grow alongside the regional industry and in 2010 it had over 800 students and 108 teachers, with classes divided into 29 projects over 109 courses.

The footwear manufacturing industry in the region has undergone several changes in the past couple of decades. The types of reorganisations that had taken place differ in the individual industrial clusters due to the high degree of specialisation in the region. In all cases the transformation of the industry has impacted on employment in the region. Jobs have not been lost to a great extent; as some companies have gone out of business, skilled workers were absorbed by other enterprises in the region.

An additional impact on employment had resulted from the emergence of new technologies, as 2D and 3D CAD systems have become part of the design process while software based management systems as well as the use of communication and social media tools have become an essential part of marketing and brand development.

Companies in the region have experienced a loss of interest from young people but the emergence of communication and other technology tools that are expected to reinvigorate their interest. On the side of the Politecnico Calzaturiero, however, a certain amount of gender specificity has also been noted, especially in technical courses which are mostly attended by men.

Retaining the distinctiveness of Italian design is one of the most important factors for the industry in the region. Therefore a lot of emphasis is placed by the Politecnico Calzaturiero on providing high quality education and training for future designers. This involves close industry collaboration and participation in competitions and exhibitions.

[50] Foreign Trade Centre of the Veneto Chambers of Commerce (2003): **Made in Veneto**, downloaded from http://www.centroesteroveneto.com/eng/made.html

Preserving technical skills is also essential, especially for the luxury and the fashion shoe sector which relies on manual work in almost all production processes. In order to adapt to the changing requirements of the footwear manufacturing industry, the Politecnico is closely involved with industry representatives from the region as well as with a number of other education and research centres. These collaborations can also prove to be beneficial for the local industry as the current trend in internationalisation requires companies to maintain an up-to-date knowledge on management techniques – including marketing, design and production - and to create a flexible organizational structure.

6. CHANGES IN TRAINING AND EDUCATION IN THE FOOTWEAR SECTOR

6.1 Introduction

Training and education within the footwear sector plays an essential role as manufacturing companies look to strengthen their position in European and other markets. Over the past ten years, the industry has seen an increasing number of companies relocate their production capacity to countries offering cheaper labour costs, mostly in Asia and at times to eastern Europe. This has not just been characteristic of European companies; by 2010 over 62% of the world's footwear production was concentrated in China. Other Asian countries such as India, Pakistan, Indonesia and Thailand were also among the top ten producers, accounting for an additional 20% of the total[51].

The restructuring process of recent years had an overall impact on all subsectors resulting in a reduction in the number of companies which in turn has signified an important loss of skills. While production facilities were moved, the base for commercialisation, marketing and design has remained in Europe. This has allowed the potential and skills related to these areas to be retained and disseminated. Further information on the impacts of restructuring and modernisation on the industry can be found in Task 4 report of this study.

Education and training within the sector has been impacted to a varying degree by the restructuring and modernisation that has taken place in the different sub-sectors. In both formal and informal employment, vocational and on-the-job training are an important part of education. This is one area that has been impacted by the reduction in manufacturing in Europe. Indeed, it appears that the less significant an industry becomes in terms of production capacity, the less emphasis the education and training system will put on related courses.

The number of training institutes in the Western European countries has remained unchanged. However, during our visit to Romania for a Task 3 of this study (focusing on the state of small and medium sized enterprises), it was notable that while the footwear production in the county of Timis has expanded due to the influx of (mainly) Italian manufacturers, there were no training institutes and few training programs available. Similarly in Southern Poland, while the manufacturing sector is still present in the region of Silesia, training and education is provided by institutes in the neighbouring Malopolska region.

The industry in Veneto represents a very different picture. The region houses the Politecnico Calzaturiero, an education institute located in the centre of an industrial district with a wide array of national and international relationships, as well as close ties to the industry. The possibilities provided there and the nature of the sub-sector

[51] APICCAPS (2011): **World Footwear 2011 Yearbook,** Portuguese Footwear, Components & Leather Goods Manufacturers' Association.

of high-end fashion shoes – which requires a continuous supply of workers - enable students to find job placement immediately after finishing the courses.

The German region of Rheinland-Pfalz has four training and education centres with close ties to one another while the range of courses offered by the centres is very diverse.

6.2 Changes in Employment Structure in the Case Study Regions

Employment in the footwear sector of the case study regions was heavily impacted by the economic changes that the countries underwent during the 1990s. Following the regime change, Poland has shifted to a market economy and moved to eliminate state subsidies as well as artificially low prices. Southern Poland has become an attractive place for investors, especially those looking for cheap but skilled labour force.

Countries with a strong presence in the footwear manufacturing sector, such as Italy and Germany, were pressured to seek ways to maintain their competitiveness in the face of increased competition. Relocating their production facilities to lower labour cost countries European countries, such as the Czech Republic and Romania, was one of the options. This had an impact on employment in both countries. On the other hand, countries that received foreign direct investment in the form of outsourced production were able to provide employment for both skilled and unskilled workers.

In the Venetian province of Treviso, housing the industrial cluster of Montebelluna, where many of the mountain-, ski boot and sports shoes manufacturers are located, high Italian labour costs – as part of the cost competitiveness strategy of the enterprises - were mentioned as a driving factor behind the relocation of the production facilities.

In both Italy and Germany stakeholders are experiencing difficulties in recruiting young people, which could contribute to future skill shortages. The industry is not appealing to young people as it is considered old-fashioned and workplace conditions and wages are not competitive with more high-tech industries. In order to make the industry more appealing to the new generation, education institutes as well as enterprises are putting emphasis on fashion aspects, communication and other technology tools.

Additional elements of restructuring in the case study regions have included takeovers as well as contractual work for luxury fashion labels. A number of acquisitions have been undertaken in Veneto, including foreign companies buying up Italian firms and Italian manufacturing enterprises expanding by acquiring stakes in foreign companies. Acquisitions of Italian companies by foreign firms did not have a major impact on employment levels; similarly, the expansion of Italian companies outside of Italy meant that production (and thus turnover) increased but this did not bring about a rise in employment.

Contractual work for luxury fashion labels, on the other hand, prevented the loss of employment in the sector. The luxury footwear sector has been less impacted by the economic crises, so that even during the last couple of years enterprises undertaking contract works in the region of Veneto have been able to expand. The constant level of demand provided for a stable production capacity and a continuous need for new employees, which had contributed to the successful job placement of students studying at the Politecnico. Consequently this has meant that training courses focussing on technical skills such as stitching remained important for the local industry. The driving factor behind the development of the high-end market in the region has been the long manufacturing traditions and the perception of quality of the "made in Italy brand".

6.3 The Footwear Training Institutes

The three case study regions show a very diverse picture in terms of the availability of footwear education and training institutes. Training and education in Veneto is provided by the Politecnico Calzaturiero, an institute deeply imbedded into the regional manufacturing sector with excellent relationships to national and international stakeholders.

The German region of Rheinland-Pfalz presents an interesting comparison. While the German footwear manufacturing sector is amongst the most important in Europe, in both quality and quantity of production, the once thriving national centre of the Pirmasens area has lost much of its importance as most production has been transferred to other countries (in eastern Europe and Asia). Education and training in the region is provided by four institutes, the International Shoe Competence Centre, the Pirmasens campus of the University of Applied Sciences, the Pirmasens School for Vocational Education and the German College of Footwear Design and Technology.

While the region of Silesia has an extended network of educational institutes, it does not have one specifically associated with the footwear sector. Stakeholders are most likely to turn to education centres in the neighbouring Malopolska region; the Krakow School of Art and Fashion Design or the regional centre of the Leather Training Institute.

The institutes in the region are summarised in Table 6.1, furthermore the table also presents the degree to which local industry stakeholders are working with training and education institutes to maintaining the competitiveness of the industry as a whole. Examples from Germany and Italy show that placement programs and close collaboration with manufacturing enterprises can provide added value by aligning industry requirements and the frameworks of training and education, while for students it can provide valuable experience regarding the practical implementation of work. Moreover, apprenticeships (such as under the German dual system) provide benefits for business as well as bringing them into contact with young people to fill work places cost-effectively and allow them to benefit by hiring skilled personnel. Similarly, internship programs and placements can strengthen the employability of students and assist graduates to obtain the necessary practical training.

Table 6.1: ***Training Institutes in the Case Study Regions***			
Institute	***Courses***	***Outreach***	***Industry Links***
Rheinland-Pfalz			
International Shoe Competence Centre	*A range of specialist short, modular training short courses tailored to the specific needs of industry and trade.*	*Wide national and international appeal; it has about 400 national and international students.*	*Undertakes research for industry partners and co-operates in the 'Step up Shoes' campaign to encourage young people to apply for employment in to the sector.*
Pirmasens campus of the University of Applied Sciences Kaiserslautern	*Degree course on leatherwork and shoe technology leading to a Bachelor's degree in product and process engineering.*	*In 2011, 9 students enrolled in the Leatherwork and Shoe Technology programme. Overall, the school has 20% of its students from outside Germany.*	*Practical experience in industry is a key part of the bachelor degree course.*
Pirmasens School for Vocational Education	*A 3 year vocational course in shoe manufacturing and a 2 year course in leather processing.*	*Of the 42 students enrolled into the school in 2011, 20 are from companies in Rheinland-Pfalz the remaining 22 come from other German federal states.*	*Students participate in international competitions and work with manufacturing companies on specific projects. The students spend the majority of their training course at companies.*
German College of Footwear Design and Technology	*Vocational further education in technical design and industrial engineering (in footwear technology).*	*This is the only school for the footwear sector in the country. It has an international appeal.*	*Students work closely with industry and are also offered practical training at the facilities of the ISC.*
Veneto			
Politecnico Calzaturiero	*There are 51 courses listed in the catalogue of the school for the year of 2010/2011, ranging from secondary vocational to masters level degree programs.*	*A very wide national and international appeal and well established relationships with universities as well as manufacturers from all over the world.*	*Students participate in competitions organised jointly with industry (e.g. BASF). Collaborations with industry include the possibility for students to receive grants from and internship at local companies.*
Southern Poland			
Krakow School of Art and Fashion Design (Malopolska)	*Non-degree vocational design course of 2.5 years, which includes a 3 semester-long footwear design module.*	*A wide national appeal with 65% coming from other regions than Malopolska; also open to international students (with Polish language skills).*	*Students regularly take part in international fashion competitions.*
Leather Training Institute (Malopolska)	*Arranges specialist courses at the request of the manufacturing companies. These typically take place at the manufacturing site. No regular training courses.*	*National, with departments in Lodz, Warsaw and Poznan.*	*Acts as a platform for manufacturers of children's shoes in Malopolska.*

6.4 Education and Training in the Case Study Regions

6.4.1 Availability of Courses and Training

There are a variety of educational and training courses in the three case study regions. Training is available for secondary to tertiary level with specialisation courses ranging from design to marketing and IT (see Table 6.2).

Table 6.2: Training Courses in the Case Study Regions

Region	Institute	Courses	Number of Students
Rheinland-Pfalz	Pirmasens School for Vocational Education	Course on shoemaking	34
		Course on leather processing	8
	German College of Footwear Design and Technology	Courses on technical design and industrial engineering (in footwear technology), delivering a certificate of footwear technician or design technician	27
	Pirmasens campus of the University of Applied Sciences, Kaiserslautern	Bachelor of Engineering in Product and Process Engineering Leatherwork and Shoe Technology program	9
	International Shoe Competence Centre	Short training courses tailored to industry needs	400
Veneto	Politecnico Calzaturiero	Specialist courses	60-70
		Masters courses	100-150
		Courses for Unemployed	60
		Short Training Courses	*2 000
		High School Course	25

**An approximate number of people participating in such courses since its introduction*

No training courses are available in Silesia, even though there are a number of education institutes present in the region. The University of Silesia is one of the largest universities in Europe with 12 faculties and 36 undergraduate and postgraduate programs subdivided into over 130 specializations. Amongst the faculties both the Faculty of Computer and Material Sciences and the School of Management could contain subjects and courses relatable for the footwear industry. While a platform between the education institutes and the manufacturing enterprises has not been established, training is provided in the neighbouring region of Malopolska through the Krakow School of Art and Fashion Design and the Leather Industry Institute.

Although training institutes are an integral part of education in the sector, companies also rely on in-house training to update the knowledge and skills of their workers, as well as to introduce new employees to the practical elements of their jobs. In the case of smaller companies, this in-house training may be rather informal, and can include introducing staff to the use of machinery. By contrast, larger companies may have a

wider range of more formal training courses. Examples of different types of in-house training are presented in Box 6.1.

Box 6.1: Contrasting Examples of In-house Training from Silesia and Veneto	
Silesia	A large company in Silesia employs 320 people and has reduced the number of workers by 40% during the last four years. The company provides in-house training for newly employed staff members, which generally lasts one month. In addition, training is also provided to existing staff members every two to three years; the last training took place in 2009. Provided there are enough new workers who specialise in one part of shoe production process, general training is provided on the basic knowledge necessary for shoe making. The training sessions generally last two days and are held at the company's premises by experts from the Institute of Leather Industry. Office workers tend to spend no more than two day on training, providing basic knowledge on shoe making process.
Veneto	This large, multinational company was founded in Veneto. It has been outsourcing its production to Asia while maintaining research, design, marketing and sales in Montebelluna. The company offers a wide range of training for its employees via the company school. These range from special skill-related courses on HR and cash-flow management to Masters courses. Masters courses on footwear design and marketing are run in collaboration with the Polidesign centre of the Politecnico di Milano while two other postgraduate courses, in the fields of collection coordinator and production manager, are held at the Politecnico. The company also offers placement for up to 10 students from universities or schools of the sector. At the conclusion of the initiative, tutors and a special commission the company verifies the performance of the training and projects.

Table 6.3 below indicates (at a national level) the percentage of companies of all types providing vocational training.

Table 6.3: Continuing Vocational Training at Enterprises as % of All Enterprises in the Sector of Manufacture of Textiles and Textile Products; Leather and Leather Products

	EU27	**Poland**	**Germany**	**Italy**
2005	30	14	56	13

Source: Eurostat: Training enterprises as % of all enterprises, by type of training and NACE [trng_cvts3_01]

The proportion of enterprises offering vocational training is highest in Germany. However, it may be the case that the real figure is even higher, if on-the–job training with companies under the 'dual system' is also included. In the case of Italy however, where the industry has strong traditions, the widespread availability of educational and training centres could serve as one explanation for the lower percentage of companies offering in-house training.

6.4.2 Key Skills

Companies in all three case study regions identified similar skills as being the most important. While design skills are especially important for enterprises that produce their own brands, no significant problems are expected in accessing these skills. Increased competition in the sector has required stakeholders to update their technology and new skills will be required in connection with this, for example the use of IT (CAD/CAM) and marketing.

The changes to the footwear sector in Poland have required increasing skills in commercialization and marketing. Training in these skills specifically for the footwear industry seem to be lacking in the country. Even though the tertiary education centres of the region of Silesia provide courses on business and management, the footwear companies of the region appear reluctant to hire highly qualified managers as it they anticipate that the costs would be too high.

Commercialisation and customer service during sales are also an important skill requirement for the industry in the region of Rheinland-Pfalz. There has been a loss of customer service and sales skills due to the closure of specialist retailers and the fact that the remaining retailers have –as a cost cutting measure - scaled back on employee training. One initiative in the region organised by the Chamber of Industry and Commerce is an e-learning platform for sales managers, consisting of 200 hours of online training as described in Box 4.11 in section 4.6.

Similarly in Italy customer relationships, as well as technical skills, are in the focus for the companies and the training institutes. The use of new media, such as social networking sites and smart phone platforms, are providing a wider forum for communicating with the supply chain including the customers.

Not all institutes offer training linked to apprenticeships; in fact the three case study regions have very different training and education systems. Apprenticeships have a long tradition in Germany and play a prominent part within the dual education system of the country providing students with practical experiences. While training for apprentices provides them with the skills that necessary for their immediate jobs, it may or may not enable them to access higher-skill and better-remunerated employment opportunities.

The strongest traditions of the industry are in Italy and, accordingly, the training institute in the region of Veneto offers a wide variety of courses and at the same time has strong links to the national industry through placements for students.

6.5 Networks and Relationships to Businesses

The four main training institutes in Rheinland-Pfalz co-operate closely with each other and to some extent the centre of that cooperation is the International Shoe Competence Centre, which is located adjacent to the campus of the University of Kaiserslautern.

The workshop of the ISC is used by both the vocational school and the university to provide hands-on experience of the manufacturing process to those taking degree courses and the opportunity to work with the latest machinery to vocational course students. The dual system also provides a direct link between businesses offering apprenticeships and training institutes. Other examples of networking are given in Box 6.2

Box 6.2: Examples of Networking

In Rheinland-Pfalz the four main training institutes of the sector have collaborated in utilising their wide industry relationships in a project called "Footwear Industry Roundtable" founded in late 2010.

Participants include local footwear companies, the Central Federation of the German Footwear Industry (Bundesverband der Schuhindustrie), ISC Germany, the Pirmasens Job Fair, the Chamber of Industry and Commerce, and the Pirmasens School for Vocational Education.

Results of the cooperation include the Step-up Shoes campaign which has succeeded in increasing the number of applicants for apprenticeships amongst young people.

The Politecnico Calzaturiero of Veneto has collaborated with both local and international businesses. Industry experts from local companies participate in the courses as lecturers, and students are given the possibility for placements at the enterprises.

Amongst the collaborations of the training centre is a design contest for the students of the institute organised with the chemical manufacturer BASF (which also has a presence in the region).

Furthermore, courses at the Politecnico are offered in collaboration with other tertiary education centres, including the Polidesign school of Milan.

There are few examples of similar collaborations in the footwear sector in the region of Southern Poland, where footwear businesses appear view each solely other as competitors and there is no platform for cooperation. However there are examples of collaboration in other sectors within the region, which could provide a model for the footwear sector.

6.6 Use of Support Mechanisms

In line with industry requirements, the training and education institutes of the sector have been putting increasing emphasis on internationalisation and the use of advanced technologies. As these subjects are not specific to the footwear industry, they offer the potential for collaboration with other universities and research centres. A platform for such collaborations is created by the European Union 7th Framework Programme for Research and Technological Development.

In Veneto, the Politecnico Calzaturiero has received financial support from the European Social Fund through the Ministry of Labour for a project supporting the recognition, validation and certification of skills. The school is also capitalising on its wide range of connections and is participating in EU 7th Framework Programme. Companies in the region of Veneto, however, do not usually seek EU support; as far as possible they try to finance their training activities from their own budgets.

Polish companies are eligible for support for training from the Structural Funds. The companies interviewed, however, have not taken advantage of these funds, as they consider the application process burdensome from both an administrative as well as a management time perspective.

In Rheinland-Pfalz, while there are examples of stakeholders utilising European Union financial support, these initiatives are not widespread. According to the Federation of the German Footwear Industry (HDS), the European Union could play a greater role in helping to retain competence in shoe manufacture, through support to training centres.

Examples of utilisation of financial support by the footwear sector are given in Table 6.4.

Table 6.4: Examples of Utilisation of Financial Support

Southern Poland	A national organisation, the Voluntary Labour Corps (VLC), which is represented in Southern Poland through its regional office, makes use of financial support from the European Social Fund. Its primary objective is to create adequate conditions for proper social and vocational development of young people. One Silesian company interviewed uses the Voluntary Labour Corps as a source of new employees. The VLC is an example of good practice in identifying training and development options for the unemployed, especially young people.
Rheinland-Pfalz	The International Shoe Competence Centre has participated in an EU project under the Leonardo da Vinci Lifelong Learning Programme, together with Slovenian/Italian and Portuguese partners. The programme funds practical projects in the field of vocational education. The project involving ISC developed a handbook for different aspects of production and will provide training based on this.
Veneto	The Politecnico Calzaturiero has participated in a consortium carrying out the 7th Framework Programme for Research and Technological Development project IDEAFOOT. The project, which had a budget of €1.5 million, involved nine partners from three EU countries finished at the end of 2010. The project addressed European SMEs working in the footwear industry and, in particular, in the market segment of classical and casual shoes. Increasing competition is requiring companies to reduce time to market, to increase product diversification and move to small batch production while maintaining the high fashion and quality content of the product.

These collaborations have helped to expand the knowledge base of the participating institutes, which has a spill-over impact on the regional industry, as students as well as professors participating in these research projects often work with regional or local enterprises.

6.7 Best Practices

Successful engagement of industry stakeholders in education programmes is highlighted through examples in both Veneto and Rheinland-Pfalz. The close collaboration between the education centres and other regional stakeholders is crucial for maintaining an up-to-date curriculum that takes into consideration the best available technology and the limitations and necessities of the regional industry. These relationships provide apprenticeship and placement opportunities for students, which can increase their future employability.

Education-research-industry relationships are vital for the exchange of information outside the classroom as well. Companies often engage in training of employees in-house, while implementing technological innovations. However, in some subsectors such as fashion footwear, it is not the use of the latest technology but rather retaining traditional skills that is important.

The visibility of the industry on a regional and national scale is also an important factor in attracting prospective young workers to the sector. Stakeholders in Rheinland-Pfalz have initiated a number of projects to attract young people into the industry, such as the Step up Shoes' campaign. This campaign is part of a larger, regional initiative called the "Footwear Industry Roundtable" founded in late 2010. Participants include local footwear companies, the Central Federation of the German Footwear Industry (Bundesverband der Schuhindustrie), ISC Germany, the Pirmasens Job Fair, the Chamber of Industry and Commerce, and the Pirmasens School for Vocational Education.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

One of the most serious problems facing industry in the EU is the aging of the workers and its impact on the labour market. The economically active population in the EU has been increasing, but there is a change in the age distribution of the population. The number of young people aged 15-19 is expected to reduce by one million (-5 %) and the number of those between 20-29 years by 9 million (-17 %). By contrast, the 50-59 age group will increase by 5.5 million (+ 12 %) and the 60-64 age group will increase by one million[52].

An additional concern is that young people are generally turning away from the footwear manufacturing sector in favour of high-tech industries and the service sector. The reasons for this are various; the nature of manual work in the footwear manufacturing sector is not appealing, salaries and other benefits are uncompetitive and, because of the effects of restructuring, the industry is seen as having no future.

Emphasizing new technologies in the production process and the fashion and international aspects of the sector could potentially re-establish the appeal of the industry to young people. As consumers are increasingly using on-line shopping and other interactive services, the possibilities offered via the use of new media can promote the industry amongst the graduates. Furthermore, new services such as customization of products or marketing and promotion using social networking sites can further modernize the image of the sector.

A number of best practice initiatives have been identified in the case study regions, reflecting stakeholders' willingness to identify solutions to their common challenges. As the industry is stabilising after a period of significant restructuring, companies are increasingly looking for new employees. Best practices highlighted in the individual case studies show joint efforts between varieties of stakeholders are facilitating this process, including the involvement of young professionals.

Best practices in collaboration between industry stakeholders have been identified both in Italy and Germany. In both case studies, training institutes involve local enterprises to provide apprenticeships and implement promotional activities to encourage increased participation by young people. Similar initiatives have not been found in Southern Poland, where the manufacturers have not yet established a basis of cooperation.

Involving companies in the wider supply chain - such in the case of the BASF with the Politecnico Calzaturiero and with PFI in Germany - can facilitate research as well as expanding the contacts the institutes maintain. These contacts also enhance the

[52] TEI Piraeus (2007): **Comparative Analysis of the Leather and Footwear Industries Concerning Aged Workers in Greece, Italy, Spain & Portugal**, downloaded from http://footwearsinfolinethree.tripod.com/greece_italy_spain_portugl.pdf

development of knowledge in relation to the specific areas of collaboration, such as polymers and polyurethane. As the relevance of this knowledge for the industry is likely to increase in future, it can contribute to the maintenance of the specific production techniques in Europe. The areas of research can consequently have an influence on the education content and a spill-over impact on the job market.

7.2 Recommendations

Based on the information gathered in the case study regions, the challenges identified by the stakeholders and the literature review, a number of recommendations have been identified aimed at bringing the needs of the industry in line with the capacity of the training and education institutes.

The economic significance of the footwear manufacturing sector is different in each of the case study regions, which affects the availability and type of courses offered by the training centres. The recommendations listed in Table 7.2 (over page) aim to correlate with the views, ambitions and planned future initiatives of the stakeholders related to development of the industry.

Table 7.1: Recommendations

Areas	Rationale	Activities
Promote the improvement of cross border relationships between training institutes	Education and training institutes could benefit from increased communication related to industry trends and research areas, as well as offering opportunities for student exchange programs.	Encourage joint projects to aid integration, facilitation of exchange programs etc.
Promote the extra-regional relationships between training centres and businesses	Stakeholders in regions such as Silesia, where currently there is no specialised training centre for the industry, could benefit from the exchange of best practices.	Facilitate knowledge transformation by initiating wider collaboration between training institutes and local businesses.
Promote the improvement of local business relationships	Improving relationships between local businesses in regions such as Southern Poland, where there is no real collaboration could help the identification of solutions for common training-related challenges.	Facilitate the establishment of a platform for the stakeholders for communication and integration. This could also support strengthening the representation of the industry at the regional and the national level.
Involvement of wider groups of stakeholders, such as research institutes, companies in the supply chain etc. in joint projects	Facilitating wider collaborations between footwear businesses, training institutes and supply chain companies can initiate further research projects and contribute to the strengthening of the knowledge base and provide graduates able to meet future skill demands.	Facilitation of projects involving graduates, businesses (particularly SMEs), research centres and other stakeholders such as employment authorities for new lines of research, cutting edge technology and the dissemination of knowledge at training centres.

Table 7.1: Recommendations		
Areas	**Rationale**	**Activities**
Improve the image of the sector amongst young people	The industry is less appealing for young people as it is seen to be technologically outdated.	Initiate local small-scale projects, specific to industry requirements in the regions/cities, such as promotion of the diversity of opportunities available and the different technological skills required.
Dissemination of information regarding to the potential impact of demographic changes	The aging workforce and the lack of skilled workers in certain region may require companies (especially SMEs) to develop new training techniques.	Educate stakeholders on future prospects for employment in the regions and the changes in training methods this might require.
Optimisation of recruitment and retention techniques	Effective recruitment policies and HR management can help companies to retain skills and make optimum use of their employees.	Support on recruitment and employee retention practices for footwear companies - especially SMEs – through collaboration with local/regional industry associations, and training institutes.

The recommendations target two main areas, the improvement of relationships between stakeholders and evaluation of the capacity and composition of the labour force in the regions. Improvements in these two areas could, on the one hand, address differences in the networking and forecasting abilities of stakeholders in the different regions. On the other hand, it could contribute to the strengthening of representation of the sector on the national level.

One of the most important elements of future challenges in the industry is the lack of skilled, especially young workers. The case study visits and the literature review have identified a number of reasons behind the decreasing number of young workers including low wages as well as the diminishing appeal of footwear manufacturing. With the aging of the current workforce the industry could face pressures to replace those who retire and hire additional workforce to cover the capacity increase following the crisis.

New initiatives encouraging young people to seek employment in the sector would provide for a way to match training needs to industry expectations more closely. Supporting companies in mapping out clear progression routes to higher level skills for young workers and providing HR management techniques can further support the involvement of young workers. Moreover aligning local supply and demand for skills by directing increased public investments and strengthening local training centres in areas of increased skill demand can lead to a better understanding of long-term local industry needs.

Consequently cross border initiatives between education and training centres could provide a platform for collaboration, knowledge transfer to share best practices and

disseminate knowledge. As industries in the Member States can differ significantly in size and volume, some experiences and processes cannot be transferred without taking into consideration national and regional specificities, such as education and training systems.

The goal of education is generally to help students to utilise their knowledge, applying it to new situations or procedures. Within the footwear sector, the practical experience students gain throughout the course of their studies can support their employability, as well as their personal development. Apprenticeships and student placements are also important for the companies, as they gain insight how well fitted the curricula are to industry requirements.

Strong ties between educational institutes, manufacturing companies and industry associations can help foster a mutually beneficial environment, where education and training centres receive feedback from the companies regarding the content of the courses. In the absence of such relationships between stakeholders, the support of regional or national organisations and the establishment of a joint platform might be necessary in order for companies of all sizes to benefit effectively from the available training opportunities.

Enhanced investment in and development of human resources, through training and education, are crucial to the future development of the footwear industry. Most of the education courses reflect regional and/or national industry requirements and are self-financed by the students in hope of finding employment in the sector. Close cooperation between the industry, government bodies and training institutes is vital to ensure that the full range of courses necessary to meet the requirements of the industry is retained.

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