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IDENTIFICATION OF FUTURE SKILLS NEEDS IN MICRO AND CRAFT(-TYPE) ENTERPRISES UP TO 2020

FINAL REPORT

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Identification of future skills needs in micro and craft (-type) enterprises up to 2020

Final Report

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“Identification of future skills needs in micro and craft(-type) enterprises up to 2020”
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LIST OF ABBREVIATIONS

APCM	Assemblée permanente des chambres de métiers
AT	Austria
BG	Bulgaria
CEDEFOP	Centre Européen pour le Développement de la Formation Professionnelle; European Centre for the Development of Vocational Training
CEE-countries	Central and Eastern European Countries
Comenius	EU Programme on all levels of school education
Comett	Community programme for Education and Training in Technology
CSC	Construction Skills Certification Scheme
CVT	Continuing Vocational Training
DE	Germany
DG ENTR	Directorate General Enterprise and Industry
DK	Denmark
ECIA	Engineering Construction Industry Association
ECVET	European Credit System for Vocational Education and Training
EQAVET	European Quality Assurance Reference Framework for Vocational Education and Training
EQF	European Qualifications Framework
Erasmus	European Community Action Scheme for the Mobility of University Students
ET 2010	Education and Training Work Programme 2020
ET 2020	Education and Training Work Programme 2010
ETUC	European Trade Union Confederation
EU	European Union
EU-27	Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom
EuroApprenticeship	European wide web platform for supporting the mobility of apprentices
Eurofound	European Foundation for the Improvement of Living and Working Conditions
Europass	EU brings together five documents to improve the transparency of qualifications in EU Member States, EFTA/EEA

	countries and candidate countries
Eurostat	European Statistical Office
Eurotecnet	European Technical Network
FBH	Forschungsinstitut für Berufsbildung im Handwerk an der Universität zu Köln Research Institute for Vocational Education in Crafts at the University of Cologne
FORCE	Action programme for the development of continuing vocational training in the European Community
GDP	Gross domestic product
IVET	Initial vocational education and training
JUWEL	Jugendliche weibliche Elektroniker; young female electricians
KMK	Kultusministerkonferenz; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany
KMU	Kleine und mittlere Unternehmen; Small and medium sized enterprises
Leonard da Vinci	EU Programme for Vocational Education and Training
LINGUA	EU Programme to promote language learning and linguistic diversity in Europe. In 2006, it was replaced by Key Activity 2 as a sub-programme to the Lifelong Learning Programme.
LLP	Lifelong Learning Programme
MCQ	Multiple Choice Questions
NACE	Nomenclature statistique des Activités économiques dans la Communauté Européenne; European statistical classification of economic activities
NIA	National Installation Association
NIU	National Installation Union
NVQ	National Vocational Qualifications
PETRA	EU programme for the vocational training of young people and their preparation for adult and working life
RChCr Sofia	Regional Chamber of Crafts Sofia
SBA	Small Business Act for Europe
SBS	Structural Business Statistics
SDE VET College	Syddansk Erhvervsskole
SME	Small and medium sized enterprises
Socrates	Self-Optimisation and self-ConfiguRATion in wirelEss networkS
UCATT	British Union of Construction and Allied Trades and Technicians

UEAPME	European Association of Craft, Small and Medium-Sized Enterprises
UK	United Kingdom
VET	Vocational Education and Training
WIFI	Institute for further education and training of the Economic Chamber in Austria
ZDH	Zentralverband des Deutschen Handwerks; German Confederation of Skilled Crafts
ZRP	Polish Craft Association

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EXECUTIVE SUMMARY

BACKGROUND, OBJECTIVES AND METHODOLOGY

1. Micro and craft (-type) enterprises make up not only the vast majority of SMEs in Europe, but are also the main source of job creation in the European Union, being active in many rather traditional professions that are essential for the prosperity and wellbeing of both urban and rural areas. Although in general they face similar problems to those encountered by all other SMEs, their size creates a number of specific challenges, in particular related to the (future) availability of skilled staff. Many micro and craft enterprises are facing severe recruitment difficulties, mainly due to the shortage of skilled labour as a consequence of demographic trends, but partly also for other reasons. With craft and micro businesses appearing to be less attractive employers than larger companies, especially to young people, recruitment policies of craft and micro businesses and specific skill profiles may need to be adjusted to attract new target groups and to provide them with the skills and qualifications needed.
2. Against this background, the European Commission, *DG Enterprise and Industry*, commissioned a study focusing on the identification and analysis of future skills needs in micro and craft(-type) companies. The study contributes to a better understanding of current and future skills needs in micro and craft enterprises throughout Europe. It will also help to better mainstream the needs of such enterprises in existing EU-level policy initiatives aimed at anticipating and matching labour market supply and skill demand, identifying skill needs and mismatches as well as strengthening the links between VET and the labour market.
3. The study contributes to the "*Agenda for new skills and jobs*" initiative and supports the implementation of the *Small Business Act* for Europe. Thus, the study's findings with regard to skill development within micro and craft enterprises contribute to the "*Europe 2020*" economic and employment strategy and its overall orientation towards smart, sustainable and inclusive growth.
4. The study consisted of both qualitative and empirical analyses, including a online survey of micro and craft enterprises, business organizations and professional and VET institutions in Austria, Bulgaria, Denmark, France, Germany, Italy, Poland and UK. The identification and documentation of case studies and a comparative evaluation of existing information and practical experience regarding micro and craft (-type) enterprises in Europe were also part of the study.
5. An online survey was conducted, resulting in over 800 datasets documenting the perspectives of companies, business organizations and training providers on the evolution of 38 defined skills in the past and future. In addition the online questionnaire asked about the methods and instruments used to forecast future skills needs. The effects of changes in future skills needs and how companies react to these were also included. To deepen the information nearly 90 interviews were conducted with individual companies, representatives from business organizations and training

institutions. Based on the interviews, case studies reflecting practice within companies were identified and documented. Furthermore, existing information and practical experience regarding micro and craft (-type) enterprises in Europe were compared and evaluated.

6. To achieve a certain analytical depth and derive representative results for micro and craft enterprises in different countries, the study focused on three different and distinctive sectors (interior construction, food and personal/health services). Alongside the focus on the 8 countries, this broadened the country view by illuminating different contexts of skills needs and skill development, vocational training and business environments.
7. The study was conducted jointly by the Research Institute for Vocational Education in Crafts at the University of Cologne (FBH), the Institute for Research on Qualification and Training of the Austrian Economy in Vienna and Wilke, Maack and Partner in Hamburg. The project would not have been possible without the help of national project partners. These carried out and supported the analysis at national level in Italy (Academy Avignon), France (Assemblée permanente des chambres de métiers), Denmark (National Centre for Erhvervspaedagogik), Poland (Polish Craft Association), Bulgaria (Balkan Bureau for Assisting the Middle Class), the United Kingdom (Delta Economics), and Germany (Koblenz and Leipzig Chambers of Crafts).

MICRO AND CRAFT (-TYPE) ENTERPRISES IN EUROPE – ECONOMIC WEIGHT, SECTOR CONTEXTS AND TRENDS

8. It is a well-known fact that SMEs are the most important form of business organization in Europe. What is much less known is that most SMEs in fact are micro enterprises with less than ten employees. These enterprises, often run by the owner and operating in craft and artisan sectors, employ around one third of the total European workforce.
9. Our EU-level analysis shows that there are major differences with regard to national frameworks and contexts of corporate governance and enterprise organisation in the field of micro and craft enterprises. A legal definition of crafts exists only in a minority of EU Member States and national craft policy frameworks are very much shaped by economic, social and legal traditions.
10. In general our knowledge on such key indicators as employment, educational attainment or major economic trends with regard to micro and craft (-type) enterprises is limited. Our research, looking into context factors of enterprise structures, major structural change trends and in particular contexts, drivers of change and challenges with regard to VET, qualification and skills development, has contributed to deepening this knowledge. Our research was supported by national level analyses in three different economic sectors in eight different national contexts.
11. The sector analyses carried out in eight countries proved the decision right to focus on three quite distinctive sectors with different backgrounds with regard to economic and

employment contexts and dynamics, skills and qualification structures, trends and major drivers of change.

12. In all countries the interior construction sector is economically a very important sector, with micro and craft (-type) enterprises the dominant form of enterprise organisation and size. Construction can also be regarded as a "barometer of economic vibrancy" with a broad range of drivers of change illustrating both current and future skill needs and challenges in this context. In contrast to the interior construction sector, the dominance of micro and/or craft enterprises in the food sector (meat, dairy and bakery production) is weaker in most countries. Though a large part of the sector's workforce is employed in micro companies, the sector is characterised by a dual structure of industrial oriented enterprises and products on the one hand and more craft oriented ones on the other. Personal / health services as the third sector are by far the most heterogeneous one. This "sector" is very diverse and must be seen as separate parts. The manufacture of medical aids and instruments is high-tech, often operating internationally and highly visible. By contrast, activities in the social area are often more hidden, with low profiles and harder to reach. Furthermore the role of crafts and craft occupations varies significantly within certain sub-sectors.
13. The sector analysis of skill needs revealed that not only country-specific but also a number of sector-specific drivers of change and future skill needs exist - such as the importance of standards or competitive innovation structures. Though these are not necessarily connected solely to micro and craft (-type) companies, their impact on such companies is much stronger than on larger companies.

FRAMEWORKS AND CHALLENGES IN THE FIELD OF VOCATIONAL EDUCATION AND TRAINING AND SKILL DEVELOPMENT- FINDINGS

14. Our analysis confirms the significant variety of IVET (initial vocational education and training), continuing vocational education and training (CVET) and skill development systems in Europe. One quite striking result of the analysis is that there is a clear division of countries into two groups with regard to the role of social partners and professional organisations in the development and implementation of IVET. Those countries with strong stakeholder involvement are also the ones where apprenticeship training is important (Austria, Germany, Denmark) whereas in countries with a lower involvement of the social partners the apprenticeship training is seen less important (Bulgaria, France, Poland, UK).
15. In continuing vocational training, involvement of social partners and professional bodies is usually high – "irrespective" of the country's underlying IVET system – as they are often important training providers in their own right, and/or continuing vocational training is regulated by collective bargaining agreements. Moreover, social partners and professional bodies often act as CVET promoters in companies, setting up sectoral funds for subsidising training and/or acting as professional bodies certifying qualifications.

16. Though the variety of occupations, qualifications and skill profiles in all of the countries surveyed is usually rather high and national parameters have a significant influence on the way competencies and skills are provided, one can still observe rather similar structures with respect to the division of labour and the degree of vertical and horizontal job differentiation.
17. The national context analyses in the eight countries show that pronounced differences exist in the national understanding and concepts of what constitutes a profession/occupation. While in the approach based on occupational standards ("Berufskonzept") formal training is oriented towards qualifications matching specific work processes, the approach of having qualifications provided by VET schools usually has a wider scope, with instruction being provided in a range of applied subjects. In the latter approach, specific qualifications and skills have to be provided through non-formal (intended but not formally certified) and/or informal (basically non intentional by daily life experience) on-the-job or off-the-job training.
18. The national analyses show that both non-formal and informal training are very common in micro and small enterprises, where many employers see it as the best form of specific training available - it is easily taught, highly specific, can be applied at the exact time and place needed and enhances the productivity of employees and therefore the company immediately. In addition, many small companies just cannot afford to send people off on training. In countries with a strong role of individual and on-the-job qualification pathways, transparency with respect to qualifications and skills is low. This in turn has stimulated the development of industry-wide qualification standards.
19. Our analysis has shown that in some countries (e.g. Bulgaria and the UK) significant skill mismatches exist, i.e. formal educational degrees are not synonymous with skills needed at the workplace. By contrast, countries like Germany and Austria with their well-established apprenticeship systems report just minor or no problems with respect to skill mismatches. This may be due to the fact that apprenticeship training has a built-in adaptation mechanism. Consequently, countries where apprenticeship training plays a strong role are more demand-driven with respect to adapting to future skill needs, whereas countries with a high share of VET-school graduates are substantially supply-driven.
20. There is an overall tendency in all countries for IVET to be less attractive to young people than general higher schools and tertiary education. Countries are responding by opening up pathways to university or other tertiary education institutions for apprenticeship graduates.

SKILLS AND FUTURE SKILLS NEEDS IN MICRO AND CRAFT (-TYPE) ENTERPRISES

– QUANTITATIVE AND QUALITATIVE SURVEY RESULTS

21. Though there was already a general increase in skill needs over the last 10 years, needs are expected to increase even further over the next 10 years. Skills combining work processes and market activities, together with organizational skills and technical/legal

skills have a high requirement for constant and continuing vocational training. The need for improved communication and personal skills is increasing as well but with a lower intensity.

22. Overall, the following skill needs are seen as increasing in the future: customer and market orientation, working in cooperative and collaborative international work structures, and management skills. Different top-10 lists were compiled. One is showing the skill needs set to increase most already in the past but ongoing in the future (Top 1: Customer service communication – 79.4 % (frequency of increase), Top 2: Developing new services, broaden range of offered products – 78.5 %, Top 3: Analyzing known tasks 77.2 %). The other lists the largest difference in ranking between past and future needs. It shows the present emerging skills needs, which are seen as more important in the future (Top 1: Developing knowledge about foreign markets – 35.3 % (Difference between past and future increases), Top 2: Communicating with customers and employees in foreign language – 27,7 %, Top 3: Securing own innovations and patents – 25.4 %).
23. There is a consensus in all three perspectives (companies, business organizations, and training institutes) on the need to increase skill levels in the future, though different perspectives emphasise different skills. Companies and business organizations highly rate skills related to core work processes and management aspects. In their evaluation, business organizations highlight work organization skills, whereas training institutions put a greater emphasis on personal skills.
24. The company perspective on future skill needs is often sector-specific. The interior construction sector gives prominence to the alignment of work processes with external regulations/standards as well as with customer demands. The food sector highlights skills needed to meet customer requirements and integrating the managerial aspect of work. The personal / health services sector ranks integrative management aspects and customer orientation highly. Future skill needs within a sector are closely linked to the sector's key factors in driving change. A comparison of the evolution of skill needs between the last 10 years and the coming 10 years shows common trends transgressing sector boundaries. Orientation toward foreign markets is driving skill needs in all sectors. This is resulting in companies needing language skills for analysing foreign markets and communicating with foreign partners.
25. Future skill needs are important and need planning. Companies are aware of this requirement and its relevance, and there is general consensus that more systematic approaches would be useful. However this is not reflected in practice. The driving forces for company activities in this field are mainly spontaneous, in reaction to customer or employee demands as well as being guided by personal assumptions. Companies prefer direct contact with and information from market players. They either try to cope with skills demand internally or through working in strategic networks with other companies.

RECOMMENDATIONS ADDRESSING DIFFERENT AREAS OF PRACTICE AND GROUPS OF ACTORS

26. The empirical and qualitative survey of the 'Identification of future skills needs in micro and craft (-type) enterprises up to 2020' study provided a number of key results and recommendations. The latter are summarized into three main areas of practice: forecasting future skills, communicating future skill needs and integrating future skills in training programmes. The recommendations address key groups of actors at various levels: companies, training institutions, business organisations as well as political actors at different levels.
27. To get a more systematic view on future development companies should put more emphasis on their own market research in order to better identify future customer and supplier trends to detect and predict future market trends and the skills needs following those.
28. The communication about the future skills needs has to be intensified. To foster the forecast of skill needs all actors (companies, business organizations, training providers, regional / national and EU-level actors) should communicate more with each other to react faster to changes in skills needs. Especially training institutions and companies should work closer together in the field of market research and work process analysis to define relevant future skill needs.
29. Business organisations and training institutions need to introduce programmes showing the consequences that sectoral and regional change drivers have on companies' possibilities and skills needs. In this way business organizations have an important role to play in mapping market developments to skills needs.
30. Training programmes have to integrate more than now future trends and developments in skills needs. More work-based training programmes and ways to recognising practical knowledge gained informally need to be established, also on European level.
31. A special focus must be put on better addressing barriers and difficulties encountered by micro and craft type enterprises participating in European training, mobility and LLL programmes in order to significantly improve the coverage of such companies.

INTRODUCTION

BACKGROUND AND CONTEXT OF THE STUDY

The vast majority of SMEs in Europe are micro and craft (-type) enterprises. They are also the main source of job creation in both rural and urban areas. Although in general facing similar problems to other SMEs, their size leads to a number of specific challenges, in particular related to the (future) availability of skilled staff. Many micro and craft enterprises face severe recruitment difficulties, mainly due to the shortage of skilled labour as a consequence of demographic trends, but also for other reasons. For young people in particular, craft and micro businesses appear to be less attractive employers than larger companies, and their recruitment policies may need to be adjusted to attract new target groups and provide them with the skills and qualifications needed.

At the same time, the need for a better and more efficient development of skills and competences as well as continuous “upskilling” and adaptation of knowledge has been identified by both European and national policy makers as a key challenge for business competitiveness and the employability of individual workers. The renewed Lisbon strategy and the *Europe 2020* strategy therefore stress the need to place greater emphasis on the development and adaptation of skills and the anticipation of future skill needs.

It was in this context that the European Commission launched its “Agenda for new skills and jobs”, a flagship strategy aimed at anticipating and better matching labour market and skill needs, identifying skill needs and mismatches, and strengthening the links between VET and the labour market.

Given their important role in business and social life in Europe, it is clear that SMEs, and in particular micro and craft (-type) enterprises, are not to be neglected in this context. However, although the current discussion on the training needs of micro and craft (-type) enterprises deals with strategic perspectives, there is a lack of empirical data. Knowledge is needed of the structural requirements and the specific characteristics of their future skill needs. Without such knowledge, their outstanding contribution to employment and wealth in Europe and their role as a driving force for innovation and economic growth both nationally and internationally are endangered. In addition, economic development in European Member States is highly dependent on the well-being of such companies.

OBJECTIVES OF THE STUDY

Against this background, the European Commission (*DG Enterprise and Industry*) commissioned a study focusing on the identification and analysis of skill needs in micro and craft (-type) companies. The study is intended to contribute to a better understanding of current and future skills needs of micro and craft enterprises in Europe and to better mainstream the needs of such enterprises in existing policy initiatives at EU level aiming at anticipating and matching labour market and skill needs, identifying skill needs and mismatches, and strengthening the links between VET and the labour market.

The study 'Identification of future skills needs in micro and craft (-type) enterprises up to 2020' was initiated by DG Enterprise and Industry to empirically look into future skills needed in micro and craft (type) enterprises from their specific perspective. The *Research Institute for Vocational Education in Crafts at the University of Cologne* (FBH), the *Institute for Research on Qualification and Training of the Austrian Economy* in Vienna and *Wilke, Maack and Partner* in Hamburg conducted the study in cooperation with national project partners in Austria, Bulgaria, Denmark, France, Germany, Italy, Poland and United Kingdom¹.

The aim of this project was to identify the needs for current and future skills in micro and craft enterprises in Europe. The study draws on existing EU policies, i.e. "New Skills for New Jobs Initiative" and the Copenhagen Process aimed at anticipating and matching labour market and skill needs and identifying skill needs and mismatches, and strengthening links between VET and the labour market. It regards itself as part of the "Agenda for new skills and jobs" flagship initiative. In addition, this study will also contribute to the economic and employment strategy of 'Europe 2020' with its emphasis on 'smart, sustainable and inclusive growth' as well as supporting the implementation of the Small Business Act for Europe.

STUDY DESIGN AND METHODOLOGY

Despite the lack of current data, the aims of this study are ambitious. Members of craft associations, enterprises, chambers, unions and research institutes were involved in developing methods of investigating the future skill needs of micro and craft (-type) enterprises. Project partners from eight European countries were involved, conducting empirical studies in the following business sectors:

- ☐ interior construction,
- ☐ food
- ☐ personal and health services

These sectors were used as a basis for gathering information on specific training requirements and needs and for investigating future trends potentially applicable to other areas.

The study used the following methods to gather the required information: national and European-level context analyses, online surveys, case studies, and qualitative interviews conducted with companies, business organisations and training providers. This highly qualitative approach with its many components was applied to the three economically and structurally different sectors, resulting in a broad but in-depth knowledge of future skills needs in micro and craft(-type) enterprises.

Though only concentrating on three sectors and eight countries this study is presenting not only a representative overview of micro and craft(-type) enterprises in quite a large number of different economic activities and occupations both in services as well as manufacturing.

¹ Further project partners were the *Academy Avignon*, *National Centre for Erhvervspædagogik*, *Assemblée permanente des chambres de métiers*, *Polish Craft Association*, *Balkan Bureau for Assisting the Middle Class*, *Chambers of Crafts* in Koblenz and Leipzig and *Delta Economics*.

The study also mirrors different national contexts and frameworks of micro and craft(-type) enterprises in Europe (see for a more detailed explanation chapters 2.1 and 2.2).

The results of the study are based on primary and secondary data gathered by the project team and their national partners. To ensure the quality and comparability of the data, the research developed new tools to involve the micro and craft (-type) enterprises.

One of the methods employed in this study is the use of appraisals rather than measurable data to recognise future skill requirements. When comparing national approaches the definition of skills and the ways they are trained are of great importance. It soon became clear that this was going to be difficult, leading to the decision to develop a work-based definition of skills instead of individual sector-based definitions. At the end of the day, 38 individual skills needs were defined in the three major enterprise sectors.

This report summarizes the principal results of the project and its main components as carried out between January and October 2010. Chapter 1 describes the European frameworks for vocational education and training (VET) and skill development as well as EU initiatives in the field of SME and micro/craft policies. Principal results regarding the economic weight and role of micro and craft (-type) enterprises are presented in chapter 2. This section of the report also summarizes basic results of the national and sectoral context analysis carried out in the country samples and the three sectors with regard to economic and employment trends as well as challenges in the field of VET and future skills needs. Chapter 3 presents the comparative results of the empirical surveys carried out, i.e. the online survey and the analysis of practical cases. Finally, chapter 4 draws overall conclusions and presents recommendations derived from the research in line with the project's basic objectives.

The report is complemented by additional results and documentation developed in the context of the research project, e.g. more detailed national context/analytical reports and a comprehensive database of practical cases.

It should be mentioned here that project implementation and interim results were monitored and evaluated by two specifically established bodies: the Steering Committee with members from other Directorates General of the European Commission, the Committee of the Regions, the European Economic and Social Committee, and the European Centre for the Development of Vocational Training (CEDEFOP). Furthermore, an Advisory Group was formed to include employer and employee organizations from micro and craft (-type) enterprises. In addition, vocational education and training institutions were also involved in the monitoring and support of the project. We would like to thank the members of the two bodies for their contribution to the quality of the project and its results.

1 CONTEXT OF RESEARCH: EUROPEAN FRAMEWORKS OF SKILLS DEVELOPMENT

1.1 EUROPEAN INITIATIVES IN THE FIELD OF VOCATIONAL EDUCATION, TRAINING AND SKILL DEVELOPMENT

Since each EU Member State is responsible for its own education and training systems, EU-level policies are designed to support national practice, provide guidance and help to address common challenges such as the ageing of societies, skill deficits among the workforce, and global competition. In this area, EU education and training policies have made major steps forwards over the last decades. The adoption of the Lisbon Strategy in 2000 and the new Europe 2020 strategy adopted in 2010 clearly provided a fresh impetus and a new dynamism, delivering a strategic orientation towards knowledge and innovation, the two factors regarded as Europe's most valuable assets, particularly in the light of increasing global competition. Both the Lisbon and the current 2020 strategy act as the overall framework for the education and training policy initiatives described in the following sections.

1.1.1 EVOLUTION AND OVERVIEW

In the early years of European integration between 1948 and 1968, the policy focus was clearly on fostering economic revival and integration in the aftermath of World War II, with education playing little or no role. Co-operation on education and culture between Member States was an issue dealt with at the intergovernmental level of the Council of Europe, which had been established in 1949.

It was not until 1976 that the first community action plan on education was adopted, setting forth the principles of co-operation. This non-binding resolution identified six priorities for action – educating the children of migrant workers, closer relations between education systems in Europe, the compilation of documentation and statistics, higher education, the teaching of foreign languages, and equal opportunities. The first Community actions involved pilot projects, study visits and exchanges of information initially focusing on the transition of young people to working life, co-operation and exchanges between universities, and joint study programmes laying the foundations for the Erasmus programme.

Co-operation was difficult in these early years due both to the lack of a legal basis at Community level and limited resources. However, these years laid the foundations for more significant progress later on, shaping a new form of cooperation within the European Community based on the subsidiary principle, i.e. the principle that Member States cooperate and implement action at EU level while at the same time respecting the diversity of national situations and the competence of Member States' governments.

The second half of the 1980s saw the launch of a number of diversified and increasing large scale projects – *Comett* was the first, followed by *Erasmus*, *PETRA*, '*Youth for Europe*', *Lingua*, *Eurotecnet* and *FORCE*.

The expansion and higher profile of Community co-operation on education and training boosted the recognition and status of these areas within the Commission. The Maastricht Treaty in 1992 gave education legal status in the newly established European Union, and made the European Parliament and Council jointly responsible for co-operation in education and training. Action entered a new phase, with the rise of globalisation and the information society increasingly underlining the importance of education and training. The concepts of 'knowledge based society' and 'lifelong learning' were coined and became increasingly well-known.

In 1995 a separate Directorate General was set up in the European Commission for education and culture. Programmes were consolidated in two stages. From 1995 to 1999 the six programmes were merged into two – *Socrates* for education and *Leonardo da Vinci* for vocational training. New measures were initiated under Community jurisdiction such as *Comenius* for schools. The period from 2000 to 2006 saw further changes, but it was not until the fourth and current generation of programmes (2007-2013) that more significant changes were made.

The launch of the *Lisbon Strategy* in 2000, laying out the economic, social and environmental strategy for the EU up to 2010, saw education and training becoming one of the spearheads needed to make Europe a knowledge society. The strategy brought about great changes to cooperation in the area and gave education and training a key role in the EU.

For the first time, a single integrated framework was adopted by the European Council, with a single programme devoted to lifelong learning and a new '*Youth in action*' programme being launched. Funds allocated to education and training increased significantly. In the 2007-13 period the total is supposed to exceed 1% of the Community budget, compared to 0.1% in 1986. Following the adoption of the Lisbon Strategy, a new basis for policy cooperation, the '*Education and training 2010 work programme*'² was established, setting the course for all subsequent education and training actions, laying down overarching benchmarks and applying a new working method – the 'open method of co-ordination'. The work programme established for the first time a solid framework for European cooperation in the field of education and training, based on common objectives and aimed primarily at supporting the improvement of national education and training systems through the development of complementary EU-level tools, mutual learning and the exchange of good practice via the open method of coordination. At the same time, existing initiatives continued to evolve, including the *Bologna Process* launched in 1999 by 30 countries and aimed at supporting convergence between higher education systems and achieving a European higher education area. The *Copenhagen Process*, signed in 2002, enhanced VET co-operation across Europe. The decision to continue successful cooperation at EU level under the open method of co-ordination was taken in May 2009, when the Education Council adopted the follow-up to the 2010 work programme, the "*Strategic framework for European cooperation in education and training (ET 2020)*". In December 2010, a number of long-term

² See also the recent document of the EU Commission on "An updated strategic framework for EU cooperation in education and training" with new targets COM (2008) 865 final from 16/12/08.

strategic objectives for the current decade were agreed in the *"Bruges Communiqué on enhanced European Cooperation in Vocational Education and Training"*.

1.1.2 CURRENT FRAMEWORKS AT EUROPEAN LEVEL

1.1.2.1 EDUCATION AND TRAINING 2020

According to the European Council, lifelong learning should be regarded as a fundamental principle underpinning the entire framework and designed to cover learning in all contexts - whether formal, non-formal or informal - and at all levels: from early childhood education and schools to higher education, vocational education and training, and adult learning.

In this context "Education and Training 2020" (ET 2020)³ is a new strategic framework for European cooperation in education and training building on its predecessor, the "Education and Training 2010" (ET 2010) work programme⁴. The overall strategic orientation of the new framework is to respond to the challenges that remain in creating a knowledge-based Europe and making lifelong learning a reality for all. It provides common strategic objectives for Member States, including a set of principles for achieving them, as well as common working methods with priority areas for each periodic work cycle.

The main aim of the framework is to support Member States in further developing their educational and training systems. These systems are supposed to better provide the means for all citizens to realise their potentials, as well as ensure sustainable economic prosperity and employability. The framework is intended to take into consideration the whole spectrum of education and training systems from a lifelong learning perspective, covering all levels and contexts (including non-formal and informal learning). Specifically, the framework of action until 2020 should address the following four strategic objectives:

- ☐ Making lifelong learning and mobility a reality;
- ☐ Improving the quality and efficiency of education and training;
- ☐ Promoting equality, social cohesion and active citizenship;
- ☐ Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training.

The periodic monitoring of progress towards a set of objectives provides an essential contribution towards evidence-based policy making. The strategic objectives outlined above should accordingly be backed up during the 2010 - 2020 period by performance indicators and reference levels.

At EU level different activities are being developed and implemented based on these four objectives. They address different levels of education and training – early childhood, school,

³ Council Conclusion on a strategic framework for European cooperation in education and training (ET 2020), OJC 119 of 28.5.2009.

⁴ See: "Detailed work programme on the follow-up of the objectives of education and training systems in Europe, OJ C 142 of 14.6.2002. See also the 2010 joint progress report of the Council to the Commission on the implementation of the "Education and Training 2010 work programme, "Key competences in a changing world", February 2010.

higher, vocational and adult education. These include, for example, greater opportunities for learning mobility and enhanced partnerships between education and training institutions and broader society. Other actions are relevant to all levels of education, such as promoting multilingualism, innovation, creativity and the adoption of Information and Communication Technology (ICT).

A series of milestones are set for 2020:

- ☐ at least 95% of children between the age of four and the age for starting compulsory primary education should participate in nursery (kindergarten) education;
- ☐ the share of 15-years old with insufficient abilities in reading, mathematics and science should be less than 15%;
- ☐ the share of early leavers from education and training should be less than 10%;
- ☐ the share of 30-34 year olds with tertiary or equivalent educational attainment should be at least 40%;
- ☐ an average of at least 15 % of adults (age group 25-64) should participate in lifelong learning.

1.1.2.2 VOCATIONAL EDUCATION AND TRAINING WITHIN ET 2020

Faced with such challenges as intensified global competition, the high numbers of low-skilled workers, the need for a skilled workforce, and an ageing population, vocational education and training (VET) has a crucial role to play in preparing individuals for today's society and ensuring Europe's future competitiveness and innovation. All actions aimed at improving VET help to provide the skills, knowledge and competences needed in the labour market. As such, they are an essential part of the EU's 'ET 2020' work programme, in which the European Commission, together with EU Member States and other countries, is acting to strengthen VET across Europe. The 'Copenhagen Process' established in 2002 lays out the basis for co-operation in VET, with 32 European countries involved.

On 9 June 2010, the European Commission presented a 10-year vision for the future of VET in its Communication "*A New Impetus for European cooperation in Vocational Education and Training to support the Europe 2020 strategy*"⁵. On 7 December 2010 the "*The Bruges Communiqué on enhanced European Cooperation in Vocational Education and Training for the period 2011-2020*" was agreed by the European Ministers responsible for VET, the European Commission, and the European Social Partners.⁶

Based on their 8-year cooperation experience within the Copenhagen Process, ministers from 33 European countries together with the European social partners agreed upon shared VET objectives for the next decade and an action plan for the coming four years. Focusing on existing challenges such as significant differences between countries as regards the levels of qualifications, VET enrolment rates, early drop outs from education as well as challenges in

⁵ EU Commission: Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A new impetus for European cooperation in Vocational Education and Training to support the Europe 2020 strategy, Brussels, 9.6.2010 COM(2010) 296 final.

⁶ "The Bruges Communiqué on enhanced European Cooperation in Vocational Education and Training for the period 2011-2020". Belgium Presidency, Education and Training, 7 December 2010.

the context of an ageing society, quality or internationalisation, the Bruges Communiqué defined a number of long-term overarching strategic objectives for European co-operation in VET:

- ☐ maximum access to lifelong learning giving all people the opportunity to learn at any stage in life and making routes into education and training more open and flexible;
- ☐ more opportunities for gaining experience and training abroad to boost language skills, self-confidence and adaptability;
- ☐ higher quality courses, providing the right skills for specific jobs;
- ☐ greater inclusion and access for disadvantaged people;
- ☐ creative, innovative and entrepreneurial thinking;
- ☐ and finally a number of transversal objectives. These include a greater involvement of VET stakeholders; greater visibility for European achievements in VET cooperation; coordinated governance of European and national instruments in the area of transparency, recognition, quality assurance and mobility; intensified cooperation between VET policy and other relevant policy areas; improving the quality and comparability of VET data used for EU policymaking; and finally, making good use of EU support measures.

1.1.3 OBJECTIVES AND FOCUS OF EUROPEAN VET POLICY AND PROGRAMMES

1.1.3.1 IMPROVING THE QUALITY AND THE LABOUR MARKET EFFICIENCY OF VET

Both the recent Bruges Communiqué and the June 2010 Communication of the EU Commission on a new impetus for European cooperation in vocational education and training in the context of the Europe 2020 strategy stress the need to improve the quality and the efficiency of VET in order to respond adequately to both labour market and people's needs. Here, both EU initiatives as well as national VET policy should pay more attention to quality improvements, competences of teachers and trainers, flexible pathways between different education levels, and generally increasing public awareness of the need to have a good VET system in place, in particular in countries where VET tends to be undervalued. Furthermore, European cooperation in both initial and continuing VET in the coming decade is going to focus more on the objective of integrating into the VET system key competences needed to make workers and learners more adaptable and flexible. In this context, the transition of VET graduates to the labour market or further education and training needs to be better monitored, using national monitoring systems.

Actors at national level are called upon to organise activities promoting VET excellence, improving its attractiveness amongst pupils and ensuring that key competences are adequately integrated in VET curricula. With regard to a better matching of VET to labour market needs, national governments, social partners and VET providers are called upon to *"maximise work-based learning, including apprenticeships, in order to contribute to*

increasing the number of apprentices in Europe by 2012",⁷ create opportunities for improved cooperation between VET institutions and enterprises, and provide VET institutions with feedback on the employability of VET graduates.

To improve the labour market relevance of VET, the Europe 2020 Strategy was already advocating partnerships between different stakeholders, and in particular the involvement of social partners, in the design, organisation and implementation of VET in order to improve both its efficiency and its labour market orientation. In many countries these partnerships take the form of "skills councils". These are involved in monitoring labour markets, developments of skills profiles, curricula, certification and other VET-related issues. Based on these findings, the EU Commission, together with EU-level social partners, has initiated the first EU-level pilot European sector councils on jobs and skills, scheduled to be launched in 2011.⁸

The labour market relevance of VET can also be enhanced by forward-looking planning tools better matching skills and jobs, and by studies on future skills needs as carried out in the context of a number of initiatives by the EU Commission or CEDEFOP.⁹

1.1.3.2 RECOGNITION OF COMPETENCES AND QUALIFICATIONS

A number of initiatives exist, aimed at enhancing the transparency, recognition and quality of competences and qualifications, and facilitating the mobility of learners and workers. These include the *European Qualifications Framework (EQF)*, *Europass*, the *European Credit System for VET (ECVET)*, and the *European Quality Assurance Reference Framework for VET (EQAVET)*.

The European Credit system for Vocational Education and Training (ECVET) is being developed to help the transfer and recognition of learning experiences in Europe, including those outside formal training systems. The development of ECVET began in 2002 after the Copenhagen Process emphasised the need for a credit transfer system for VET.¹⁰ National governments and the European Parliament gave their final approval to legislation in June 2009.

⁷ "The Bruges Communiqué on enhanced European Cooperation in Vocational Education and Training for the period 2011-2020", p. 9.

⁸ See Peters, M.; Meijer, K.; Van Nuland, E.; Viertelhuizen, T.; Van der Aa, R. 2010: Sector Councils on Employment and Skills at EU level, Rotterdam, March. Report for the EU Commission, DG Employment, Social Affairs and Equal Opportunities.

⁹ See "Action Now. Expert Group Report on New Skills for New Jobs, 2010" or the "Sectors' New Skills for New Jobs" study carried out on behalf of DG Employment, Social Affairs and Equal Opportunities". See: DG Employment, Social Affairs and Equal Opportunities 2009: Transversal Analysis on the Evolution of Skills Needs in 19 Economic Sectors, prepared by Oxford Research, Brussels. Also in 2009, a study commission by DG Enterprise and Industry was carried out on "Future Qualification and Skills Needs in the Construction Sector" by the Danish Technology Institute.

¹⁰ See: EU Commission: Establishment of a European Quality Assurance Reference Framework for Vocational Education and Training, Proposal for a recommendation of the European Parliament and of the Council presented by the Commission, April 2008.

Several projects focusing on the development and promotion of ECVET are being developed in different sectors (including vehicle servicing, chemicals, tourism, and international trade), funded by the EU's *Leonardo da Vinci* programme for vocational training.

In a recent evaluation of credit systems and qualification frameworks in the context of modernising higher education and VET carried out by CEDEFOP, no specific reference was made to the group of SMEs.¹¹

However, the European Association of Craft, Small and Medium-sized Enterprises, UEAPME, has stressed the following possible benefits of the ECVET for craft and SMEs in Europe:¹²

- ☐ To attract more people to the learning context and motivate them to participate in continuing training
- ☐ To enhance the mobility of apprentices and young people in initial VET
- ☐ The shift to a learning outcome approach can contribute to providing skills better adapted to the needs of the labour market and add to the creation of a European labour market
- ☐ To support the management of competences within a company
- ☐ To involve companies as a key factor in the process of evaluation, recognition and validation
- ☐ To facilitate the modernisation and sometimes reshaping of the education and training systems by the various actors.

With regard to the transparency of VET provisions both in initial VET (IVET) and in continuing VET (CVET), both the recent Communication and the Bruges Communiqué have defined the concrete goal that Member States should have established a common quality assurance framework for VET providers by the end of 2015. This framework also applies to workplace learning and that should be compatible with the EQAVET framework.¹³

1.1.3.3 LIFELONG LEARNING AND MOBILITY

Lifelong learning and mobility are today regarded as key factors for the smart and inclusive growth defined in the Europe 2020 strategy, with the recent EU-level initiatives stressing the important role of VET in lifelong learning and mobility for all people. Against the background of the experience gained in implementing the Copenhagen process as well as demands from different stakeholders, EU policy is stressing the need for greater flexibility regarding how learning outcomes are acquired, how they are assessed and how they lead to qualifications. Educational institutions need to open up the provision of CVET, "offering customer-

¹¹ CEDEFOP 2010: Linking credit systems and qualifications frameworks: An international comparative analysis, Research Paper, No 5, Luxembourg.

¹² UEAPME: UEAPME response to the European Commission's consultation on an "European Credit Transfer System for Vocational Education and Training (ECVET)", Brussels 14.03.2007, p. 2.

¹³ See "The Bruges Communiqué on enhanced European Cooperation in Vocational Education and Training for the period 2011-2020", p. 8.

orientated training solutions adapted to the needs of employees and employers in particular in micro and small business."¹⁴

With a view to the acquisition of learning outcomes, the validation of non-formal and informal learning has also been identified as an important factor in providing pathways for up skilling and integrating people into the labour market.¹⁵

Encouraging learners to take part in VET in different countries has been a longstanding EU priority, providing individuals with increased opportunities and experience, and enhancing efficiency and innovation.

The *Leonardo da Vinci* Programme (part of the Lifelong Learning Programme¹⁶) but also other such initiatives as "*Youth on the Move*" in the context of the Europe 2020 strategy, support a wide range of actions in vocational training, ranging from opportunities for individuals to improve their work-related skills through placements abroad, to cooperation projects between training organisations in different countries. Apprentices learn the skills needed for a specific job by combining on-site learning in a company with learning in a vocational school or training centre. As stated in a recent Communication of the EU Commission on "*An Agenda for new skills and jobs*", there are however a number of factors inhibiting interregional and transnational mobility, particularly from an SME point of view: "*housing, language, the employment opportunities of partners, return mechanisms, historical 'barriers', and the recognition of mobility experience, particularly within SMEs.*"¹⁷

As shown by recent data from DG Education and Culture on Leonardo projects in the field of VET, though the majority of hosting organisations in mobility programmes are SMEs, training placements in enterprises, according to the EU Commission, still "*face the particular challenge of involving businesses, generally SME, in the process.*"¹⁸

As a number of studies have shown, small companies in particular face a number of difficulties when wanting to take advantage of EU mobility programmes. At the beginning of 2009, a working group was set up by the European Commission in order to develop and

¹⁴ EU Commission: Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A new impetus for European cooperation in Vocational Education and Training to support the Europe 2020 strategy, Brussels, 9.6.2010 COM(2010) 296 final, p. 4.

¹⁵ *ibid.* p. 4.

¹⁶ See: "Action programme in the field of lifelong learning 2007-2013. Decision No 1720/2006/EC of the European Parliament and of the Council establishing an action programme in the field of lifelong learning, November 2006.

¹⁷ EU Commission: Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 2010: An Agenda for new skills and jobs: A European contribution towards full employment, Brussels, 23.11.2010, COM(2010)682 final, p.11.

¹⁸ EU Commission: Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A new impetus for European cooperation in Vocational Education and Training to support the Europe 2020 strategy, Brussels, 9.6.2010 COM(2010) 296 final, p. 5. See also a 2007 study into obstacles of mobility in apprenticeship: European Commission/DG Education and Culture: Move it - Overcoming Obstacles to Mobility for Apprentices and Other Young People in Vocational Education and Training, Brussels, April 2007.

propose concrete ideas on how to adapt the present and future *LLP Leonardo da Vinci Programme* to support the mobility of apprentices and persons in alternate VET schemes. Against the background that SMEs provide the largest number of apprenticeships, the report identifies the improvement of SME participation in trainee mobility as a major challenge.¹⁹

In view of this, the EU Commission is calling for²⁰

- ☐ strengthening transnational mobility for learning purposes in particular in initial vocational education;
- ☐ integrating foreign languages into VET programmes (see also the sub-chapter below);
- ☐ improving the recognition of the mobility training experience through the use of ECVET;
- ☐ setting up appropriate mobility support structures run directly by networks of VET stakeholders; and
- ☐ promoting "virtual mobility" through the use of ICT/e-learning.

It is quite clear that, without a strong contribution by VET systems, the ambitious benchmark set in the context of the ET 2020 work programme of 15% of adults participating in education and training by 2020 will not be reached. The EU Commission is aware of this, describing the following main challenges and concrete tasks for the following years:

The modernisation of VET systems for lifelong learning and mobility will require a strong involvement and commitment of all stakeholders. Public authorities at all levels play different but crucial roles. Social partners should be supported to play their part in the organisation, provision and financing of training, but should also play an active role in promoting and facilitating mobility. Individuals need to be motivated to engage in mobility and to take up lifelong learning through efficient and sustainable financing tools and schemes (e.g. training vouchers, individual learning accounts, training funds and others.)²¹

1.1.3.4 FOREIGN LANGUAGE AND INTERCULTURAL COMPETENCES IN VET

It has long been acknowledged that linguistic diversity is essential for European enterprises to sustain and increase competitiveness, in particular in the context of a knowledge-based economy and growing internationalization. Foreign language competence is therefore crucial to promoting economic competitiveness and for personal and social well-being and cohesion. The promotion of multi-lingualism has therefore been an important aspect of European education and training policy²² for quite a long time, playing a major role in

¹⁹ European Commission: 2010: How to adapt the present and future Lifelong Learning Programme to support the mobility of apprentices and persons in alternate vocational training. Report from the Working Group on Mobility for Apprentices, Brussels, 19 February 2010. See: http://ec.europa.eu/education/vocational-education/doc1149_en.htm.

²⁰ *ibid.*, p. 5.

²¹ *Ibid.*, p. 5.

²² See for example the European Council Resolution „A European Strategy for multilingualism“ (November 2008) or the EU Commission working document „Report on the implementation of the Action Plan „Promoting language learning and linguistic diversity“ (November 2007).

existing programmes such as the Lifelong Learning Programme (Key Activity 2) or – until 2006 – under the umbrella of LINGUA. As stated in a recent overview published by the EU Commission,²³ nearly half of EU countries report that foreign languages are part of VET curricula in their countries. The following two broad trends were identified in the study:

- ☐ Foreign languages are included in VET programmes where these are deemed to be appropriate to the qualification, for example in such areas as hospitality or tourism
- ☐ At least one foreign language is a compulsory part of the VET curriculum at some stage, in particular in smaller countries such as Austria, Belgium, Finland, the Netherlands as well as most of the new Member States (Cyprus, the Baltic States, Poland, Slovakia)

With regard to appropriate measures to enhance transnational mobility and competences in existing VET structures and policies, European governments have defined a number of concrete short-term objectives for the period 2011-2014 in the Bruges Communiqué:

- ☐ To encourage a greater number of VET students and VET professionals to participate in transnational mobility;
- ☐ To encourage local and regional authorities, as well as VET providers, to develop an internationalisation culture and internationalisation strategies, including cross-border mobility;
- ☐ To address legal and administrative obstacles related to the transnational mobility of apprentices and trainees;
- ☐ To encourage professional chambers, business organisations and other relevant organisations to support the host and sending enterprises in providing appropriate conditions for apprentices and trainees in transnational mobility;
- ☐ To ensure the provision of language learning and intercultural competences in VET curricula;
- ☐ To make optimal use of other EU tools (e.g. EQF, EQAVET, Europass) for enhancing the mutual recognition of qualification and competences.

1.2 EUROPEAN SME POLICY AND THE COVERAGE OF MICRO AND CRAFT (-TYPE) ENTERPRISES

1.2.1 THE EVOLUTION OF SME AND CRAFTS POLICY

As early as 2000, the European Council approved the *"European Charter for Small Enterprises"*, calling upon Member States and the Commission to take action to support and encourage small enterprises. Since then, several initiatives have been carried out to improve framework conditions for SMEs in Europe.

²³ Commission Staff Working Document. Accompanying document to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Key competences for a changing world. Progress towards the Lisbon objectives in education and training. Analysis of implementation at the European and national levels, p. 48.
In the context of the 2009 SME Week a folder on the added value of multilingualism in particular for small enterprises was developed. See: "Ten ways for small companies to work better with languages".
http://ec.europa.eu/dgs/education_culture/publ/pdf/language/sme_en.pdf.

With a view to better integrating the SME dimension into EU policies, a special SME envoy²⁴ has been appointed. Then, in June 2008, the "Small Business Act for Europe" was adopted, establishing a comprehensive policy framework for the EU and its Member States. This Act is based on the "Think Small First" principle – being SME-friendly should become mainstream policy in Europe. To achieve this, SME interests were to be irreversibly anchored in policy-making from regulation to public services, promoting SMEs' growth and helping them to effectively tackle problems and barriers. The SBA is a package of measures based on 10 fundamental principles, including one principle addressing skill development in SMEs.²⁵

On adopting the SBA, the Competitiveness Council also agreed in December 2008 on an Action Plan of measures to be implemented as a matter of priority to better address the needs of SMEs. Against the background of the global financial and economic crisis the priority measures concentrated on improving access to finance and to markets, and on the regulatory environment. In its December 2009 progress report²⁶, the Commission highlighted the progress made in implementing the SBA in particular with regard to these priority areas both at EU and national level. However, the uptake of the SBA as a policy guidance instrument has been slow in some Member States. For 2011 the Commission has announced a review of the SBA with a view to updating it and closely linking it to the Europe 2020 strategy. In a review paper on SBA implementation issued by the UEAPME, similar conclusions are drawn:

„However, the implementation of the SBA so far has been anything but “speedy”. Member States have made barely any progress on the “Think Small First” principle and even less on the concrete measures linked to the Small Business Act one year after its entry into force. This was also clearly demonstrated in our latest “Think Small Test” and “SBA Implementation Scoreboard” surveys. Therefore, UEAPME does not see the usefulness of a “review” of the SBA if it is not aimed at giving it a new impetus. Instead of reviewing it, it would be better to analyse Member State by Member State the reasons why the implementation of the SBA has been so slow and why there are so many different results and lack of harmonised data in the Member States. The same should also be done at European level.“²⁷

The 2009 SBA stocktaking only covered training and skills development issues with regard to measures carried out in the context of promoting entrepreneurship, e.g. the participation of young entrepreneurs in the ERASMUS programme and entrepreneurship education policies.

²⁴ For further information visit: http://ec.europa.eu/enterprise/entrepreneurship/sme_envoy.htm.

²⁵ (8) "Promote the upgrading of skills in SMEs and all forms of innovation".

²⁶ European Commission: Report on the implementation of the SBA, Brussels, COM(2009) 680.

²⁷ UEAPME: Position Paper. UEAPME position on the review of the "Small Business Act for Europe", Brussels 5.07.2010, p.1.

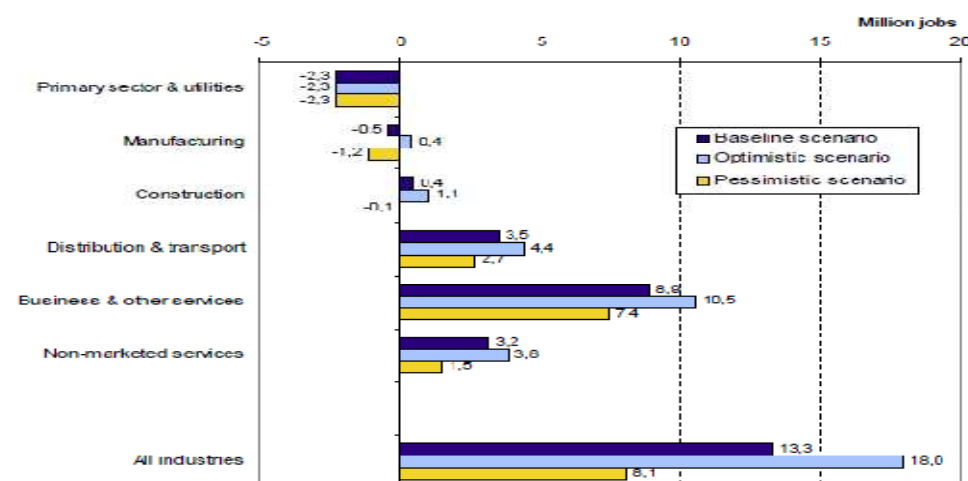
1.2.2 "NEW SKILLS FOR NEW JOBS" – CHALLENGES AND NEEDS FROM THE ANGLE OF MICRO AND CRAFT (-TYPE) ENTERPRISES

1.2.2.1 THE NEW SKILLS FOR NEW JOBS INITIATIVE

According to recent studies, there are around 100 million workers at risk due to their level of qualifications, and 20 million unemployed. At the same time 80 million people are considered low-skilled. Europe's population is ageing and companies are increasingly facing skills shortages. To be fit for future jobs, workers need higher skill levels, and up-to-date and adaptable competences. Moreover, in the context of Europe's evolution towards a more service-oriented economy focused on ICT and 'green' technologies, its workforce needs to adapt to new requirements and develop new skills. Around 20 million new jobs could be created in the EU-25 by 2020, according to a study presented by the EU Commission in December 2008. Almost three quarters of these will be in the services sector, the study forecasts. As the EU shifts towards a knowledge-based economy, the number of jobs requiring a high level of education will rise from 25% to 31%, forecasts the study compiled by CEDEFOP.

Taking everything into account, over 19.6 million additional jobs are expected to be created between 2006 and 2020 in the EU-25 in the baseline scenario considered in the study.²⁸ However, the actual number of jobs created will depend on the global economic environment. The current financial crisis and its impact on the real economy make the pessimistic scenario more probable. While generating fewer jobs, the scenario still sees growth in the service sector, though with a more pronounced decline in manufacturing jobs (see figure).

FIGURE 1: EMPLOYMENT TRENDS BY BROAD SECTORS ACCORDING TO DIFFERENT SCENARIOS
(CHANGE IN THOUSANDS, 2005- 2015)



Source: CEDEFOP 2008.

²⁸ CEDEFOP: Future skill needs in Europe. Focus on 2020, Luxembourg 2008.

The present crisis may accelerate the restructuring foreseen in these sectors. However, even in the pessimistic scenario, the manufacturing sector would still account for more than 33 million jobs in 2015. In addition, some regions would experience positive trends in manufacturing as a result of a transfer of jobs from older to newer Member States. Lastly, in some industries (for example engineering), demand is expected to outstrip productivity gains and create new jobs. The primary sector and utilities are expected to decline significantly in both scenarios.

According to the European Centre for the Development of Vocational Training (CEDEFOP), policies must therefore identify future skill needs, develop life-long-learning strategies, enhance the comparability of qualifications throughout the EU and set up a process of closer cooperation between the Member States in the field of vocational training and education.

These suggestions have been taken into account in the EU Commission's "New Skills for New Jobs Initiative". As the main policy initiative to enhance the anticipation of future skills needs, the "*New Skills for New Jobs*" resolution was adopted in November 2007 by the Education Council.²⁹ The Commission responded to this resolution in its December 2008 Communication with the title "New Skills for New Jobs: Anticipating and matching labour market and skill needs".³⁰ According to the Commission this initiative will focus on three main objectives:

- ☐ "Bridging the gap between the world of education, training and work"
- ☐ "Better matching skills and jobs"
- ☐ "Anticipating future trends: skills needs and supply"

The initiative is intended to support Member States and regions in developing more effective ways of identifying and analysing which skills will be required in future labour markets, thus laying the foundation for economic growth and efficient labour markets. Furthermore the initiative is intended to give Member States the opportunity of learning from each other and sharing their experiences and solutions in the field of qualifications and training (developing best practices). This exchange should also include other international organizations involved in upskilling and skill forecasting.

However, it is not only a matter of having enough skilled people and identifying their skill needs. There is also a need to anticipate skill mismatches in Europe.³¹ Such mismatches occur not only in the form of skill deficits but also in situations where an individual's qualifications, knowledge and skills exceed job requirements. This means that the challenge for Europe and future policies is not just to improve skills, but to match people with the right skills to the right jobs.

²⁹ See Council Resolution (2007/C290/01):
<http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2007:290:0001:0003:EN:PDF>.

³⁰ See EU Commissions' Communication COM(2008)868:
http://ec.europa.eu/education/lifelong-learning-policy/doc/com868_en.pdf.

³¹ CEDEFOP (2010): Skill mismatch in Europe, CEDEFOP Briefing Note June 2010,
http://www.cedefop.europa.eu/EN/Files/9023_en.pdf.

With its aim of investing in peoples' skills and modernizing European labour markets, the "New Skills for New Jobs" initiative contributes to the employment guidelines of the Lisbon Strategy and its successor "An Agenda for new skills and jobs" to "Europe 2020", a strategy for smart, sustainable and inclusive growth. A special emphasis of this initiative lies on SMEs, seen as "the backbone of most national economies in Europe, but often lacking human resources expertise".³²

Within the framework of the "New Skills for New Jobs" initiative, various organizations have contributed to the analysis of Europe's future labour market needs. As the European organization responsible for the development of vocational training, CEDEFOP has compiled several studies analysing future skill needs in Europe.³³ In addition it has set up the so-called "Skillsnet" network with the aim of providing forecasts on future demand and supply of skills up to 2020. This network brings together researchers, experts and other stakeholders to present and discuss research on skill needs in Europe. "Skillsnet" is also involved in CEDEFOP's sector-related skill needs studies, analysing up to now the following industries: green economy, healthcare, agri-food and forestry-wood, nanotechnology and tourism.³⁴

A similar approach was taken in the development of 19 sector studies conducted by the European Commission with the support of the European Foundation for the Improvement of Living and Working Conditions (Eurofound).³⁵ These studies contribute directly to the "New Skills for New Jobs" initiative, dealing with future skill needs in a wide range of industries in which SMEs predominate, including the construction sector.³⁶ In association with these studies the Commission organized a "Restructuring Forum" dedicated to the "New Skills for New Jobs" initiative. Together with the studies, the Forum came to the conclusion that the European economy would see a significant increase in high skilled jobs in the future and that European production would move towards specialization and excellence. These developments result in a high demand for upskilling in all sectors. Furthermore most sectors are in need of new combinations of skills and competencies, i.e. new skill profiles. Finally many sectors are expected to face serious recruiting problems due to skill shortages. A number of the recommendations from the sector studies and the Restructuring Forum emphasize the need for specific/joint education and training programmes for SMEs, the positive role played by cluster and network initiatives in facilitating SME access to resources

³² See "New Skills for New Jobs: Action Now", Report by the Expert Group on New Skills for New Jobs prepared for the EU Commission. <http://ec.europa.eu/social/BlobServlet?docId=4505&langId=en>.

³³ CEDEFOP (2010): "Skills supply and demand in Europe" Medium-term forecast up to 2020: http://www.cedefop.europa.eu/EN/Files/8016_en.pdf. CEDEFOP (2008): Skill needs in Europe. Focus on 2020, http://www.cedefop.europa.eu/EN/Files/5194_en.pdf.

³⁴ See: <http://www.cedefop.europa.eu/EN/about-cedefop/projects/identifying-skill-needs-in-sectors-and-enterprises/identifying-skill-needs-in-sectors-and-enterprises.aspx>.

³⁵ See: <http://ec.europa.eu/social/main.jsp?catId=784&langId=en>.

³⁶ The sector study on the construction sector was commissioned by DG Enterprise and Industry. See: Danish Technological Institute 2009: Future Qualification and Skills Needs in the Construction Sector", Copenhagen, July 2009.

to educate and retrain their employees, and the impact of new online and digital learning tools as a flexible and easy way of gaining access to education and training courses.

The recent Commission initiative to support the setting up of European sector councils on employment and skills by sector representatives could prove to be a valuable tool for SMEs, giving them access to information on trends in labour and skills on the basis of reports produced by national and regional sector councils. The first European councils should be created in 2011/2012 in the textile, clothing, and leather sector and in the commerce sector.

A forthcoming Commission study looks at the transferability of skills across economic sectors³⁷. The study bases its analysis on a review of literature on the subject and also on the results of an EU-wide survey and interviews conducted among different stakeholders, including small companies. Preliminary recommendations point out the importance of providing employees with opportunities to develop their transversal skills as a support to their employability. Policies and programmes targeting the promotion of these types of skills need to take company size into account, reflect their capacity to provide internal training and mobility plans.

1.2.2.2 CHALLENGES AND NEEDS IN MICRO AND CRAFT (-TYPE) ENTERPRISES

SMEs are directly affected by such known challenges as demographic changes, the ageing and scarcity of workers, and the growing shortage of qualified labour, but also by such challenges as how to attract greater numbers of younger and skilled people.

In line with the vast majority of SMEs, the anticipation of future skill needs is particularly important for micro and craft (-type) enterprises, as they are generally much more directly affected by skill shortages, recruiting problems and external factors such as changing technologies.

A further challenge many SMEs will be facing over the next years is the issue of business transfer due to the departure of a company's owner. As the European Commission outlined in a Communication on this issue, estimates state that one third of EU entrepreneurs, mainly those running family business, will withdraw from their business within the next ten years, with up to 690,000 SMEs and 2.8 million jobs affected every year.³⁸ According to a survey compiled by "KMU Forschung Austria", between 2001 and 2010 approx. 52,000 small and medium-sized companies in Austria with around 440,000 employees were confronted with the task of organising a smooth business transfer on the retirement of the owner. Given the fact that nearly one quarter of all domestic companies and approx. 17% of all manufacturing jobs were affected, this figure is quite impressive. In Germany as well the issue of business transfer is one of the main challenges facing SME development. According to estimates by

³⁷ "Transferability of Skills across Economic Sectors: Role and Importance for Employment at European Level", to be published in Spring 2011 under the link: <http://ec.europa.eu/restructuringandjobs>

³⁸ Communication of the EU Commission: "Implementing the Lisbon Community Programme for Growth and Jobs: Transfer of Businesses – Continuity through a new beginning", COM(2006) 117 final, p.3.

the German "Institute of SME Research"³⁹ more than 70,000 enterprises with nearly 700,000 employees will have to look for a new owner/director over the next five years.

Other demographic challenges involve the age structure of the European population, the subsequent decline of the working-age population and the ageing of the company's workforce. While measures such as increasing women's and older employees' employment rates are important in this context, further more pro-active responses are necessary, e.g. better labour market integration of immigrants, grasping opportunities offered by older employees and the 'silver economy', and adequate social protection measures as described by the EU Commission in a Communication in 2006.⁴⁰

Increased globalisation of the economy is also regarded as a major challenge for smaller companies. Many surveys predict that SME internationalisation will in the future involve more than just having sales offices abroad.⁴¹

In this context, the issue of a skilled workforce, educational achievement and access to continuing training are seen by SME experts as playing a crucial role. It is noted that, though SMEs are already carrying out a good deal of vocational training, at the same time large numbers of employees are leaving SMEs for better paid positions in larger enterprises, leaving the company to bear the cost of the training, without gaining any corresponding reward.

Against the background of demographic changes which in many EU Member States are resulting in an increasing scarcity of qualified labour, the following specific challenges are arising for SMEs in Europe (as identified in recent projects of the European Social Partners or the European Commission⁴²):

- ☐ Retaining qualified workers and making SMEs more attractive
- ☐ Developing appropriate and tailor-made concepts, methods and support for training and skills development
- ☐ Recognition and validation of soft skills and informal qualifications
- ☐ Supporting training and skills development in SMEs financially
- ☐ Fostering mindsets changes in both workers and managers in micro and small enterprises

Recent surveys have exposed significant gaps in participation rates for employee training by company size⁴³. Generally speaking, participation rates in large enterprises are much higher than in smaller companies. At the same time there are major differences between European

³⁹ Bundesministerium für Wirtschaft und Technologie: Der Mittelstand in der Bundesrepublik Deutschland. Eine volkswirtschaftliche Bestandsaufnahme, Berlin, 2007, p. 39.

⁴⁰ See the Communication of the EU Commission on "The demographic future of Europe – from challenge to opportunity", 12 October 2006, COM(2006)571.

⁴¹ See: Observatory of European SMEs: Internationalisation of SMEs. European Commission 2003.

⁴² See: ETUC/UEAPME 2009: Cooperation between SMEs and trade unions in Europe on common economic and social concerns. Expert Report prepared for the joint project, Brussels; and DG Employment, Social Affairs and Equal Opportunities: Guide to Training in SMEs, Brussels 2009.

⁴³ OECD: SME and entrepreneurship outlook, OECD 2005, p. 80. See also the Report of the Observatory of European SMEs: "Competence development in SMEs", Brussels 2003.

countries, with Nordic countries having the highest participation rates and Southern Europe, together with the Central and Eastern European countries, the lowest ones.

There is also a direct correlation between the lack of respective resources for training and skill development and the adaptability of employers and employees in the SME sector as the following quote from an interview with a Spanish employers' federation representative illustrates:

"Their reduced financial and management capacities have prevented them from making the necessary technological investments, whereas our respondents insist in this being the key for developing products with higher added value, and therefore for competitiveness and adaptation. Too many unqualified workers and too few specialised professionals have meant that SMEs in sectors such as the metal and chemical industry could not survive the restructuring of hub companies." (Background Report for the EU Commission's SME Restructuring Forum, November 2007)

In this context it should also be mentioned that official statistics on training and further qualification rates only partly reflect training reality in SMEs as, in particular in the small business sector, training often takes place in the form of informal competence and skills development and on-the-job-training not taken into account in official statistics.

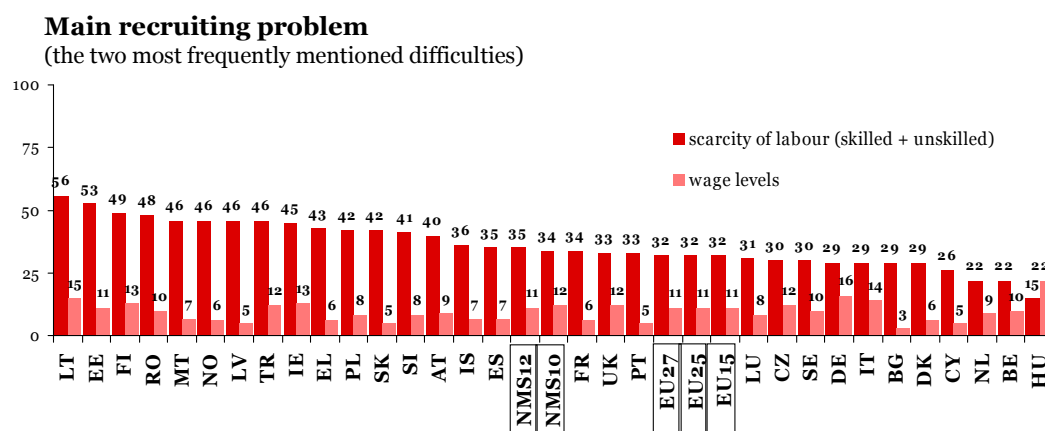
Finally, and again in particular for smaller companies, there is also a problem with existing training offers and programmes, as these are normally designed and organised from the perspective of larger companies and simply do not suit the organisational needs of smaller companies. There clearly is a need for tailor-made solutions.

As the European SME Observatory Survey illustrates⁴⁴, the lack of skilled labour is already a problem for more than one third of all SMEs in the EU, though with significant differences: while it seems that the problem is least widespread in countries like the Netherlands or Germany (reported only by 20-25% of the managers interviewed), it is a concern for almost three quarter of managers in other countries (72% in Lithuania, 50% in Estonia and Turkey, more than 50% in Greece, Romania and Finland).

In the analysis of SMEs with problems filling job vacancies, the survey stresses that these enterprises are primarily complaining about the scarcity of *skilled* workers. 28% of SMEs in the EU indicate that this is their primary concern in recruiting. If the problem of the limited availability of unskilled labour (5%) is added, it becomes clear that one third of European SMEs are struggling to find the necessary human resources.

Though SME managers are also mentioning that high wage levels expected by candidates are a serious problem for recruiting, the scarcity of skilled and non-skilled labour is the most important barrier. As the graph below indicates, in all but one European economy, the scarcity of labour is a more significant problem than high wage levels. These shortages are especially dangerous as SMEs basically have just two options: either to adapt effectively to changes or to quickly disappear from the market.

⁴⁴ DG Enterprise and Industry: European SME Observatory 2007.

FIGURE 2: RECRUITMENT PROBLEMS IN SMES

Q63. What is your main recruiting problem?

Base: SMEs, % by country, question was not asked from 1-person firms

Source: DG Enterprise and Industry: European SME Observatory 2007.

In this context it is also interesting to review CVET practice in SMEs. According to the Continuing Vocational Training Survey 2005⁴⁵, in the EU-27 only 33% of the workforce participated in Continuing Vocational Training (CVT) programmes, with the situation of employees in the SME sector even worse than in large enterprises. According to Eurostat data, 41% of employees in large companies participated in CVT courses, while the figure was only 21% in small enterprises and 29% in medium-size ones. This situation has significant consequences because employees in the SME sector are a vulnerable group and the first to be influenced by changes, whether internal or external. Without appropriate training they may not be prepared to adapt effectively. There is also the problem of an emerging "skills divide" between employees from large companies and those from the SME sector. There is a threat of the latter being left behind and equipped with obsolete skills while the former advance, becoming more skilled and increasing their employability.

Against such a background, the UEAPME is strongly advocating that "continuing training must be permanent":

The European Union must give the necessary impulse so that every country integrates this necessity in its policies and implements adequate framework conditions for SMEs in order to enhance their participation in lifelong learning, (e.g. promoting appropriate incentives for individuals and for enterprises, etc.) (...) Therefore, an appropriate SME-support structure should be developed for fostering the culture of "a learning business", the human resource management and the development of individualised pathways.⁴⁶

⁴⁵ Continuing Vocational Training Survey (CVTS3) reference year 2005, Eurostat 2009.

⁴⁶ UEAPME: UEAPME Vocational Training Priorities, Brussels, 2.10.2008, p. 3.

1.3 CONCLUSIONS

In conclusion, SMEs and in particular micro and small companies are facing both external and internal barriers and obstacles to improving their skills base. There are financial as well as organisational barriers. It is more difficult for micro businesses and small firms to find the financial resources needed to offer training to their employees or to send their experienced staff and workers on longer training courses. Training programmes and methods available on the market are too often unsuited to the size and needs of this type of company. Specific SME-related challenges have been defined elsewhere⁴⁷ in regard to three different aspects:

First, SME internal barriers and obstacles for training and skills development, e.g.:

- ☐ Organisational barriers and obstacles
- ☐ Financial means and resources for training
- ☐ HR and skills development policy / plans / anticipation
- ☐ Perceptions of training needs (by entrepreneurs/managers and employees)
- ☐ Resource pooling and SME cooperation in training and competence development

Secondly, the development of suitable methods and techniques for training and skills development in SMEs, e.g.

- ☐ Training methods addressing specific needs of SMEs, e.g. on-the-job-training, job rotation etc.
- ☐ Training and competence development for managerial staff/entrepreneurs
- ☐ Validation of informal skills and qualification

And, *finally*, there are structural challenges of competence and skills development, e.g.

- ☐ Demographic change and "greying" of the workforce
- ☐ Recruitment/attracting younger and qualified employees
- ☐ Competence development in the context of internationalization

⁴⁷ See: DG Employment, Social Affairs and Equal Opportunities: Guide to Training in SMEs, Brussels 2009.

2 MICRO AND CRAFT (-TYPE) ENTERPRISES IN EUROPE – ECONOMIC WEIGHT, FRAMEWORKS AND CHALLENGES IN THE FIELD OF VOCATIONAL EDUCATION AND TRAINING AND SKILL DEVELOPMENT

2.1 EUROPEAN AND NATIONAL CONCEPTS AND DEFINITIONS OF MICRO AND CRAFT ENTERPRISES

According to the EU definition of micro, small and medium-sized enterprises, an SME is a company employing fewer than 250 persons, with an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.

TABLE 1: EUROPEAN SME DEFINITION

Category	Headcount	Turnover	or	Balance sheet total
Medium-sized	< 250	≤ € 50 million		≤ € 43 million
Small	< 50	≤ € 10 million		≤ € 10 million
Micro	< 10	≤ € 2 million		≤ € 2 million

Source: European Commission: Recommendation 2003/361/EC regarding the SME definition

There is no EU-wide definition of craft (type) enterprises. The "craft sector" in Europe is very diverse, covering a multitude of different professions and trades. Furthermore, among EU Member States there are very different understandings and legal definitions of what is meant by a "craft" enterprise. Nevertheless craft (type) enterprises generally show characteristics which are often very similar to micro enterprises. Though there have been specific initiatives focusing on micro and craft enterprises⁴⁸, such enterprises are also covered by the overall initiatives and policy instruments aimed at promoting SMEs in general. In its April 1996 recommendations on the definition of SMEs, the European Commission states that the craft field "will continue to be nationally determined, because of its specificities".⁴⁹

2.2 THE POSITION OF MICRO AND CRAFT (-TYPE) ENTERPRISES IN EUROPEAN AND NATIONAL ECONOMIES AND LABOUR MARKETS

2.2.1 EU-LEVEL DATA ON SMEs

Small and medium-sized enterprises (SMEs) play an important role with regard to the competitiveness of the European economy. SMEs are the dominant form of business organization in Europe, with some 20.8 million SMEs existing in 2007, representing 99.8% of

⁴⁸ The European Commission has organised since the 1990 a number of EU level conferences to reflect on the specific needs of craft and small enterprises. See for example the results and conclusion of the 4. European Conference on Crafts and Small Enterprises in Stuttgart 2007: http://ec.europa.eu/enterprise/policies/sme/promoting-entrepreneurship/crafts-micro-enterprises/conferences/index_en.htm.

⁴⁹ Commission Recommendation (96/280/EC) of 3 April 1996 concerning the definition of small and medium-sized enterprises.

all enterprises in Europe. Furthermore, these companies are also the main source of jobs in the EU, employing around 67% of the European workforce.⁵⁰

Within the group of SMEs, the vast majority (over 91%) are *micro enterprises* employing less than ten people. Around 30% of the European workforce in private business was employed by micro companies. At the same time, micro companies accounted only for one fifth of the value added in the EU-27 non-financial business economy.⁵¹ The second largest SME group is made up of small enterprises defined as employing 10-49 people. In 2005 this group consisted of about 1.4 million enterprises (excluding agriculture, financial services and public services) employing a workforce of more than 27 million throughout Europe, i.e. around 7% of all European enterprises and around one fifth of the total workforce.

TABLE 2: KEY INDICATORS FOR ENTERPRISES IN THE NON-FINANCIAL BUSINESS ECONOMY, EU-27, 2007

	Total	SMEs	Micro	Small	Medium	Large
		1 - 249	1 - 9	10 – 49	50 - 249	> 250
Number of enterprises (x 1000)	20 752	20 709	19 058	1 424	226	43
Share in total (%)	100.0	99.8	91.8	6.9	1.1	0.2
Persons employed (x 1000)	133 362	89 947	39 630	27 652	22 665	43 414
Share in total (%)	100.0	67	30	21	17	33
Value added (EUR billion)	6 126	3 547	1 287	1 158	1 101	2 579
Share in total (%)	100	58	21	19	18	42

Source: EIM Business & Policy Research: *European SMEs under Pressure. Annual Report on EU small and medium sized enterprises 2009*, Brussels 2010.

Only 1.1% of enterprises in the non-financial business economy in 2007 belonged to the *medium-sized company* sector, defined as employing 50-249 people. With a workforce of about 22 million people, medium-sized companies are the smallest of the four enterprise groups. However, their share of turnover and value added is quite similar to that of both micro and small enterprises. In spite of their very small share (0.2%) of the overall number of enterprises, *large companies* (employing 250 or more people) generated the highest amount of turnover and value added (42%) in the non-financial business economy in Europe and employed about one third of the workforce.

The sector-specific employment role of SMEs ranges from low roles in such sectors as utilities (energy and water) or tobacco to more than 80% in the construction sector and in

⁵⁰ Data taken from Eurostat, Structural Business Statistics (SBS) by size class and the SME performance reviews of DG Enterprise.

⁵¹ *Methodical note:* The figures presented in this report are based on Eurostat's structural business statistics (SBS) which provide the most up-to-date statistical data on certain indicators according to enterprise size classes. SBS data refer to the non-financial business economy which includes industry (NACE sections C to E), construction (NACE section F) and non-financial services (NACE sections G to I and K). This means that the figures presented in this report do not include financial services (NACE section J), agriculture or public services. See Eurostat: *Enterprises by size class - overview of SMEs in the EU*, Statistics in Focus 31/2008 and Key figures on European Business. 2010 edition.

hotel and restaurant activities. Distribution and business services/activities are further sectors where around three quarters of all employees work in SMEs.

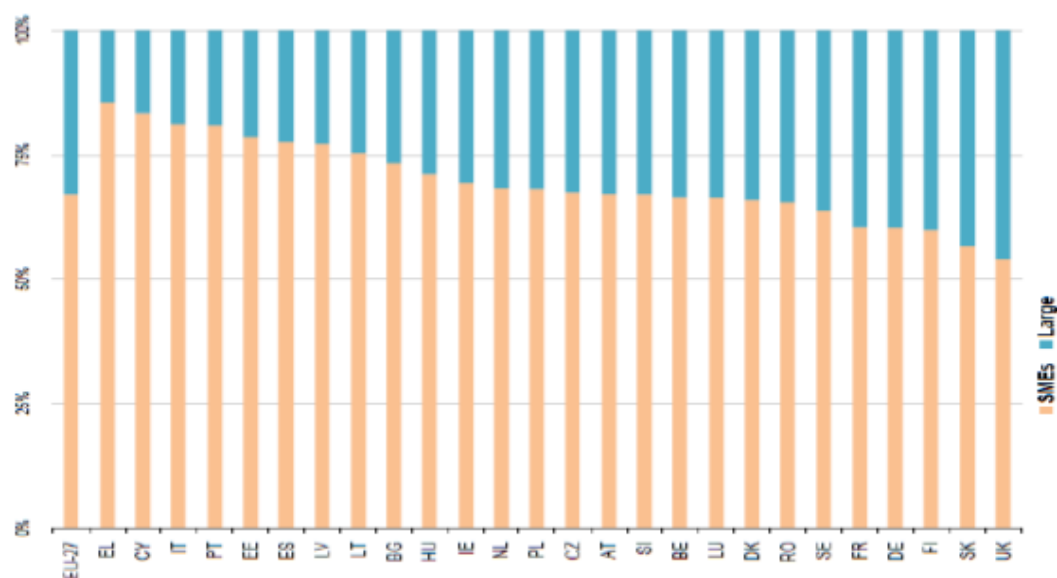
There are also differences regarding the share of the three SME size groups in major industry sectors. For example, nearly three quarters of the European construction workforce work for companies with less than 50 employees, and around 45% of all employees in the hotel and restaurant sector are employed in micro companies. By contrast, manufacturing, electricity, gas and water supply are sectors where most of the SME workforce are employed by medium-sized companies.

In general, smaller enterprises account for a greater role in labour intensive sectors than their larger counterparts: In 2007⁵², labour productivity in the EU was on average highest in the energy sector and in the tobacco sector – both sector dominated by large companies - while it was lowest in typical SME sectors such as hotels and restaurants. In manufacturing, construction, hotels and restaurants as well as transport and communications, there is a pattern of increasing levels of labour productivity in larger enterprises.

2.2.2 COUNTRY EXAMPLES

The geographic diversity of SMEs across Europe reflects specific patterns of industrial structures, economic traditions and other framework conditions, in particular the economic and social transformation process in the Central and Eastern European Member States.

FIGURE 3: SHARE OF SMES IN TOTAL EMPLOYMENT, NON-FINANCIAL BUSINESS ECONOMY, 2007



Source: Own, based on Eurostat 2010

With regard to the overall importance of SMEs in national economies in Europe, there are six countries where the SME sector employs more than three quarters of the workforce and which are clearly above the European average (67%): Greece (85%), Cyprus (84%), Portugal and Italy (81%) as well as Spain and Estonia (78%). At the other end of the scale, most of the

⁵² Data taken from: Eurostat: European Business. Facts and Figures. 2009 Edition.

bigger EU countries belong to the group characterised by comparatively high employment shares in larger enterprises. Nearly one out of two employees is working in large enterprises in the United Kingdom (46%) and Slovakia (43%). Finland (40%), Germany and France (39%) also show high shares of employment in large enterprises (see figure 3).

When looking at those EU Member States focused on in our study, the wide diversity in the economic and employment roles played by SMEs becomes clear (see table below, based on 2005 data). While in all countries the share of SMEs in the total number of enterprises exceeds 99%, the share in total employment varies between 54% in the UK and more than 80% in Italy. Regarding the share in total added value the spectrum varies between 48% in Poland and 71% in Italy.

TABLE 3: KEY INDICATORS ON SMES IN THE EU-27 AND OUR COUNTRY SAMPLE
(NON-FINANCIAL BUSINESS ECONOMY, 2005)

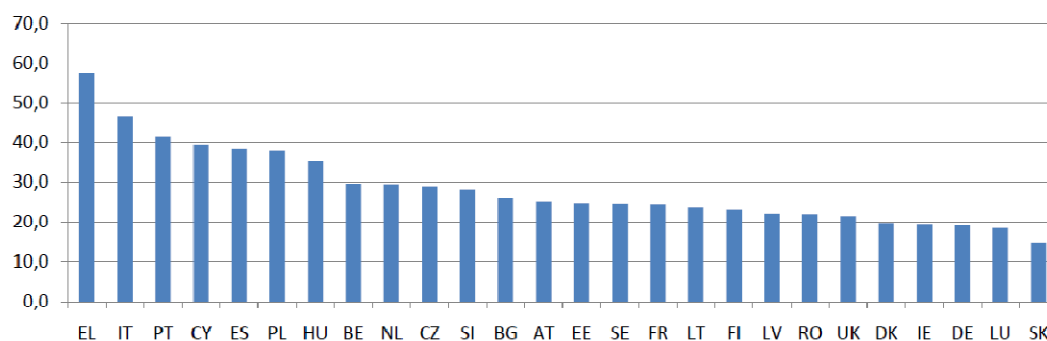
	Number of enterprises	Number of persons employed	Value added	Share of SMEs		
				Number of enterprises	Number of persons employed	Value added
	1,000	1,000	EUR billion	%	%	%
EU-27	19,602	85,000	3,090	99.8	67.1	57.6
Bulgaria	240	1,318	5	99.7	72.6	53.2
Denmark	202	1,129	67	99.7	66.0	64.8
Germany	1,654	12,357	553	99.5	60.6	53.2
France	2,274	8,834	412	99.8	61.4	54.2
Italy	3,919	12,182	420	99.9	81.3	70.9
Austria	272	1,589	76	99.7	67.4	60.0
Poland	1,405	5,289	59	99.8	69.8	48.4
United Kingdom	1,535	9,636	501	99.6	54.0	51.0

Note: Data only covering the "non-financial business economy" according to the definition of Eurostat. See footnote 51 for more details. Source: Eurostat 2008.

2.2.3 MICRO ENTERPRISES

The distribution of employment in micro companies across the Member States shows that a relatively high proportion of the non-financial business economy workforce was employed in micro enterprises in many of the southern Member States, in particular in Greece (57%), Italy and Portugal (>40%). Cyprus and Spain as well as Poland with around 40% also show high shares of micro enterprises in overall employment. By contrast, micro companies account for only a relatively small share of employment (around 20%) in such countries as Germany, Denmark and the UK.

FIGURE 4: SHARE OF MICRO ENTERPRISES IN TOTAL EMPLOYMENT
(NON-FINANCIAL BUSINESS ECONOMY, 2007, %)



Source: own, based on Eurostat 2010.

2.2.4 MICRO AND CRAFT (-TYPE) ENTERPRISES FROM A QUALITATIVE PERSPECTIVE

While the term “micro enterprise” is a purely statistical category based on a certain size of enterprise, the notion of “craft” has developed in the majority of European countries on the basis of specific national traditions and frameworks.⁵³ Generally speaking, there are a number of specific aspects characterising both craft and micro enterprises.

First, in micro and craft enterprises, the owner plays an important role, being directly involved in the business. He/she carries major personal responsibility and prefers to be financially independent. Furthermore, with micro and craft enterprises delivering an important contribution to products and services, products/services are often tailor-made or produced in small quantities. This means that craft, technical and managerial competences play an important role in the enterprises, with these competences being transferred via person-to-person relationships (for example through apprentice systems). Finally, there is often a close relationship with clients and craft organisations, with many micro enterprises also playing an important role in local communities. The work itself therefore has an individual character and consists mainly of production, maintenance, cleaning or personal services.

In the following, different national perceptions and legal and/or economic definitions of craft enterprises in the country sample of our study are described in greater depth.

In Austria, a distinction is made between crafts (Handwerk) and trades (Gewerbe). According to the Austrian legal system, almost all enterprises⁵⁴ have to be a trade (*Gewerbe*) and are regulated by the *Trade, Commerce and Industry Regulation Act (Gewerbeordnung)*. The law covers 96 different crafts, regardless of the size of the enterprise, and differentiates

⁵³ See: EIM Business & Policy Research 2009: Study on the representativeness of business organisations for SMEs in the European Union. Final Report, Zoetermaer. ZDH 2004: Handwerkskammern in Europe – Ein Organisationsvergleich, Brüssel.

⁵⁴ The exceptions are agriculture (farms), mining and academic freelance professions (“freie Berufe”) which are regulated by own laws.

between four types of business, one of which is “regulated trades and crafts”.⁵⁵ While about 93% of all trades are “free trades”, there is no separate legal regulation for crafts (Handwerk) apart from the need to have a certificate of competence (*Befähigungsnachweis*), i.e. the owner or manager has to be a certified master craftsperson, having passed the respective examination (*Meisterprüfung*) or possessing similar proof of competence.⁵⁶ This is also the reason why apprenticeship training plays such a prominent role in craft-type companies (before taking the master craftsperson examination, apprenticeship training usually has to be completed). A further definition or notion of the term craft stems from the categorisation within the organisational system of the Chamber of Commerce, where there are seven sections – one of them called trade and crafts.⁵⁷

Legislation on the crafts sector (crafts regulation) in *Germany* stipulates that a business constitutes a fully-fledged crafts enterprise if it is operated as such and if all or most of its activities are listed in the index annexed to the crafts regulation. The enterprise is then entered in the crafts register kept by the relevant regional Chamber of Crafts (*Handwerkskammer*). The crafts regulation annex lists 94 craft occupations (41 restricted-access craft professions needing a certificate of competence and 53 crafts-related professions with less stringent access criteria).⁵⁸

In *Bulgaria* as well, there are clearly defined professional activities defined as crafts in the 2001 law on crafts. The special crafts register lists some 126 professions subject to authorization and access restrictions. As in Germany, craft enterprises are also obliged to belong to one of the 24 regional crafts chambers.

Italy is the only EU country where crafts are mentioned in the national constitution. This stresses the importance of craft enterprises as motors of economic and social development. National law No. 443 of August 1985 defines a craft enterprise as an enterprise promoted and managed by a person who has the skill and qualification of a craft entrepreneur, has the size indicated by the law, has a prevalent aim to produce goods, also semi-worked, and services and has a specific legal form.⁵⁹ The Italian law defines in an annexed list 103

⁵⁵ The other are “free trades” (not certificate of competence needed); “regulated trades covered by a special authorisation” and “partially trades” (where a partial for of certification of competences is required).

⁵⁶ Successful completion of a technical, montanistic, natural science or agricultural university study or of an appropriate vocational college / university of applied sciences (“Fachhochschule”) with the proof of two years of practical experience. Also the completion of an appropriate foreperson course (“Werkmeister-schule/-klasse” in combination with a start-up business examination and four years of practical experience qualifies for running a crafts-company.

⁵⁷ The other sections are industry, commerce, banks and insurance, transport, tourism, information and consulting.

⁵⁸ 1. Construction and fittings (e.g. mason, painter and varnisher); 2. Metal and electrical work (e.g. automotive mechanic, electrician); 3. Wood (e.g. carpenter, layer of parquet); 4. Clothing, textiles and leather (e.g. dressmaker, interior decorator); 5. Food (e.g. baker, butcher, miller); 6. Healthcare, chemical and cleaning professions (e.g. optician, hairdresser, building cleaner); 7. Glass, paper, ceramics and other professions (e.g. glazier, printer, violin-maker).

⁵⁹ DG Enterprise and Industry/Euro Info Centre Network: Guide Crafts and Micro-Enterprises in Italy, Market Access Working Group.

professions divided into 13 categories that are defined as craft. According to Italian law, craft enterprises are defined as enterprises in which the owner himself works and has overall business responsibility and liability. Furthermore the enterprise should either produce goods or deliver services in the field of artisan products or commodities. The Italian law also stipulates that craft enterprises should not exceed a certain size in terms of number of employees.⁶⁰

In France the craft sector also has a very precise legal definition⁶¹ which derives from the law of 5 July 1996 on the development and promotion of trade and crafts and is based on a list of about 250 craft professions. An enterprise is considered to be a craft company when it employs not more than 10 employees, is economically independent, and engaged in production, processing, repair or delivery service and placed on a list established by decree of the Council of State (*Conseil d'Etat*). The craftsman must be registered in the trade index (*Répertoire des Métiers*) by the Skilled Crafts Chamber (*Chambre des métiers et de l'artisanat*). Finally, the craftsman must not employ more than 10 employees at the time the company is established.⁶²

In Poland, the "Law on Crafts" adopted in 1989 defines a craft as an economic activity carried out by a craftsman on the basis of own responsibility and work, and employing a maximum of 15 employees.⁶³ Craft professions are defined by the certification rules for journeyman and master craftsmen that exist for 103 occupations. It should be noted here that Poland has no craft register.

Denmark and the UK are the only cases in our sample of countries where no craft-specific legislation exists. However, the two countries follow different approaches with regard to crafts and craft enterprises. In Denmark, craft enterprises belong to the small enterprise size group (enterprises with less than 50 employees). Within this group, all enterprises with less than 6 employees are automatically regarded as "craft enterprises". In the field of repair and services there is a threshold of 20 employees. For all other enterprises the categorization of craft enterprises depends on two conditions: having less than 50 employees and engaged in production, construction, repair, services or retail.⁶⁴ Registration as a craft business also requires certain competence certificates. There are 62 craft occupations with specific rules of vocational education.

⁶⁰ Here, the legislation differentiates between different types of enterprises, i.e. enterprises engaged or not engaged in mass production; transport enterprises; enterprises in construction; artisan enterprises. Further details: ZDH 2004: *Handwerkskammern in Europa – Ein Organisationsvergleich*, Brussels, p. 111.

⁶¹ Information as provided by APCM in the context of the national report in the context of this project.

⁶² However, the size should be qualified by what is commonly called the "following right" (*Droit de suite*): Any company created with fewer than eleven employees can maintain its "craft" character also when it exceeds this threshold, provided that the entrepreneur or the spouse has the status of a craftsman. Thus, the craft field now includes companies that employ over 10 employees.

⁶³ ZDH 2004: *Handwerkskammern in Europa – Ein Organisationsvergleich*, Brussels, p. 189.

⁶⁴ ZDH 2004: *Handwerkskammern in Europa – Ein Organisationsvergleich*, Brussels, p. 47.

Craft does not exist as a legal corporate category in the *United Kingdom*,⁶⁵ with the term "craft enterprise" unknown in the UK. The only existing characterization of craft and craft-related activities derives from a definition of the *Craft Council*. Established in 1979, this defined three main criteria for a craft: first, the dominance of the human factor in all phases of production; second, the use of natural components (glass, textile, wood etc.), and third, a certain dimension of creativity.

The following table listing both contrasts and similarities in the status of crafts in our sample of countries clearly illustrates that each country has adopted a specific approach in defining and regulating the craft sector.

TABLE 4: STATUS OF CRAFT ENTERPRISES IN THE COUNTRY SAMPLE

	General understanding of crafts	Legal definition	Definition of maximum number of employees	Craft chamber system	Craft professions as legally defined
Austria	List of regularized craft professions in the Trade Act	Yes	No	No	42
Bulgaria	List of occupational profiles considered as crafts	Yes	No	Yes	129
Denmark	Micro and small enterprises in production, repair and services	No	50	No	62
France	Independent economic activity in the field of a legally defined craft trade with a limited number of employees	Yes	10	Yes	250 (approx. 100 trades)
Germany	List of legally defined and regularized craft professions	Yes	No	Yes	94
Italy	Enterprises up to a certain size meeting a number of legal requirements	Yes	up to 40 under certain conditions	No	103
Poland	Independent economic activity in certain sectors and up to a certain size	Yes	15	yes	103
United Kingdom	Term is only used with view on artisan activities	No	No	No	Not defined

Source: Own, based on national reports of project partners and ZDH 2004: *Handwerkskammern in Europa. Ein Organisationsvergleich*, Brüssel.

⁶⁵ DG Enterprise and Industry/Euro Info Centre Network: Guide Crafts and Micro-Enterprises in United Kingdom, Market Access Working Group.

2.3 PROFILES AND MAIN ECONOMIC AND EMPLOYMENT TRENDS OF MICRO AND CRAFT (-TYPE) ENTERPRISES FROM A COUNTRY AND SECTOR PERSPECTIVE

Our sample reflects the differing shares and economic roles of micro enterprises in Europe. As seen in the following table, the weight of micro companies in the eight-country sample differs significantly: while the share of SMEs in the total number of enterprises in Italy is roughly equal to the EU average, the percentage of micro enterprises clearly exceeds the EU average and their contribution to employment is much higher (47 %) than the European average (30 %).

In strong contrast to this, the role of larger companies in the SME sector in the United Kingdom is greater, with the percentage of micro enterprises below the European average. The lowest share of micro enterprises in overall employment is reported in Germany, where the contribution of micro firms to employment (19 %) is significantly below the European average (30%) and where the share in value-added (15.5%) is also lower than the EU average (21%). The lowest share in added-value in our sample of countries is reported in Bulgaria where micro companies contribute only approx. 14%, though the share in overall employment is nearly double this figure (27.9%).

TABLE 5: SHARE OF MICRO ENTERPRISES WITH REGARD TO KEY INDICATORS OF ENTERPRISE POPULATION (%)

	Number of enterprises	Number of persons employed	Value added
EU-27	91.8	29.7	21.0
Austria	87.5	25.2	18.7
Bulgaria	89.3	27.9	13.9
Denmark	86.8	19.7	27.7
Germany	83.1	19.3	15.5
France	92.3	24.7	21.0
Italy	94.6	46.9	32.6
Poland	96.0	38.6	18.3
United Kingdom	87.5	21.5	18.5

Source: SBA Factsheets 2009. Data refer to the non-financial business economy (CACE C-I, K) and represent estimates for 2008 on the basis of Eurostat SBS figures.

This contrasts sharply with the situation in Denmark. While the ratio of micro enterprises in Denmark (87 %) is lower when compared to the EU average and also the share in overall employment is below 20%, the share in added value (27.7%) is considerably higher than the EU average (21%) and all other countries in our sample apart from Italy.

Similar to Germany and the UK, large companies play a greater role in the SME sector in Austria⁶⁶, with the share of micro enterprises in the total number of enterprises lower than the European average. There are relatively few micro firms in Austria and they contribute much less to employment (25 %) than EU micro firms on average (30 %).

⁶⁶ Source: SBA Factsheets 2009. Data refer to the non-financial business economy (NACE C-I, K) and represent estimates for 2008 on the basis of Eurostat Structural Business Statistics figures.

The SME sector in France reflects the EU average, with the percentage of micro enterprises on par with the European average. At the same time the contribution of micro firms to employment is lower than the European average.

The SME sector in Poland is dominated by micro enterprises, whose share in the total number of businesses is noticeably higher than the European average. The contribution of micro firms to employment (39 %) is higher than the European average while at the same time the share in total added-value (18.3%) is significantly lower than the EU average.

In the following sections the profiles as well as main economic and employment trends of micro and craft enterprises in three economic sectors are described in greater depth for the eight-country sample. The three sectors are: construction (in particular interior construction); food (with a focus on craft type food processing); and personal services (focusing on micro and craft type enterprises in different service sectors).

2.3.1 THE INTERIOR CONSTRUCTION SECTOR

2.3.1.1 PROFILE AND ROLE OF THE SECTOR WITHIN THE NATIONAL ECONOMY

The construction sector overall is characterised by a strong share of SMEs and in particular micro and small companies. This dominance increases in the interior construction sector consisting of the construction sub-groups defined by the NACE codes for "electrical, plumbing and other construction installation activities" and "roofing activities". In all countries the interior construction sector has a long tradition of crafts and craft-type enterprises, with a certificate of competence needed to run such a business. As most companies are small-sized, they usually have a great influence on local employment.

In the Austrian construction sector, around 80% of enterprises are small-sized (1-9 employees) and their respective share of employment is around one quarter. Looking at interior construction, it is reported that almost one third of the value added in the construction sector is generated by the installation sub-sector, though orders have fallen in 2008 and 2009 due to the ongoing economic crisis. But orders are showing positive signs in 2010, reflecting strong public investment in the construction sector.

In Germany, about 90% of all employees worked in companies with less than 20 employees in 2007. These figures include only employed persons, and the share of self-employed people in the German construction sector is quite high. In 2007 the share of interior construction within the overall construction sector was 47.5% with regard to the number of enterprises and 46.7% with regard to the number of employees. The share in overall construction turnover was slightly more than 40%. The most important sector within interior construction is the installation sector (plumbing, heating and air conditioning). It is also the biggest single sub-sector of the whole construction industry. As already mentioned, most employees work in micro or small-sized companies. In the interior construction sector 90.7% of enterprises have less than 10 employees, comparable to the share of micro enterprises in the overall construction sector. Micro enterprises employ 40.5% of all employees in the interior construction sector. The share of micro enterprises in interior construction is

significant, representing around 45% of the sub-sector's overall turnover. Nevertheless, the economic relevance of the construction sector as a whole has decreased in recent years. In 1994 the value added by the construction sector in relation to the overall added value in Germany peaked at 7.1%, decreasing to 4% in 2009.⁶⁷

The building and construction sector is very important for the labour market in Denmark in terms of creating jobs and contributing to the Danish welfare system and infrastructure. Of the total employment in the Danish construction industry the following sub-sectors involve interior construction: electrical installation (14% of total construction employment), plumbing and heating (10%), carpentry (18%) and painting and glazing (8%)⁶⁸. Similar to Germany, construction employs 7% of the total workforce in Denmark.

The construction sector is also of vital importance for the French economy, with the building industry regarded as France's top employer. It is composed of a wide range of activities (builders, carpenters, plumbers, interior decorators, cabinetmakers, etc.) and characterised by a dominant role of micro and craft enterprises, as illustrated by the following figures provided by the French craft and small business organisation APCM: In 2009 the building sector was made up of 371,000 enterprises, and 1,534,000 employees including 329,000 craftsmen. Skilled-craft companies within the construction sector represent 98% of all enterprises.

Turning to the *United Kingdom*, it is reported that the construction sector contributed around 10% to the GDP in 2008. Although the share of micro enterprises (1-7 employees) throughout the construction industry has decreased over the last decade it still reached around 30% in 2008.

The sector profile for *Bulgaria* differs from the others in our sample in a number of aspects. In Bulgaria, the installation sector is part of the energy sector and includes the following fields: heating, ventilation, air-conditioning, refrigeration equipment, gas and water supply, electrical engineering, renewable energy sources and environmental protection. The sector's professional structure includes the above-mentioned professionals qualified as fitters and technicians of energy facilities, electricians, plumbers, welders, engineers and designers as well as representatives of the senior management. Products and services offered include the design, installation, maintenance and repair of heating, air-conditioning, plumbing and electrical installations. The trade with parts and consumables for such installations is one of the sector's additional activities.

In terms of turnover, about 95% of Bulgarian *National Installation Association* (NIA) enterprises fall into the "small enterprise" category (with annual turnover up to 10 million euro). Looking at employee numbers, about 70% of NIA enterprises have average staff of up to 250 people, with most enterprises employing between 15 and 35 people. Up to the onset of the financial crisis there had been a steady increase in the number of micro enterprises,

⁶⁷ Hauptverband der deutschen Bauindustrie,
<http://www.bauindustrie.de/file.php?article=367&file=image.jpg>.

⁶⁸ See: www.ug.dk.

with a growing trend towards renewable energies, i.e. solar power, heat pump installations and biomass.

2.3.1.2 ECONOMIC AND EMPLOYMENT TRENDS

The construction sector is not only a very important sector from an economic perspective. It can also be regarded – as noted in the *United Kingdom* context report – as a “barometer of economic vibrancy” with a broad range of drivers of change illustrating both current and future skill needs and challenges. The same is true in France, where the building sector is regarded as a “barometer of economic climate”.

The following quotes from *Denmark* illustrate the typical vulnerability of the construction sector to market fluctuations and the rapid change of the economic situation over the last five years:

“It is frustrating to turn down new orders, but that’s the case for many building and construction companies today. It isn’t possible to attract new employees via the usual media, and advertisements in the papers lead to very limited results. The biggest problem right now is the bottleneck in the market, which makes it impossible for the companies to produce/deliver what they have the option to sell. The bottleneck has caused much more hiring of foreign labour force.” (*De selvstændige – Magazine for small and medium sized building and construction companies. September 2006*)

“Every fourth job within the building and construction industry has disappeared in just two years. According to figures from the Danish Statistical Bureau total employment in the building and construction industry decreased from 184,500 employees in November 2007 to 138,500 in November 2009.” (*Extract from magazine: “Dansk Byggeri”. Association for Danish Employers within the Building and Construction Industry May 2010*)

Though cushioned by public investment and public infrastructure programmes in some countries (e.g. Germany, Austria), the severe effects of the global economic and financial crisis on the construction sector and also the interior construction industry were clearly felt in all countries. As in Denmark, the situation on the construction labour market changed dramatically in a very short period of time, moving from labour shortages to strongly rising unemployment.

The economic crisis has had a significant impact on the situation of the construction sector in *Poland*, where a survey conducted in early 2009 shows a rapid worsening of business expectations. While in 2008 more than 80% of responding (large) companies expressed positive business expectations, prospects changed dramatically in the following year, when more than 90% reported quite negative expectations for the sector. On the other hand, Polish construction companies are reported to still be in good financial shape as a result of the dynamic development in 2006-2007 and contracts signed under “good conditions”.⁶⁹ However, as in other countries, Polish construction enterprises at the beginning of this decade are facing a number of challenges, not only resulting from the economic crisis. According to the *Polish Building Industry Chamber* the lack of demand, coupled with

⁶⁹ Source: URL: <http://www.prlog.org/10223677-sektor-budowlany-polsce.html> as quoted in the Polish sector report to this project.

increasing competition, rising employment costs and difficulties in financing, are contributing to a difficult situation. At the same time more and more Polish construction companies are facing problems in attracting and retaining skilled workers.

With regard to major economic and employment trends it is hardly possible to identify any common features both within and between countries. For example, employment in micro companies in certain sub-sectors (e.g. installation) had decreased in the *United Kingdom* in recent years, while employment in other sectors has increased (e.g. insulation). It is reported that the total number of employees working in electrical wiring and fitting has increased from 98,000 at the end of the 1990s to 171,900 in 2008, in plumbing from 32,800 to 118,700 and in insulation from 7,700 to 11,800 employees. Although the proportion employed in companies with 1-7 employees has decreased overall, the total numbers employed in the electrical, plumbing and insulation sub sectors has increased, in line with the overall increase in the construction activity in the UK.

The same is true in *Italy*, where it is reported that the interior construction sector has increased its economic and employment share in overall construction industry. According to sector analyses this is mainly due to an increased specialization process within interior construction, increased investment in building refurbishment, and the introduction of new technologies related to energy and the environment. This has led to a steady increase in the number of the enterprises engaged in interior construction over the last decade.

While in the *United Kingdom* the overall share of micro companies in the construction sector in terms of employment declined between 1998 and 2008, it increased in other countries like Italy or Austria, where it is reported that the rate of business start-ups is clearly higher than the closure rate. As the number of employees working in such start-ups was about double the size of those in closing firms, there is a trend of net gains with respect to employment. Also, the share of micro enterprises in total construction workforce has been increasing.

With regard to workforce structure in the construction sector, the following observations are derived from the national surveys. In all countries the workforce is predominantly male (80-90%) and average age is relatively high (35+ years). The role of employees with a migration background differs significantly: while it is fairly low in countries such as Bulgaria (only 1%), the United Kingdom (4%) or Austria (12%), it is very high in Poland, where many workers from non-EU countries (mainly temporary, sometimes illegal) are employed as a response to a lack of available Polish workers. According to estimates made in May 2008, construction companies were in need of some 10,000 Ukrainian workers, though it was estimated that the actual number of workers needed from the Ukraine would be 10 times higher for the whole year. At the same time, Poland was experiencing a major outflow of skilled workers, hitting the construction sector in particular and resulting in growing gaps between skilled labour supply and demand.

Though there would seem to be significant differences in pay between the various company size groups in the construction sector, Poland was the only country providing details. Average monthly wages and salaries per employee in the sector there were reported as

2,795 PLN, with significant differences dependent on the size of the company. While in large companies the average monthly wage/salary is 4,799 PLN (1,200 Euro), this drops to 3,273 PLN (825 Euro) in medium sized companies, to 1,951 PLN (490 Euro) in small companies, and to a mere 1,534 PLN (385 Euro) in micro companies.

2.3.1.3 DRIVERS OF FUTURE CHANGE AND CHALLENGES

The national sector reports identified a number of major drivers of change. These are important due to their impact on future skills needs:

- In all countries, a trend towards more environmental sensitivity is visible today. This is having a significant impact on the construction sector, its products and the services provided. From the point of view of construction companies, leveraging new "green technology" trends is likely to run parallel to more traditional parts of the industry. At the same time all enterprises are benefiting from public programmes promoting energy efficient building refurbishment and house construction. In addition, new energy and environmental standards in the (interior) construction sector are resulting in new professions, for example heating, ventilation and air conditioning engineers.
- The accelerating pace of technological change also results in the need to continuously update the skills and knowledge of both entrepreneurs and employees.
- As shown in the Italian sector report, the focus of construction works is also shifting. The upgrading of existing building stock and technological innovation will be the engine of the next building cycle, promoting company growth. This means that innovation, vocational training and education, and quality-oriented business decision-making, will all become decisive competition factors.
- Other drivers of change have been identified in the national sector analyses, including demographic changes and in particular the "ageing" of both employees and customers. In this context it has been stressed from different angles that a stronger customer orientation and a more customer-friendly provision of construction services will also become a crucial success factor for construction enterprises in the future.

It should be mentioned here that the drivers of change identified in the context of the national sector reports in the eight countries of our sample correspond with the results of a recent study into future skills needs in the construction sector⁷⁰. In it, planning and management skills, skills in sustainable construction processes and the adoption of new technologies were stressed as competences and requirements gaining in importance.

2.3.2 THE FOOD SECTOR

2.3.2.1 PROFILE AND ROLE OF THE SECTOR WITHIN THE NATIONAL ECONOMY

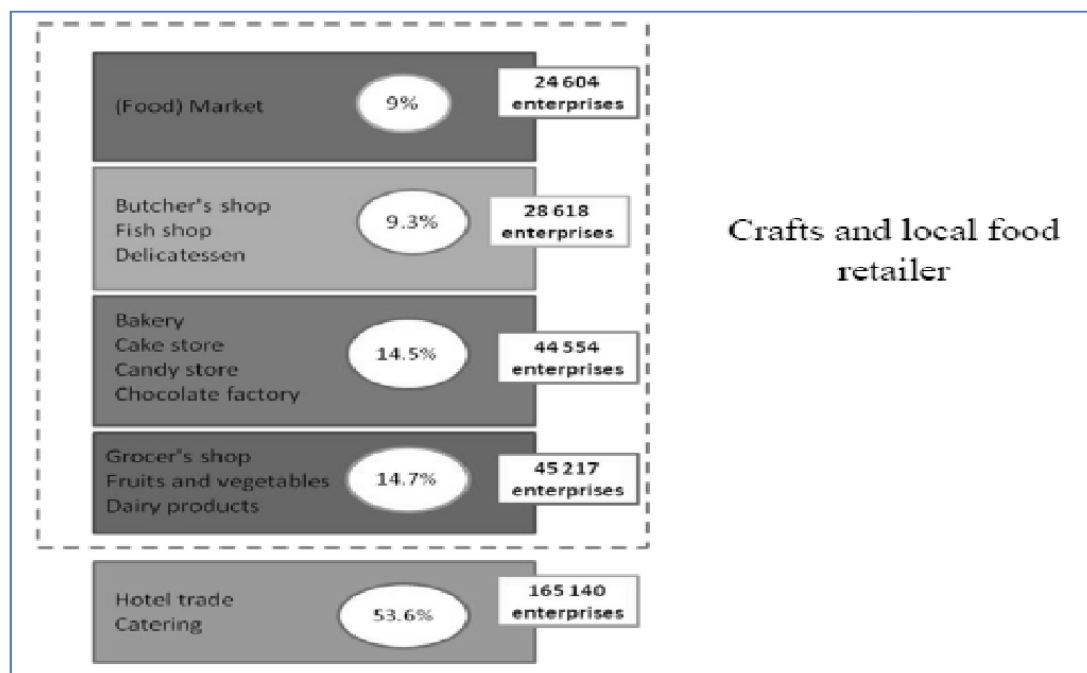
In contrast to the interior construction sector the dominance of micro and/or craft enterprises in the various branches of the food processing sector focused on in our survey (meat, dairy and bakery products) is significantly weaker. Though a large part of the workforce is similarly employed in micro companies, the sectors in all countries, including the two new Member States, Bulgaria and Poland, are characterised by a dual structure of

⁷⁰ Danish Technology Institute 2009: Future Qualification and Skills Needs in the Construction Sector, Policy and Business Analysis, Copenhagen.

enterprises using industrial production methods on the one hand and more craft oriented ones on the other.

However, as the following figures taken from the *French* sector report illustrate, a wider definition of the food sector may also be applied. According to the French context analysis the sector is divided into two main activities: the crafts and local food retailer with nearly 143,000 enterprises or 46% of whole food sector; and "hotel trade and catering" with approx. 165,000 enterprises (54% of the whole food sector).

FIGURE 5: THE FOOD SECTOR IN FRANCE



Source: APCM sector report for the project.

According to the sector report, the food sector as defined above currently accounts for approx. 1.1 million workers, equivalent to 4% of the national labour force. The food sector is also an important source of job creation in France, with the total workforce growing from 839,000 in 2000 to nearly 924,000 in 2008.

The structure of the French food sector is dominated by micro and small companies, with 98% of companies in this sector having fewer than 20 employees and 87% 5 or less workers.

The strong position of micro and small companies in the food sector is also stressed in the sector report for *Italy*. Here, it is reported that the average company in the food sector employs just three workers.

By contrast, in both *Austria* and *Germany* only a relatively small proportion of the total workforce in the three branches of the food processing industry works in micro enterprises. The mass markets are clearly dominated by industrially manufactured bakery products. In the United Kingdom these account for three quarters of all bakery products, with less than 5% coming from craft bakeries. This contrasts with *Bulgaria*, where the market share of craft bakers (25%) remains relatively high.

The overall Austrian food processing sector comprises almost 4,000 enterprises and employs some 76,000 people (about 5% of whom are self-employed). 63% of enterprises are small (1-9 employees), accounting for 15% of the total workforce. The share of women is 46%. The share of the food processing sectors' added value to GDP is 1.5%. The sub-sectors identified for the purpose of this study have a strong position within the overall food processing industry in Austria, consisting of some 3,400 enterprises with 60,000 employees. Value added is about 2.6 billion Euros. The share of micro enterprises (1-9 employees) is 62%. No separate figures are available for craft-type enterprises – as already mentioned, most of the companies probably belong to this category.

In 2007 the food processing sector as a whole was the fifth largest industry in *Germany* in terms of turnover. The sub-sectors covered by this context report accounted for more than 50% of the sector's total turnover. Dairy and cheese production were the most profitable sub-sectors, followed by meat and poultry products and bread. Of the total of 705,000 people employed in the food processing sector overall, some 490,000 are employed in the sub-sectors covered by this report. 15% of these employees work in micro companies with less than 10 employees, 27% in small companies with less than 50 employees and 58% in medium- or large-sized enterprises with more than 50 employees.

The food sector in *Italy* is one of the pillars of the national economy, being the second most important industrial sector after mechanical engineering. According to sector surveys the strong position of the food sector in Italy results from its close relationship with the local economy, the existing diversity and variety of products, and also the positive image of "made in Italy" food products. This strong position is reflected by the number of food enterprises, which, according to the latest census, is around 67,000. Together, these companies employ nearly 450,000 workers. The sector's share of national GDP is nearly 16%. Craft enterprises have a strong position within the overall sector, with figures for 2010 reporting that some 57% of all enterprises in the food sector were craft enterprises.

The food processing sector is also one of the most import sectors in the *Polish* economy, responsible for about 24% of GDP. The Polish food industry is characterised by a large number of small and "scattered" companies. These are closely linked with local raw material bases (in particular the sugar and fruit & vegetable industry) or markets (meat and dairy products). The whole food processing industry in Poland is reported to currently have a total workforce of around 544,000, having grown from 430,000 in 2004. In 2006 the food sector was made up of about 18,300 companies, 92% of which were small or micro companies. However, the number of small and micro sized companies is decreasing, dropping from 21,000 in 2001.

2.3.2.2 ECONOMIC AND EMPLOYMENT TRENDS

In contrast to countries like Italy, France or Bulgaria where quite a stable economic and employment situation is reported or where the food sector contributed to employment growth in the last decade, countries like the United Kingdom or Denmark are reporting a decline in employment in all three sub-sectors. In the *United Kingdom*, the bakery industry lost around 20% of its workforce between 2000 and 2005, with similar declines being

witnessed in dairy products and meat processing. At the same time turnover in the three sub-sectors has increased.

In contrast to the overwhelmingly national orientation of the food processing industry in the other countries, in *Denmark* the sector is characterised by a strong international profile and orientation. The importance of the industry's exports has been constantly increasing, in line with a gradual decrease in the domestic share of annual revenue. As the Danish sector analysis reports, more and more Danish food processing companies are now owned by foreign multinationals. At the same time the industry has experienced a decrease in the number of employees. This is especially the case with abattoirs, where several companies have been forced to close down over the last 10 years.

Fierce competition on global markets has led the industry to concentrate on quality and advanced processed products and to react to animal diseases resulting from modern production methods. General features of jobs in the industry are routine (repetitive) operations and a high working speed. Remuneration is often based on short-term contracts, with work being done around the clock in daytime, evening and night shifts. In 2010, the number of bakeries in Denmark was estimated to have dropped from 1,300 in 1995 to 850, with total workforce decreasing from 12,000 to 7,000 over the same period. The downward trend seems to have now bottomed out, with the trade itself concluding that bakeries have managed to increase or maintain their share of the market for bread production and sales over the last two years.

Denmark is not the only country in our sample reporting an ongoing sector trend towards concentration, with more and more production sites being merged together or taken over by other companies. In most of the countries of our sample a trend in the opposite direction can however also be observed, fuelled by growing customer demand for organic products. Eating habits of immigrant communities are also to a certain degree fuelling demand for products produced locally in micro and small-sized companies. A further aspect also having implications on new skills needs is the growing significance of exports for large-scale industrial products, but also for smaller companies operating in niche or local markets.

2.3.2.3 DRIVERS OF FUTURE CHANGE AND CHALLENGES

The national sector reports on the food sector have identified a number of both sector-specific and overall drivers of change having an important impact on future skills needs:

- ☐ Technological advances as well as changing customer demand for example in the context of environmental or health concerns are perhaps the most important drivers of change. These are resulting in a massive growth of product types and varieties of certain products ("smaller bread loaves for singles", ready-to-go meals, organic foods, ethnic products, etc.).
- ☐ Another important driver of change mentioned in the national sector reports involves the raw materials used, with companies at the mercy of fluctuating prices for beef, cereals, milk etc.
- ☐ Regulatory changes (increased standardisation, health and safety regulations) are further major drivers of change in the food industry.
- ☐ Finally, a number of important cross-industry skills needs have been stressed, including multi-skilling, customer orientation, entrepreneurial and management knowledge and skills.

2.3.3 PERSONAL SERVICES

2.3.3.1 PROFILE AND ROLE OF THE SECTOR WITHIN THE NATIONAL ECONOMY

The third sector this research project focused on differs from the others for several reasons. First, it is by far the most heterogeneous one and is in fact not regarded as a homogenous sector corresponding to a certain statistical group. For the purpose of this study not only are personal services and some major sub-sectors such as cleaning, private care/nursing, hairdressers and beauty/fitness taken into account, but also the manufacture of medical and dental aids and instruments. This means that this "sector" is characterized by very different economic structures: the manufacture of medical aids and instruments is high-tech, often international in operation, and highly visible. Other personal service activities however are more hidden, with low profiles and are harder to access. The different areas of personal services we looked at are characterised by both craft occupations and enterprises in certain sub-sectors (hair and beauty, medical instruments) while other parts do not have any craft/trade orientation at all (care, cleaning, fitness). The following table illustrates this variety and the corresponding NACE groups and sub-groups.

TABLE 6: NACE CLASSIFICATION OF PERSONAL SERVICES AND MEDICAL INSTRUMENTS

NACE Group	NACE Class	Sector
	32.50	Manufacture of medical and dental instruments and supplies
81		Services to buildings and landscape activities
	81.21	General cleaning of buildings
	88.10	Social work activities without accommodation for the elderly and disabled
	93.13	Fitness facilities
96		Other personal service activities
	96.01	Washing and dry-cleaning of textile and fur products
	96.02	Hairdressing and other beauty treatment
	96.04	Physical well-being activities

Furthermore, the sector does not display any consistent craft affiliation. The manufacture of medical and dental instruments and in particular medical aides and supplies is regarded as a craft with longstanding traditions in many member states. The same applies to the cleaning of buildings and textiles, as well as to hairdressing and beauty treatment. In most of the countries of our sample however the remaining sub-sectors are not acknowledged as crafts.

A common feature of all branches of the personal service sector is the dominance of micro enterprises. Other common characteristics are a high proportion of female workers and – at least in such sectors as nursing/care and cleaning – high shares of migrant labour. In contrast to construction and food processing, the workforce in personal services in most countries is relatively young.

2.3.3.2 ECONOMIC AND EMPLOYMENT TRENDS AND PATTERN

In the *United Kingdom* the cleaning sector, hair and beauty, and private nursing all illustrate the dominance of micro and small enterprises. In cleaning 86% of all enterprises employ

only 1-10 workers, with this size group having a 17% share of the total sector workforce. The dominance of such companies in hair and beauty is even more striking, with nearly 94% of the total workforce working in micro enterprises and more than 40% self-employed. In contrast to this the share of micro and small companies in the manufacture of medical instruments is much less pronounced.

The following table illustrates the strong position of micro and small companies in the beauty and well-being sector in Germany. This is especially the case with fitness facilities, hairdressers and other beauty treatment activities.

TABLE 7: PERSONAL SERVICES IN GERMANY

Sub-sector	Number of enterprises	Number of employees	Average number of employees per enterprise
Fitness facilities	5.599	9.167	1,6
Washing and dry-cleaning of textiles and fur products	7.489	43.033	5,7
Hairdressing and other beauty treatment	75.908	173.628	2,3
Physical well-being activities	3.483	10.963	3,1
General cleaning of buildings	23.700	328.131	13,8

Source: Statistisches Bundesamt and Zentralverband des deutschen Handwerks (ZDH)

In terms of number of enterprises and employees, hairdressing and the cleaning of buildings are the most important sectors in Germany (and also elsewhere). Both sectors are affiliated to crafts. This is also the case in the washing and dry-cleaning of textiles and is a result of the typical vocational training and organizational structures of crafts found in Germany. By contrast, companies in the fitness sector are generally not affiliated to crafts and show only minor restrictions with regard to access and regulation. Nearly all enterprises in these sectors are micro- or small-sized companies with less than 50 employees.

These patterns are reflected in the other countries in our sample, for example *Italy*. Here, the size structure of enterprises in the beauty sector is dominated by sole proprietors (around 17,623) employing on average 2 workers. The other branches in the "well-being sector" are also characterized by a high share of small enterprises, e.g. gyms and swimming-pools, baths and spas.

In Italy, as in the other countries in the sample, the hairdressing and beauty sector is regarded as a growth sector. Figures from *Poland* substantiate this, with the Polish sector report stating that hairdressing and beauty enterprises have witnessed strong growth over the last years. While around 46,300 companies (of which more than 99% were micro ones) existed at the end of 2004, the number has increased significantly, reaching 58,400 at the end of 2009.

According to the *Italian* sector report, the various activities related to well-being experienced a steady growth over the last decade, fuelled mainly by an increase in standards of living and life expectation. This growth is not only reflected in the number of enterprises in the sector but also in the demand for greater technical and professional competences and skills on the part of both entrepreneurs and employees.

At the same time, the beauty sector is characterized by a high fluctuation of companies starting up and going out of business, as shown by the example of *Denmark* where, as in other countries, the most important single sector is hairdressing. Overall, there are 6,000 hairdressers in Denmark, with 300 new saloons opening each year and an equivalent number going out of business.

As seen in the example of *Bulgaria*, a large part of the beauty sector is regarded as crafts and craft enterprises, with the following occupations at the core of the beauty sector: cosmeticians, manicurists, pedicurists, make-up artists, masseurs, hairdressers (hairstylists), including colourists and tattooists. According to the Bulgarian sector report nearly 70% of all enterprises in the beauty sector are craft enterprises.

In contrast to this, nursing and home care are not considered a craft in most countries, including those in our sample. The workforce structure and business organization differ from craft dominated sectors, as illustrated by the example of *Germany*: in 2008, 375,000 people worked in the care of elderly or disabled persons, with about 86% of these being women. The sector shows a relatively high rate of part-time working (ca. 47% in 2008). The majority of enterprises (93%) in this sector are micro- or small-sized companies with less than 50 employees.

Affected by major labour shortages, the care and nursing sector has quite a bad image. This is also connected to unattractive working conditions, including low pay, physically demanding work with a low status. These circumstances take a heavy toll on the recruitment of new apprentices, negatively affecting the overall future development of care in Germany, as in other countries. This situation is especially alarming given the growing need for qualified care due to demographic changes. Further trends in the sector are an increasing number of people with dementia to be cared for and a decreasing number of family member carers. In the face of such challenges further training is all the more important in the care sector.

In all countries health and nursing but also other personal services are dominated by women and, as seen in cleaning, often migrant labour. This corresponds with the (social) attractiveness of these sectors. While hairdressing as a profession is quite popular, with many people, especially young woman, trying to gain an apprenticeship, vocational training as a building or textile cleaner is very unattractive to young people. Wage levels in cleaning are low and the work is physical demanding. As a result these sectors are witnessing major recruitment problems which most enterprises can only solve by recruiting migrant and mostly unskilled workers.

This finding is backed up by the sector report from the *United Kingdom*. Recruitment from overseas has been a key strategy in a health and nursing sector faced with significant staff shortages. Nursing in particular has been a shortage occupation in Britain for many years and the issue of work permits for workers in the sector has been fast-tracked. In recent years, overseas workers have constituted some 45% of new entrants registered with the *Nursing and Midwifery Council* (a registration that all applicants trained outside the EU must complete).

Similar labour shortages are reported from other countries such as Germany or Austria. In *Austria*, increased demand for homecare for the elderly has resulted not only in a growing share of migrant workers but also in growing problems regarding informal labour. Due to labour shortages but also for cost reasons foreign workers, in particular women from Central and Eastern European countries, are being recruited by private households. Estimates quote a figure of about 40,000 people. Up to 2006 this was virtually a "black economy" as no legislation or social security provisions existed for such people. In 2007 specific legislation came into force ("*Hausbetreuungsgesetz*") and now 98% of all care persons work officially as free-lancers. A private market now exists for the placement of such foreign homecare workers (especially for 24-hour-care). According to demographic forecasts demand for homecare for the elderly is set to increase significantly, fuelled by a doubling of the 85+ population by 2030.

In contrast to most of the other sub-sectors described above, the manufacture of medical and dental aids is characterised by a relatively large number of craft professions such as dental technicians, hearing aid technicians, high precision optics, opticians, orthopaedic technicians or surgical instrument makers. *Germany* serves as an example of the enterprise structures in this sector: in 2008 this sub-sector employed about 140,000 people in Germany, most as dental technicians and opticians. The gender ratio is fairly balanced, with slightly more women than men. According to the German crafts association, ZDH, the sector comprises about 26,000 craft enterprises which are compulsory members of the local chamber of crafts (industry structures are rare in the sector). Generally speaking, the medical aids sector is very much subject to new product and manufacturing developments, resulting in a high need for the continuing qualification of employees. Typical for medical sectors, such further education courses are often provided by the companies responsible for new materials and products.

2.3.3.3 DRIVERS OF FUTURE CHANGE AND CHALLENGES

Given the significant internal diversity of this sector, there are a number of specific sub-sector related drivers of change referred to in the national sector analyses:

- ☐ In the care and nursing sector, the "ageing" of the population is leading to a higher incidence of people with long-term needs and a growing range of services provided by care enterprises. New service profiles sometimes require only low skilled work (serving meals, support in everyday life etc.), others require every-day skills (such as driving), while there are others requiring specialist training (such as counselling).
- ☐ Given the large amount of informal and unpaid work in the nursing sector, the standardisation of services, the development of certain qualification standards and general improvements in the quality of service provision are also regarded as important drivers of change.
- ☐ Looking at the cleaning sector, it has been reported that customers are becoming increasingly sophisticated, inspecting contracts and procurement processes in greater detail than previously. Against the background of the sector's general low profile, both companies and employees are facing a number of challenges: management and leadership, communication skills, language skills (for foreign/migrant workers), knowledge and awareness of 'green' products; literacy, language and numeracy; employability skills for those entering elementary job roles etc.

- Other challenges and drivers were summarised in the Italian context report, stating that there is a trend towards “global service” provision and “multi service contracts” that include such new aspects as planning or the management of different services (“facility management”). These not only result in new skills needs but also other reactions at enterprise level. Small companies in particular are having to join forces in consortia in order to meet these new universal demands. Other key challenges and future skills needs arising in this context relate to management competences, market analysis, product quality, customer orientation and competences in dealing with new materials and maintenance techniques.
- With regard to the manufacturing of medical aids and instruments, the accelerated development of new products and manufacturing processes has already been cited as the most important driver of change, putting pressure on entrepreneurs and employees to further develop their qualifications and skills.

2.4 CONTEXTS, STRUCTURES AND TRENDS IN VOCATIONAL EDUCATION, TRAINING AND QUALIFICATION IN COUNTRY AND SECTOR COMPARISON

2.4.1 OVERALL RESULTS OF NATIONAL CONTEXT ANALYSIS IN COMPARATIVE PERSPECTIVE

Looking at the contexts and structures of vocational education, training and qualification that form the background for current and future skills provision, significant differences in the organisation of VET and the roles played by different groups of actors can be observed. Our sample of countries illustrates the wide diversity of initial vocational education and training (IVET) systems in the European Union, ranging from countries characterised by the dominant role of the apprenticeship system (Austria, Germany), via mixed structures (France, Denmark), school/college based systems (Poland, Bulgaria) to countries with systems largely based on non-formal / informal on-the-job training (UK).

TABLE 8: BASIC FRAMEWORKS OF INITIAL VOCATIONAL EDUCATION AND TRAINING (IVET)

Country	Austria	Bulgaria	Denmark	France	Germany	Italy	Poland	United Kingdom
IVET organisation	Strong role of apprenticeship and VET schools	VET schools, secondary schools with profiled classes	VET schools and apprentice-ship	VET schools and apprentice-ship	Strong role of apprentice-ship and VET schools	VET schools and apprentice-ship	VET schools	Non-formal learning and VET schools

Note: The table presents the main providers of IVET for the respective country. For the countries where apprenticeship is not explicitly listed, some forms of apprenticeship/day release nevertheless exist – but they have only a minor role for the overall provision of skills and qualifications. The same holds true for non-formal learning and on-the-job-training for labour market entrants.

There is a high degree of correspondence between these IVET structures and the involvement of social partners and professional organisations in the development and implementation of IVET. Our country sample can be roughly divided into two groups: In countries such as Austria, Germany or Denmark – i.e. countries where apprenticeship/day release systems play an important role in IVET – trade unions and professional sector organisations as well as employers’ federations play a key role. In Germany for example,

there are several other actors and institutions apart from training institutes themselves involved in vocational training. On a local level, chambers of commerce and crafts advise companies on VET issues and are responsible for apprentice examinations. The social partners have established a close dialogue on questions related to vocational training and further qualification, and they belong to the committees dealing with training at national, regional and local level.⁷¹ The additional involvement of government agencies, schools and colleges providing the institutional backbone for full-time vocational education makes the whole IVET system highly complex, with a plethora of different stakeholders.

In contrast to this, the role of government agencies, schools and colleges in the development and implementation of IVET in such countries as Bulgaria and Poland is much more important, as these countries have merely small⁷² apprenticeship/day release systems. Consequently, the involvement of social partners and professional organisations is limited.⁷³

In continuing vocational education and training (CVET) social partners and professional bodies generally play a much greater role, irrespective of the underlying IVET system. They are either important training providers in their own right (e.g. the Austrian WIFI/bfi⁷⁴ or "*Bauakademien*" or the lifelong learning for craftsman and their spouses organised in France by professional organisations and Skilled Crafts Chambers) and/or responsible for making further training a topic of collective bargaining agreements (as in Italy and France). Moreover, social partners and professional bodies often act as promoters of continuing training in companies, setting up sector funds for subsidising training (e.g. Italy's *Fondartigianato*⁷⁵) and/or acting as professional bodies certifying qualifications (e.g. in the UK, Construction Skills awards the CSC – Construction Skills Certification). With respect to employees or unemployed people in search of new or additional qualifications, France offers

⁷¹ Similar structures exist in Austria (Chambers of Commerce and Labour) and Denmark (Trade Committees). IVET in Denmark is organised generally in basic courses and main courses or VET programmes which is based on an alternating principle. There are in total 123 VET programmes. In the food sector ("Human Food") for example there are 11 different VET programmes, three of them covering the meat and dairy production.

⁷² In terms of the quantitative scale of different apprenticeships and apprentices; moreover, where employer commitment is low (France, Italy and UK) apprentice places are for the most part found as a result of approaches to employers by training providers and other intermediaries like professional bodies (see Steedman Hilary, 2007): *Adapting to Globalised Product and Labour Markets. New Models For Apprenticeship In Europe*. Arbetsrapport/Institutet för Framtidsstudier; 2007:12).

E.g. for France these intermediaries are the professional bodies UPA (Union Professionnelle Artisanale) which is the professional organisation of craft field brings CAPEB (Confédération de l'artisanat et des petites entreprises du bâtiment), the CGAD (Confédération Générale de l'Alimentation en Détail) and the CNAM (Confédération Nationale de l'Artisanat des Métiers et des Services). The CGPME (Confédération générale du patronat des petites et moyennes entreprises) can also represent the skilled crafts companies. It is a multi-professional organisation.

⁷³ Yet, this does not automatically imply that they are not engaged at all as the example of Italy shows. Here, social partners and professional bodies support the planning of the vocational training at regional and provincial level and they are stakeholders in defining quality requirements and standards as well as giving advice on the production of rules.

⁷⁴ WIFI is the further training provider of the Chamber of Commerce, bfi is the one of the Chamber of Labour.

⁷⁵ *Fondartigianato* is financed by entrepreneurs and workers. It develops continuous training activities for the craft sector. Other funds are promoted by sector SMEs.

an interesting option: the *professionalisation contract*⁷⁶ which is also based on the principle of dual training, with alternating periods of practical and theoretical training.

For all sectors surveyed, the range of occupations, qualifications and skill profiles is impressive. In Austria for example there are some 40 different sector-specific occupations in the construction sector alone, with a further 10 typical craft occupations in the interior construction sector. In the three food processing sub-sectors focused on, 9 typical professions were documented in Austria, with similar structures in the other countries. Last but not least, the personal service sub-sectors had even more different occupational profiles to offer. Irrespective of the VET structure, there seem to be common trends in the division of labour, with the degree of vertical and horizontal differentiation in occupations, qualification and skill profiles usually high.

Yet there are major differences in the national understanding and underlying concepts of what constitutes a profession/occupation. In the standard occupation approach ("*Berufskonzept*") used in Germany and Austria, occupations requiring formal training are expected to be oriented towards qualifications typical for the relevant work processes.⁷⁷ Consequently, vocational training involves preparing people for specific occupations, to be pursued immediately after the completion of training. This is the basic approach in systems based on apprenticeships. By contrast, qualifications provided by VET schools usually have a wider scope, as they provide instruction in a range of applied subjects such as engineering, the health and social area, applied business, etc. Examples here are the UK, where such education leads to a Vocational Certificate of Education (VCE) or Denmark's 12 vocational clusters and 123 VET programmes. VET schools therefore prepare people more for a specific field of work and not so much for a specific occupation. The UK also offers an additional path for those wanting to gain recognised qualifications for specific occupations instead of whole occupational fields: NVQs (national vocational qualifications) offer progressive pathways to continuing vocational education and training on the labour market. They are designed as qualifications recognising competences acquired while working (and are often achieved through study in further education colleges).

Given this diversity of VET systems as well as in the national understanding and underlying concepts of what constitutes a profession/occupation, it is remarkable how similar qualifications and skill profiles are in all the countries. Although national parameters have a tremendous influence on the way competences and skills are provided, one can observe similar structures with respect to the division of labour and the degree of vertical and horizontal job differentiation. Differences between sectors (in particular between construction and food versus personal services) are more pronounced than differences between countries. This interpretation is however subject to the problem of a lack of data

⁷⁶ The remuneration of a professional contract ranges between 55% and 80% of the minimum wage (SMIC) by age and skill level of the person. In comparison, the apprenticeship contract is entitled to a wage between 25% and 78% of the SMIC by age and seniority of the apprentice.

⁷⁷ Specialisation is permitted, as a complement to the basic qualifications required for each occupation in question, but it must be taught within an occupation context.

base, with most countries not in a position to provide relevant and comparable information for the sectors defined by us.

A further common feature is the relatively high proportion of workers having completed vocational education and training and the low proportions of unskilled or semi-skilled labour. In both Austria and Germany, about two thirds of all employees in the interior construction sector have completed apprenticeships. In Denmark the share of skilled workers is around 60%. Though in the food processing sectors the proportion of employees having completed a VET course is lower, the respective proportions are in most cases higher than the overall average ones. Country comparisons based on formal educational degrees are however problematic, as they can be misleading. Bulgaria for example reports that about 65% of employees in the interior construction sector have university education, 30% high-school education and 5% a lower degree⁷⁸. In addition to country- and sector-specific peculiarities⁷⁹, the underlying qualification systems as well as trends over the last decades (i.e. educational expansion) have a major influence on the categorisation of graduates in the labour market. In countries with high shares of upper secondary school graduates and correspondingly high shares of university graduates, relevant professional and vocational qualifications are provided either by the tertiary educational sector or through non-formal on-the-job or off-the-job training. In other countries/systems the "same" vocational qualification may often be awarded at the end of an apprenticeship or by a VET school. Put in a nutshell, this means that, in country comparisons, employees with comparable vocational qualifications often seem to have a different educational background due to the underlying qualification-/school-systems.

Furthermore, a formal educational degree is not synonymous with having skills adequate for the profession to be exercised. Showcases mentioned are Bulgaria, where graduates from VET schools often have different qualifications to those required in the sector, entailing their retraining, and Italy, where graduates from technical institutes often have poor technical skills. Interestingly, from a long-term perspective, countries with apprenticeship systems usually report minor or no problems with respect to skill mismatches. This may be due to the fact that apprenticeship training automatically adapts to demand, with apprenticeships only provided by companies for those professions in demand. With no companies offering apprenticeships, "out-dated" professions are automatically phased out. Updating existing professional qualifications as well as the establishment of new ones are therefore of crucial

⁷⁸ The workforce in the Danish building and construction sector has the following educational backgrounds: 30% are unskilled workers, 60% have a VET/craftsman certificate and 10% have a further educational degree (technical bachelor programmes, architects and various kinds of engineers).

⁷⁹ It is to be noted that in Bulgaria the qualification level in the sector is generally higher than the average for the country, where 55.7% of the labour force has high-school education, 23.4% university education and 20.9% a lower level of education. This means that interior construction seems to be an attractive sector for employment. Poland has experienced a large-scale outflow of high-skilled employees in the last years – especially from the construction sector – as a result of EU accession. The exodus of such workers (with plumbers an exemplary group) led to an influx of workers from non-EU countries (mainly temporary, sometimes illegal), mainly from the Ukraine, but also from Belarus, Russia, Moldavia, Vietnam and China.

importance for such systems. As research for Austria shows,⁸⁰ the apprenticeship system has a higher and faster responsiveness to changing labour and qualification trends than VET schools, i.e. the apprenticeship system is quicker at establishing new or updating existing professional qualifications (occupational profiles) than curriculum development in VET schools. It follows that countries focusing on apprenticeship training are more demand-driven with respect to the adaptation process of future skills needs, whereas countries with a high share of VET school graduates are to a great extent supply-driven.

Another striking result of the comparative analysis of VET practice relates to the variety of professional pathways, career prospects and further training possibilities. These are quite impressive in Austria and Germany. Taking the German construction sector as an example, there are several further qualification paths available. These involve either the classic form of further education, building on a completed apprenticeship and usually leading to a master craftsman degree (or specialized occupational education) or retraining which normally results in a new profession. Both types of further education are regulated in the Vocational Training Act and are provided by a wide range of institutions, such as "*Berufsakademien*" (vocational training academies), "*Fachschulen*" (professional schools), "*Bildungszentren*" (educational centres) and other private training institutions.⁸¹ In the German food sector, the different craft organizations representing the meat and bakery sub-sectors have their own further education structures. In most cases further training is provided by specialized academies (for example for bakers or butchers). As an inter-professional institution, the organisation "*Betriebswirte des Handwerks*" (business administration for crafts) offers special further education for employees already having higher qualifications, such as master craftsmen or managers.

In contrast to this, both IVET and CVET in countries like the UK or Bulgaria are organised and implemented in a different manner and on a much broader basis. Specific qualifications and skills are provided through non-formal on-the-job and off-the-job training depending on the specific sector or business context. As reported from the UK, non-formal and informal on-the-job training is widespread in micro and small business enterprises. From the point of view of many employers, 'on the job' training is often regarded as the best form of specific training available, being easily taught, highly specific, and applicable at the exact time and place. It has the potential to enhance both employee and company productivity immediately. It is most commonly used in small companies which cannot afford to send people off on training.

⁸⁰ Lorenz, Lassnigg, Jörg Markowitsch (Hrsg.): *Qualität durch Vorausschau – Antizipationsmechanismen und Qualitätssicherung in der österreichischen Berufsbildung*. Studien Verlag, Innsbruck 2004.

⁸¹ A similar type of career-ladder has been established in the Austrian construction sector in the form of the "*Bauakademien*" (construction academies). On the basis of a successfully completed apprenticeship, one first becomes a foreman, before becoming an overseer ("*Polier*") after a 3-year special course. Further training is needed to become a site manager ("*Bauleiter*") or a construction technician ("*Bautechniker*"). The next step, again requiring further training, is a master builder ("*Baumeister*").

France's *professionalisation contract* as well as the joint agreement on lifelong learning of employees of the craft field have already been mentioned.

The major role played by individual and on-the-job qualification pathways naturally results in quite a heterogeneous picture of qualifications and skills and often leads to transparency problems. Both enterprises and public actors have reacted by developing industry-wide standards, as in the UK's so-called "*Ace card*", unique throughout EU.

The reported experience of Bulgaria and the UK regards VET organisation as problematic. In Bulgaria there is a significant mismatch between skills supply (graduates from VET schools) and skills demand. Furthermore, the rather narrow range of qualifications and skills taught in public schools and colleges is regarded as a deficit. Looking at the UK food sector, it is reported that formal training courses are too general, not matching the needs of smaller and micro companies. Against this background, craft-type food makers have started developing their own training systems. Reports from the UK and in particular the construction sector point to serious shortages of training opportunities, with major gaps existing between new entrants to the sector and the number of training places on offer.

Taking a meta-perspective an interesting trend can be observed. Despite lower transition problems between school and work (i.e. youth unemployment rates) in VET systems with comparatively high levels of formal IVET (especially apprenticeship training) there is an overall tendency in all countries for IVET to be less attractive to young people than general higher education colleges and tertiary education (universities). Countries are responding by opening up pathways to university or other tertiary institutes for apprenticeship graduates. Austria for example is offering a "*Berufsreifeprüfung*" (an examination which, when successfully passed, provides general access to higher education for skilled workers and graduates of three- to four-year full-time VET schools) or in France where since 1987 the range of qualifications achievable through an apprenticeship has been widened to include the "*brevet professionnel*" (certificate of vocational aptitude), the "*bac professionnel*" (vocational baccalaureate diploma), the "*brevet de technicien supérieur*" (advanced technician's certificate), engineering diplomas, masters degree and the like.

2.4.2 TRENDS AND CHALLENGES IN THE FIELD OF VOCATIONAL EDUCATION AND TRAINING AND SKILLS DEVELOPMENT

A number of general problems facing existing IVET and CVET systems in the countries studied in our survey have been summarized in the previous section. In addition to these, national VET and skills development practices are being confronted by challenges and trends that are both sector specific and general. While these have been described in the previous sections (see drivers of change), the following section summarizes the principal results of the national context and sector analyses from the perspective of micro and craft(-type) enterprises with regard to two specific challenges: the provision and practice of training and skills development; and ways of overcoming skill shortages and recruitment problems.

2.4.2.1 CHALLENGES IN THE FIELD OF TRAINING PROVISION AND SUITABLE TRAINING FOR MICRO AND CRAFT (-TYPE) ENTERPRISES

As already described, there are some countries facing major challenges in the IVET field. There is either a quantitative mismatch of supply and demand (UK) or a more qualitative

mismatch, i.e. the existing IVET system is not able to sufficiently meet new demands and needs as is the case in Bulgaria, Italy and other countries.

Reporting on the English construction sector, the Union of Construction and Allied Trades and Technicians (UCATT) has identified a significant gap between supply and demand. While 48 - 50,000 young people require training places every year, *Construction Skills* supplies a mere 7,500. This has resulted in the quite astonishing situation of 30% of all UK apprentices being trained in Scotland where the VET system seems better equipped to meet existing demand.

As reported in the UK context report (but also in other national analyses), existing training courses are too often orientated towards or rooted in larger companies and not sufficiently tailored to the needs and special requirement of micro and craft enterprises.

In Italy, it is reported that the construction sector is facing problems arising from the poor technical skills of those entering the sector. The vocational institutes do not seem able to provide both employers and employees with the competences and skills needed (e.g. working with technical standards, technical expertise and management skills). There is a strong need to overcome these shortcomings of the IVET system through continuous and informal training activities.

All sector and national reports conclude that the ongoing need for lifelong training will continue to increase in the future regardless of sector-specific requirements. In many cases, the need for more intensive CVET is also related to shortcomings in the IVET system, as shown by the example of Italy where technological, production and market related changes are pushing both employers and employees towards raising qualification levels and investing more in informal training in order to overcome the deficits of formal training. New training needs in the food sector involve enhanced horizontal competences such as organisational, communication and HR skills as well as competences in the field of administration, finance, sales techniques or marketing.

To combat the shortcomings of Italy's school based training system, the social partners have developed CVET guidelines for different sub-sectors within the food industry, as illustrated in the table below.

TABLE 9: ITALY: CONTINUING TRAINING NEEDS IN THE FOOD SECTOR

	Meat processing	Bakeries
Training priorities for employers	<ul style="list-style-type: none"> • Situation of the enterprise • Assessment of raw products • Control of the internal production chain 	<ul style="list-style-type: none"> • Production organisation and management • Marketing, commercialization and product sales; • Laboratory techniques; • CRM
Training priorities employees	<ul style="list-style-type: none"> • Knowledge of meat cutting • Reduction of waste • Meat seasoning • Cooking and pasteurization 	<ul style="list-style-type: none"> • Production process • Innovation technology • Product storage • Production quality • Certification • Trade marks

Source: Academy Avignon

A general problem found in all sector reports from the different countries and regarding the general need for upskilling and CVET is the dependency of further training on an employee's qualification level. The national sector report on construction in Germany illustrates the problem: although Germany has an overall CVET share of 26% (2007 figures), in most cases only already well trained employees make use of further training (29%), with unskilled or low-skilled workers having a significantly lower share (10%).

Further problems of the existing training systems are related to finance, training for new jobs and the specific aspects of micro/craft type enterprises, as the UK context reports exemplarily illustrates:

- ☐ It is difficult to target micro enterprises for longer term planning and investment in skills training
- ☐ All too often the financing of training in the UK (but also in other countries) is demand-driven, with the state initiating training for sectors with labour shortages

Looking at specific challenges being faced by micro and craft enterprises in coping with new training and skill development demands, the Italian context analysis has identified a major problem common to other countries. The fact that the knowledge held by an enterprise and the way it is managed, used and updated, is today regarded as a key success factor for a company, its competitiveness in the market and also the employability of workers, is too often not reflected in the practice of micro and craft companies. VET in small companies is traditionally based mainly on non-formal learning and "learning by doing". In most cases, new workers are supported by senior colleagues in the same company. This form of informal learning and the transfer of knowledge via internal colleague-to-colleague relationships is organised outside the formal and external IVET and CVET organisation. However, this model of training might not be adequate to meet new challenges in technological, product and market related trends and needs.

Though conditions for continuing training and regular up skilling may be better in other countries, the challenges remain the same, as seen in the food sector report from Germany, where informal and lifelong learning are gaining in importance in the food processing sector. Against a background of production processes becoming increasingly IT-based and the sector having to rapidly response to changing consumer trends (for example organic foods), new qualifications are needed for manufacturing new products. Furthermore, quality standards in the food sectors have increased in recent years due to a number of food scandals and increased statutory regulation (regulations on hygiene, transport, storage etc.). These changes demand an increased recourse to non-formal and informal learning.

Similar challenges to those facing the construction sector in Austria are reported from other countries, underlining the need for multi-skilling, coping with technological change, regulatory changes, changing customer demand for "green" materials and buildings as well as energy-efficient forms of heating, hot water supply, etc. Entrepreneurial and management knowledge and skills are also gaining in importance.

In reply to these general challenges, the example of Denmark illustrates how social partners, VET institutions and governments can react by strengthening competence and skill development and putting it high on the political agenda. Key actors in the construction

sector are acknowledging that education, skills and competences are becoming increasingly crucial factors in improving productivity, quality and income (also from an employee perspective). According to the Danish social partners and VET actors, the education system must respond by:

- ☐ Providing the capacity to adapt VET programmes to the needs of individual sectors within the industry.
- ☐ Delivering further education and continuing professional development for all employees in the industry.
- ☐ Setting up a further training system capable of providing both skilled and unskilled workers with the necessary competences to qualify for employment in the sector in a swift and flexible manner.
- ☐ Offering retraining to workers coming from other labour sectors.
- ☐ Educating more apprentices/trainees.
- ☐ Offering more higher education targeting the building and construction industry.

One key issue of recent years has been the concept of innovation in the VET system, and, more specifically, to what extent the building and construction industry's training system has been able to meet the demands of ongoing innovation. An analysis conducted by the Danish Federation of Small and Medium-Sized Enterprises documents that more than one third of VET students are discontented that VET schools/training centres are not providing the necessary conditions and culture for creating new ideas. The analysis concludes that changes are necessary both in VET centres and at the workplace if the industry wants seriously to promote students' innovative competences. The focus on innovation and quality assurance has led training committees to upgrade their VET programmes on an ongoing basis in order to meet labour market needs. Below is an example from the carpentry VET programme on how the trade committee foresees the branch's needs until 2020. The committee has broken down learning outcomes into three overall key competences (see table below).

TABLE 10: DENMARK: PRIORITIES OF COMPETENCE DEVELOPMENT IN THE CONSTRUCTION SECTOR – THE CARPENTER VET PROGRAMME

Personal competences	General competence	Core professional competences
The apprentice shall achieve during his VET training programme the following competences: communication, cooperation, flexibility, creativity, independence and responsibility	The apprentice shall achieve during his VET training programme the following competences: Understanding of clients' needs and service, customer understanding, cooperation, planning, IT, information retrieval, ergonomics, handling of projects, aesthetics, entrepreneurship, and an understanding of the society and culture.	The apprentice shall achieve during his VET training programme the following competences: Artisan process oriented thinking, problem solving, multi-artisan competences, high professional skills, an understanding of building processes and how to organise work effectively and a mind capable of constructive criticism.

Source: Danish National Context Report

2.4.2.2 LACK OF SKILLED LABOUR AND RECRUITMENT PROBLEMS

One of the most worrying overall (regardless of any specific national context and economic conditions) results of the sector analyses is that the lack of skilled labour and recruitment problems have been identified as one of the major future challenges. This is illustrated by the following figures taken from the national analyses.

Irrespective of the present economic crisis severely hitting the building industry, it is expected that the construction sector will start facing a lack of skilled workers and manpower in Denmark within 5 years. This is mainly explained by the huge numbers of skilled workers going into retirement and less by the positive economic trend. The total number (all sectors) of skilled workers expected to withdraw from the labour force over the next 20 years is estimated at 145,000. For the building and construction industry the equivalent proportion is estimated to be 17,500, i.e. a decrease of 12%.

In Austria, reports from employers are stating that each year the construction sector is getting 2,000 too few new apprentices – i.e. apprenticeship demands from companies are already exceeding the supply from young people.

According to the respective trade union organisation, the UK construction sector will be in need of 45,000 new apprenticeships in construction over the next 5 years as pent-up demand for housing and large civil engineering projects is released. Overall there has been an increase in employees with higher level qualifications and a decrease in those with no qualifications.

The national analysis reports from Germany, Italy, Poland and France similarly indicate recruitment problems and future labour demands unmatched by the supply the sector is likely to receive.

The two other sectors, food processing and personal services, also see recruitment of skilled labour as a major challenge for the future. In Germany for example, a career as a building or textile cleaner, with its low pay and physically demanding work, is very unattractive to young people. As a result these sectors are experiencing major recruitment problems which most enterprises can only solve by recruiting migrant and mostly unskilled workers. Even in the food processing sector, characterised by much better working conditions, the recruitment of new and qualified apprentices is regarded as a major problem and crucial future challenge.

It has to be stressed that the problems of recruitment and labour shortages are more challenging for micro and craft enterprises than for larger enterprises. As the Italian context report notes, the craft sector in Italy is facing general difficulties in hiring new workers even today. Summarizing results of a survey conducted by *Confartigianato* in April 2010, the report states that craft enterprises in all economic sectors (but more so in services than in manufacturing) and regions are going to be recruiting more workers in the future than the average of all enterprises. On average, more than 25% of craft enterprises in Italy report recruitment problems (as compared to 20% of all enterprises) and in eight regions recruitment problems are reported by up to one third of all craft companies. In sectors such as hairdressing, cleaning or construction work, recruitment problems are particularly high.

2.5 CONCLUSIONS

SMEs are the most important form of business organisation in Europe. What is much less known is that the majority of SMEs are in fact micro enterprises with less than ten employees. These enterprises, often run by the owner and operating in craft and artisan sectors, employ around one third of the total European workforce.

The comparative analysis confirms major differences in the weight of micro enterprises in national economies and labour markets, with the respective shares of micro companies in the total number of enterprises varying significantly.

The sector analyses carried out in eight countries have underpinned the decision to focus on three distinctive sectors with different economic and employment backgrounds, different skill and qualification structures and trends, as well as different drivers of change.

The analysis of structural economic and employment data revealed the strong role of micro and craft enterprises in all three sectors across the whole country sample. In all countries the *interior construction sector* is a very important sector from an economic perspective, characterised by a predominance of micro and craft enterprises. Construction can also be regarded as a "barometer of economic vibrancy" with a broad range of drivers of change illustrating both current and future skills needs and challenges in this context.

In contrast to the interior construction sector the dominance of micro and/or craft enterprises is weaker in the branches of the *food processing sector* (meat, dairy and bakery production). This is true for the majority of the countries studied. Even though a large part of the workforce is employed in micro companies, the sector is characterised by a dual structure of enterprises oriented towards industrial production methods on the one hand and more craft oriented on the other. Our analysis also revealed quite different and sometime divergent trends of structural change and employment development.

As the third sector focus of our analysis, *personal services* is by far the most heterogeneous one. This "sector" is very diverse and must be seen in its respective constituents: the manufacture of medical aids and instruments is high-tech, often international in operation and highly visible. By contrast, work in the social area is often more hidden, with low profiles and harder to reach. The different areas of personal services we looked at are characterised both by craft occupations and companies in certain sub-sectors (hair and beauty, medical aids and instruments) while other parts do not have any craft/trade orientation at all (care, cleaning, fitness).

Given this diversity of VET systems as well as in the national understanding and underlying concepts of what constitutes a profession/occupation, it is remarkable how similar occupations, qualifications and skill profiles are in all the countries. Although national parameters have a tremendous influence on the way competences and skills are provided, one can observe similar structures with respect to the division of labour and the degree of vertical and horizontal job differentiation. Differences between sectors (in particular between construction and food versus personal services) are more pronounced than differences between countries.

Although we were usually able to observe relatively high proportions of workers having completed vocational education and training and low proportions of unskilled or semi-skilled labour, comparisons of formal educational degrees between countries is problematic due to diverging national VET structures, with employees with comparable vocational qualifications often having different educational degrees.

Moreover, an important result of the context analysis is that a formal educational degree is not synonymous with skills adequacy for the profession. Exemplary cases are Bulgaria and Italy where significant skill mismatches have been reported. Interestingly, from a long-term perspective, countries with apprenticeship systems usually report minor or no problems with respect to skill mismatches. This may be due to the fact that apprenticeship training automatically adapts to demand, with apprenticeships only provided by companies for those professions in demand. With no companies offering apprenticeships, “out-dated” professions are automatically phased out. Updating existing professional qualifications as well as the establishment of new ones are therefore of crucial importance for such systems. It follows that countries focusing on apprenticeship training are more demand-driven with respect to the adaptation process of future skills needs, whereas countries with a high share of VET school graduates are to a great extent supply-driven.

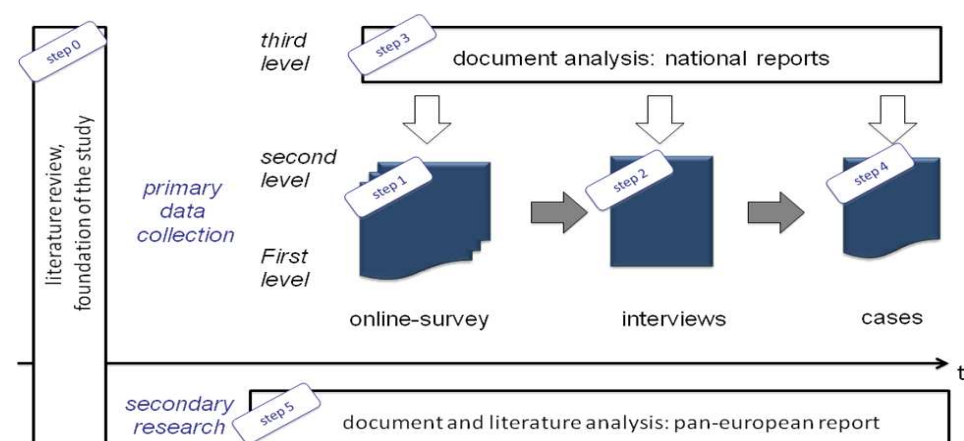
3 SKILLS AND FUTURE SKILL NEEDS IN MICRO AND CRAFT (-TYPE) ENTERPRISES – QUANTITATIVE AND QUALITATIVE SURVEY RESULTS AND PRACTICE EXAMPLES

3.1 OVERVIEW OF SURVEY DESIGN AND IMPLEMENTATION

3.1.1 METHODOLOGICAL APPROACH

The study is designed as a multi-level approach. This approach provides the opportunity to explore connections over all three levels: individual enterprises and individual training institutions (level one), institutions representing craft (-type) enterprises and training institutions (level two), and regional and national regulatory institutions (level three). An online survey was used to gain a broad range of datasets from craft (-type) enterprises, institutions representing craft (-type) enterprises and the training institutions. The comparison of the quantitative datasets from these three groups helped to provide information on skills demand and training supply and to gain deeper insights into reasons for the market failure of training offers and mismatches between skills demand and supply. We focused on these three groups, deciding not to include the learners’ perspective (employees) for three reasons. The first was that employees are much more difficult to reach, and the second that employees do not have the same strategic perspective of a company’s future skill needs as company-owners have. The third reason was that, due to the restrictions in time and budget, the inclusion of a fourth perspective would have resulted in a smaller number of answered questionnaires from the other three perspectives.

FIGURE 6: STUDY OUTLINE



Source: FBH

The quantitative datasets were used to identify interesting interviewees for qualitative interviews. These in turn were used to collect in-depth information on individual cases. National context reports were compiled by national partners, containing detailed information on each of the three sectors in the respective country and helping to analyze and interpret the information gathered. In addition, the literature database, established and

permanently extended by the consortium, delivered further information for interpreting the datasets and offering an in-depth overview on the current status of scientific discussions.

3.1.2 ONLINE SURVEY

The first step of the methodological approach involved the online questionnaire. The main aim of this step was to gather quantitative information enabling us to describe the rated skill needs and how these were assessed within micro- and craft (-type) enterprises. Other aspects involved information on training programmes. This enabled us to gain insights into how and how well matching processes worked in practice. These quantitative datasets formed the skeleton of a research framework and identified influencing factors. The datasets were used to develop an in-depth understanding of the basic structure of the field of research and helped to identify interesting institutions and participants for the interviews in step 2 (see chapter 3.3.4). They also allowed potential problems to be analysed, especially through comparison. The online questionnaire offered access from two different perspectives: the horizontal perspective used to find mismatches and differences between craft (-type) enterprises and training institutions, and the vertical perspective used to reveal mismatches and differences between enterprises / training institutions and their representative institutions.

To guarantee a high quality of data, a new tool, tailored to the specific needs of the consortium, was developed and implemented for the online survey. It provides the opportunity to define one language as the reference-language (in this survey: English). The reference language could then be translated into different languages by the national partners. The consortium developed individual questions for each of the three different target groups (see annex for an example). The company questionnaire consisted of five different parts.

The first part of the questionnaire was designed to gain more information on the situational context of skill issues in micro- and craft (-type) enterprises. The second part can be regarded as the main part of the questionnaire. Based on literature reviews and a meta-analysis of different studies we chose 38 skills which the participants had to rank in terms of any past increase or decrease in requirements and future perspectives. The combination of past and future perspectives was used to gain information on the stability of trends and to link future ratings to past experience. We decided not to ask for current needs for two reasons. On the one hand, this would have enlarged the required effort for companies to take part in the online survey, thereby possibly raising the drop-out rate. On the other hand, the current situation of companies is in many ways included in the past and future perspective, as the forecast is based on past experience enriched with expectations for the future.

The 38 different skills were structured in three categories: skills related to work processes, communication skills and personal skills.

Part three of the questionnaire was concerned with what companies did to ascertain their future skill needs. Part four looked at the measures companies were taking in the face of their skill needs and any difficulties they were experiencing in doing so. Part five contained

structural questions such as company size, age and turnover. The company questionnaire contained a total of 32 questions. Besides past and future skill needs, it covered questions on skill need assessment and the consequences of skill needs.

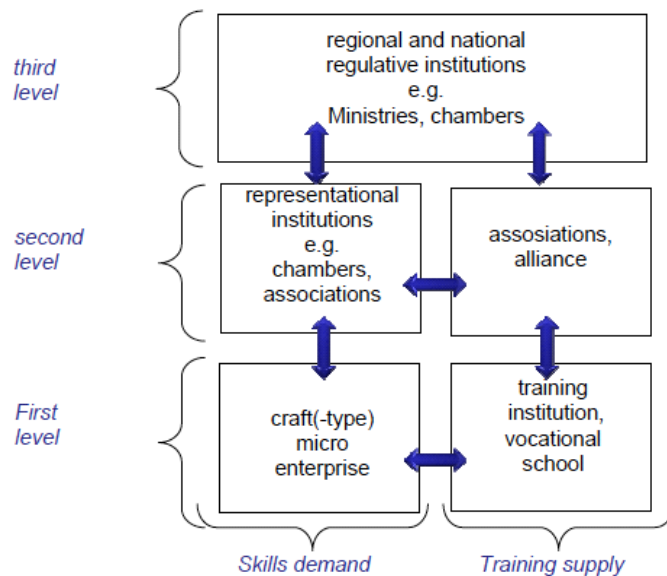
The questionnaire for institutions representing companies was designed on the same lines as the company questionnaire, though the perspective within the questions was changed. Institutions were asked to answer the questions for a typical micro and craft (-type) enterprise and how they perceive skill needs and the processes for skill need assessment and the consequences. To avoid no-replies, we agreed to reduce the number of questions, concentrating on important ones and underlining this by shortening the questionnaire both visibly and psychologically.

The national partners were responsible for establishing contacts to companies, business organizations and training providers. Different ways were used. Every national partner was provided with 1,000 individual codes for companies, 100 for business organisations and the same amount for training institutions. Half of the national partners used existing address databases to make the contact, especially with regard to companies. The others used contacts kept by business organizations to address companies. Different procedures led to different response rates in individual countries. In Austria for example 2000 enterprises were contacted via mail, of which 150 responded. In France the 96 enterprises were contacted directly via telephone. The following table shows total responses.

TABLE 11: DATA SET - QUESTIONNAIRE

Countries	Companies	Business Organisations	Training institutions
Austria	151	33	16
Bulgaria	109	12	23
Denmark	24	10	2
France	96	6	10
Germany	89	21	23
Italy	35	9	10
Poland	111	36	22
United Kingdom	85	20	19
overall	700	147	125

Source: FBH

FIGURE 7: MULTI-LEVEL APPROACH

Source: FBH

3.1.3 CONTEXT REPORTS

Each national partner worked on three context reports, one for each chosen sector. These delivered important information on each sector's structure and helped in comparing different countries. The reports helped to gain an insight into the EU Member States and their regional and national regulative institutions, leading to an in-depth understanding of the various factors influencing both training institutions and craft (-type) companies.

The context reports consisted of four different parts. Part one included a description of the sector's profile, its main form of business organizations, its role within the national economy, the business demography, and workforce information. Part two provided information on context, structures and challenges in skills, qualifications and vocational training. In part three, change drivers for future skills in the specific context were described. Part four included literature, sources and tables, graphs and figures. The structure of the context reports was chosen and developed in order to gain a framework of data for each sector in each country. Parts I and II allowed a structured insight into present business and training systems and could be used as a basis for data interpretation. In part III we tried to gain more information on further relevant developments in each sector. Parts I and II were therefore oriented towards the present, whereas Part III was oriented towards the future (for the structure of the context reports, see the Annex). These different perspectives gave indications and orientations for future implementation. Future structural developments had both an enabling and limiting effect on the assessment future skill needs. The basic structure was provided to the national partners accompanied by explanatory guidelines. A pilot survey was carried out to support the development. The national partners conducted desktop research and summarized their information.

The data gained from the context reports is used a) as an interpretation template and b) to look for empirical findings pointing to links between specific contexts and future skill need ratings.

3.1.4 QUALITATIVE INTERVIEWS

Based on the quantitative survey, we analyzed datasets for typical answer patterns. This in turn enabled us to identify individual enterprises and institutions. This analysis led to a choice of interviewees for the qualitative interviews, in which 81 typical cases were explored in greater depth.

TABLE 12: INTERVIEWS IN DIFFERENT COUNTRIES

Country	Number of interviews
Austria	9
Bulgaria	12
Denmark	10
France	10
Germany	10
Italy	9
Poland	9
United Kingdom	12
overall	81

Source: FBH

For the interviews the project coordinators developed and provided a detailed question structure in an interview guideline to support national partners, maintain interview quality and ensure comparability. The qualitative interviews were the main source for systematically developing the case studies. The interview guideline consisted of four different sections. Section one focused on a more in-depth investigation of situations in which micro and craft (-type) companies gain impulses for considering futures skill needs and ways they assess needs. Section two contained examples of specific skill needs. In section three we focused on existing training programmes, and the perceptions and effects registered by companies. The fourth and last section was for gathering information on requirements and support. With these four interview sections we tried to investigate in greater depth the specific situation micro and craft (-type) enterprises find themselves in, thereby enriching the quantitative information. In addition to the more elaborated form of collecting information, an interview provides the possibility to clarify specific details. Special focus was laid on the specific ways micro and craft (-type) enterprises work and their use of training programmes, as well as on additional support needs.

3.1.5 CASE STUDIES

Based on the interviews and their documentation, the national partners then developed case studies on the companies and institutions interviewed, compiling a number of different descriptions of processes in the field. The FBH developed a guideline for documenting the case studies. At first, background and context information needed to be provided to locate the case. Then, change drivers, changes in skill needs, training and difficulties faced were documented. This helped to understand the motivation, relevance and aims of the case. The third part involved the description of a good/best practice example. New processes or new ways of dealing with problems or overcoming shortages of skills or qualifications were described here. Each case was supposed to end with a list of keywords, classifying the case by country and region, sector, type of actor and main objective of the case (for the whole structure of the case study guideline see the Annex). The case studies had two objectives. On the one hand, they provided an enriched description of examples and therefore documentation of 'real' practice. We have chosen the term 'real' practice instead of 'best' practice in order to be closer to the empirical foundations. On the other hand, these cases have enabled us to compile more realistic and feasible strategies, more reasonable guidelines and recommendations for the future.

3.1.6 NATIONAL REPORTS

Every national partner prepared a national report containing project results. It included the context report written by the national partners, the results of the online survey conducted by the FBH, and one or two typical or good case studies. Furthermore, each national partner provided a country summary and issued recommendations. This enabled us to gain the national perspective and to integrate the implicit knowledge of national partners.

3.1.7 DOCUMENT ANALYSIS

In addition to the primary data collection and analysis we reviewed available literature. The documents included in the literature and document analysis involved for the most part other studies on skill needs, descriptions of sectors and training systems, and articles on the development of training programmes. The relevant literature encompasses research papers, political and economic reports, reports on training systems, projects and descriptions of other initiatives. We developed a structure for reviewing the literature, enabling us to map the structures and patterns in the context of the study. In the data analysis phase the categories established were a great help both in coding and in interpretation.

3.2 SKILLS STRUCTURES

3.2.1 GENERAL ASPECTS OF SKILLS STRUCTURE

There was a broad discussion on how to best describe the necessary individual requirements for handling tasks properly. The concepts used differ according to work requirements, competences, skills, and so on.

In this study we adopt a broad understanding of the term 'skills', using the description found in the CEDEFOP glossary: "the knowledge and experience needed to perform a specific task or job" (CEDEFOP 2004: 130). This means that we use the term "skills" to refer to cognitive competences, functional competences as well as social and personal competences.

Building an adequate skills structure appeared to be a fundamental issue. Basic analytic frameworks aim at defining the components of skills as a way of clarifying the concept. In its research project, the CEDEFOP defined the fundamental triad of knowledge, skills and competence as the main dimensions of competence (Winterton, Le Deist, Stringfellow 2005: 40). The authors tried to define a unified typology as a framework for the further development of specific knowledge, skills and competence models. They formulated an overall approach, synthesising different functional, holistic or interpretative concepts in an attempt to describe learning outcomes.

The problem with this component-oriented approach is that in the real work situation the components can only be dealt with separately from an analytical perspective but not from an empirical one. The situation in which workers find themselves and the need for them to act represent an indivisible whole containing knowledge, skills and competences. This leads to the individual requirements related to the specific work context defining the main perceivable structure of the work specification and not of the individual disposition coping with it (Luomi-Messerer / Markowitsch 2006: 15f.).

In our study we decided to formulate skills in a manner consistent with work processes, i.e. using work processes as the main orientation. This decision allows a transparent and understandable picture of work-related requirements from the perspective of micro- and craft(type) enterprises, with the main focus on the application of skills.

We used work-related categories as a way of structuring skills and linking them closely to work. The main work-related categories are:

- ☐ The work process (e.g. core task)
- ☐ Technical requirements (e.g. tools / methods)
- ☐ Organizational requirements (e.g. work cooperation)
- ☐ Legal requirements (e.g. regulations / norms and laws)
- ☐ Social requirements (e.g. communication)
- ☐ Personal requirements (e.g. attitudes)

These six categories were used to specify skills in greater detail and to operationalize skills for the online survey. The following table shows the 38 individual skills we used. The challenge in specifying them was that we needed to find skill definitions relevant both in the single sector context and for all three sectors. It would not have been possible otherwise to compare skills needs. On the other hand, we needed to define skills independent of any particular perspective (e. g. workforce, employer and employee) to have the possibility of comparing assessments from different perspectives. The comparison of the three perspectives (companies, business organisations and training institutions) helps us to gain insights into how these three groups see market developments. It also enables us to identify

differences, a potential factor causing mismatches in training supply and demand. We decided to choose these three perspectives covering a broad range of different views to gain a stable base upon which we were able to build substantiated recommendations.

The role of trade unions has to be considered specially. The cases studies made us aware of how important the role of trade unions in specific sectors and countries is. Unfortunately the questionnaire stage had already been completed, so we were unable to enlarge the sample to include a fourth perspective, that of trade unions. Based on the information from the context reports and the case studies, we now know that a trade union perspective needs to be integrated in future studies on skill needs.

TABLE 13: STRUCTURED SKILL NEEDS

Work process			Social	Personal
Core process -	Technical -	Organizational / legal		
Acquisition of new orders, customer groups Managing quality in business processes and services Sector specific knowledge Identifying trends in customer needs and markets Analyzing known tasks Developing new services, broaden range of offered products Developing knowledge about foreign markets	Evaluation and selecting materials and products Adequate handling of tools and resources Implementing new technology in the business process Implementing information and communication technology for order processing	Planning and solving problems in business processes Documenting and monitoring tasks Calculating costs Dealing with legal norms and standards Meeting new health and safety requirements Complying with environmental standards in processes Securing own innovations and patents	Customer service communication Negotiating with suppliers and producers Leading co-workers Training (untrained) workers Cooperating with other companies and institutions Communicating with customers, suppliers and employees in a foreign language Using communication technology for communication with customers/suppliers Working in project groups and team structures	Multi-tasking, working parallel on different tasks Working under pressure Developing creative ideas Managing risk Developing self motivation and self engagement for the company Willingness to continue learning Balancing business and family demands Time management Entrepreneurial thinking and acting Motivating employees in their job Willingness to assume new tasks or new responsibilities Willingness to travel and to be mobile

Source: FBH

3.2.2 QUALITY OF THE SKILLS STRUCTURE USED IN THE SURVEY

The quality of the instruments used in the study is going to be verified using statistical and theoretical concepts applied to the complete data set.

3.2.3 ADDITIONAL SKILLS

Participants were given the opportunity to add skills if they thought that important skills were missing in the questionnaire. We included this opportunity so as not to miss skills considered important. Following a closer look at the commentaries, three additional skills seemed to be important: the skill to act adaptively in the face of new technologies (3 times), basic knowledge and skills (5 times) and general flexibility (7 times). Other suggestions were either determined to be parts of skills already asked for or were seen as external restraints

(e.g. equity capital, loans, price policy). From the perspective of the enterprises this tends to support the conclusion that no important skill needs were missing in the questionnaire, thereby helping to validate the skills structure.

3.2.4 TARGET GROUP OF SKILL NEEDS

In the study we asked which section of the workforce is especially challenged by changes in the skills required. The target groups were defined by their level of vocational education.

TABLE 14: STRUCTURED SKILL NEEDS

Groups affected by future skill needs	From the perspective of the enterprises ⁸²	From the perspective of the business organizations ⁸³	From the perspective of the training providers ⁸⁴
All workers	61.1 %	57.6 %	73.8 %
Unskilled / semi skilled workers	14.0 %	20.2 %	12.1 %
Skilled workers / workers with a vocational qualification	23.1 %	32.3 %	41.1 %
Academic workers	3.0 %	6.1 %	11.2 %

Source: FBH

From the perspective of training providers, changes in future skill needs have an impact on all levels of qualification. The assessment of 57.6 % of all business organizations rate was that all workers, independent of their level of qualification, will be confronted by different skill needs in the future. The three perspectives (companies, business organizations, training providers) all see skilled workers as the group most affected by future skill needs.

3.3 SKILL NEEDS FROM THE PERSPECTIVE OF DIFFERENT ACTORS

3.3.1 ENTERPRISES

Enterprises from three sectors took part in the online survey. The data shows that, out of 637 enterprises having completed the questionnaire, 29.7% work in the interior construction sector, 38.8 % in personal and health services and 25.4 % in the food sector. Consequently, the service sector with its heterogeneous structure is slightly overrepresented in the data sample.

Looking at the nationality of companies, most of the participating countries are fairly evenly represented. UK, with 83 completed company datasets, has a share of 13.0% whereas Austria, with 123 ones, has a share of 19.3%. The two exceptions are Italy (4.7%) and

⁸² N = 637; question nr. 10 enterprises;

⁸³ N = 99; question nr. 10 business organizations;

⁸⁴ N = 107; question nr. 18 training institutes,

Denmark (3.0%). Nevertheless we decided to take all completed datasets into account in the interim analysis.

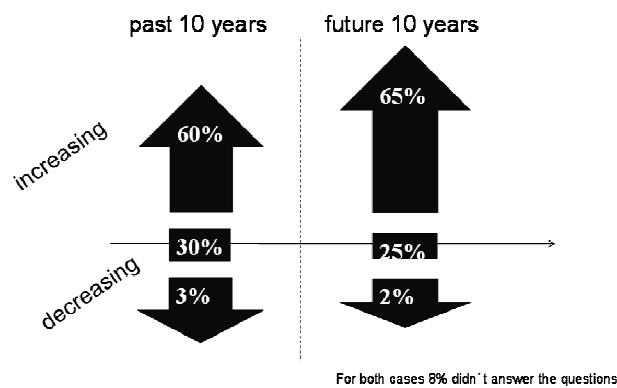
To compare company size we asked for two indicators: annual turnover and headcount. Turnover was reported by 553 enterprises though 13.2 % chose not to answer this question. The most frequent turnover category (22.4 %) was under 50 T€. Company turnover is fairly equally distributed between the categories of 50 T€ - 100 T€, 100 T€ - 250 T€, 250 T€ - 500 T€, each containing 14% - 15 %. Finally, 9.3 % belong to the 500 T€ - 1 million € category and 10.8 % to the 1 million € + category. 571 of the companies provided headcount information, while 66 or 11.6 % of the valid sample chose not to. 30.5 % of the companies have less than 5 employees, 31.5 % 5-9 employees, 19.1 % 10-19 employees. 11.5 % of the companies are in the category 20-49 employees, with only 6.5 % of surveyed companies having more than 50 employees. It follows that majority of the companies surveyed have no more than 20 employees and can therefore be regarded as micro or small companies. The companies of bigger size classes are included because of their craft characteristics. Given this distribution in the sample, we are focusing on micro and small companies.

In part II of the questionnaire, companies were asked to rank the importance of 38 predefined skills, stating whether they had seen an increase, decrease or no change in the importance of each skill over the past 10 years and what change they saw in the next 10 years.

The evaluation of the company perspective showed a clear trend towards an increase in skill needs across all skills both in the past and in the next 10 years.

There is major consensus of the need to increase skill levels throughout all 38 different skills, as seen when comparing ratings showing increases to those showing decreases. The assumption that required skill levels are increasing is supported by the fact that, when comparing past and future ratings, all future ratings are higher than past ones. This means that although companies already saw the need for a major increase in skill levels in the past 10 years, they are foreseeing an even higher increase in the coming 10 years.

Looking at the summary data for all sectors and countries shown in figure 8, the following can be ascertained. Companies rank nearly all skills as gaining in relevance. Comparing the past 10 years with the next 10 years, high increases seen in the past rise further. All in all, companies generally saw rising skill levels over the past 10 years and expect a further increase over the next 10 years.

FIGURE 8: SKILLS-DEVELOPMENT IN PAST AND FUTURE

Source: FBH

The 10 skills most often ranked in past and future by companies as increasing in importance are shown in the table below.

TABLE 15: SKILL NEEDS FROM A COMPANY PERSPECTIVE (RELATIVE FREQUENCY)

Rank	Skill needs from a company perspective ⁸⁵	Relative frequency
1	Customer service communication	79.4 %
2	Developing new services, broaden range of offered products	78.5 %
3,	Analyzing known tasks	77.2 %
4	Entrepreneurial thinking and acting	77.1 %
5,6	Sector specific knowledge	76.9 %
5,6	Meeting new health and safety requirements	76.9 %
7	Willingness to continue learning	74.9 %
8	Managing quality in business processes and services	74.7 %
9	Identifying trends in customer needs and markets	74.3 %
10	Dealing with legal norms and standards	73.0 %

⁸⁵ N = 637; We only used those data records in which questions 6 (for enterprises), 7 and 8 had been completed; multiple answers were possible.

TABLE 16: SKILL NEEDS FROM A COMPANY PERSPECTIVE (RELATIVE FREQUENCY)

Work process related			Social	Personal
Core process	Technical	Organizational / legal		
Acquisition of new orders, customer groups	Evaluation and selecting materials and products	Planning and solving problems in business processes	Customer service communication	Multi-tasking, working parallel on different tasks
Managing quality in business processes and services	Adequate handling of tools and resources	Documenting and monitoring tasks	Negotiating with suppliers and producers	Working under pressure
Sector specific knowledge	Implementing new technology in the business process	Calculating costs	Leading co-workers	Developing creative ideas
Identifying trends in customer needs and markets	Implementing information and communication technology for order processing	Dealing with legal norms and standards	Training (untrained) workers	Managing risk
Analyzing known tasks		Meeting new health and safety requirements	Cooperating with other companies and institutions	Developing self motivation and self engagement for the company
Developing new services, broaden range of offered products		Complying with environmental standards in processes	Communicating with customers, suppliers and employees in a foreign language	Willingness to continue learning
Developing knowledge about foreign markets		Securing own innovations and patents	Using communication technology for communication with customers/suppliers	Balancing business and family demands
			Working in project groups and team structures	Time management
				Entrepreneurial thinking and acting
				Motivating employees in their job
				Willingness to assume new tasks or new responsibilities
				Willingness to travel and to be mobile

Skill needs from the perspective of the companies (top 10, frequency increasing)

Source: FBH

Looking at the top 10 list, one can see that the two most commonly rated skill needs are interaction with customers and the development of a new and broader product/service offering for customers. This trend reflects the existential dependency of micro and craft (-type) enterprises on customer relations. Managerial skills and market orientation are emphasized in the top 5. In the company perspective the analysis of known tasks and entrepreneurial thinking and acting are seen to be of increasing importance in micro and craft (-type) enterprises. Together with the first two skills this can be seen as an indication of the growing need of combining customer orientation with managerial orientation. Since in micro and craft (-type) enterprises a functional division is not possible these aspects have to be shouldered by a single person or a small group of employees.

Sector-specific knowledge is rated joint number 5 among all skills. In combination with number 7, "Willingness to continue learning", this stresses the importance of being well established in the sector and of continuously updating this knowledge through lifelong learning in order to compete in the market.

Furthermore, compliance with health and safety requirements (joint number 5) and dealing with legal norms and standards (number 10) are rated high. This trend reflects the growing influence of statutory requirements and other standards on micro and craft (-type) enterprises. Additionally, ranks 8 and 9 relate to the market orientation of such companies,

and their need to actively keep abreast of market and customer trends, not relying on a fixed range of services and products and reacting to demand by creating new offerings. Based on the ratings of the companies surveyed, it can be generally said that the link between the companies and their customers seems to be the most important driver of skill needs.

The analysis of changes in ratings for the past and future 10 years results in a different top-10 list. The aim of this comparison is to identify skills moving into focus, hinting at dynamic trends. This is not accomplished by the top-10 list of frequencies, which merely ranks skill needs without taking the time horizon into account. Therefore, the list with the top 10 in changes is very useful for providing deeper insights into future skill needs trends. The top-10 list of changes contains those 10 skills with the highest changes in frequencies when comparing the two 10-year periods (past and future).

TABLE 17: SKILL NEEDS FROM A COMPANY PERSPECTIVE (CHANGE %)

Rank	Skill needs from a company perspective ⁸⁶	Change % (past – future increase)
1	Developing knowledge about foreign markets	35.3 %
2	Communicating with customers, suppliers and employees in a foreign language	27.7 %
3	Securing own innovations and patents	25.4 %
4	Training (untrained) workers	22.8 %
5	Working in project-groups and team-structures	16.8 %
6	Acquisition of new orders, customer groups	14.2 %
7	Cooperating with other companies and institutions	13.9 %
8,9	Negotiating with suppliers and producers	11.6 %
8,9	Implementing new technology in the business process	11.6 %
10	Motivating employees in their job	11.5 %

Source: FBH

Looking at the top-10 list, the skill ranked highest was "Developing knowledge about foreign markets". This skill is closely related to rank 2, communication with customers in a foreign language. These two skills reflect the importance for micro- and craft (-type) enterprises to extend their business activities to other markets and to be able to communicate with business partners in a foreign language. Hence, language skills will gain further importance in the future.

In connection with gaining knowledge of foreign markets and language skills, three further skills need to be mentioned. These underline growing interest of micro- and craft (-type) enterprises in innovation: the securing of own innovations (rank 3); the acquisition of new orders and customer groups (rank 6); and the implementation of new technology in the business processes (rank 8/9). All these skills highlight the developmental perspective of

⁸⁶ N = 637; We only used those data records in which questions 6 (for enterprises), 7 and 8 had been completed; multiple answer were possible.

enterprises. Developing companies from within using creativity and innovation is thus reflected in all skills mentioned.

Social skills are also ranked high among the expected increases of skill needs, with 5 of the top-10 skills belonging to this category. Training and motivation of employees, along with cooperation with different interest groups, are expected to be of increasing importance within the next ten years. Ranked fourth, "Training (untrained) workers" seems of special importance since this reflects companies' perceptions of the need to train workers internally. This could be considered as an indicator that in-house training is becoming increasingly important for companies, i.e. raising the importance of informal learning. The increase in the skill needed to work in project groups and team structures most likely results from a changed form of work organization. This could be used as an indicator that the organization of work, within and outside the company, is becoming increasingly team-based, making cooperation and coordination skills all the more important.

The top-10 list of changes in ratings indicates those skills gaining greater relevance within the next 10 years from a company perspective, i.e. they are strategically important for the future company performance.

Practice example

Emmanuel is a baker working in an award-winning bakery and is heavily involved as a teacher in an institute providing training in specialized techniques of craft food production to the future craft bakers. He describes the changes as follows:

"It is becoming more and more important to consider not only the training needed for producing products (baking the bread) but also the basics of running a business. Many bakeries have got something wrong in their business strategy or business planning". He goes on to tell of his attempts to interact with customers by explaining in greater detail what he is doing. The bakery he works for experiments with new products, looking for feedback and suggestions from customers, and thereby creating a two-way interaction between the bakery and its customers.

3.3.2 BUSINESS AND PROFESSIONAL ORGANIZATIONS

As part of the study we asked national partners to find questionnaire respondents not only from companies but also from business organizations (e.g. chambers, associations, unions) with a view to integrating the perspectives of organizations representing enterprises in the respective sectors and regions.

In all eight countries a total of 99 participants from business and professional organizations completed the online survey. Their datasets were used in the analysis.

The 99 participating business organizations are distributed fairly equally across the countries: Austria (15.2 %), Bulgaria (11.1 %), Poland (26.3 %), Germany (16.3%), France (3%), Denmark (7.1%), Italy (7.1%) and UK (14.1 %). The majority of these organizations work across sector borders (49.5 %). Of the remaining ones, 24.2 % are in the food sector, 12.1 % in the service sector and 14.1 % in the construction sector.

The answers from the business organizations were analyzed in the same way as those from companies. The question asked was to rate the skill needs of a typical company. The

following table shows the resulting top-10 list of the companies' future skill needs from the perspective of a business organization.

TABLE 18: SKILL NEEDS FROM THE PERSPECTIVE OF A BUSINESS ORGANIZATION (RELATIVE FREQUENCY)

Rank	Skill needs from the perspective of a business organization ⁸⁷	Relative frequency
1	Developing new services, broaden range of offered products	87,9%
2	Analyzing known tasks	81,8%
3	Using communication technology for communication with customers / suppliers	79,8%
4	Complying with environmental standards in processes	78,8%
5	Sector specific knowledge	77,8%
6	Managing quality in business processes and services	76,8%
7	Meeting new health and safety requirements	75,8%
8	Multi-tasking, working parallel on different tasks	74,7%
9,10	Implementing information and communication technology for order processing	72,7%
9,10	Customer service communication	72,7%

Source: FBH

Business organizations ranked the increase needed in skill levels very high across all skills. It is also interesting to note the consistency of rankings on future skill needs across all participating business organizations.

Taking a closer look at the 10 skill needs increasing most, one sees that the skill development of new services and broadening the range of products offered' was ranked not only high, but the highest ranked skill in the whole survey. Business organizations regard it as necessary for a typical enterprise to permanently re-define its market offerings. With this rating they articulate of the dynamism implicit in the business activities of micro and craft (-type) enterprises.

Other skill needs seen as increasing regard improvements in work tasks, dealing with external standards and integrating new technologies. Customer orientation is also highlighted, but while companies put 'customer service communication' in top place, business organizations rank it as number 10. The skills 'using communication technology for communication with customers / suppliers', 'complying with environmental standards in processes' and 'multi-tasking, working parallel on different tasks' stand out as skills not appearing in the company top 10 list.

Business organizations give high ratings of increase to a number of those skill needs addressing work processes, work organization as well as technical and legal aspects. Individual skill needs regarding the communicative and personal dimension also feature in the top-10 list.

⁸⁷ N = 99: We only used those data records in which business organization questions 6, 7 and 8 had been completed; multiple answers were possible;

In a further analysis we compared past and future ratings of increase in importance, with a view to identifying the most dynamic skill needs. The following table displays the top 10 of skill needs with the highest changes between past and future ratings from the perspective of business organizations.

TABLE 19: SKILL NEEDS FROM THE PERSPECTIVE OF A BUSINESS ORGANIZATION (CHANGE IN %)

Rank	Skill needs from the perspective of a business organization ⁸⁸	Change % (past – future increase)
1	Working in project groups and in team structures	60.8 %
2	Communicating with customers, suppliers and employees in foreign language	50.2 %
3	Cooperating with other companies and institutions	47.6 %
4	Willingness to assume new tasks or new responsibilities	44.4 %
5	Training (untrained) workers	44.2 %
6	Acquisition of new orders and customer groups	38.8 %
7	Willingness to continue learning	35.9 %
8,	Motivating employees for their job	34.7 %
9	Managing risk	34.3 %
10	Developing self motivation and self engagement for the company	34.2 %

Source: FBH

Looking at the skill needs ratings with the greatest changes between past and future frequency, it can be seen that business organizations see skill needs changing more than companies do.

Reviewing the top-10 changes between past and future it can be seen that those skill needs are ranked highly which have a close link to a company's internal work organization. Skills needed for external and internal work organization are apparently very dynamic. With eight of the top-10 skills involving HR aspects (an employer's business attitude and his or her attitude towards employees and customers), it can be concluded that business organizations put greater emphasis on HR aspects. For a comparison between the perspectives of companies, business organizations and training institutions, see 3.3.4.

Practice example

The Sofia Regional Chamber of Crafts was established in 2002. Its members embrace various crafts, predominantly in the fields of cosmetics, hairstyling and car repair. One of the chamber's priorities is to support the state and the municipal administration in its efforts to encourage craft development, as well as supporting its members by facilitating the implementation of vocational training. In their opinion, the main drivers of change in skill needs are technological progress and changes in the field of services. More than other regional chambers in Bulgaria, the RChCr Sofia is far more active and possesses more up-to-date thinking than others. It is constantly searching for ways and initiatives to support craftsmanship in Bulgaria. Furthermore, it is one of the few regional chambers to organize training courses on key competences (e.g. ICT).

⁸⁸ N = 99; We only used those data records in which business organization questions 6, 7 and 8 had been completed; multiple answers were possible;

3.3.3 TRAINING INSTITUTIONS

To compare perspectives from the demand side with those of the supply side, we asked training institutions to participate in the study. They were not only questioned about their training programmes, but also on their assessment of skill needs for micro and craft (-type) enterprises within the past and future 10 years.

107 training institutions took part. 15.9 % of them come from the UK, 17.8% from Germany, 7.5 % from France, 2.8 % from Denmark, 16.8 % from Bulgaria, 6.5 % from Italy, 16.8 % from Poland and 15.9 % from Austria. 15 % work in the interior construction sector, 21.5 % in the service sector, and 13.1 % in the food sector. The remaining ones work across sectors (50.1 %).

The following table contains the top-10 skill needs according to the frequency of increase ratings. It describes the perceived skill needs of companies from the perspective of the training institutions, i.e. training institutions' assumptions about companies' future skill needs.

TABLE 20: SKILL NEEDS FROM THE PERSPECTIVE OF TRAINING INSTITUTIONS (RELATIVE FREQUENCY)

Rank	Skill needs from the perspective of a training institution ⁸⁹	Relative frequency
1, 2	Developing new services, broaden range of offered products	88,8 %
1, 2	Sector specific knowledge	88,8 %
3	Analyzing known tasks	87,9 %
4	Implementing new technology in the business process	86,9 %
5	Using communication technology for communication with customers/suppliers	84,1 %
6, 7, 8	Entrepreneurial thinking and acting	83,2 %
6, 7, 8	Time management	83,2 %
6, 7, 8	Customer service communication	83,2 %
9	Developing creative ideas	82,2 %
10, 11, 12	Planning and solving problems in business processes	80,4 %
10, 11, 12	Complying with environmental standards in processes	80,4 %
10, 11, 12	Willingness to assume new tasks or new responsibilities	80,4 %

Source: FBH

The skill needs (highest frequency of increase over the next 10 years) show comparably high ratings across the board.

Training institutions attach high relevance to skill needs related to work processes. The three most highly ranked skill needs ('developing new services', 'sector specific knowledge' and 'analyzing known tasks') together with 'entrepreneurial thinking and acting' and 'time management' highlight the importance for companies to improve themselves. Training institutions also attach importance to the use of communication technology. Two other

⁸⁹ N = 107; We only used those data records in which training institution questions 6, 7 and 8 had been completed; multiple answers were possible;

important skills seen by training institutions are the 'development of creative ideas' and the 'willingness to assume new tasks or new responsibilities'. These skill needs reflect training institutions' focus on personal and communication skills.

The next step in the analysis shows the top-10 list of skill needs expected to gain in importance over the next 10 years compared to the past 10 years.

TABLE 21: SKILL NEEDS FROM THE PERSPECTIVE OF A TRAINING INSTITUTION (CHANGE IN %)

Rank	Skill needs from the perspectives of a training institution ⁹⁰	Change % (past – future increase)
1	Communicating with customers, suppliers and employees in foreign language	69,5
2	Securing own innovations and patents	54,0
3	Training (untrained) workers	49,1
4	Willingness to continue learning	49,0
5	Developing knowledge about foreign markets	46,5
6	Leading co-workers	44,1
7	Motivating employees in their job	40,8
8	Willingness to assume new tasks or new responsibilities	38,9
9	Developing creative ideas,	37,5
10	Planning and solving problems in business processes	36,5

Source: FBH

The list covers a broad spectrum of personal and communicative skill needs as well as work process skills. By far the highest change between past and future ratings involves the skill 'communicating with customers, suppliers and employees in foreign language'. In conjunction with the skill 'developing knowledge about foreign markets' (ranked 5), this rising importance illustrates the relevance of globalization processes and the present state of the economy. These two skills emphasise the fact that language skills are needed to gain and analyse information on foreign markets. Language skills have to be available at a level allowing companies to communicate with their business partners (customers and suppliers) in the required language. Many personal skills are listed in the top-10, including 'motivating employees in their job', 'willingness to assume new tasks or new responsibilities' 'willingness to continue learning' and 'developing creative ideas'. Taking these personal future skill needs into account puts an emphasis on the individual attitudes of an entrepreneur.

In the top-10 list of overall frequencies, training institutions primarily see skill needs related to work processes and personal skills, while in the top-10 list of changes communication, personal and work process skill needs are evenly spread.

⁹⁰ N = 107; We only used those data records in which training institution questions 6, 7 and 8 had been completed; multiple answers were possible;

Practice example

The vocational training centre of Bulgaria's National Installation Union (NIU) is popular among people working in the installation sector because the professions in which it provides training are attractive. The main objectives of the NIU are:

- to support the development of installation equipment in Bulgaria;
- to represent members' interests;
- to represent its members in the public and before the public institutions
- to support the raising of qualifications of specialists working in the installation sector

NIU takes part in various projects with other European countries, thus enriching its experience with foreign partners. As members of EU-funded projects, a number of practitioners have had the opportunity to attend training courses abroad. As a sectoral business association the director of the vocational training centre proudly claims that the NIU's vocational training centre is well acquainted with the needs of companies, allowing it to focus on training suiting the requirements and demand of companies.

3.3.4 COMPARATIVE RESULTS: SIMILARITIES AND DIFFERENCES

The study aimed to look at future skill needs of micro and craft (-type) enterprises in three different sectors. The study was designed with the possibility in mind of comparing results not only across the different sectors (see 4.4.4), but also across the different perspectives (company / business organization / training institution). In order to provide an in-depth insight into the differences and similarities of the three different perspectives, we first conducted a direct comparison between each pair of perspectives before making an overall comparison.

COMPANY – BUSINESS ORGANIZATION:

Comparing the company perspective with that of a business organization, a high convergence can be seen between the two with regard to top-ranked skill needs. Table 22 shows the relative frequencies of skill needs from the three different perspectives. Here one can see that six of the top 10 skill needs overlap. On the company side the skills 'Willingness to continue learning', 'Dealing with legal norms and standards', 'Entrepreneurial thinking and acting' and 'Identifying trends in customer needs and markets' are not found in the business organization top-10. Generally speaking, the business organization perspective represents the perspective of micro- and small companies to a high degree.

A similar situation is found when looking at the changes of skill needs ratings. These indicate the changing demand in the future and can be seen as strategically important for the future development of companies. Comparing the top-10 here, we also find that 6 of the top 10 are identical. From the company perspective, skills closely linked with work processes and contributing to the development and broadening of market opportunities have gained in importance. Business organizations put greater emphasis on those skills addressing the HR aspect and the social structure of work. Furthermore, business organizations foresee much higher changes with regard to skills needed. Whereas the highest change from a company perspective was 35.3% ("Developing knowledge about foreign markets") the highest change from a business organization perspective was 60.8% ("Working in project groups and in team

structures"). One can draw the conclusion that companies feel much better prepared for future skill needs than estimated by business organizations.

COMPANY - TRAINING INSTITUTION:

Comparing the company perspective with that of a training institute, ratings overlap to a lesser extent, with only 5 of 10 skills stated in both top-10 lists regarding the frequency of ratings of future increases. From the company perspective, managing quality in business processes and services, identifying trends in customer needs and markets, coping with externally set requirements (dealing with legal norms and standards and meeting new health and safety requirements) and the willingness to continue learning are very important too. From the perspective of a training institution personal skills ('developing creative ideas', 'time management', 'willingness to assume new tasks or new responsibilities') and work-related skills ('implementing new technologies in the business process', 'planning and solving problems in the business process' and 'using communication technology for communication with customers/suppliers') are more important. Based on this comparison the following hypothesis can be formulated: companies link skill needs very closely to working processes, their content and how they are organized, to flexible reactions to changing market requirements, whereas training institutions link skill needs to individuals and requirements derived from external regulations.

This hypothesis is also supported by the comparison of the top 10 changes in skill needs, where again 5 out of the top 10 skill needs overlap. Whereas the company perspective highlights the development of potential within a company to expand into new markets and develop new offerings, training institutions see changes in regard to those skills closely connected to the communicative and personal dimensions of work. Changes in skill needs regarding the human resource factor (both employers' and employees' side) are more significant for training institutions than for companies. When comparing these different perspectives on changes of skill needs, one can note that changes in skill needs turn out much higher for training institutions than for companies.

BUSINESS ORGANIZATION - TRAINING INSTITUTION:

The third comparison is drawn between the business organization perspective and that of training institutions. The reason for such a comparison is that, in a lot of educational systems, the coordination of training demand and supply is conducted on the level of business organizations and training institutions and not on the level of individual companies.

Looking at the frequency of increases in the top-10 list, 6 skills overlap while 4 differ. The overlapping skills cover customer service communication, sector-specific knowledge, the analysis of known tasks and the development of new services and a broader range of offered products, compliance with environmental standards in processes and the use of communication technology for communication with customers/suppliers. Business organizations put more weight on implementing ICT for order processing, multi-tasking, managing quality in business processes and services and meeting new health and safety requirements, whereas training institutions focus more on individual skills (e.g. entrepreneurial thinking, time management, planning and solving problems in business

processes, developing creative ideas, and implementing new technology in business processes.

This pattern is repeated when comparing the top-10 changes (see table below). Here, 5 of the top 10 changes overlap. Overlapping skill needs are seen especially in the HR aspect of micro and craft (-type) enterprises. This area of skills combines aspects found in the person of an employer (e.g. willingness to continue learning) and his or her ability to train and motivate employees. Business organizations tend to put more weight on the social structure of work organization within and among companies, whereas training institutions highlight planning and solving problems in business processes, developing creative ideas, leading co-workers, developing knowledge about foreign markets and securing own innovations and patents.

TABLE 22: SKILL NEEDS FROM THE PERSPECTIVE OF THE THREE GROUPS (RELATIVE FREQUENCY)

Work process related Core process	Technical	Organizational / legal	Social	Personal
Acquisition of new customers	Evaluating material	Problem solving	Customer service communication	Multi-tasking
Managing quality	Adequate handling of tools	Documenting and monitoring tasks	Negotiating with suppliers and producers	Working under pressure
Sector specific knowledge	Implementing work process technology	Calculating costs	Leading co-workers	Developing creative ideas
Identifying trends	Implementing ICT	Dealing with legal norms / standards	Training (untrained) workers	Managing risk
Analyzing known tasks		Meeting new health and safety requirements	Cooperating with enterprises	Self motivation / self engagement
Broaden range of offered products		Complying with environmental standards	Communicating with foreign partners	Willingness to continue learning
Knowledge about foreign markets		Securing own innovations and patents	Using ICT in communication	Balancing business and family
			Working in project groups and team structures	Time management
Increasing future skills needs (top 10) from the perspective of the three groups (companies yellow, business organizations red, training institutions green, Blocked common perspective)				Entrepreneurial thinking
				Motivating employees in their job
				Assuming new tasks or new responsibilities
				Willingness to travel and to be mobile

Source: FBH

Summing up with a general comparison, the analysis of the survey reveals the following main aspects.

Each bilateral comparison shows that there is a higher consensus on skill needs in their future frequency than on changes between past and future increases.

The overall comparison of frequencies shows that 40% of top skills listed are common across all three perspectives (companies, business organizations, training institutions), but that there is only a 30% overlap when comparing the top-10 list of changes in frequency.

Each perspective emphasizes a certain dimension of skills needed. Companies highlight skills very close to work processes, the way they are organized and their potential development from within, together with skills needed to react flexibly and quickly to changes in markets. Business organizations rank skill needs linked to human resources higher, whereas training institutions put a greater emphasis on skills linked to the individual dimension.

TABLE 23: SKILL NEEDS FROM THE PERSPECTIVE OF THE THREE GROUPS (CHANGES IN %)

Work process related Core process	Technical	Organizational / legal	Social	Personal
Acquisition of new customers	Evaluating material	Problem solving	Customer service communication	Multi-tasking
Managing quality	Adequate handling of tools	Documenting and monitoring tasks	Negotiating with suppliers and producers	Working under pressure
Sector specific knowledge	Implementing work process technology	Calculating costs	Leading co-workers	Developing creative ideas
Identifying trends	Implementing ICT	Dealing with legal norms / standards	Training (untrained) workers	Managing risk
Analyzing known tasks		Meeting new health and safety requirements	Cooperating with enterprises	Self motivation / self engagement
Broaden range of offered products		Complying with environmental standards	Communicating with foreign partners	Willingness to continue learning
Knowledge about foreign markets		Securing own innovations and patents	Using ICT in communication	Balancing business and family
			Working in project groups and team structures	Time management
Changing future skills needs (top 10) from the perspective of the three groups (companies yellow, business organizations red, training institutions green, Blocked common perspective)				Entrepreneurial thinking
				Motivating employees in their job
				Assuming new tasks or new responsibilities
				Willingness to travel and to be mobile

Source: FBH

Taking a closer look at the meaning of the changes between past and future rankings, the skill needs listed in the table can be seen as gaining in relevance and importance in the future, without having been highly important in the past 10 years. The top-10 list with the changes indicates that there is less common ground with regard to skill needs gaining in importance in the future. Comparing these different perspectives on changes of skill needs, one can see that the changes in skill needs turn out much higher for training institutions and business organizations than for companies. Business organizations and training institutions have nearly the same levels of changes between past and future ratings, whereas in the company perspective the level of change is only half as high. This leads to the conclusion that companies feel better prepared for the challenges regarding future skill needs, maybe because they can foresee changing requirements at an earlier stage.

Practice example

Antonio Zigliotti develops training courses for dental technicians. He describes the changes as follows: *"It is becoming more and more important to consider not only training in technical competences, but also in competences covering all aspects of business. Eight years ago I introduced a new training course on enterprise management and communication in response to the need for competences in managing relationships with doctors with university degrees and company management."*

3.4 SKILLS AND SKILL NEEDS FROM THE PERSPECTIVE OF DIFFERENT SECTORS

3.4.1 INTERIOR CONSTRUCTION SECTOR

The interior construction sector was chosen, since this sector is being affected by a lot of changes, ranging from technological innovations to sustainability questions and changes in market structures. The description of the context factors in the interior construction sector can be found in 2.3.1.

189 companies from the interior construction sector completed the survey, laying the foundation for the following analysis.

Of the 189 companies, 24.3 % came from Austria, 19.6 % from Poland, 16.9% from the UK , 15.3% from France, 12.2% from Bulgaria, 10.2% from Germany and 1.1% from Italy. Regarding annual turnover 12.2 % reported a turnover of under 50 T€, 12.2 % between 50-100 T€, 13.2 % 100-250 T€, 16.4 % 250-500 T€, 15.3 % 500T€ -1 Mio€ and 12.7% over 1 Mio€.

With regard to headcount, of the companies answering the question, 24 % had less than 5 employees, 34.3 % 5-9 employees, 27.4 % 10-19 employees and 8.6 % 20-49 employees. Only 5.7 % reported having more than 50 employees.

The list of skill needs marked as increasing most frequently is shown in the following table:

TABLE 24: SKILL NEEDS FROM THE PERSPECTIVE OF COMPANIES FROM THE INTERIOR CONSTRUCTION SECTOR
(RELATIVE FREQUENCY)

Rank	Skill needs from the perspective of companies from the interior construction sector ⁹¹	Relative frequency
1	Analyzing known tasks	84.1 %
2	Dealing with legal norms and standards	83.6 %
3, 4	Developing new services, broaden range of offered products	81.0 %
3, 4	Meeting new health and safety requirements	81.0 %
5	Sector specific knowledge	79.9 %
6	Customer service communication	78.8 %
7	Entrepreneurial thinking and acting	78.3 %

⁹¹ N = 189; questions nos. 6, 7 and 8 for companies from the interior construction sector; We only used those data sets in which questions 6, 7 and 8 had been fully completed; multiple answers were possible;

Rank	Skill needs from the perspective of companies from the interior construction sector ⁹¹	Relative frequency
8	Using communication technology for the communication with customers / suppliers	77.2 %
9	Willingness to continue learning	75.7 %
10	Managing quality in business process and service	75.1 %

Source: FBH

Looking at the top-10 list of skills needed in the coming 10 years in the interior construction sector one can see that the company emphasis lies on aligning work organization to technological, statutory, and market requirements. The list of skill needs indicate companies' awareness of changes in their environment and the need to actively adapt to these changes.

Generally speaking, companies from the interior construction sector see skill needs increasing more in the future than in the past 10 years, with just one exception - the skill 'managing risk' is ranked 1.5% lower for the coming 10 years increasing than in the past 10 years. Even so, the skill is not ranked as decreasing but only as increasing to a lesser extent. Apart from this exception, the majority of companies see skill needs increasing in the next 10 years, with the frequency of those skills rated as decreasing falling.

Taking into account the changes from the past to the coming 10 years, the following 10 skill needs show the highest changes in increase. They cover all skill dimensions.

TABLE 25: SKILLS NEED FROM THE PERSPECTIVE OF COMPANIES FROM THE INTERIOR CONSTRUCTION SECTOR (CHANGE IN %)

Rank	Skills need in the perspective of companies from the interior construction sector ⁹²	Change % (past – future increase)
1	Communicating with customers, suppliers and employees in foreign language	45.7%
2	Training (untrained) workers	27.3%
3	Working in project-groups and team-structures	26.0%
4	Developing knowledge about foreign markets	25.6%
6	Securing own innovations and patents	25.4%
7	Acquisition of new orders. customer groups	19.4%
8	Managing quality in business processes and services	13.6%
8, 9	Developing creative ideas	13.3%
8, 9	Implementing new technology in the business process	13.3%
10	Leading co-workers	13.1%

Source: FBH

The highest changes indicate that the skill needs address four aspects: first, companies are looking for skills determining personal attitudes and highlighting the necessity of development within micro and craft (-type) companies. Skill needs such as 'Developing creative ideas' reflect the need for identification of individuals with their company as a

⁹² N = 189; question nr. 6, 7 and 8 enterprises for the interior construction sector; We only used those data sets, which completed the question 6, 7 and 8 fully; multiple answers were possible;

strategic success factor for micro and craft (-type) enterprises, especially in the interior construction sector. The second aspect is the orientation towards market interactions, with the emphasis here on accessing new markets throughout the world as well as ensuring future competitiveness ('securing own innovations and patents', 'acquisition of new orders /customer groups' and 'implementing new technology in the business process'). Thirdly, the importance of skills needed to work with employees and to train them is seen as increasing in the future. Finally, the skills mentioned indicate a change in work organization towards more cooperative and technology-based ways of working.

Practice example

A Polish interviewee started his professional career at a very young age, following in the footsteps of his father who had also been a painter. He stated that a painter's job was a combination of an artist and a tradesman. In addition to changes in tastes and new trends, the industry had been promoting energy saving insulation as a major focus in the past years. Renovation of old buildings' facades was very often influenced by preservation aspects and by statutory energy reduction demands needing to be met by homeowners. Skills such as knowledge of energy saving technologies were just as important as marketing and in-depth economic savvy. These challenges are being addressed by various measures. First, further learning in the above-mentioned areas is being promoted on all levels including apprentices. Secondly, the interviewee watches the market closely, keeping abreast of competitors' price policies to stay competitive. Thirdly, it is emphasized that quality is the company's signature. Once an offer has been thoroughly calculated the interviewee makes price concessions only to a certain degree. Beyond these, customers have to decide whether they really want the company's quality and experience or not.

3.4.2 FOOD SECTOR

The food sector was included in the study, as it is traditionally a craft sector with a high number of micro and small companies. The food sector sees itself confronted by trends and changes originating from the customer side. 162 food companies took part in the study and completed the survey.

Of the 162 companies, 25.9% came from Poland, 19.1% from Bulgaria, 18.5 % from France, 10.5% from Austria, 9.9 % from Germany, 9 % from UK, 3 % from Denmark and 3 % from Italy. 15.4 % of the companies reported annual turnover lower than 50 T€, 13 % from 50-100 T€, 14.2 % from 100-250 T€, 21.6 % from 250-500 T€, 10.5 % from 500 T€ - 1 Mio€. 13.6 % reported annual turnover exceeding 1 Mio€.

Headcount is distributed as follows: 13.4 % have less than 5 employees, 29.6 % 5-9 employees, 20.1 % 10-19 employees, 24.1 20- 49 employees and 12.8 % over 50 employees.

The following table shows the top-10 list of those skills rated as increasing most in the future:

TABLE 26: SKILL NEEDS FROM THE PERSPECTIVE OF COMPANIES FROM THE FOOD SECTOR (RELATIVE FREQUENCY)

Rank	Skill needs from the perspective of companies from the food sector ⁹³	Relative frequency
1	Entrepreneurial thinking and acting	82.7 %
2	Meeting new health and safety requirements	82.1 %
3	Developing new services, broaden range of offered products	80.2 %
4	Customer service communication	79.6 %
5	Calculating costs	79.0 %
6,7	Managing quality in business processes and services	78.4 %
6,7	Willingness to continue learning	78.4 %
8	Analyzing known tasks	77.8 %
9	Complying with environmental standards in processes	77.2 %
10	Sector specific knowledge	76.5 %
10	Negotiating with suppliers and producers	76.5 %

Source: FBH

Looking at the top-10 list of skill needs for the next 10 years one can generally state that all top-10 ranked skills have similarly high percentages. 5 of the 10 skills reflect personal skills, mirroring the influence of an entrepreneur and his/her employees on the success of a micro- and craft (-type) enterprise. The top ranked skill is the "Entrepreneurial thinking and acting". In combination with further skills such as cost calculation (rank 5), quality management, willingness to continuous learning and the analysis of known tasks (ranks 6 to 8), managerial skills seem to be the backbone of a successful micro- and craft (-type) enterprise.

Another aspect of growing importance in the food sector is compliance with legal and organizational requirements. This is reflected in the need to meet new health and safety requirements (top 2) and environmental standards (rank 9).

Furthermore, customer orientation is emphasized in the future, involving not only the development and range of products offered, but also customer service communication. The latter also reflects the necessity for specially trained sales staff.

Comparing changes in frequencies between ratings for the past and future, the following ranking emerges.

⁹³ N = 162; question nr. 6, 7 and 8 enterprises for the food sector; We only used those data sets, which completed the question 6, 7 and 8 fully; multiple answers were possible;

TABLE 27: SKILL NEEDS FROM THE PERSPECTIVE OF ENTERPRISES IN THE FOOD SECTOR (CHANGE IN %)

Rank	Skill needs from the perspective of enterprises in the food sector ⁹⁴	Change % (past – future increase)
1	Developing knowledge about foreign markets	57.6 %
2	Communicating with customers, suppliers and employees in foreign language	35.9 %
3	Securing own innovations and patents	28.8 %
4	Training (untrained) workers	22.9 %
5	Working in project-groups and team-structures	22.0 %
6	Willingness to continue learning	17.5 %
7	Planning and solving problems in business processes	17.3 %
8	Analyzing known tasks	15.6 %
9,10	Developing creative ideas	15.5 %
9,10	Developing self motivation and self engagement for the company	15.5 %

Source: FBH

Looking at the change of ratings between past and future, two skills warrant special attention. Firstly, 57.6% of the companies surveyed stated that the development of knowledge of foreign markets would increase in importance in the future more than in the past. In conjunction with the second highest skill, communicating with various affiliates in a foreign language, these two skills reflect the orientation towards international markets, target groups and supply sources. Increases in cross-border trade and mobility are reflected by these changes in ratings.

The skill with the third largest change, "securing own innovations and patents" reflects the importance attached to legal and organizational changes, even in micro- and craft (-type) enterprises. Furthermore, 6 out of the 10 top ranked skills reflect personal skills, mirroring the increasing need for entrepreneurs to continuously reflect on their conduct and to come up with new ideas and improvements benefiting the company. The training of (untrained) workers is another skill ranked highly, underlining the importance of new training forms. Also, new forms of work organization and communication and the ability to work in a team need to be considered when comparing past to future ratings.

Generally speaking, of all sectors skill needs changed the most in the food sector, indicating that companies here see their future evolution primarily in internal development and change. This assumption is supported by the increased rating of those skills needed to identify and master the major adaptations to change within a company. It can thus be presumed that companies from the food sector see a rising importance in their own capacity and potential to shape their future by proactively adapting their products and working organization rather than just reacting to requirements.

⁹⁴ N = 162; questions nos. 6, 7 and 8 for food sector companies; We only used those data sets, in which the questions 6, 7 and 8 had been fully completed; multiple answers were possible;

Practice example

The German interviewee has a family background of bakers spanning three generations and is hence well established in the small community he is located in. But he also started noticing changes in consumer behaviour. An increasing number of branches of large bakeries as well as baking stations in supermarkets and industrially-produced bread were challenging the interviewee to renew his business. As the most important aspects he mentioned product management, flexible working hours, staff training, professional training of apprentices and communication with customers to identify their wishes and tastes. He faced these challenges by creating his own corporate identity, visible on staff clothing, his van, his shop and the bags the products are wrapped in. An unused storage room was turned into a small cafe. He took time out to take part in business seminars and modernised some old fashioned recipes. Furthermore, he tried to take the changing tastes and nutritional demands of his customers into consideration by offering different highlights each month. He offers special breads, pastries and cookies for each season, thereby attracting customer attention. In addition, he has adjusted his snack offers, now targeting mainly students and workers.

3.4.3 PERSONAL AND HEALTH CARE SERVICES

The sector covering personal and health services represents a rapidly changing sector with a heterogeneous structure as shown in the context analysis.

In the study we asked micro and craft (-type) companies operating in the personal and health service sector to rank the increases and decreases in skill needs from their sector perspective.

247 companies from the service sector completed the survey, providing the basis for the following analysis.

Of the 247 companies, 21.9 % came from Austria, 19 % from Bulgaria, 13 % from Poland, 12 % from France, 9 % from Germany, 5.7 % from Italy 4.9 % from Denmark, and 14 % from UK. 32.8 % reported annual turnover lower than 50 T€, 18.2 % from 50-100 T€, 17.8 % from 100-250 T€, 10.5 % from 250-500 T€, 4.9 % from 500 T€ - 1 Mio€. 4.5 % report annual turnover over 1 Mio€.

Headcount is distributed in the following way: 48.4 % have less than 5 employees, 32.3 % 5-9 employees, 11.7 % 10-19 employees, 4.9 % 20 -49 employees and 2.7 % over 50 employees.

The 10 single skills with the highest score in frequency of increase are shown in the next table:

TABLE 28: SKILL NEEDS FROM THE PERSPECTIVE OF COMPANIES IN THE PERSONAL / HEALTH SERVICE SECTOR
(RELATIVE FREQUENCY)

Rank	Skill needs from the perspective of companies in the personal / health service sector ⁹⁵	Relative frequency
1	Customer service communication	80,6 %
2	Identifying trends in customer needs and markets	79,4 %
3	Developing new services, broaden range of offered products	76,1 %
4	Sector specific knowledge	75,7 %
5, 6	Entrepreneurial thinking and acting	73,7 %
5, 6	Willingness to continue learning	73,7 %
7	Managing quality in business processes and services	72,9 %
8	Analyzing known tasks	72,5 %
9	Meeting new health and safety requirements	72,1 %
10	Calculating costs	70,4 %

Source: FBH

The two skills with the highest increase involve customer interaction and orientation. This trend once again reflects the dependency of the micro and craft (-type) enterprises on customer relations and their fundamental importance for such companies. In the service sector in particular, customer interaction and orientation forms the base of any company's existence. It is therefore not surprising that companies rated those two skills very high. It also mirrors companies' strategic view. Skills needed for a company to undertake its own market observations and gain a competitive advantage are also ranked high, with almost 80% of companies judging that they will need such specific skills in the next 10 years.

With regard to the top 4, skill needs are increasing most of all in the area of market orientation. Companies increasingly have to actively keep abreast of market trends, no longer relying on established ranges of services and products. They have to keep pace with the market, especially in terms of customer demand, reacting quickly by enhancing their services. Strong customer relationships have to be built and service companies are aware of the fact that they need the right skills in order to strengthen these, enabling them to identify trends early enough to adapt their services in good time.

The following ranks (5 – 10) show that service enterprises will also be attaching high value to managerial skills in the future, with business aspects of companies and entrepreneurial functions gaining in importance. This can be seen as an indicator for the growing need of combining customer and managerial orientation. In micro and craft (-type) enterprises this all rests on the shoulders of one individual or a small group of employees, with no functional separation possible.

Looking at the change in ratings between the past and future 10 years, different skills appear in the top-10 list. We use this comparison in an attempt to identify changes in skills

⁹⁵ N = 247, service sector company questions nos. 6, 7 and 8; We only used those data sets, in which the questions 6, 7 and 8 had been fully completed; multiple answers were possible;

structure. The skills with the highest scores in this table are the ones seen as more important in the future than in the past.

TABLE 29: SKILL NEEDS FROM THE PERSPECTIVE OF COMPANIES IN THE PERSONAL / HEALTH SERVICE SECTOR
(CHANGE IN %)

Rank	Skill needs from the perspective of companies in the personal / health service sector ⁹⁶	Change % (past – future increase)
1	Developing knowledge about foreign markets	29,3 %
2	Securing own innovations and patents	22,1 %
3	Communicating with other companies and institutions	17,0 %
4	Training (untrained) workers	14,4 %
5	Communicating with customers, suppliers and employees in foreign language	13,5 %
6	Negotiating with suppliers and producers	13,3 %
7	Implementing new technology in the business process	10,2 %
8	Complying with environmental standards in processes	9,9 %
9	Time management	9,8 %
10	Motivating employees in their job	9,5 %

Source: FBH

'Developing knowledge about foreign markets' and 'securing own innovations and patents' are the 2 skills gaining most in future importance for service companies. On the one hand, this can be seen as a reaction of national companies in the service sector to globalization and improved access to EU markets. For the upgrading of the skills 'communicating with customers and producers' and 'communicating with other companies and institutions' show the increasing awareness of companies with regard to changing market conditions. 'Implementing new technology in the business process' and 'complying with environmental standards in processes' are skills addressing the technical dimension. Skills increasingly needed to interact with employees ('training untrained workers' and 'motivating employees in their job'), those necessary to interact with different markets and market actors, and individual employers' attitudes ("time management") are also gaining in importance.

These skill needs can be regarded as indicators for a wide-ranging future demand for skills from the service sector with respect to almost all business aspects. The data underpins the interpretation that service companies are looking for skills especially in the area of customer orientation and trying to align company activities to markets. This all means that in the future they will be needing skills covering the quality, technical, human, knowledge and innovation dimensions.

⁹⁶ N = 247, question nr. 6, 7, and 8 enterprises for the service sector; We only used those data sets, which completed the question 6, 7 and 8; question; multiple answers were possible;

Practice example

Allan Gottfredsen from a Danish company acknowledges the constant need for skills development and education in the hairdressing trade and emphasizes that there is no "easy way out" - if you do not establish/set priorities for good craftsmanship and follow the latest trends, customers will very quickly choose another salon. Pace is the keyword in the world of hair, where fashion is constantly changing. He hires only talented and motivated employees, ones with a desire to become better at their trade. He values such personal attitudes as customer orientation in his employees. His staff use their spare time to improve their qualifications by going on inspirational courses. The whole salon recently took part in a communication course. Before that, they had been on a "make me happy" course and anti-stress courses. Allan Gottfredsen and his eight employees often go to courses and upskilling courses are generally a very important issue in the salon. At the moment they are in the middle of planning a trip to London. Here Allan Gottfredsen and three of his staff will use the trip partly to gather inspiration and partly to participate in a trade course, where they will be taught about the hottest trends in the hair world. Apart from this, staff come together once a month for an hour or so to discuss what is changing in the market and in the salon. This is another initiative highly appreciated by staff. Allan Gottfredsen and his staff often invite hair models into the salon, seeing this as a way of fostering customer orientated thinking and actions in his salon.

3.4.4 COMPARATIVE RESULTS AND DIFFERENCES

Comparing the ratings of the companies from different sectors, similarities and differences with regard to future skill needs become evident.

Of the 637 companies supplying data for the sector-specific survey, the majority rate increases in skill needs highly. All skills are seen as significantly increasing in importance, both from a past and future perspective.

TABLE 30: SKILL NEEDS FROM THE PERSPECTIVE OF THE THREE SECTORS (RELATIVE FREQUENCY)

Work process related	Technical	Organizational / legal	Social	Personal
Core process				
Acquisition of new customers	Evaluating material	Problem solving	Customer service communication	Multi-tasking
Managing quality	Adequate handling of tools	Documenting and monitoring tasks	Negotiating with suppliers and producers	Working under pressure
Sector specific knowledge	Implementing work process technology	Calculating costs	Leading co-workers	Developing creative ideas
Identifying trends	Implementing ICT	Dealing with legal norms / standards	Training (untrained) workers	Managing risk
Analyzing known tasks		Meeting new health and safety requirements	Cooperating with enterprises	Self motivation / self engagement
Broaden range of offered products		Complying with environmental standards	Communicating with foreign partners	Willingness to continue learning
Knowledge about foreign markets		Securing own innovations and patents	Using ICT in communication	Balancing business and family
			Working in project groups and team structures	Time management
Increasing future skills needs (top 10) from the perspective of the three sectors (construction yellow, food red, service green, Blocked common perspective)				Entrepreneurial thinking
				Motivating employees in their job
				Assuming new tasks or new responsibilities
				Willingness to travel and to be mobile

Source: FBH

Already seeing high rates of skill increases for the past 10 years, companies are foreseeing - with only a few exceptions - an even larger increase over the next 10 years. This could be interpreted as enterprises already seeing themselves coping with skills needs, which have changed dramatically over the last 10 years and are expected to change even more over the next 10 years.

Comparing the ratings and top-10 lists in the three sectors, certain overall trends can be derived. Eight of the top 10 skills are identical in all three sectors. First, a very high awareness and sensitivity for customer-related skills is clearly visible in the data. Dependency on customers and very close customer relationships lead to skills directly related to customers being rated high across all sectors. This in turn indicates a change towards a stronger market orientation. This can also be seen in the common importance attached to sector-specific knowledge and to developing new services and broadening the range of products. Furthermore there is consensus among companies from all sectors that entrepreneurial thinking and acting and the willingness to continue learning will increase.

In all three sectors the skills highlighted by companies are closely related to work processes. The ratings also show that these skill needs are being seen in conjunction with managerial skills, leading to the assumption that companies are searching for a symbiosis of managerial and work process skills.

The skills seen as increasing the most mirror the changes in work organization. In this respect, four major skills are addressed across all sectors: 'managing quality in business processes and services', 'sector-specific knowledge', 'analyzing known tasks' and 'developing new services, broaden range of offered products'. Furthermore, there is an increasing need for skills in relation to new health and safety requirements. Personal skills such as 'entrepreneurial thinking and acting' and the 'willingness to continue learning' are seen as becoming more important across all sectors. In addition, all sectors report an increasing need for customer service communication.

Driven by internationalization, fast-changing consumer demands and market conditions are becoming increasingly common even on the level of micro- and craft (-type) enterprises. Such changes require companies to stay flexible. Open borders providing access to foreign markets but also lowering entry barriers to domestic markets are forcing companies to keep their unique selling points in mind and to meet customer demands by optimizing work processes. The introduction of new technologies into work process and communication with the market are seen as further increasing in the future.

Furthermore, it can be shown that there is a difference between those skills with the highest change in rating between the past and future, and those gaining in importance over the next 10 years. While companies from all sectors appear to be consistent in their rating of those skills that will be increasing the most in the future, fundamental differences appear between sectors when looking at the changes between past and future ranking.

The prior change drivers and - in line with these - the highest skill needs are different in the three sectors: in the interior construction sector the skills needed address the alignment of

work processes with external requirements ('dealing with legal norms and standards' and 'using communication technology for communication with customers/suppliers'). In the food sector compliance with external standards is combined with skills needed for cost-orientation ('complying with environmental standards in processes', 'negotiating with suppliers and producers' and 'calculating costs'). In the service sector the most dynamic skill needs involve meeting future customer needs and sensitivity towards costs (identifying trends in customer needs and markets, and calculating costs).

Looking at the changes in the ratings from past to future, the sectors differ as well. In the interior construction sector skills with a high change in ranking are 'training untrained workers', 'working in groups' and 'communicating in foreign languages'. In the food sector the skills with the highest change rate are 'developing knowledge about foreign markets', 'communicating in foreign languages' and 'securing own innovations'. In the service sector the focus is on 'developing knowledge about foreign markets', 'securing own innovations and patents', and 'communicating with other companies and institutions'.

The following are the key results with respect to skill structures and skill needs:

- ☐ Understanding and working with a theory-based skill catalogue was regarded by companies, business organizations and training providers as being feasible, with the conceptual framework being used and verified in the empirical study.
- ☐ The general analysis shows that the majority of stakeholders have already been seeing increasing demand for skills over the past 10 years and foresee a further increase over the next 10 years.
- ☐ The skills with the highest frequency of increase differ from those with the highest changes between past and future. These changes point to future skill needs and reflect those needs greatly rising in future importance in comparison with previous assessments.
- ☐ Work-related skills in particular are rated as increasing a lot. Other skills covering such dimensions as work processes, organizational aspects of work, and technical / legal aspects are also highly ranked in the increase compared to communicative and personal skill needs. The dimension of foreign markets, securing own innovations and the ability to communicate in foreign languages rank high in the change comparing past and future. Language skills are needed by companies for operating in foreign markets and communicating with partners in foreign markets.
- ☐ The three perspectives (company, business organization and training institution) are similar with respect to the frequency of skill needs, but differ slightly with respect to the assessment of the main changes in skill needs.
- ☐ Companies themselves see the majority of changed skill needs in the areas of work processes, organization and human resources. Business organizations see changes in the area of work processes, technology and environmental standards, whereas training institutions see the main changes of importance in the individual dimension.
- ☐ Skills needed in the area of customer orientation are seen as increasing the most over all sectors. As customer orientation is highly dependent on personal attitudes, this on the

one hand leads to high increases for personal skills. On the other hand work -related skills with a strong link to customer orientation are also gaining in importance.

- As the participating stakeholders differ with respect to the mentioned changes of skill needs, they possibly have different perceptions on each sector's change drivers.

3.5 SKILL NEEDS FORECASTING (E.G. ACCESS, TRENDS, CONSEQUENCES)

Company sensitivity towards 'thinking about future skill needs' is reflected in the acknowledged importance attached to it, with 67.8% of the companies surveyed seeing an increase in its importance. 22.4% assume that relevance will remain at current levels, and a mere 4.9% sees a decline in relevance. These figures suggest that sensitivity towards future skill needs is widespread and growing.

Business organizations have an even stronger sensitivity than companies towards the necessity of thinking about future skill needs, with 77.2% seeing an increase in their importance and in skill development. 19.2% see an unchanged relevance and a mere 1.0% foresee a decline. Training institutions have an even stronger sensitivity, with 80.4% seeing them gaining in importance, 15.9% assuming that relevance will remain at current levels. A mere 0.9% sees a declining relevance.

In contrast to increasing relevance, the degree of systematic planning and actual work on future skill needs provides a different picture. 19.2% of companies say that they are not working on future skill needs systematically but as situations require. 48% sees themselves somewhere between spontaneous action and systematic planning. Only about one third (32.8%) of companies surveyed are dealing with the issue in a systematic way. Business organizations have a similar perception. They assume that 14.8% of typical micro and craft (-type) enterprises work on future skills in a spontaneous way, dictated by individual situations, 32.8% have a systematic approach and 48% act somewhere in between.

The majority of companies (88.5%) already taking a systematic approach to the issue nevertheless assume a growing relevance of futures skill needs. Consequently, one can put forward the hypothesis that companies, which have already started to tackle future skill needs in a systematic way and are now reaping the first results, are more convinced of the increased relevance of activities in this field. This hypothesis is supported by the data from business organizations, 92.9% of which are approaching the development of future skills in a systematic way.

The reasons for increased sensitivity to planning future skill needs can be traced back to the questions about change. 81.2% of companies state that the way companies deal with future skill needs has to change. But there are fewer ideas on the direction necessary changes need to take. 56.4% think that frequency has to be increased (thinking of future skill needs more often), and 31.2% consider that a strategic and detailed collection of future skill needs has to be undertaken. The data illustrates the dissatisfaction with the current status and an increased sensitivity towards the need to change, but no specific strategic actions seem to

occur. This is underpinned by the lack of ideas on the objectives of any change in response to an open question.

The replies from business organizations paint practically the same picture. 81.2% are calling for a change in the way future skill needs are to be addressed. 56.4% agree that future skill needs should be assessed more often and 31.2% see the necessity of a more systematic approach. Yet no other alternatives were put forward.

Some 2/3 of companies (67.8%) see their individual and personal assessment of future skill needs as the most important approach. 39.1% use information available to them, with only 1/3 looking for further information (multiple answers to the question were permitted, leading to results exceeding 100%). These figures support the hypothesis that individual evaluations are the main way used within companies to assess future skill needs. In most cases, companies react to external impulses (53.2%) and do not take a systematic approach to skill needs planning (20.4%). It is therefore a little surprising that 45.8% of companies state that they conduct skill planning on a regular base, at least once a year.

Business organizations answer this question in practically the same way. Individual assessments are seen as the most important approach to ascertaining future skill needs for typical micro- and craft (-type) enterprises (66.7%). Using information available to them (36.4%) and looking for further information (32.3%) are selected only half as often. A mere 15.2% see a systematic approach being employed by companies. It is not surprising that business organizations see external impulses as the main impetus for assessing future skill needs.

A closer look is next taken at when future skill needs are dealt with and which instruments are used in doing so. Companies see different occasions with different relevance triggering their thought processes on future skill needs. 63.4% see the most common situation occurring during everyday working routine, followed by employee dissatisfaction (49.1%). Changing customer demands (48.0%) and strategic planning (48.0%) come close behind. The following table shows a comparison of the relative frequencies for motives for thinking about future skill needs from the perspective of enterprises and business organizations. A closer look at the situations shows that both internal and external situations have a high potential for triggering thoughts on future skill needs. Besides the fact that almost all situations related to daily working routines have the potential to indicate further or changed future skill needs, many of the situations selected are situations in which companies have to react to a demand rather than acting proactively. The motive of 'planning strategically' was selected by 34.4% of companies and shows that companies are starting to become aware of the increasing relevance of systematic and strategic planning to ensure their own competitiveness.

TABLE 31: MOTIVES FOR THINKING ABOUT FUTURE SKILL NEEDS REGARDING WORK/BUSINESS
(RELATIVE FREQUENCY)

Motives for thinking about future skills needs regarding work/business	Enterprise rating⁹⁷	Business organizations rating⁹⁸
Working in the daily routine	63.4%	42.2%
Confronted with changed customer's demand	48.0%	54.5%
Planning strategically	34.4%	35.4%
Confronted with employee's demand	19.8%	52.5%
Comparing the company with competitors	41.3%	48.5%
Analyzing technological development	36.7%	50.5%
Growing phase of the enterprise	33.9%	47.5%
Analyzing market developments	37.5%	31.3%
Applying legal norms and / or standards	34.7%	38.4%
Experiencing own personal dissatisfaction	21.2%	23.2%
Facing increasing quality demands	24.5%	28.3%
Confronted with new supplier's demand	22.4%	38.4%
Experiencing dissatisfaction from employees	49.1%	24.2%
Experiencing economic difficulties	22.8%	26.3%
Thinking about company succession	27.8%	26.3%
Building up an enterprise / taking over an enterprise	27.6%	48.5%
Facing increasing competition from abroad	11.6%	23.2%
Starting own activities abroad (import/export)	8.6%	16.2%
Others: after demand; caused by discussions with leading employees; craft traditions; not required; no specific needs	2.0%	0.0%

Source: FBH

Comparing the ratings of companies with those of business organizations, broad conformity can be seen with regard to the most commonly selected situations. Nevertheless there is a difference in the weighting of the 10 most frequently selected situations. The company perspective sees the most relevant situations occurring within the company whereas business organizations attach the greatest relevance to external impulses.

We tried to identify key drivers of futures skill needs from the perspective of both companies and business organizations. The table shows the 10 most frequently selected groups triggering companies to think about future skill needs, comparing the perspectives of companies and business organizations.

⁹⁷ N = 637, question nr. 1 companies; We only used those data sets, which completed the questionnaire; multiple answers were possible;

⁹⁸ N = 99, question nr. 1 and business organizations; We only used those data sets, which completed the questionnaire; multiple answers were possible;

TABLE 32: KEY DRIVERS IN THINKING ABOUT FUTURE SKILL NEEDS (RELATIVE FREQUENCIES)

Key drivers in thinking about future skill needs	Enterprise rating ⁹⁹	Business organizations rating ¹⁰⁰
Customers	74.6%	74.7%
Employees	48.2%	46.5%
Cooperating companies	36.4%	43.4%
Suppliers	38.5%	43.4%
Competing companies	42.9%	54.5%
Family members or friends	19.2%	18.2%
Business organizations and chambers of commerce	27.6%	50.5%
Research and training institutions	22.6%	28.3%
International organizations	9.9%	13.1%
National organizations (e.g. ministries, NGOs)	11.1%	21.2%
Trade unions	5.0%	11.1%
Others: current situation, market influence, influence of the market actors, word of mouth; consultants; market evaluation, further training, law, producer, congresses, trade-fairs, quote request unfair competition, press, public media, magazines	4.6%	0.0%

Source: FBH

The data shows that the main emphasis lies on market actors and partners of a company. For example the majority of enterprises see customers as the key change drivers. The frequencies underline the pressure built up by customer demand, challenging existing skills sets and leading to a change in future skill needs. This assessment ties in with their perception of the most important situations and groups. It shows that enterprises consider direct confrontation with demands / problems or new situations to be more relevant than the mediated form of getting information via business organizations, training providers and national / international organizations. This underlines the finding that micro and craft(-type) companies are highly dependent on their markets and have to react quickly to changing customer wishes.

Whereas the company perspective puts employees in second place (48.2%) as drivers, business organizations put them in third place (46.5%) behind competing companies (54.4%).

Of interest is the different rating attached to the role of business organizations and chambers of commerce. Companies rated their function as key-drivers at 27.6% whereas business organizations rated their own role and that of chambers of commerce at 50.5%, showing a significant difference between self-perception and external perception.

⁹⁹ N = 637, companies' question no. 2; We only used data sets from companies completing the questionnaire; multiple answers were possible;

¹⁰⁰ N = 99, business organizations question no. 2; We only used data sets from business organizations completing the questionnaire; multiple answers were possible;

A different way of finding out how enterprises and business organizations assess future skill needs and undertake a 'forecast' is to look at the types of media they use. We asked for sources of information on future skills needed. From the company perspective the most frequent one is seen in publications within the occupational field itself (60.6%). This is followed by information found on the internet (60.6%), information provided at trade fairs (55.9%) and information provided by suppliers and manufacturers (52.0%). The following table shows a comparison of the relative frequencies of the ratings given in the three perspectives (companies, business organizations and training institutions).

Business organizations come to practically the same results, with a few exceptions. They rank trade publications, social networks and individual contacts, and daily newspapers higher and academic publications and training programmes/catalogues lower. Training institutions have a different perception, giving priority to the internet (70.1%), trade publications (66.4%), social networks, individual contacts (61.7%) and academic publications (40.2%) for gaining insights into the future skill needs of their potential customers. They do not seem to look at what other countries are doing (visit to other countries 16.8%), implying that training institutions act mainly on a national level, in contrast to business organizations which tend to think more internationally.

TABLE 33: INFORMATION SOURCES REGARDING FUTURE SKILL NEEDS (RELATIVE FREQUENCY)

Information sources regarding future skills needs	Enterprise rating ¹⁰¹	Business organizations rating ¹⁰²	Training institutions rating ¹⁰³
Trade publications	60.6%	70.7%	66.4%
Information / training from suppliers or manufacturers	52.0%	55.6%	-
Trade fairs	55.9%	58.6%	40.2%
Internet	60.6%	58.6%	70.1%
Social networks, individual contacts	36.9%	45.5%	61.7%
Training programme / catalogue	43.8%	35.4%	-
Academic publications	20.1%	9.1%	40.2%
Daily newspapers	23.5%	37.4%	29.9%
Visits to other countries	19.9%	23.2%	16.8%
Others: cooperations, thinking on my own, looking at the products in detail, TV, experts,	2.5%	1.0%	1.8%

Source: FBH

¹⁰¹ N = 637, companies question no. 3; We only used data sets from companies completing the questionnaire; multiple answers were possible;

¹⁰² N = 99, business organizations question no. 3; We only used data sets from business organizations completing the questionnaire; multiple answers were possible;

¹⁰³ N = 107, training institutions question no. 3; We only used data sets from training institutions completing the questionnaire; multiple answers were possible;

The sources used for gaining information on future changes of and future skill needs back substantiate the answers to the questions discussed before, with information from within the occupational field and from actors within the market being ranked particularly high by enterprises, business organizations and training institutions.

Core results on skill needs forecasting:

- ☐ There is already an awareness of the importance of forward skill planning within companies, and the relevance of a systematic approach is increasing. Training institutions see a more urgent need to think about future skill needs than companies, but all three groups are aware of the importance of this topic.
- ☐ Activities are mainly driven by spontaneous reactions to customer or employee demands, or by competing companies. It is acknowledged though that this way of dealing with future skill needs should be changed. Again it is apparent that companies react to market needs quickest of all.
- ☐ Compared to mediated information, the more direct company contact with change and information about change is, the more information on company needs and actors is collected. Business organizations rank mediated forms of information comparatively higher. Training institutions rank those sources high, which provide them with information about changing customer needs. This could also point to a partial individualisation of existing training programmes ("mass-customization") designed to fulfil individual customer's needs.

3.6 TACKLING SKILL NEEDS AND CONSEQUENCES OF CHANGES IN SKILL NEEDS (E.G. ATTRACTIVENESS, ACTIVITIES)

Communication about future skill needs is done mainly within companies (61.9%). Once aware of their skill needs they turn to providers (42.9%) and suppliers / manufacturers (41.6%). Only 37.2% ask business organizations. The data shows, once again, that more spontaneous and intuitive actions are chosen, with only a minority of 17.7% drawing up skill development plans. The use of in-house training was cited as an additional answer.

Companies usually try to react to future skill needs by increasing in-house training (50.7%). A further reaction is the recruitment of workers with appropriate skill sets (41.8%), followed by the encouragement of external further vocational training (39.9%). Another way seen by companies for coping with changed skill needs and the need to develop new training programmes is the possibility of internal initial vocational training (e.g. apprenticeships).

The consequences companies face regarding changed skill needs and apparent future skill needs can be linked to the situation on the labour market and difficulties experienced in filling positions. 44.6% of companies stated that they experienced difficulties in filling vacancies, against 50.1% not experiencing any difficulties. 4.7% did not answer the question.

The most frequent reason given for difficulties in filling vacancies is that applicants' profiles do not match the skills needed in the company (40.0%). The next most common reason is that applicants' wage expectations are regarded as too high (20.9%). Another reason lies in

the fact that adjustment to the new job would have been too high (10.9%). 9.7% cite a lack of sector attractiveness.

Looking at this data, the hypothesis is supported that the greatest challenge is managing to match skill needs with applicants' skill profiles. Recruitment difficulties are particularly seen as being caused by a mismatch with the needed qualifications. The company perspective underlines this view through adding that they are facing a lack of skills, talent, willingness and motivation, meaning that they cannot even find people to train.

In some cases the companies faced no problems in recruiting and were able to find adequate candidates (34.1%) or had had no vacancies in the last three years (24.5%). Some companies reported having no difficulties in recruiting due to their commitment to initial and on-the-job training.

Altogether 44.6% of companies experienced recruiting difficulties. The main reason is seen in the unsuitable skill profile of applicants.

Core results regarding the communication of skill needs and consequences of changes in skill needs:

- ☐ Demand for future skills is primarily discussed and dealt with internally. The main idea is to try to find an in-house solution and skills training at the point of need.
- ☐ Companies see potential in working together in strategic networks with other companies to handle future skill needs.
- ☐ The data gathered leads to the assumption that communication links between companies and training providers are not very strong when it comes to future skill needs. While training institutions try to stay abreast of customer needs, companies first try to solve problems alone. Even so, companies tend to communicate with training institutions before reporting problems to business organizations.
- ☐ Companies are facing recruitment difficulties. The main reasons are seen in skill mismatches and too high wage expectations.
- ☐ Companies perceive a lack of skills and motivation in applicants.

Practice example

Kampino (Bulgaria) is a firm which strongly values good quality and customer satisfaction. This requires constant innovation in technology and production specifications. Workers need to be well-trained and prepared for changes in ideas and customer demands. To become familiarized with new products, employees need to have extra training sessions and suitable programmes for both developing and enriching their skills.

In response to its employees' needs, Kampino has introduced a number of strategies and approaches with a view to stimulating and encouraging a better working atmosphere and high production quality. For instance, the firm pays individual attention to each of its members, providing them with support and paying monthly wages (salaries) in line with the needs of its employees and including insurance and benefits.

3.7 DEVELOPMENT AND FORMS OF TRAINING PROGRAMMES (E.G. CURRICULA DEVELOPMENT, FORMATS OF TRAINING, CHARACTERISTICS OF TRAINING OFFERS)

In the survey we asked trainings institutions not only to rank skill needs from their perspective, but also to list impulses leading to new training programme developments, and material used in programme development. The following descriptions are based on the online data survey from training institutions in the eight countries.

Training providers receive certain impulses causing them to update their training programmes or think about new programmes. The following list shows the distribution of selected answers in order of frequency. The item 'Needs of companies' is ranked very high at 80.4 %, followed by technology development (58.9 %) and legal norms and / or standards (57.1 %).

TABLE 34: IMPULSES TO CHANGE TRAINING PROGRAMMES

Rank	Items	Quota
1	Needs of companies	80.4 %
2	Technology development	58.9 %
3	Legal norms and / or standards	57.1 %
4	Own analysis of the training market	56.1 %
5	Increasing quality demands	40.2 %
6	Benchmarking with other training institutions	35.5 %
7	Strategic planning of companies	29.0 %
8	Offers from freelance lecturers / trainers	32.7 %
9	External analysis of qualification needs	29.9 %
10	Analysis of sectors and branches	27.1 %

Source: FBH

It can be seen that training institutions align their training programmes with company needs. It is not easy however for training institutions to ascertain actual needs of companies since companies do not evaluate their needs in a systematic way and do not proactively communicate them, usually first trying to solve problems by themselves. The two next impulses in the list indicate changes in the external environment needing to be first scouted out, before suitable training programmes meeting customer the needs can be developed. The list of impulses indicates that it is quite difficult for training institutions to gain transparent and systematic information as input for new training offerings.

There are various ways training institutions can react to changing skills requirements. Most commonly existing training programmes are modified (81.3%). New programmes are developed as well (81.3%), and other training forms (61.3%) used. The establishment of new training institutions (8.4%) however only occurs comparably seldom. The figures show a trend towards an incremental curricula approach rather than methodical or systematic change.

For the majority of training institutions (73.8%) all groups of employees are seen as subject to changed skill needs and therefore need training. Employees with an academic background are rated not to be their main target group, with only 11.2% of training institutions targeting such. Training institutions therefore see their main field in initial and further vocational education.

Training providers develop their curricula mainly in cooperation with external institutions (65.4%), with companies (59.8%) or governmental institutions (55.1%). In-house curriculum development or cooperation with other training institutions is less frequent.

The majority of training programmes offered are combinations and cannot be assigned to individual profiles.

Regarding the scope of training offers, 34.6 % of training institutions offer sector-specific programmes, 27.1% non-sector-specific ones, while 31.8% offer both. Training institutions align their offers to specific targets groups in 30.8% of cases and to mixed target groups in 15.9%. The scope is local for 46.7% and local and national /international for 29.9%. 28% of the institutions characterize their offerings as specifically tailored for micro- and small business, whereas 48.6% offer programmes for all company sizes. A specific craft focus is applies to 31.8% of training institutions while 43.9% have no specific orientation.

Training programmes are for the most part (48.6%) structured in either short or long blocks. One fifth put a greater emphasis on offering longer blocks, while another fifth specifically offer shorter blocks (21.5%). Programmes are mainly organized either on a daily base or in block form (45.8%); 26.2% organize their courses mainly in block form. The main training form (59.8%) involves classroom presence, not distance learning.

Training institutions describe their offers most often as a combination of individualized and standardized offers (48.6 %), or as a combination of subject and experienced based training courses (43.9%). The data shows that most training institutions offer a broad variety of training programmes, with no institution-specific profile found in the data for the majority of training providers.

The majority offer specific occupational / vocational training programmes (70.1%), followed by work-based training (70.1%) and soft skills training (46.7%). Networks with other companies (18.7) or the use of publications (12.1 %) are less common. 70.1% offer training programmes in initial vocational education and 70.1% in further vocational education.

Practice example

SAF (Training School for Artisan Food Production, UK) is a great best practice example, combining skills training both in food production and in how to use these skills in a commercial context. There are very few courses in the whole of the UK providing this, with most courses either covering business training or large scale industrial baking. SAF provides exactly what the sector needs. SAF is unique and needs to expand. It has a good feedback system and listens to what present and potential students want. Such feedback is usually quickly incorporated into courses. After all, the students are the ones who will be shaping the future of artisan baking.

SAF teaches bakers to do a lot of market research before they set up or join a business. This ensures there is a market to build up. They teach you that you may have to educate your customers. It is in sharp contrast to a supermarket where bakery products just arrive, and customers either buy these or don't. It is a very different way of doing business.

A trainer at SAF would recommend that training providers need to make sure the length of training is long enough to cover all of the basics which a baker may need. Often it is too short to be really useful. The techniques need to be up to date as well. Tastes change very quickly in the UK. One moment it is all ciabatta then overnight we need sourdoughs. So new product training is important. So training has to be adaptable and those on the training have to be taught to be adaptable. The business side is often neglected, so make sure staff liaison is covered. But the biggest general point is that the main changes come from mistakes, nearly all of which are business ones and hardly any of which are to do with artisan skills and training.

3.8 CASE STUDIES

The case studies are based on the qualitative interviews we conducted and are intended to give policy-makers insights into the daily routines of micro and craft (-type) companies and the problems these companies face. Most of the cases were developed from interviews with companies. To capture the perspective of training institutions and business organizations a number of cases were also developed from interviews with such. This offered the opportunity of discovering similarities and differences in the different perspectives and also helped to interpret the quantitative data from the online survey in a comparative way. We collected a total of 81 cases, 26 in the construction sector, 26 in the service sector and 24 in the food sector. 5 institutions had no specific sector affiliation. The UK and Bulgaria both supplied 12 cases, Germany, France and Denmark 10 each, and Poland, Italy and Austria 9 cases each.

The cases were systematically analyzed and fed into a data-base. The main aim of the data-base was to make these practice examples accessible to policy-makers, giving them insights into successful ways used by companies for assessing future skill needs, for overcoming skill shortages and leveraging training programmes.

With the aim being to create an overview of the material, we decided to use structuring as basic mode of content analysis. (Mayring, 2003: 58f.) This led to the different cases being classified in the following categories:

- ☐ Sector
- ☐ Sector specifics
- ☐ Country
- ☐ Type of Actor
- ☐ Instruments used
- ☐ Main objectives of the case
- ☐ Need for support
- ☐ Who should give support

The first category 'sector' includes the three different sectors of the study: construction, food and services. The second category 'sector specifics' allows a more specific search for a sub-sector (e.g. bakery, beauty parlour, butcher, carpenter, dairy products, plumber, roofer, spa, etc.). The different countries participating in the sample have their own category called

'country'. The different perspectives captured by the sample can be found in the fifth category 'type of actor' which includes companies, training institutions and business organizations. The sixth category contains the various 'instruments used', describing strategies used by the different actors to overcome their problems. Examples of instruments used include further training, cooperation within the trade, creation of a corporate identity, different levels of qualification, educating customers, emphasis on quality, feedback systems, flexibility, highly qualified and motivated trainers and incentive systems. These lead to the seventh category 'main objectives of the case', summarizing the focus of each case. Examples of main objectives include overcoming mismatches, winning new customers, facing competition, ensuring quality standards and remaining competitive.

The data-base has one further column, 'need for support'. This column includes details on further support needs. Though not part of the actual categorization, it is intended for use in appraising further support needs. It provides participating companies with the opportunity to voice their support needs. The full list of categories can be found in the Annex A.

The categories were developed through a systematic analysis of the cases and checked against relevant literature. Each database category is equipped with a drop-down menu in the online interface, allowing users to search for specific problems and successful ways of dealing with them. Each row of the database includes a link to a pdf-file containing a description of the case selected.

We classified the case studies according to the various instruments used by the actors and main objectives they were trying to achieve. The main instruments found among companies were ones used to meet up to the increased competition perceived by many companies, especially those in the low budget sector. More than one third of interviewed companies use continuous training or special ways of knowledge exchange within the company to face up to such challenges. Other companies highlight the importance of specialization and thus of finding a niche in which they can operate, successfully competing against larger companies, offering their products at lower prices. These companies often stress the importance of delivering high quality products or services and consider this as their main strength on the market. In this context, other companies consider flexibility to be their main instrument, stating that customers prefer companies able to offer flexible service. A further instrument for dealing with current and future challenges is employee motivation, which is often fostered by attractive compensation and incentive systems. Furthermore, a number of companies are putting increasing emphasis on their relationship with their customers, with sales staff often getting special training in customer communication and thus gaining in importance for the success of the whole company.

Alongside facing up to growing competition in the sectors, interviewees mentioned various other objectives. One important goal is to overcome mismatches existing between training programmes offered and the actual demand for such offers. This leads to many companies, as well as training providers, coming up with their own training methods in order to update their employees' skills in line with actual needs. In conjunction with this, the needs to stay up-to-date and to satisfy customer demand are also to be noted. These two objectives are mentioned by many interviewees and reflect companies' close connections to their

customers as well as stressing the fact that micro- and craft (-type) enterprises also need to actively improve their service and offer up-to-date products. Continuing training is thus essential for these enterprises, enabling them to act on and not react to current and future challenges and thereby remain competitive.

The differences between the countries of the sample can be seen either by comparing the different quantitative data of the countries or by taking a closer look at the cases and the problems faced by companies.

There are some general tendencies common to all countries interviewed. Firstly, growing importance is attached to acquiring the managerial skills needed to lead a business successfully. Hence there is a demand for training programmes targeting such skills, not only as entrepreneurial skills for company owners or start-ups, but also for employees working in micro and craft (-type) companies. Secondly, networking with other companies is seen as being increasingly important for the interviewed companies, not only to exchange experience and gain inspiration, but also in some cases to train apprentices in the use of such networks. Companies see potential in working together in strategic networks in order to cope with the variety of demands coming from customers.

Other examples of joint challenges common to all European cases include the need to improve the attractiveness of crafts among young people, and ways for companies from all countries to face up to competition from low-budget companies.

However, there are also significant differences between the interviewed countries. To put it in a nutshell, one can say that the markets in the new Member States studied face different challenges. One example involves "time to (training-)market". When Eastern European companies communicate a change in their skill needs it takes quite a long time for training institutions to react to these changes. The case studies allow the different problems faced by companies to become clearly visible. On the one hand companies from the new Member States included in our study are trying hard to catch up in terms of quality standards and customer orientation and are focusing on competitive prices. Furthermore, they emphasize the importance of European standards. On the other hand countries are trying to preserve their competitive advantages through very high quality standards, securing patents and long-term customer retention. Whereas Eastern European companies face great problems with their education systems, Western European companies seem quite satisfied with training systems and are calling for mass customization in the training sector.

4 KEY RESULTS AND RECOMMENDATIONS

4.1 KEY RESULTS

This chapter summarises the key results of the different levels of analysis carried out in our research as presented in the previous chapters, as well as the national and sector context analyses carried out in the eight countries covered by the project.

4.1.1 KEY RESULTS ARISING FROM THE CONTEXT OF ‘EUROPEAN FRAMEWORKS’ OF SKILL DEVELOPMENT AND SUPPORT FOR MICRO AND CRAFT (-TYPE) ENTERPRISES

Various initiatives and programmes have been developed on education, training and skills development at EU level. Our analysis has focused on the implementation of the ‘Think Small First’ principle outlined in the directives targeting SMEs, i.e. SME-friendly approaches should become mainstream policy in Europe. We also asked if there was already any indication of active practices in ‘promoting the upgrading of skills in SMEs’ on a European level.

In recent surveys a number of SME-specific aspects, features and challenges have been identified with regard to VET, qualifications and skills development. SMEs and micro and craft (-type) enterprises in particular are facing both external and internal barriers in improving their skills base. In addition there are financial and organisational barriers. It is more difficult for micro businesses and small firms to find the financial resources needed to offer training to their employees. Similarly, they do not have the means to send their experienced staff and workers on longer training courses. Training programmes and methods available on the market are often unsuited to the size and needs of this type of company.

Triggered by the need to better understand SME-specific needs and challenges, the ‘Think Small First’ principle has been anchored in the EU Framework Programme for skill development. However, our analysis has confirmed that there is a gap between the principle of ‘putting SME first’ and its application in the field of VET, qualifications and skills. This gap applies both to European cooperation and support structures. One example is the recent initiative on recognizing qualifications and competences, where the specific training and skills development needs of SMEs are neglected.

Similarly, obstacles and barriers to the participation of SMEs in the field of ‘lifelong learning and mobility’ programmes have been identified from the company perspective. Examples include ‘red tape’ when applying for funding; thresholds discriminating against micro companies unable to afford to send an apprentice abroad for a longer stay; or the lack of flexibility regarding the selection of the target country, start time of the course and the length of stays abroad.

Furthermore, a clear SME perspective is not evident in the ‘New Skills for New Jobs’ initiative – even though the crucial role for SMEs in the European economy is acknowledged. For example anticipation of specific skill needs or skills mismatches identified in the field of VET and skills development from an SME perspective could have been addressed in this flagship EU initiative.

4.1.2 KEY RESULTS ARISING FROM THE CONTEXT ANALYSIS OF 'NATIONS AND SECTORS' AND TYPES OF MICRO AND CRAFT (-TYPE) ENTERPRISES

It is a well-known fact that SMEs are the most important form of business organization in Europe, representing 99.8% of all enterprises. On average about 68% of the total EU workforce / labour market work in private businesses. What is much less known is that most SME are in fact micro enterprises with usually less than 10 employees. Many of these enterprises, mainly from the craft and artisan sector, are run by the owner and together employ around one third of the European workforce. Micro enterprises are particularly strong in sectors such as construction, hotels and restaurants, and distribution with employment shares of more than 40%.

An analysis of the distribution and importance of micro enterprises at EU level shows similarities. On the other hand, there are significant differences to be found regarding national frameworks in the context of corporate governance or enterprise organisation. The analysis has shown that only a minority of EU Member States have a legally codified concept of 'Crafts'.

Generally speaking, knowledge about such key indicators as employment figures, educational attainment or major economic trends is limited with regard to micro and craft enterprises. We therefore focused part of our research on such contextual factors as enterprise structure, major trends in structural change and specific contexts through a sector-specific analysis in the eight countries. In addition, the driving forces and challenges with regard to VET, qualifications and skills development were analysed by means of national level analyses in three different sectors. The resulting twenty-four national sector analyses help to gain a better understanding of the contexts.

Our research has confirmed that the importance of micro enterprises to national economies and labour markets varies widely within the EU, with the share of micro enterprises in the total number of enterprises ranging from 83% (Germany) to 96% in Poland. The total share of employees working in micro enterprises ranges from 19% in Germany to 47% in Italy. The share of gross product ranges from 14% in Bulgaria to nearly 33% in Italy.

The sector analysis was carried out in eight countries and substantiated the decision to focus on three quite distinctive sectors: Each has its own background and dynamics from an economic and employment point of view. Skill and qualification structures and trends and major drivers of change also differ. The analysis included two traditional industry sectors – the construction sector with a focus on interior construction, and the food processing sector with a focus on meat, dairy and bakery production. The national analysis of the service sector focused on the 'private services' including private care, cleaning, hair and beauty services as well as the manufacturing/service of medical and dental aids and instruments.

Analyzing the structural, economic and employment data, the important role of micro and craft enterprises in all three sectors across the countries was confirmed. In all countries the economic importance of the *interior construction sector*, characterized by micro/craft firms, was confirmed. A further finding was that the construction sector is also to be regarded as a

‘barometer of economic vibrancy’, with a tendency to drive change in current and future skill needs and challenges.

In contrast to the interior construction sector, the dominance of small enterprises in the food processing sector is less strong in most of the countries sampled. Although a large part of the workforce is employed in the micro companies, the sector is characterized by a dual structure involving on the one hand industrial enterprises and production companies and on the other hand craft orientated ones. Our analysis also revealed differing and sometimes diverging trends of structural changes and employment developments.

The personal services sector was the third one we focused on in our research. It was found to be by far the most heterogeneous one. As it is very diverse, we concluded that it should be viewed in separate parts. The manufacturing of medical aids and instruments is high-tech, on many occasions operating internationally and highly visible. By contrast, social care / work activities are often more hidden, with low profiles and therefore more difficult to address. Personal services include mainly craft (-type) occupations and enterprises in such (sub) sectors as hair and beauty and medical instruments, while care, cleaning and fitness enterprises do not show any craft orientation at all.

Looking at vocational training, qualifications and skills development in the sectors, the variety of occupations, qualifications and skills profiles is wide-ranging and impressive. Despite the often low and not very attractive profile of the sectors, it was found (according to available figures at individual national levels) that the percentage of skilled workers is high and that CVET programmes are widespread.

The results of our research show that there are significant differences between countries regarding developing and implementing VET, further training programmes and skills development. A quite striking result of the analysis shows a clear division into two groups of countries with respect to the role of social partners and professional organisations in the development and implementation of VET. In contrast to countries with a lower level of stakeholder involvement, the group of countries with a high level (e.g. Austria, Germany) shows an impressive range of further training pathways, career opportunities and other skill development instruments.

Existing information and knowledge on SMEs and especially the specific needs of micro enterprises with respect to VET, qualifications and skills are limited. Although it has proven difficult to target micro enterprises with regard to training issues or specific skills-related needs, our study has identified a number of challenges in the field of VET and qualifications in the context of national framework and sector requirements.

The analysis of the different sectors has identified specific drivers of change having an impact on future skill needs. However, we also found common ‘mega-trends’ in all three sectors. These are demographic and social drivers, technological drivers and drivers resulting from state regulation and standards.

The analysis of skill needs within the sectors revealed that it is not only country situations which have an impact on skill drivers, but sectors as well. These drivers do not necessarily

apply solely to micro companies, although their influence is often stronger in this group of enterprises than in larger companies.

In the light of the results gained from our study, it becomes clear that further research at national and sector level is required. The use of such methods as questionnaire surveys and case studies are viewed as suitable instruments to gain insights into the need for further skills development.

4.1.3 GENERAL TRENDS IN FUTURE SKILL NEEDS OF MICRO AND CRAFT (-TYPE) ENTERPRISES

There is a generally accepted need to raise skill levels. An increase in skills need was recorded for the last 10 years and is expected to increase even further in the next 10 years.

Skills relating to core work processes have a high further training requirement, though organizational skills and technical/legal skills are increasingly moving into focus. The same applies to improvements in communicative and personal skills but with a lower intensity.

The highest increase in demand for future skills is found in customer and market orientation, working in cooperative and collaborative work structures, and management aspects of businesses. In all three sectors, these are the three skill areas showing the greatest increases in needs.

When future skills were rated by companies, the highest increase was seen in 'customer service communication' (79.4 %) whereas the largest difference in rating between past and future needs was seen in 'developing knowledge about foreign markets' (35.3 %). It is strategically important to look at the skill needs rated with the fastest change in importance, as these indicate the dynamic aspects of the market. These also show emerging skill needs where demand is now starting to increase. 'Communicating with customers, suppliers and employees in foreign language (27.7 % change past-future) and 'Securing own innovations and patents (25.4%) are seen as prospective needs for the next 10 years in all three sectors.

4.1.4 DIFFERENCES BETWEEN THE PERSPECTIVES OF COMPANIES / BUSINESS ORGANISATIONS / TRAINING INSTITUTIONS REGARDING FUTURE SKILL NEEDS

Companies, business organizations and training institutions all agree on the need to increase skill levels in the future. There is consensus among the majority of them that 'developing new services, broaden range of offered products', 'customer service and communication', 'sector-specific knowledge', 'analyzing known tasks', 'willingness to continue learning', and 'managing quality in business process and service' are the skills most needed in the next 10 years.

The three groups differ in their evaluation of the required changes in skill needs. Companies rate the skills involved in core work processes and in business management ('entrepreneurial thinking and acting', 'willingness to continue learning', 'identifying trends in customer needs and markets', 'developing knowledge about foreign markets') higher than the other two groups. Business organizations highlight the need for 'using communication technology for communication with customers / suppliers', 'multi-tasking', 'Implementing

information technology in business process', emphasizing the work organisation aspect in their evaluation. Training institutions regard skills in 'implementing new technology', 'time management', 'planning and solving problems in business processes' as more important in the future than the others and thus stress the individual dimension.

4.1.5 SECTOR-SPECIFIC FUTURE SKILL NEEDS

In the statements of participating companies the need to future skills is often identified in a specific sector context. The interior construction sector gives a high rating to the alignment of work processes with external regulations/standards as well as with customer demands. The food sector on the other hand views skills in meeting customer requirements and integrating the managerial aspect of work as becoming increasingly important. Integrative management aspects and customer orientation are rated high in the service sector.

Within the individual sectors, a link was detected between the main change drivers and skills requirements. In the interior construction sector technology developments are seen as the main change drivers, requiring companies to adapt their products and services to new standards. The skill levels required are increasing.

The dynamic changes in skill needs show common trends with regard to 'developing knowledge about foreign markets', 'communication with customers and suppliers in foreign language', 'securing own innovations and patents' and 'training (untrained) workers'. These skills seem to be relevant in the future in all sectors. But there are sector-specific skill needs as well, with differences in skill requirements within the sectors differing greatly, as shown by significant changes in the rating of past and future needs.

4.1.6 INSTRUMENTS AND STRATEGIES FOR FORECASTING FUTURE SKILL NEEDS

Future skill needs are important and need planning. Companies are aware of this requirement, relevance and the problems involved. Though there is general agreement that a more systematic approach would be useful, forecasting practice does not reflect this.

It was found that the prime driving force for companies to invest in upskilling activities involves reacting spontaneously to customer or employee demands, and personal assessments of company owners. Direct experience within working processes and direct contact to customers are seen by companies as the main determinants of skill needs. Though stated as being important, strategic planning and systematic analyses did not take place in most companies.

When looking for information on upskilling opportunities, companies have a preference for information obtained from direct sources (markets and employees) rather than mediated information (through business organisations or other institutions such as research or national organizations). Business organizations rely more on information given in a mediated form.

4.1.7 WAYS AND STRATEGIES TO COMMUNICATE FUTURE SKILL NEEDS

Most companies communicate their future skill requirements primarily through internal discussions. When voicing their skill needs externally, they tend to first turn to training providers. Only one third of companies communicate skill needs to their business organisations.

The majority of companies in the survey see themselves acting spontaneously and intuitively in reaction to future skill needs, with only one-fifth working with systematic strategic development plans.

For the most part, companies first try to handle the consequences of changed skill needs by providing in-house training. The second choice is to look for somebody with the appropriate skill set on the labour market. The next most prevalent strategy is for companies to encourage their employees to take part in external further vocational training.

4.1.8 REACTIONS TO AND CONSEQUENCES OF FUTURE SKILL NEEDS

The data gathered in this study indicates that communication between companies and training/educational institutions is viewed as important but that this link is not relevant and practiced in the day-to-day life of companies or training institutions.

It was found that companies face difficulties recruiting new workers. One of the major hurdles seen by companies was that the applicants expect high wages without being able to supply appropriate skills and motivation.

Training institutions are aware of changing skill needs and react to the market by orientating towards national/external and company requirements, with for the most part existing training programmes merely being updated. There does not seem to be any account taken of the specific requirements of micro and craft(-type) enterprises.

4.2 RECOMMENDATIONS

In the light of the data and the analysis of the study 'Identification of future skill needs in micro and craft (-type) enterprises up to 2020', the following recommendations are given.

The recommendations are clustered into three main areas of practice: *Skill needs forecasting, communicating market trends* and the derived *skill needs and their translation into training programmes*. We start by describing the clusters with their requirements, recommending possible actions to different actors. The actors mainly addressed are *companies, training institutions, business organizations, regional and national organizations* and *EU-level actors*.

4.2.1 FORECASTING – IDENTIFICATION OF FUTURE SKILL NEEDS

The results of the study show that analyzing future trends with regard to social and economic 'mega-trends', market developments and skill needs is strategically important. All the different actors need to early recognize changes in requirements and in the skills needed to cope with them. The study shows the direct link between (mega-) trends and changes

driving future skill needs. Sensitivity for changes in future skill needs has reached the various actors in the field, but they are reacting in different ways. Consequently, there is a need to improve communication between and coordination of the actors.

COMPANIES should put more emphasis on their own market research in order to better identify future customer and supplier trends. The strategic decisions of micro and craft (-type) enterprises need to take better account of market interactions. Company development is dependent on the strategic ability to combine early information on demands and needs with company strengths to achieve market success. For micro and craft (-type) enterprises this form of market / customer orientation is crucial and should be undertaken in a more systematic way. Information on market developments and future trends is vital, but not in an abstract manner. Market research has to be linked to lifelong learning and to work processes. Micro and craft (-type) enterprises have to be supported in market research by the other actors. Companies themselves have to improve their strategic actions.

TRAINING INSTITUTIONS (as with companies) should foster their own activities in adapting future trends in the markets and ascertaining future skill needs. Training institutions need to align the development of new training programmes closer to market developments, changes in work processes and work organisation, and to companies' skill needs. Though the link between companies and training institutions is already established, it needs to be systematically enhanced. Though training institutions are aware of the necessity of aligning their programmes with company needs, there are still not enough practical methods and instruments, especially those focusing on micro and craft (-type) enterprises. In the development of new training offerings, training institutions and companies should work closer together. Communication and collaboration in the field of market research and work process analysis would help in defining relevant future skill needs.

BUSINESS ORGANISATIONS aggregate individual companies' skill needs with a view to articulating the needs of a specific sector. Micro and craft (-type) companies in particular need this kind of representation in order to be represented in high-level discussions. Business organisations should emphasise their role as an active trend scout in the markets, merging such information with labour market data. Business organisations have consequently to be very alert to change drivers in the markets and ensuing skill need changes. But it is not just a question of communicating information. There is also a need for business organisations to analyse the impact of change drivers on work processes and work organisations of micro and craft (-type) enterprises. Such analyses are needed to show the link between aggregated market changes and consequences for individual companies.

REGIONAL AND NATIONAL ACTORS should foster awareness of the economic relevance and the impact micro and craft (-type) enterprises have on labour markets. They need to promote the perspective of micro and craft (-type) enterprises in an adequate way. This means that tools and instruments have to be developed for identifying change drivers and future skill needs with an impact on individual companies. There is a need to install a barometer linking market developments to skill needs with a special focus on micro and craft (-type) enterprises. Micro-company stakeholders should be encouraged to actively participate at regional / national and sectoral level in order to improve and adjust the existing VET

systems, especially in those fields where involvement does not yet exist. Despite the recognized relevance of micro and craft (-type) enterprises the lack of empirical data indicates the need for more research and studies specifically focusing on such enterprises. These further studies should provide support on how micro and craft (-type) enterprises can work in the context of major mega trends (e.g. demographic change, technical changes, transversal skill needs and entrepreneurship skills) and on significant sector trends (e.g. customer orientation in the service sector, standardisation - individualization in the food sector, 'skills networks' in the construction sector).

EUROPEAN ACTORS AND INITIATIVES should pay greater attention to needs specific to micro and craft (-type) enterprises and the conditions under which they operate. More research has to be done specifically focusing on the market trends faced by such enterprises. Specific tools and instruments have to be developed specifically taking the perspective of micro companies into account. Such instruments should be based on the capabilities of micro and craft (-type) enterprises and the specific conditions under which skills development take place in such companies. More work-based training programmes and ways to recognising practical knowledge gained informally need to be established. The various research and development activities in the context of the 'New skills for New Jobs' Initiative have to be accompanied by actions with a specific focus on micro and craft (-type) enterprises. The Commission's initiative on European sector councils on employment and skills, supporting the creation of networks of national/regional observatories on employment and skills development at sectoral level, has the potential to become a very useful tool for micro and craft (-type) enterprises, though the information provided by such sector councils must be easily accessible by such companies. In this sense, it is essential that the specific issues and structures of micro and craft (-type) enterprises are taken into account by consulting their representatives and integrating them in the network.

4.2.2 ENHANCED COMMUNICATION AND INTERACTION ON FUTURE SKILL NEEDS OF MICRO AND CRAFT (-TYPE) ENTERPRISES

The study shows that the different groups of actors base their actions on specific work modes. This is especially evident in the definition of changes in future skill needs. As one major result from the data collected, one can conclude that, with regard to future skill and accompanying training needs, the different groups have to communicate and interact more with each other. Both the labour market and training systems are dependent on information concerning market developments and how individual companies react to them. The consequence is that all stakeholders and actors involved need to interact more.

COMPANIES, especially micro and craft (-type) companies, can gather more in-depth information on future market development if they act in strategic company networks. Though this need to act did not emerge from the quantitative data, but case studies clearly reflect the need for companies to have access to such networks. One reason might be that interviewees who have found successful ways of solving problems have positive experience in working with and cultivating such networks, in contrast to many other companies not even having access to them. One trend found across all sectors is the need to bundle

different products and services into overall solutions. This requires interaction with other companies offering complementary products and services. In such networks, market trends can be early identified and discussed. Such strategic company networks constitute a good vehicle for defining not just future skill needs but also the demand for training. From the perspective of micro and craft (-type) enterprises it is very attractive to work together with similar-sized companies if an added value and supplementary market opportunities become available through doing so. There is a huge training potential from learning from other companies in such strategic company networks.

TRAINING INSTITUTIONS need to establish and realign their training programmes, achieving a balance between customized programmes for specific companies and standardized ones. On the one hand the study shows the need for very individualized and company-specific training programmes, especially for micro and craft (-type) enterprises, while on the other hand training institutions can only work on aggregated skill needs and their development. Both poles are strengthened in the discussion, meaning that training institutions have to define their programme structures in line to such contradictory requirements. This leads to modularised programme structures with a standardized core but an adaptive corona. Training institutions should enhance their communication and interaction with representatives of micro and craft (-type) enterprises with regard to core skill needs, while at the same time fostering communication and interaction with individual companies to tailor the adaptive part of training programmes.

BUSINESS ORGANIZATIONS are the institutions with a strategically important role to play as an interface between market development and labour and training markets. Based on the interviews and data it can be assumed that one key factor in future skill needs and their training is the competence to bridge information and link developments. Business organisations representing micro and craft (-type) enterprises have a special role to play here, linking expertise on market development with expertise on company work processes and work organisation. Market developments are mostly tied to regions, whereas changes in work processes and work organisation are tied to sectors. This means that business organizations have the job of bridging sectoral and regional developments. Business organisations need also to introduce programmes showing the consequences that change drivers have on companies' possibilities and skill needs. In this way business organizations have an important role to play in mapping market developments to skill needs. This is especially the case with regard to micro and craft (-type) enterprises, since such companies have little capacity for market research, and work analysis is limited to their own horizons.

REGIONAL AND NATIONAL ACTORS need to enhance communication on market developments, change drivers and futures skill needs between the different stakeholders (companies, training institutions, business organizations). Programmes or initiatives need to be introduced systematically bringing these different groups together. Strengthening communication on future development, the derived skill needs and training demands seems essential. The communication process needs to be supported by the development of tools such as surveys or skill analyses with a specific focus on the structures and processes found in micro and craft (-type) enterprises.

EUROPEAN ACTORS AND INITIATIVES need to strengthen the links between market developments, labour markets and training programmes. The examination of future skill needs in micro and craft (-type) enterprises shows the great need to link company perspectives with labour market and training system developments. European level initiatives traditionally focus on a single perspective. A perspective embracing market developments, enterprises, the labour force and training systems need to gain greater relevance at EU level. It is therefore recommended that initiatives regarding a single perspective provide gateways to the other perspectives. For example sectoral studies of change drivers or strategic aims have to address changes in skill needs and the consequences they have on training programmes, whereby the focus on micro and craft (-type) enterprises has to be supported and systematically extended. Paying greater attention to the specific needs of such companies and the conditions under which they operate is a way of promoting the implementation of the 'Think Small First' mainstreaming objective in all areas of market development, labour market and VET initiatives. To match programmes and initiatives with practical needs in the best possible way, one major recommendation arising from our research is that key stakeholders in such enterprises should become more actively involved in this process, both at an overall level and at sector-specific levels.

4.2.3 CONSEQUENCES OF FUTURE SKILL NEEDS IN MICRO AND CRAFT (-TYPE) ENTERPRISES FOR TRAINING PROGRAMMES

In the study of future skill needs of micro and craft (-type) enterprises the need for changes in training programmes seems obvious. These companies have specific requirements and face specific challenges regarding future skill needs which need to be recognized in the development and adaptation of training programmes. Overall, the necessity of training strategies and programmes specifically focusing on the specific needs of such companies has to be mentioned.

COMPANIES should be supported in their requirement for combined skills training. They need support in market research and in analyzing market developments and their effects on work processes. Such analyses are sensitive, as the strategic reactions of companies are based on their results which thereby become major determinants for future market behaviour and success. Companies should be more aware of this link and need counselling in their strategic development. Micro and craft (-type) enterprises in particular seem to underestimate the relevance of strategic orientation and the role it plays in defining future skill needs more precisely. Companies also need to communicate their skill needs. Based on the study results one can draw the conclusion that companies should network with other companies with a view to training specific skills. They should also actively interact with training providers to get tailored training programmes, though this means that companies need to become more engaged in the training development process.

TRAINING INSTITUTIONS should orientate their training programmes towards applicable and practical knowledge. With respect to the necessity of skills being applicable to work processes, training institutions need to take a closer look at their didactic approach.

Fostering the transfer of knowledge and procedures to true-to-life work processes is important. Training institutions need to work on training programmes and instruction patterns emphasising the usability of trained skills. For micro and craft (-type) enterprises in particular, great relevance is attached to market developments and their effects on work processes being incorporated in the construction of curricula. Early information on changes in skill needs help training institutions to gain an insight into the processes the skills they train are useful. Training institutions need to orientate their training more towards those typical situations which they get to know through work process analysis. The study on future skill needs in micro and craft (-type) enterprises shows that relevant needs are not just for individual skills but for skill bundles. The 'right' combination of skills is crucial for their application. The specific working organisation in micro companies with their lean resources engenders the need for skills combining work processes, the management of work organisation, and teamwork. Traditional training programmes handle these skills areas separately. In this respect they are unsuitable for micro companies, as the majority of these do not have the resources to work in functional divided areas, relying instead on transversal skills. Training providers have to show examples on how work process skills can intermingle with managerial skills.

BUSINESS ORGANIZATIONS need to foster the integration of work-process and managerial skills in training programmes for micro and craft (-type) enterprises. The data collected in the study supports the assumption that the dimensions of work-process and managerial skills have to be coordinated. Business organizations have the possibility and expertise to bring these two skills areas together, allowing them to become either training providers in their own right or to counsel training institutions in developing specific training programmes. In the triad of market development, work process / management and teamwork, business organizations can support companies in a multi-dimensional way, not just providing relevant information but providing specific training opportunities as well.

REGIONAL AND NATIONAL ACTORS need to conduct market research and trend analyses in curriculum development, insofar as regional or national curricula exist. Studies on market development and early trend diagnoses constitute the base for curriculum development. Consequently the interaction with stakeholders, especially the social partners, has to be enhanced quite early in the curriculum development process. Trend analyses need to take different market structures and stages of market development into account. Based on the assessment of market developments, stakeholders should then discuss the consequences for skill needs and the resulting training programmes. Regional and national actors should provide institutional settings such as skills councils or working groups to systematically organize this curriculum development process.

Our interpretation of the data leads to the conclusion that traditional occupational structures are no longer applicable for micro and craft (-type) enterprises, with borders between traditional vocations or occupations increasingly disappearing. Skill needs can no longer be organized in traditional structures. New principles of organizing skill structures arise with regard to sectors and along the value added chain. This must result in a more dynamic and modular system of bundling skill needs. Regional and national actors are the

ones who can select and demonstrate good practice examples from the perspective of companies and training institutions and show true-to-life ways of dealing with skill needs and training. Therefore a collection of good practice examples needs to be systematically developed. If such examples can be structured in a way allowing specific requirements to be taken into account, then the specific structures of micro and craft (-type) enterprises can be integrated.

EUROPEAN ACTORS AND INITIATIVES should pay more attention to the specific needs of micro and craft (-type) enterprises and the conditions under which they operate in European initiatives and programmes, with a greater emphasis on the 'mainstreaming' objective in all areas involving VET, qualification and skills development initiatives. Consequently, tools and programmes supporting skills development under the specific conditions of micro and craft (-type) enterprises need to be (further) developed. To initiate and organize this, it is important to actively involve stakeholders and micro and craft (-type) enterprise representatives in the definition and development of EU strategies and initiatives. The study shows that lifelong learning and mobility have now reached the operative phase. Companies, training institutions and business organizations are aware of the importance of continuous changes and ongoing skills development. With the focus on micro and craft (-type) enterprises it is necessary for lifelong learning and mobility not only to be seen in isolation, but in conjunction with labour market and market developments. Their application in work processes and their transferability need to be fostered. A special focus must be put on better addressing barriers and difficulties encountered by micro and craft type enterprises participating in training, mobility and LLL programmes in order to significantly improve the coverage of such companies.

4.2.4 OVERVIEW OF RECOMMENDATIONS

The following table presents an overview of the recommendations arising from our research, summarized into the three main areas of practice and focusing on certain groups of actors.

The recommendations show that a lot of effort still needs to be invested in the area of detecting and predicting future skill needs, communicating them and integrating them into training programmes. The focus on micro and craft (-type) enterprises reveals major deficits in practice. We hope that our study can contribute to such issues being taken better into account.

TABLE 35: OVERVIEW OF RECOMMENDATIONS

Areas of practice / Groups	Future skills forecast	Communication / interaction on future skill needs	Integration in training programmes
Companies	<ul style="list-style-type: none"> Enhancing market research and deriving future skill needs 	<ul style="list-style-type: none"> Building up and working in strategic companies networks 	<ul style="list-style-type: none"> Rising awareness of the integration of work process and market behaviour in order to act more strategically; enhancing involvement in training activities
Training institutions	<ul style="list-style-type: none"> Enhancing market research and deriving future skill needs in cooperation with companies 	<ul style="list-style-type: none"> Developing strategies within the dilemma of necessary standardization and relevant customization through core and corona modules 	<ul style="list-style-type: none"> Emphasis on applicable and integrated skills as training objectives; Cooperative curriculum development process with other actors
Business organizations	<ul style="list-style-type: none"> Enhancing trend scouting on markets and labour markets and combining the information systematically, counselling the companies in market research 	<ul style="list-style-type: none"> Linking sectoral and regional developments and bridging them to the labour and training markets; providing adequate information for companies 	<ul style="list-style-type: none"> Multi-dimensional support of companies in linking market, enterprise and training perspectives in information provided, counselling and training
Regional / national actors	<ul style="list-style-type: none"> Tool development (barometer) for trend scouting for micro and craft (-type) enterprises; Micro skills studies 	<ul style="list-style-type: none"> Enhancing communication and interaction of different groups through programmes and initiatives on future trends, consequent future skill needs and training 	<ul style="list-style-type: none"> New curriculum development initiatives; different organization of skills bundles; good practice tools
EU-level actors	<ul style="list-style-type: none"> Tool development for mainstreaming objectives for micro / craft (-type) companies, (empirical studies, Integration in skill-council); Enhance active involvement of stakeholders 	<ul style="list-style-type: none"> Linking the perspectives of enterprises, market development, labour market and training systems through joint initiatives of different perspectives Fostering empirical and conceptual studies with an emphasis on micro and craft (-type) enterprises 	<ul style="list-style-type: none"> Strategically binding lifelong learning to social and economic development trends; Developing tools (good practice centres, skills trainings structures) with an special focus on micro and craft (-type) enterprises Enhancing the communication process between market and training perspective within the EU-programmes and initiatives

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