



Order no 85

Preparation of the European Business Forum on Vocational Training

**Survey of VET-business cooperation on skills,
entrepreneurship and apprenticeships**

Final survey report

8 September 2014

Order no 85

Preparation of the European Forum on Vocational Training

Final survey report

Submitted by **ICF GHK**
in association with

Danish Technological Institute

Technopolis Limited

3s Unternehmensberatung GmbH

Date: 8 September 2014

Order no 01-085 under Framework Contract DG EAC Lot 1 - No EAC 02/10

Contact Person for the Framework Contract:

GHK Consulting

Daniela Ulicna

Rue Royale 146

1000 Brussels

0032 2 275 01 00

Daniela.ulicna@ghkint.com

Document control

Document Title	Preparation of the European Business Forum on Vocational Training: Final report
Proposal No	Order No 01-085 under Framework Contract DG EAC Lot 1
Led by	Danish Technological Institute
Prepared by	John René Keller Lauritzen, Tine Andersen, Johan Ernest Olivier Secher, Samuel Olsen and Simon Mikael Fuglsang Østergaard, DTI
Checked by	Tine Andersen, DTI
Date	8 September 2014

Contents

Document control.....	2
Contents.....	3
1 Introduction	5
1.1 Context of the European Business Forum on vocational training	5
1.2 Purpose of the survey	6
1.3 Methodology	6
1.4 Respondents in the survey	7
2 Meeting skill needs in sectors of key strategic importance to the EU	9
2.1 Companies' assessment of the skills of VET graduates	9
2.2 Collaboration on skill development	14
2.3 Is dual VET the key to bridging skill gaps	18
3 Building high-quality apprenticeships	20
3.1 Why companies take on apprentices	21
3.2 Who do companies take on as apprentices?	23
3.3 How do the companies work with apprentices?	23
3.4 Measures to ensure quality.....	26
3.5 Cooperation with VET providers on apprenticeships.....	30
3.6 Challenges and the way forward	31
4 Development of entrepreneurial skills	34
4.1 Promoting entrepreneurial skills.....	35
4.2 How to develop entrepreneurial skills in the company	35
4.3 What can VET schools do to promote entrepreneurial skills in students	37
4.4 Companies and schools cooperating to promote entrepreneurial skills	39
4.5 Apprenticeships as a way to promote entrepreneurial skills	45
5 Training cooperation between companies	48
5.1 Training collaboration arranged bilaterally	48
5.2 Training collaboration arranged by representative organisations	48
5.3 Why not all companies cooperate on training initiatives	49
5.4 The level of interest in cooperating on training initiatives	50
6 The role of public policy in improving vocational education and training	51
6.1 Image and attractiveness of VET	51
6.2 The quality of VET provision.....	53
7 Main conclusions	56

Annex 1: List of respondents	60
Annex 2: Interview guides	66
Interview guide for enterprises; sector organisations; labour and industry associations; and national and international organisations representing SMEs.	66
Interview guide for VET providers and representative organisations	67

Introduction

The present survey analysis summarises the findings of 91 interviews conducted among large European enterprises, vocational education and training (VET) providers, social partners and sector organisations on challenges and practices related to business-VET collaboration focusing on three main topics:

- meeting skill needs in sectors of key strategic importance to the EU;
- business-VET cooperation on entrepreneurial skills; and
- Developing high-quality apprenticeships.

The survey is part of the preparation for the second European Business Forum on Vocational Training to be held in Brussels on 23-24 September 2014 under the heading: '*Business & VET – Partners for Growth and Competitiveness*'. The present report is one of two deliverables in the assignment to support the second European Business Forum on Vocational Training. It is accompanied by three workshop background notes, which are found in separate documents submitted in parallel to this report.

1.0 Context of the European Business Forum on vocational training

Originally, the European Business Forum on Vocational Training (the Forum) was set in the context of the Copenhagen Process initiated, the Bruges Communiqué from 2010 and the European overall strategic framework Education and Training in Europe (ET 2020), which is closely interlinked with the strategic framework for the European Union, i.e. the EU 2020 strategy for smart and sustainable growth.

From the outset, it was foreseen that the Forum would be a high-level event that would take place every two years with participation of all relevant stakeholders from different levels (EU, national, regional, etc.), such as policy makers, companies, SMEs, social partners, VET providers, teachers and trainers, entrepreneurs, guidance practitioners, human resources experts as well as youth and student organisations.

The first Forum took place On 7 – 8 June 2012 and gathered more than 350 participants from the worlds of business, policy, and education and training. The Forum saw a lively exchange of perspectives and experiences in a debate that focused on how vocational education and training (VET) can learn from companies' approaches to competence development, and how businesses can contribute and motivate VET to support a smarter and more sustainable European economy.

Since the first Forum, Europe has experienced continued economic stagnation. As a result, public spending on education has been cut in several Member States.¹ At the same time, youth unemployment is growing and threatening to become endemic. Moreover, the first results of PIAAC, the OECD's programme for assessment of adults' competences, demonstrate that the skill levels of significant shares of the working population in some European countries are worryingly low, especially when compared to skill levels in countries such as Japan.²

Hence, Europe is in acute need of new approaches to making vocational education and training at all levels more efficient and ensuring that the investment in education and training effectively contributes to smart growth at the same time as providing solutions to youth unemployment. In addition, there appears to be considerable scope for improving the direct collaboration between companies and VET providers. A recent study concludes

¹ EU Commission, DG Education and Culture (2013): *Education and Training monitor 2013*. [Available online]: http://ec.europa.eu/education/documents/eatm/education-and-training-monitor-2013_en.pdf

² 2012-2013 OECD survey of adult competences, PIAAC (Programme for the International Assessment of Adult Competencies)

that ‘Employers, education providers, and youth live in parallel universes’. Each have different diagnoses of the problems, because they do not engage with one another. However, improved partnerships can contribute to training outcomes that are more oriented toward practical work situations and problem solving.³

The second European Business Forum on Vocation Training will play an important role in bridging this gap and in bringing the worlds of VET and business closer together to address common challenges.

1.1 Purpose of the survey

The survey, whose results are presented in this report, is a central milestone in the preparations for the second European Business Forum on Vocational Training and was designed to serve multiple purposes:

- to serve as an important knowledge base for drawing up the agenda and identifying suitable speakers for the Forum;
- to provide the basis for identifying the Forum workshop topics;
- to provide input for the background notes which will serve to steer the debate on 1) skills in sectors of key strategic importance to the EU, 2) business-VET collaboration on building entrepreneurial skills, 3) development of high-quality apprenticeships in companies
- to support , in particular, the discussions in workshops on the above-mentioned topics; and together with the Forum conclusions
- to provide important input for a final assessment of challenges, trends, solutions and best practices related to the three focus topics of the Forum (see above).

Methodology

The survey targeted five groups of stakeholders across Europe:

1. large enterprises;
2. sector organisations;
3. labour and industry associations;
4. national and European organisations representing SMEs; and
5. National and European bodies representing VET providers.

The respondents were identified utilising a three-dimensional respondent selection matrix developed to ensure proper balance according to geography, sector, and size. A long list of 247 respondents was created and prioritised according to the above criteria.

Next, the team contacted the respondents in order of priority. Contact was initially made through an e-mail briefly describing the background for and content of the interview and containing an accreditation letter from the European Commission. The respondent was free to pick a suitable date and time for the interview. In case of no response, two rounds of follow-up e-mails were sent, and in some high-priority cases, a phone-call was also placed to ensure that the person had received the request for an interview.

On the one hand, a semi-structured interview guide ensured that the same themes and questions were covered in all interviews, while, on the other hand, leaving room for an exploratory investigation of topics arising during the interview. The interviews were scheduled to last around 20 minutes, but a majority of them ended up lasting 30-35 minutes.

³ Mourshed, M., Farrell, D. & Barton, D., 2013. *Education to employment: Designing a system that works*. McKinsey.
http://www.mckinsey.com/client_service/public_sector/mckinsey_center_for_government/education_to_employment

During each interview, notes were taken by the interviewer and entered directly into a template in a database system shared across the consortium. This allowed for standardisation of the interviewing procedure and on-going knowledge sharing among the three consortium-partners involved in this project. Following the completion of the interviews, database queries were used to generate seven survey response reports on the following topics:

- Skills need in sectors of key strategic importance to the EU
- Cooperation on entrepreneurial skills
- Developing high-quality apprenticeships
- Training cooperation among enterprises
- The role of public policy in promoting business-VET collaboration
- Best practices in business-VET collaboration on skills development
- General notes and comments

The reports were then used by the research team to conduct in-depth cross-cutting analyses, the findings of which are presented in this report.

The interviews were carried out in March, April, May and June 2014.

Respondents in the survey

The survey consisted of 91 qualitative interviews with high-level representatives from large enterprises; sector organisations; labour and industry associations; national and European organisations representing SMEs; and national and European bodies representing VET providers.

The enterprises and sector organisations chosen for this survey all represent sectors of key strategic importance to the EU. The sectors were identified by the European Commission. They are:

- ICT
- Health and Social Care
- Energy
- Cultural and Creative Sectors
- Manufacturing & Engineering
- Wholesale & Retail trade
- Accommodation & Food service activities/Tourism
- Transport

Table 1.1 shows the distribution of interviewees across organisation types:

Table 1.1 Distribution, organisation types

Organisation type	Number
Large enterprises	47
Sector organisations	7
Labour and industry associations	7
National and European organisations representing SMEs	22
National and European bodies representing VET providers	8
Total	91

Ensuring proper geographical balance among the interviewed enterprises was of key importance. However, instead of including companies from each of the 28 Member States, the Member State were divided into ten groups based on their similarity on a number of different parameters, including size, economy, education system, date of accession to the EU, etc. A target number of interviews were then assigned to each country group based on size and importance in a VET/business context and the interviews were carried out accordingly. Table 1.2 illustrates the spread of interviews

across country groups:

Table 1.2 Distribution, country group

Country Group	Countries	Number
EU-level		9
France	FR	9
Germany	DE	11
Italy	IT	7
United Kingdom	UK	6
Cluster #1	DK, SE, FI	15
Cluster #2	ES, PT	6
Cluster #3	CY, MT	3
Cluster #4	EE, LV, LT	2
Cluster #5	CZ, SK	2
Cluster #6	NL, BE, LU	8
Cluster #7	AT, IE	4
Cluster #8	SI, BG, HR	4
Cluster #9	RO, PL, HU, GR	5
Total		91

The specific respondents were partly identified based on recommendations from national authorities, industry organisations and the European Commission and partly via the networks of the consortium partners. Table 1.3 illustrates the spread of enterprise interviews across sectors:

Table 1.3 Distribution, sector (enterprises only)

Sector	Number
ICT	6
Health and Social care	4
Energy	3
Cultural and creative sectors	2
Manufacturing & Engineering	19
Wholesale & Retail trade	6
Accommodation & Food service activities / Tourism	4
Transport	3
Total	47

2 Meeting skill needs in sectors of key strategic importance to the EU

This chapter describes the survey results concerning the skill needs in the following sectors identified by the European Commission as being of key strategic importance to the EU:

- ICT
- Health and Social Care
- Energy
- Cultural and Creative Sectors
- Manufacturing & Engineering
- Wholesale & Retail trade
- Accommodation & Food service activities / Tourism
- Transport

It is important to emphasise that the survey cannot be considered as representative. Hence, the survey results should be seen as a qualitative supplement to the statistical trend analyses of skill needs in Europe carried out by Cedefop⁴ and to the information available in the EU Skills Panorama.⁵

Due to the small number of respondents and the heterogeneity in the population, the analysis focuses on the European level and the key sectors as a whole. As there are big differences in the skill demand and gaps in the key sectors across Europe as well as within countries, it is not advisable to draw firm sector and country specific conclusions regarding skill needs. A number of respondents also highlighted the difficulties in drawing such conclusions:

'Our organisation works at a European level and within each sector we see huge differences in terms of how the vocational education systems functions in the different countries, and thus also to what extend the vocational education systems deliver graduates with the right vocational skills' (European-level industry association)

However, where possible, conclusions focusing on specific vocational fields as well as vocational systems will be drawn.

Furthermore, on the basis of the interview responses, this chapter summarises and exemplifies different forms of collaboration between companies and the VET system regarding skill development, as well as the respondents' observations concerning the outcomes of different levels of collaboration. First, the chapter will explain whether the European companies have access to the right vocational skills.

2.1 Companies' assessment of the skills of VET graduates

When looking at how the companies evaluate the relevance of the skills acquired by VET graduates, it is meaningful to distinguish between basic vocational skills, specialised vocational skills and transversal skills. The following three sub-sections analyse the companies' assessment of the current level and relevance of such skills among the VET graduates.

⁴ See Cedefop's web pages on skills forecast, <http://www.cedefop.europa.eu/EN/about-cedefop/projects/forecasting-skill-demand-and-supply/skills-forecasts.aspx>

⁵ <http://euskillspanorama.cedefop.europa.eu/>

2.1.1 Basic vocational skills: companies are generally satisfied

'In general, the vocational education system delivers graduates with the right vocational skills that the labour market and the enterprises demand. But of course there are always room for improvements. This concerns both the quantity and quality.' (Sector organisation)

In the survey, companies were asked if they find that the vocational education system in their country delivers graduates with the right vocational skills for their sector/industry. Overall, the analysis indicates that large European companies generally have access to VET graduates with the right vocational skills. Around two thirds of the respondents assess that VET graduates generally have relevant and sufficient skill sets, while only a few report that they have difficulties finding VET graduates with relevant skills. A number of respondents indicated that national VET systems generally tend to deliver graduates with quite relevant skill sets compared to e.g. higher education systems. The respondents explain this by the fact that in many countries future employers have a substantial say in what should be taught at the VET institutions:

'(Vocational skills) are often not a problem, as companies have a high influence on the curricula compared to other parts of the education system.' (Industry association)

The respondent quoted above continues by explaining that due to the short duration of VET programmes compared to university programmes, new topics, technologies and skills can be incorporated in VET curricula much faster. The VET system is generally characterised by a great adaptability to changes in the world of work and the constantly shifting skill requirements.

2.1.2 Specialised vocational skills: more could be done, but who should provide them

While the respondents are generally satisfied with the basic vocational skills of the graduates, there is greater variation in the opinion towards sector specific and occupational specific skills. Two dominant views were expressed.

One significant group of companies held the view that the education systems should do more to promote such skills in the schools, so that VET graduates have specialised technical skills in place already before they enter employment.

'The basic competences are okay, but we would like to see a stronger response to sector specific requirements.' (Large company, manufacturing and engineering)

The other significant group of companies also recognized the skills gap related to sector- and occupational specific skills, but were generally aware of the difficulties involved for vocational schools of meeting company-specific vocational requirements. These companies typically provide the required specialisation through in-company training. A manager from a large multinational company described their strategy as follows:

'The vocational education system cannot accommodate all the specific needs that the company has. Thus, when hiring VET graduates, additional training takes place. This training also promotes an understanding of the company culture.' (Large company, manufacturing and engineering)

Another respondent from a representative organisation mirrored this view by saying:

'There are always some companies that are in need of more specific skill sets. Graduates therefore need more training in the workplace. But they have the necessary core competences to enter a specialisation course provided by the company.' (Industry association)

Whereas the largest companies in Europe have the resources and capacity to provide specialised training – either in-house or through external collaboration – the same is not the case for most SME's and large companies in the lower end of the spectrum. A

respondent from a company with some 2,000 employees needing VET graduates with specialised skills says:

'We do not have the capacity to run our own trainings to the same degree, so we rely more on the public education institutions.' (Large company, manufacturing and engineering)

On the other hand, a few of the companies pointed out, that the VET schools haven't got teachers that possess the necessary competencies and knowledge to provide the required specialised training. This is potentially an important barrier, if VET institutions are to provide specialised vocational education in the future.

Hence, the survey does not provide a clear answer to the question of whether vocational training in more specialised vocational skills should be integrated in the VET system or not. It thus remains an open, but highly important question. However, the survey's findings of a need for even more specialised vocational skills in some sectors and companies are important to emphasise. This was especially the case concerning the technical vocational skills - a number of respondents from enterprises indicated that in their opinion, the schools ought to do more to strengthen these skills.

'At the technical level the vocational education does not provide the technical skills that the company needs.' (Large company, manufacturing and engineering)

The respondent continues by describing that their company invests a lot of resources to compensate for the lack of technical skills and further educate the VET-graduates. This is underlined by a respondent from a company within ICT, who describes that his company would like an even stronger focus on the ICT skills in VET education.

A number of respondents saw it as highly likely that the demand for even more specialised vocational skills will increase in the future. One representative from the VET system talked about experiencing an increased pressure from the private sector on demanding still more specialised skills.

2.1.3 Transversal skills: the primary gap

Although very different opinions were held on the issue of specialised vocational skills, the same was not the case when respondents talked about transversal skills.

Defining transversal skills

Transversal skills include a number of non-occupationally specific skills such as personal and organisational skills. According to ESCO (the European Database of Skills, Competences, Qualifications and Occupations) transversal competences can be divided into five groups:

1. Application of knowledge
2. Attitudes and values at work
3. Language and communication
4. Social skills and competences
5. Thinking skills and competences

In the interviews, respondents referred to these skills using multiple different terms, hereunder 'soft skills', 'cross-cutting skills' or just the specific skills in question (e.g. language skills, communication skills, etc.)

'The technical skills are on a good level. On the other hand, they don't have work experience and there is a lack of soft skills, but that comes with experience.' (Large company, Member State with school-based VET system)

Such skills, while not directly related to the technical core of an occupation, were described as being crucially important for the ability to succeed in a job. A respondent from a company within the wholesale and retail traded emphasises, that *'personal skills are as important as professional knowledge'*. Another respondent from a representative organisation observes:

'As a whole the vocational education system works very well. The problem is not the education system, but the attitude and informal/personal competences that the graduates have. Sometimes the graduates have some difficulties in adapting to the requirements of the workplace. This is mainly due to immaturity.' (National trade union)

Other respondents state that there is a lack of basic manners and general competences that the students' should have acquired at home:

'Many don't know how to dress correctly at work, they don't know that they shouldn't talk on their cell phone or take photos at work. These things are not taught at school.' (Large company, health and social care)

The largest share of respondents simply highlighted the problem and did not go into a discussion around how the transversal skills gap should be bridged. But among those who did, a large share pointed to work-based learning as being a key facilitator of such competences. Through work-based learning, VET-students are made part of a real organisation where they are forced to communicate effectively with co-workers and customers, fit into the organisation, speak the languages spoken, embrace company culture, think up new solutions, etc. Such demands are key in promoting transversal skills among the students, was the argument.

'... they need fine tuning. They have the intelligence, but workplace training is definitely needed, and they need to learn office dynamics and how to behave in the workplace.' (Large company, accommodation and food services)

'What I can say is that the graduates with the best/right vocational skills are delivered from vocational education systems where there is a close collaboration between the VET schools and the enterprises. The successful vocational education systems are systems where enterprises are an integrated part of the vocational education and training' (Industry association)

Although respondents generally saw a clear gap in terms of transversal skills, a small number of companies and their associations did report that their national VET systems deliver graduates with good transversal skills. The majority of these companies came from countries with dual VET systems⁶, where training take place alternately at school and through apprenticeship in a company. A number of respondents also highlighted that transversal skills are promoted rather well in VET as compared to other educational pathways:

'The other thing we hear is that young people don't get enough support in occupational orientation at the (general education, ed.) schools. They don't know how to write applications, they are not motivated, they don't know how to act when entering working life (...) this is completely different when it comes to VET graduates. They are already experienced from working during their dual training and behave completely different.' (Industry association)

Another respondent compares VET graduates with university graduates:

'The vocational education graduates are less of a burden in terms of additional training needs, as they usually have quite a sound understanding of the workplace' (Company, wholesale & retail trade)

⁶ Austria, Denmark, Germany, the Netherlands and Luxembourg are known to have dual VET systems

2.1.4 Companies in dual-VET systems are generally more pleased with the skills supply

The survey appears to indicate that companies in countries with dual VET systems are generally more satisfied with the skills of VET graduates than companies in Member States with mainly school-based VET systems. A possible explanation provided was that work-based learning is an efficient way of providing both professional and transversal skills – the two skills-categories found to be lacking most frequently. In terms of promoting transversal (or soft) skills, a respondent from a company operating in many European countries said:

'VET education programmes normally deliver graduates with good soft skills. Especially in the countries with a dual education system as company based apprenticeships are a good way to teach students the required soft skills. Thus VET education with company apprenticeships gives a higher likelihood for obtaining better soft skills. But of course there are graduates lacking soft skills in both educational systems. But dual VET systems expose you more too soft skills than a closed VET system.' (Large company, manufacturing and engineering, operating in many European countries)

A respondent from another company operating in many European countries puts it clearly, when asked about the provided skills in a country with a dual-VET system:

'In general, the vocational education system does deliver graduates with the right vocational skills for the company. This is due to the dual education system.' (Large company, manufacturing and engineering, operating in many European countries) Another clear indication of the satisfaction of companies with the skills level of their apprentices upon graduation is the fact that several companies end up hiring their former apprentices.

'We tend to employ about 90 per cent of our apprentices after the end of their vocational education.' (Manufacturing and engineering company)

One VET expert interviewed described how the institute he represents has recently conducted an analysis on the employability of VET apprentices in Germany. It showed that small companies hire 55 per cent of their apprentices when the latter finish their studies. The figure for medium sized companies was 65 per cent, while it was 80 per cent for large companies. The analysis also showed that the main reason why companies did not hire their apprentices was because the apprentice had other plans. Another reason was that the apprentices did not meet the companies' expectations.

The current survey data hence seems to indicate that VET graduates who have been exposed to work-based learning are more likely to have the required soft skills as well as company-specific skill specialisation. This fact is emphasized by a significant group of respondents in the survey and also by the fact that many companies tend to hire their own apprentices when recruiting new employees.

2.1.5 There are not always enough VET graduates

Whether European companies have access to graduates with the right skills is not only a question of the VET system providing the relevant skill sets. Another important dimension of this theme is whether the educational system delivers enough VET graduates for the companies. This problem is described by a respondent from a representative organisation in the following quote:

'The skill set is at a quite good level at the moment. (...) The main problem is that there are not enough graduates at the moment.' (Industry association).

Another respondent from an SME organisation supports this statement:

'What we hear is that they have the relevant skills. I think it is not about the quality of graduates. I think the level of our VET system is not so bad. It is a question of amount, of quantity. There is a higher demand for skilled people than a supply. There

are some fields where employers can hardly find any young people. (SME organisation)

The survey data indicates that these quantitative gaps are mainly, but not only, within the more technical vocational education programmes pertaining to manufacturing, engineering, ICT, and the construction sector. Another example of this understanding is a respondent at European level, who pointed out the lack of graduates with technical skills and continued by describing the general lack of STEM (Science, Technology, Engineering, and Mathematics) graduates in Europe.

A third respondent confirms this finding in relation to the manufacturing sector:

'Furthermore, the problem is that the manufacturing sector has a bad reputation (...) which makes it hard to recruit new students to vocational educations within manufacturing.' (Sector organisation)

Finally a respondent within ICT underlines the problem with too few qualified graduates by saying:

'There are some areas where there are many skill shortages including IT. In our country there is a high demand for qualified people but there are not enough graduates applying for the roles.' (Large company, ICT)

Thus, the survey data shows that within some of the more technical fields of vocational education, there tends to be shortages in the number of graduates provided by the vocational education system. This finding is underlined by a position paper from the European Round Table of Industrialists⁷ underlining that there are not enough students subscribed to education programmes within the technical fields in Europe.

2.2 Collaboration on skill development

A large share of the respondents in the survey state that close collaboration between the world of work and the world of education is the central factor for minimising the gap between skill demand and skill supply.

'Collaboration secures that the vocational system is aligned with the developments going on in the different sectors and changed skills requirements this entails.' (SME organisation)

In the survey the respondents were asked, if they collaborated actively with any vocational education or training institution on skill development, and if yes, how they did it. The replies indicate that there are many levels of collaboration between companies and VET institutions, ranging from no cooperation to joint development of entire VET programmes. Overall, almost all the companies and associations experienced some collaboration with actors in the national VET system. The cooperation mainly regarded one of two themes, i.e. development/adjustment of curricula or collaboration with respect to apprentices.

'In general the companies and the vocational education institutions collaborate closely on how to improve the education programmes to secure that they are aligned with the needs and demands in the companies.' (Sector organisation)

Perhaps not surprisingly, the survey indicates that collaboration between the two sides is particularly well-established in countries with dual VET systems. A respondent from a country with a mainly school-based VET system describes it this way:

⁷ European Round Table of Industrialists is an interest group that brings together up to 50 chief executives and chairmen of major multinational companies of European parentage, covering a wide range of industrial sectors (<http://www.ert.eu/about>).

'Across Europe there are huge differences in how good and well-established the collaboration is. The best examples are the dual education systems in Germany, Austria and Denmark. Here VET schools and enterprises have very close collaboration on curriculum development. The result in these countries is that there is a little or no skill gap between the skill needs and skill supply. The VET graduates have the competences demanded by enterprises due to the collaboration.'
(Organisation representing VET institutions)

Even though a clear majority of the companies state that they cooperate with the vocational system in one way or another, there are also a few companies that do not collaborate with actors in the VET system. In these cases, influence on curricula is typically ensured by the companies' representative organisations.

The following sub-sections describe different models of business-VET collaboration highlighted by the survey respondents. The issue of collaboration on apprenticeships is specifically analysed in section 3.5 and will thus not be treated below.

2.2.1 Collaboration on the curricula and co-development of courses and educations

As already mentioned, one of the main forms of collaboration between companies and the VET system relates to the development of the curricula for the different education programmes to secure compliance between the skill needs of the world of work and the skills taught in the VET system. The survey showed many different ways of collaboration regarding the adjustment of the curricula, but one of the main methods is through formal channels such as national and local training committees or advisory boards. Sometimes the companies are represented directly in the different committees, hence directly influencing the curricula of the relevant educations. In other cases, the companies are represented through representative associations such as industry associations or chambers of commerce. Whether the training committees are a formal part of the VET system varies across Europe. In some countries, such as Denmark (see box below), the content of every vocational education programme is defined by a national training committee as well as a local training committee. In other countries, there are no formal requirements to collaboration between the vocational system and the business community.

Adapting skill needs through training committees and advisory board in Denmark

In Denmark there is a national training committee attached to all vocational education programmes. The national training committees are responsible for the development of the general curricula of the different education programmes. Furthermore, there are local trade committees at each school for each individual education programme, among others focusing on specific local company needs. The work of the two committees is statutory, and the members of the committees are selected by the social partners. According to the respondents, this formal collaboration between both sides of the labour market, is an important factor in securing the alignment between company needs and vocational training in the specific vocational programmes.

Additionally, many Danish schools are starting to use supplementary non-statutory advisory boards at school level, where experts, not appointed by social partners, with specific knowledge are heard in order to tailor the education programmes further to local company needs.

A respondent from a representative organisation working at European level describes how the main key for involving companies in the formulation of curricula and qualification of educations is that the companies are formally included in the steering of the vocational

educations, for instance as it is done in dual VET systems. In the same interview, the respondent states:

'Successful systems [VET steering systems] include both SME representatives, trade unions, public authorities and VET providers in setting the agenda in the field.' (SME organisation)

An example of a system bringing together different actors from the world of work and the world of education to collaborate on the prediction of future skill needs, is the Chamber for Anticipation and Forecasting in Finland (see box).

Ennakointikamari – Chamber for Anticipation and Forecasting in Finland

In the Uusimaa Region in Finland, where both Helsinki and Finland's second largest city Espoo are located, they have established an 'anticipation chamber' called Ennakointikamari. The anticipation chamber is a common platform where the world of education and work can interact and discuss the needs of companies. It was developed in 2008 as a Helsinki-based initiative and is now a permanent region-wide setup. The specific purposes of the Chamber for Anticipation and Forecasting is:

- to anticipate future needs for education, training and know-how (supply-demand forecasting);
- to act as an interactive channel between companies and educational institutions;
- to influence the development of education at organisational and regional level (and to some extent, also on national level); and
- to bring up important and relevant topics related to education and know-how in media

As part of its skill forecasting, the anticipation chamber conducts a comprehensive survey among enterprises every year to obtain knowledge of their skill needs.

Fourteen vocational and adult education institutions and fourteen partners (public and private actors) as well as the Uusimaa Regional Council and the Helsinki Region Chamber of Commerce participate in the Chamber for Anticipation and Forecasting.

In a non-dual VET system with no formalised collaboration, the survey indicates that the main cooperation between the enterprises and the vocational system on the alignment of skill needs is handled by representative organisations or through direct cooperation between individual companies and the vocational schools. The survey data indicates that direct collaboration between the two sides depends significantly on the focus and size of the individual enterprises. Thus, many of small companies do not have sufficient resources to participate in direct cooperation with vocational education programmes. A respondent says:

'Generally, large companies have more influence on the content of the education programmes as they have the necessary capacity needed in order to cooperate with VET institutions. Therefore, it is mainly the large companies that are involved in the project collaboration. But the schools are also trying to involve the smaller companies.' (Organisation representing VET institutions)

Another very important catalyst for cooperation is if the companies have urgent or particular skill requirements. If a company has an instant or specific demand for certain skills, there are examples of companies cooperating directly with vocational schools on the development of new vocational educational courses or the adjustment of existing courses. A company describes how it has cooperated with local vocational schools regarding individual courses as well as an entire education programme:

'We have cooperated [with VET schools] on specific courses for the processing industry. Furthermore we are cooperating on developing an industry operator education with local VET schools as well as other enterprises in the local area.'
(Large company, manufacturing and engineering)

Another company has established training and research centres together with education institutions (see box).

“Formalised training and research centres”

A large company operating in many European countries have established training and research centres across Europe. The training and centres are operated together with education institutions. Here the employees have the possibility to further develop their skills and acquire certain certifications.

There are of course also examples of less radical cooperation such as collaborating on the development of individual courses for employees or apprentices. Often this kind of cooperation takes place on an ad hoc basis, where the companies contacts the local VET schools when they need particular skills for their employees. A respondent from a large company says:

'We cooperate with VET schools in some locations, if we cannot offer a certain part of the technical training ourselves.' (Large company, energy) To sum up, collaboration between companies and VET institutions on skill development is primarily done by influencing the curricula of the education programmes through formal channels such as training committees in countries where they are available. In countries with no formal involvement of companies the adjustment of the curricula happens through direct cooperation or through the representation of sector organisations, etc. There are also examples of skill development through joint development of education and courses between companies and the VET schools when companies have urgent or particular skill needs. Finally, some also primarily companies rely on the representative organisations when it comes to collaboration on skill development.

2.2.2 Other types of collaboration

Besides collaboration on the curricula, course development and apprenticeships, the survey also showed other types of collaboration between companies and VET institutions. For example, some companies provide work cases for the local vocational schools, thereby trying to influence education towards business-oriented learning. In some cases the companies even provide teachers for specific workshops for VET students. Hence a respondent from a country without educational duality describes, that they try to bridge the gap between the required and provided vocational skills by arranging workshops where employees teach and train VET students as part of their education.

Other companies invite VET teachers to spend time at their company so the company can show and tell the teachers the competences that are important for them. There are also examples of an opposite exchange model, where employees from the companies give lectures at vocational schools. Both exchange types are ways of securing compliance between the skill needs of the companies and the skills taught at the vocational schools.

Employed in the world of work and the world of education

In one of the large European companies interviewed, some of the employees are only employed part-time. The other half of their time is spent at the local VET institution, where they work as teachers. The company describes this as a good way to ensure that VET teachers have the required competences and updated knowledge in their field in order to teach the necessary skills to the students. As a side effect, the model has positive implications for the general collaboration and contact between the company and the education institutions.

It is important to emphasise that the different forms of cooperation presented in this section are not mutually exclusive and many of the companies combine the different types of collaboration, such as direct collaboration on courses and apprenticeships and additional involvement in training committees.

2.3 Is dual VET the key to bridging skill gaps

As described earlier in this chapter the respondents in the survey widely recognise collaboration as one of the main factors for securing alignment between demand for and supply of skills. Furthermore, the survey data indicates that collaboration between the world of work and world of education is particularly well established in countries with dual VET systems. Finally, it has been concluded that respondents from dual education systems were particularly satisfied with the skills - especially the soft skills – of the graduates from their vocational system. Therefore it is natural to consider whether dual VET is the key to bridging skill gaps in Europe.

Some of the respondents clearly state that they support a general move towards dual VET systems or systems systematically promoting apprenticeships in vocational educations as they are secure alignment between company needs and education provision. A respondent at European level says:

'To improve vocational education systems, apprenticeships or dual education systems should be promoted and more prevalent. Through apprenticeships and dual education VET students have an opportunity to adapt to the working approach and culture in the enterprises. So to speak, they will be more labour market ready, and the start-up period in the enterprise will be reduced.' (Industry association)

A respondent from a German representative organisation specifies that the dual VET system and the formalised collaboration in the system are key factors for the high level of German competitiveness and the country's economic position. He continues:

'Because of the involvement of trade associations and companies, there is the belief that all necessary skills are integrated if there are new qualification trends on the labour market. The training regulations can be adjusted. In former days this was a slow process. Nowadays you can update a training regulation within one year.' (SME organisation)

Another respondent from a large European enterprise is very straight forward in his support of a dual VET system:

'We are very much in favour of duality in the education.' (Large company, manufacturing and engineering)

On the other hand, it is important underline that duality in education can be difficult to manage, as the education system is very dependent of the companies' willingness to take in apprentices. This particularly puts pressure on the systems during times of economic recession. A respondent says:

'The German VET system is adjusted to the economic situation, which is the other side of the medal as we say. During recession years or in the 90's we had the

problem that not every young person was able to find an apprenticeship place.’ (SME organisation)

The problem with apprenticeship shortages is well-known from other dual VET systems.

Finally, a respondent representing the VET institutions describes another growing problem in dual systems.

‘The current specialisation in the private sector can pose a problem for the willingness of companies to take in apprentices as the skills of VET students tend to be more general. Furthermore it can be difficult for specialised companies to meet the learning demands for an apprentice, as the curriculum requirements are normally quite broad. This specialisation tendency is a big challenge for the dual system, but it can be solved by combining internships in more than one company.’ (VET provider, Member State with dual-VET system)

Whether dual VET systems is the key to bridging the skill gap is difficult to conclude based on the survey. However, the data point towards the clear conclusion that cooperation and dialogue between the world of work and the world of education is one of the key factors in securing alignment between skill needs and skills provision.

Building high-quality apprenticeships

The advantages of incorporating apprenticeships as part of VET education have been discussed frequently.⁸ As mentioned in the previous chapter, apprenticeships can promote specialised and transversal competences, which are hard to teach in the schools. But they can also ensure that the skills provided are updated and relevant in the labour market; ensure that a smooth transition to the world of work is secured; and act as a steppingstone for young people towards employment.

A clear majority of the enterprises interviewed reported that they provide apprenticeships as a natural part of their daily operations. The interviewed sector bodies and SME associations reflected this image, talking about apprenticeships being common among their members. Although this is the general image, there are substantial variations between Member States. According to the respondents, this can primarily be explained by difference in cultures and traditions. In countries such as Germany, Denmark and Austria, which have had a dual-system in place for decades, apprenticeships are seen as a natural component in running a business. In countries such as Belgium (Wallonia) and Sweden, apprenticeships have traditionally not been part of the business and labour market cultures:

'My organisation does not provide apprenticeships or any other form of work-based learning. In Belgium (Wallonia) there is no tradition for apprenticeships in the vocational education system, so there is no system in place to properly support it.'
(Large company, Member State with school-based system)

A few companies reported that the number of apprentices they take on is increasing. This is mainly due to an increased awareness and recognition of the value added in relation to recruitment and learning. However, some also reported a decrease in their VET apprenticeship activities. One of the reasons underlined was an increased professionalisation of the activities taking place in the European market, leading to an increase in the number of employees – and thus also interns or trainees – recruited from higher education institutions at the expense of VET graduates. As one respondent put it:

'Our internships are primarily aimed at university students. We also have apprentices from the vocational education and training system, but the number is declining. The reason is that our division in (this country) has changed its employee composition. Today, we are increasingly looking for university level students (large company, health and social care)

Another reason for the decline in apprenticeship activities in some countries and sectors mentioned by several respondents, was the current financial struggles currently facing many European companies. As one respondent explains:

'The biggest barrier is that companies are stagnating; there is not much demand for their products and services. Therefore they do not need more employees and lack the willingness to take students on board. While there is a clear need for more work-based learning in VET, it is not the right moment to implement it...' (Chamber of Commerce, Member State in Southern Europe)

⁸ See e.g. European Commission (2013), "Apprenticeship and Traineeship Schemes in EU27: Key Success Factors: A Guidebook for Policy Planners and Practitioners", URL:

<http://ec.europa.eu/social/BlobServlet?docId=11348&langId=en>; OECD (2013), "Quality apprenticeships for giving youth a better start in the labour market", URL: <http://www.oecd.org/els/emp/G20-OECD-EU-apprenticeships-conference-annoted-agenda.pdf>

For companies not taking on apprentices, a stronger focus on in-company introductory courses and periods of mentoring for new employees is needed, one respondent explained. This is necessary in order to make the new employees familiar with company practices and translate theory into practice. These components are usually dealt with as a natural part of apprenticeships, but companies not taking on apprentices instead have to invest in introduction to the workplace at the beginning of the regular employment period.

3.1 Why companies take on apprentices

3.1.1 Recruiting and preparing students for life in the organisation

The most frequently mentioned reason for supplying apprenticeships is to establish a solid and sustainable recruitment channel, giving the enterprises the chance to try out potential future employees. During the try-out period, the companies are also given the opportunity to teach the apprentices about their company culture and practices as well skills of specific importance to the company. Apprentices who end up being employed after their graduation are thus immediately ready to take on work and blend into the organisational culture, which is seen as a substantial advantage.

'A lot of our apprentices find a job in the company after finishing their apprenticeship. To us, apprenticeships are a great way to shape and scout for future employees.'
(Large company, manufacturing and engineering)

The recruitment motive also appears to be the driving force in the Slovenian collaboration model (see box).

The collaboration model in Slovenia

In Slovenia a new collaboration model between VET schools and enterprises has been established. At the beginning of his or her vocational education, the VET student signs a contract with a company, which entails that the VET student receives 400 hours of work based learning each study year. When graduating, the student is typically employed in that company. In this way, enterprises become more involved in the curriculum design.

The collaboration model can be seen as an alternative to a traditional dual education system with compulsory company training.

3.1.2 Teaching skills not provided by education institutions

However, it is not only skills and knowledge related to the specific activities of the company that are promoted through apprenticeships. A number of the interviewed companies and representative organisations also talked about being able to teach competences that the schools either cannot or have not been able to teach the students satisfactorily. The skills most often mentioned in this regard are transversal skills such as organisational skills, communication, language skills, problem solving, time management and teamwork.

'Apprenticeships are also an efficient way to provide the students with skills, which do not receive a great amount of focus in the vocational education system. This especially regards interpersonal skills and an international mind-set.' (Large company, manufacturing and engineering)

'From our perspective, it is extremely important to teach the apprentices about how to interact with each other and with customers, partners and suppliers. This is not taught at the vocational colleges. Because of that, we have developed an education

programme for promoting social competences. This starts with two full-day workshops in conflict management and communicative competences.’ (Large company, wholesale and retail trade)

A number of companies and sector organisations also mentioned certain basic technical skills related to the profession, which they did not find to be supplied effectively by the VET institutions in their countries. Some companies also referred to an obligation to support their respective sectors and related professions in the long run as a motivation for taking on apprenticeships:

‘Many of our member companies actively contact schools and students. They are very aware of the importance of contributing to the professional orientation and development of our young people.’ (National chambers of commerce and industry)

3.1.3 A way to drive down salary costs

Finally, a number of respondents saw apprentices as a way to drive down salary costs, underlining the importance of having them generate value already during the apprenticeship period.

‘It is very beneficial from a business point of view to have apprentices, since they can get rather cheap labour. However, it only works well if they can capitalise on the skills of the students and further develop them. It is a rather challenging task, but they try to make the most of it’. (Large company, accommodation and food services)

‘Interns and apprentices help to balance the changing workload in the company’ (Large company, cultural and creative sectors)

All five respondents representing this view were from enterprises and organisations in South Eastern Europe.

3.1.4 Companies generally have positive experiences with apprentices

The interviewed companies, sector organisations and labour and industry associations all report about good experiences with apprenticeships across the board. For companies already having an apprenticeship scheme in place, some are either looking to upscale their activities or to increase the number of apprentices they employ afterwards. One example is a national branch of one of the world’s largest multinational companies that traditionally did not hire many of their apprentices into full time positions after graduation. Based on a number of positive experiences with hiring former apprentices, they have now decided to change their strategy on this and state: ‘We want to concentrate on apprentices in the future.’

Also among enterprises that do not take on apprenticeships for the cultural reasons described above, there seems to be an interest in doing so if the national system were properly geared:

‘It is clearly our experience that VET students who have undergone an apprenticeship period to a large extent have the relevant set of skills. They are simply more ready to meet the demands on the labour market.’ (Labour union, Member State with school-based VET system)

In a similar vein, a representative from another country with limited tradition among their companies for taking on apprentices notes:

‘Apprenticeships have the potential to improve the skills and labour market readiness of our VET graduates. But the precondition is closer collaboration between the vocational education system and the enterprises.’ (National industry association, Member State with school-based VET system)

The survey did not unveil any clear sector-related or national differences in terms of the companies' motivation for taking on apprentices or their experiences with doing so.

3.2 Who do companies take on as apprentices?

The companies taking on apprentices generally prefer young people – not because they exclude other age groups, but simply because that is where the primary supply is. The apprenticeship is typically offered as an integrated part of an initial VET programme, where students alternate between time in the company and at school. In countries without dual VET systems, apprenticeships are sometimes offered as a practical add-on to their (mainly theoretical) initial vocational education at the school.

Some companies also provide apprenticeships to unemployed persons in the later stages of their careers (usually 50+) who are in need of re-schooling or up-skilling in order to become more attractive on the labour market. In numbers, this group appears to be small compared to the number of young apprentices.

A number of companies and education institutions also pointed to a growing tendency for companies to increasingly taking on apprentices from vulnerable groups. Specific groups mentioned were seniors, immigrants and young people from disadvantaged backgrounds. One explanation for this is the recent decrease in the number of applicants for apprenticeships forcing the companies to expand the field by addressing unconventional target groups:

'Because of the demographic change, companies have to be more open to new target groups. This new clientele places increased demands on the company and the in-company trainers. Until recently, companies in this country could pick and choose among a large field of candidates. Now they have to be more open.' (National chamber of commerce and industry)

Another explanation given was the increased focus among companies on their social responsibilities:

'In recent years, a strong focus on social responsibility has emerged among the companies. Today, enterprises are more willing to offer apprenticeships to socially vulnerable VET students. Large enterprises have a better opportunity to offer such opportunities than small enterprises.' (VET provider)

3.3 How do the companies work with apprentices?

When looking at how enterprises work to integrate and promote learning among their apprentices, very different images emerge. The most notable differences are seen between large companies on the one side, and small- and medium-sized companies on the other. No clear patterns could be identified based on geography and sector.

3.3.1 Apprentices in large companies

A substantial share of the large companies interviewed had their own internal training departments, which undertake the apprenticeship administration, learning programmes and coordination with the respective education institutions. In a number of instances, they also undertake part of the theoretical training – often in collaboration with local education institutions. The internal training academies also often provide continuing education and training for existing employees and training of the in-house mentors in how to undertake the day-to-day mentoring of the apprentices in the company effectively.

In most European countries there are fixed learning requirements for apprentices laying out what they need to learn during their time at the company. Depending on the country and type of VET system, these requirements are formulated at the regional or national

level and in some cases under the involvement of industry representatives and social partners. In large companies, these official requirements are often translated into specific learning programmes for different apprenticeship profiles satisfying both the formal requirements and the specific needs of the company. In turn, these are often used as a stepping stone for formulating individual development models for each apprentice.

'The apprenticeships are shaped around a competence model which specifies what the apprentice has to learn at what point during the apprenticeship. This way, the apprenticeships become very structured and systematic – each apprentice knows exactly what to do and which competences to achieve at which points' (large company, manufacturing and engineering)

Among the large companies interviewed, training instructors dedicated full-time to training apprentices are a common phenomenon. They are employed to ensure a high level of specialisation and professionalism in the learning process and are typically made responsible for learning at a more general level. The training conducted by the training instructor is combined with peer learning from the individual mentors in the departments in which the apprentices are employed.

Apprentices: a joint responsibility at all levels

In one of the large enterprises (transportation) interviewed, responsibilities towards the apprentices were explicitly formulated for employees at all levels of the company. These responsibilities are meant to ensure a pleasant and productive apprenticeship period leading to the best possible learning outcome.

The HR-department carries out the job auditions, is responsible for the HR files and has scheduled meetings with the apprentices. The training instructors undertake training on general crosscutting themes, whereas the master craftsman is the person responsible for the day-to-day mentoring of the apprentice. A special component of this model is that all other employees in the company also have formal obligations towards the apprentices. Supporting the apprentices is an explicit part of their formal job-description. This not only benefits the apprenticeships, but also the individual employees who are forced to reflect on their craft on an ongoing basis and communicate the purpose and value of their work.

Another large company has a rotation system in place for their apprentices. The system ensures that the apprentices will work no longer than three months in the same department during their first 1-2 years (depending on the profession and apprenticeship model). The purpose is to familiarise the apprentice with the different occupations, crafts and departments of the company.

The survey clearly indicates that the way large companies work with apprentices depends heavily on the financial situation they are in. As previously mentioned, a number of large European companies are reluctant to even take on apprentices because they are unable to carry the financial investment involved. And for the less well-off companies who do take on apprentices, many of them struggle to keep up the level of quality of apprenticeships despite the company's shortage of resources:

'Often, we cannot afford to buy the equipment and materials we need in order to teach the students what they need to learn' (large company, accommodation and food services)

In one large Eastern European company included in the survey, mentors were only appointed to the best performing apprentices, and having a mentor was thus seen as a privilege for the apprentices. The large majority of apprentices in this company are required to work and produce alongside the regular employees without any

guidance. According to the respondent, this is common practice among companies in the country in question.

Another example of extensive collaboration is 'The Triple System' (see box), where a company cooperates systematically with vocational schools on creating specialised educational courses as a company-specific addition to regular vocational training and apprenticeships.

“The Triple System”

A large company from a dual VET system works with an education system they call the “The Triple System”. The system is an example of extensive systematic collaboration between VET institutions and a company. In this system vocational education for their apprentices consists of three complementary phases:

1. training at the vocational school;
2. apprenticeships; and
3. Additional company specific vocational education.

When new VET students are recruited as apprentices, they are first sent to company specific vocational training and after this, they can start training their practical skills through their apprenticeships. Furthermore the company also partners with vocational education on continuing vocational education for their employees.

3.3.2 Apprentices in small and medium-sized enterprises

Based on interviews with organisations representing SMEs, it is clear that the small and medium-sized enterprises in Europe do not have the same options as the large companies have in terms of formalising, systematising and professionalising their approach towards apprenticeships. They are, for instance, not big enough to support an internal specialised training department or to develop internal training programmes for different apprentice profiles.

Instead, SMEs tend to rely more – if not exclusively - on the formal learning guidelines formulated at national or regional level. How these are implemented and how compliance is secured varies substantially from country to country. A common model is that the company management and the mentor(s)/in-company trainers responsible for the day-to-day provision of learning activities and mentoring familiarise themselves with the formal guidelines. At fixed points during the apprenticeship, the company reports back to the public authorities on how each learning objective is being addressed. In many cases, the apprentice is interviewed by the VET school or is required to fill in an evaluation form, which provides the responsible public authorities with the apprentice’s view on the learning progress.

3.3.3 The hand-held effort

Across both large and small companies, a clear tendency to structure the apprenticeships around the specific needs, wishes and talents of the individual apprentice seems to be emerging. A logical explanation for this phenomenon seems to be the current undersupply of apprentices described by a number of respondents, causing the enterprises to increasingly take care of the ones they have at their disposal. Another explanation could be an increased recognition of the fact that apprentices (and employees in general) perform better, when they are invited to take ownership of their own learning and development and are offered opportunities to grow.

A number of the enterprises and organisations interviewed talked about the importance of discovering and building around the specific talents of the apprentices:

'Of course (the apprentices) need to pass their exams, but that is not everything. Already during the first year of their training, we have a training session where we help them to discover their talents and where we talk to them about the importance of concentrating on these in their future development.' (Large company, automotive)

The company within the company

BMW runs a large "junior company" in Germany. The junior company is a company within the company and it is completely run by apprentices. In the context of this company, they achieve several important skills with respect to e.g. finance, market economy, etc. The apprentice company is a service provider within BMW and delivers minor products on the open market, internally and externally. They have to compete with other companies. They get accustomed with identifying problems in the production and solve them. In addition, they engage with customers and therefore they learn the importance of being able to adopt to a customer perspective. The junior company has a turnover of 1 million EUR per year.

Individual development plans, where the apprentices are involved in formulating goals for their own personal development, are also common. A number of the companies interviewed let the apprentices have a substantial say in what they would like to work with during the apprenticeship:

'At the beginning of the apprenticeship we develop a career plan together with the apprentice. Here, they tell us their goals and wishes and we try to structure the apprenticeship around it. Right now, an apprentice of mine wants to "see the world", as she explained. So we arranged a 3-month internship abroad and gave a guarantee that she can come back to us again afterwards to resume her apprenticeship.' (Large company, accommodation and food services)

Another increasingly common phenomenon among large enterprises seems to be the provision of additional lectures and exam preparation sessions for apprentices in need. At the other end of the spectrum, a number of large companies also provide different activities for their top-performing apprentices:

'Sometimes we take six of our best apprentices and train them for an international competition. We also on occasion bring together a group of apprentices who have problems passing a particular exam. We sit them down, analyse what the problem is and arrange intensive training tailored to address their specific needs – for instance every Friday for six weeks. Simultaneously, we make sure that senior staff in the company work with them on these issues on a day-to-day basis.' (Large company, manufacturing and engineering)

Another company also arranging competitions and different events for their apprentices saw this as an important measure to keep up the motivation among their apprentices. According to the respondent, lack of motivation is *'the major barrier to skills development during the apprenticeships'*.

3.4 Measures to ensure quality

Although the difficulties of ensuring that enough apprenticeship agreements are being signed seem to be the dominating challenge facing the European VET systems, many respondents highlighted the task to ensure *high-quality* apprenticeships as an equally important parallel responsibility. One respondent noted that the issues of quality and quantity are interrelated, arguing that with too few apprentices applying for positions, the right match between the apprentice and the company is not always established, often leading to bad experiences on both sides and ultimately a poor learning outcome. Conversely, if the quality of the apprenticeships is generally poor and apprentices

generally have bad experiences during their training period, there is a very real risk that vocational education receives a bad reputation, potentially leading to even fewer VET students applying for apprenticeships in the future. If there is any merit to this argument, a natural consequence is that the quality and quantity of apprenticeships must be developed hand in hand.

The enterprises and representative organisations interviewed generally seemed highly focused on assuring a high level of quality in the apprenticeships they provide. The primary reason being that the enterprises use apprenticeships as a means of recruitment, which also makes them dependent on securing the best possible learning outcome.

However, how can quality in apprenticeships be assured? The respondents shared many views and practices on this, and from their responses, it seems evident that ensuring high-quality apprenticeships takes a multi-level effort. The responses can generally be divided into three categories: 1) enabling framework conditions, 2) matching the right apprentices to the right companies and 3) ensuring quality during the apprenticeship period.

3.4.1 Enabling framework conditions

One clear success factor for ensuring high-quality apprenticeships is a policy framework that actively promotes and has efficient support mechanisms in place for companies taking on apprentices. The different VET systems with their different traditions around apprenticeships seem to have a substantial effect on this. The German dual VET system was mentioned by both German and non-German respondents as a good example of a system that does exactly that. Specific support mechanisms highlighted by the respondents included:

- clearly formulated guidelines for companies and apprentices;
- influence on curricula through regional or local working groups;
- a sector-based approach to structuring apprenticeships;
- ensuring payment and social protection for apprentices; and
- systematised dialogue between companies and VET institutions,

The close and even dialogue between companies and VET institutions was probably the most often mentioned success factor:

'I will go as far as saying that collaboration between the schools and the enterprises is a precondition for a quality apprenticeship. The collaboration should be based on close and regular dialogue based on mutual respect.' (VET provider)

Trends and practices in collaboration between companies and VET providers on apprenticeships will be further analysed in section 3.5.

Government-issues guidelines on high quality apprenticeships

In Belgium (Flanders), the Flemish government has published a handbook entitled 'Guidelines on high quality work-based learning' directed towards companies offering apprenticeships. It provides clear and practical guidance on how to prepare for apprenticeships, how to identify the employees who will be involved, ensuring that formal standards and regulations are met, ensuring professional communication and how to equip the mentors undertaking the daily guidance of the apprentice, etc. One of the guidelines' main messages is that teachers, trainers and mentors all need to have sufficient time and resources allocated in order to be able to fulfil their duties satisfactorily.

3.4.2 Matching the right apprentices with the right companies

Aside from having the right framework conditions in place, multiple respondents also underlined the importance of matching the right apprentices with the right companies. Multiple respondents considered establishing the right match as a key factor of success in terms of ensuring quality. One respondent stated:

'In our VET institution our motto is "it has to be the right match!" It is not enough just to establish an apprenticeship agreement. The personality and expectations have to be matched between the VET student and the enterprise. The VET student should have a personality that fits the organizational culture.' (VET provider)

However, a number of respondents expressed the view that in recent years, it has become harder to ensure the right match due to a number of external developments. Some of them reported of a clear decline in the number of young people applying for apprenticeships in their companies, which makes it harder for them to choose the exact right profile.

Although clearly recognising this challenge, a representative of a national chamber of commerce also saw a substantial potential for companies in terms of improving their ability to recognise the potential of the young people who do apply. Sometimes the argument was that the right apprentices are among the applicants but the companies are not effective enough when it comes to exploring and ultimately working with their talents and special capabilities:

'I know about a young man in one of our member companies. He dropped out of school and could not read properly. He turned out to be one of the best ICT systems engineers. The enterprises have to do a better job at discovering the unique potentials of their applicants.' (National chamber of commerce and industry)

How companies work to explore the competences, motivations and personalities of the applicants before taking them on board differs widely. Approaches range from selection based primarily on written applications to having structured schemes in place to systematically test and interview the applicants.

It is important to keep in mind that since the largest group of respondents selected for this survey was from large enterprises and their representative organisations, the reasons for the current challenges in terms of establishing the right match has primarily been analysed from their point of view. This could explain why the survey responses primarily talk about the lack of applicants as being the main problem in this regard. Nevertheless, it is well documented that one of the main reasons for the lack of apprenticeship agreements being signed throughout Europe is that VET institutions have substantial problems getting enterprises to commit to taking on apprentices in times of crisis. The survey respondents did not mention this aspect as an important issue.

3.4.3 Ensuring quality during the apprenticeship period

A third topic addressed frequently in the discussions around quality in apprenticeships, were the different quality assurance measures taken by companies during the apprenticeship period. Some measures are targeted directly at the apprentices, whereas others are put in place to equip the mentors to play their roles as effectively as possible.

Quality assurance measures targeted at apprentices

Across companies in all countries and sectors there seemed to be a clear awareness of the obligation to ensure a high learning outcome by presenting the apprentices to as many facets of the profession and corners of the organisation as possible:

'It is clearly our obligation to make sure that they are thrown into actual working situations and are not just hidden in the corner.' (SME organisation)

A number of the (mainly large) enterprises reported that they have explicit internal guidelines in place outlining how the company and its employees should deal with its apprentices and how quality should be assured. In small- and medium-sized enterprises, formal codes of conduct appear to be less frequent, but there still seems to be a clear sense of responsibility towards the apprentices and a strong awareness of what it takes to ensure quality.

In companies of all sizes, a common measure is to co-develop a plan for the apprenticeship period together with the apprentice. The plan should of course reflect formal learning targets, but the apprentice often has substantial influence on the activities, personal goals and more detailed learning outcomes. The main purpose of the co-developed apprenticeship plan is to ensure commitment and ownership from the side of the apprentice, leading to increased motivation and, in turn, a better learning outcome. Regular assessment meetings, apprentice diaries and formal evaluations are other common measures employed by most companies to e.g.:

- ensure that sufficient progress is being made in terms of meeting formal learning requirements;
- pinpoint areas where additional learning is needed; and
- Make sure that the apprentice is still motivated and is thriving in the work place.

The final examination and evaluation is a crucial element in terms of ensuring that the apprentice acquires the necessary skills and competences during the apprenticeship period. Most companies use either a time-limited practical examination session or a test-piece (master piece) developed by the apprentice during the apprenticeship period as background for their final evaluation. This often happens in close collaboration with the VET school to which the apprentice is attached. Judging by the replies to the survey, most companies focus exclusively on evaluating professional or technical skills relevant to the occupation. However, a couple of the companies included in the survey also assess transversal competences such as the apprentice's flexibility, power of judgement, creativity and ability to perform under pressure.

As mentioned above, some mainly large companies also provide exam preparation courses and extra-curricular courses to ensure that special learning needs are satisfied for apprentices in the top as well as the bottom end of the spectrum.

Quality assurance measures targeted at mentors

Another and more indirect way of ensuring high-quality apprenticeships is to make sure that the mentors guiding the apprentices on a day-to-day basis are sufficiently equipped to perform their duties. In small- and medium sized enterprises there seem to be substantial variations in terms of how much attention this receives. Some SMEs send their employees to training courses arranged by the local sector or industry associations, while others just take on apprentices without providing any formal training for their mentors on how to carry out this task. Large enterprises seem to take more measures seem to address this issue. The largest companies have their own training departments or academies where mentors regularly receive specialised training. Other large enterprises send their mentors to external training providers or to training sessions arranged by the industry and sector organisations or the chamber of commerce.

Certifying and supporting the mentors

In Germany, company employees are required to have a formal mentor certificate before being allowed to function as apprenticeship mentors. Moreover, the local branches of the chamber of commerce arrange a number of specific courses for mentors – including special courses on how to work effectively with, e.g., low performing VET students or immigrants. The chamber of commerce

also employs a team of consultants specifically dedicated to helping companies with challenges related to apprenticeships.

3.5 Cooperation with VET providers on apprenticeships

As highlighted in section 3.4.1), close and ongoing collaboration between the companies and the VET providers is seen as probably the most critical success factor for ensuring high-quality apprenticeships. When asking both VET institutions and companies about how they collaborate with each other on apprenticeships, five collaboration archetypes emerged:

1. *Close and frequent collaboration based on mutual understanding and recognition*
Many of the large enterprises reported of this type of collaboration with the VET providers. Some of them mainly interacted with the VET providers at the strategic level, discussing the general learning guidelines, curricula, etc., whereas in other companies the cooperation mainly took place at the mentor, teacher and apprentice level. One respondent said: *'There is constant collaboration and contact with the VET schools. The mentors and supervisors at the company provide weekly reviews of the students, which are discussed with the schools at regular meetings.'*
2. *One-way street from the enterprise to the VET provider*
In a couple of interviews – and all with large enterprises – the respondents characterised their collaboration with the VET institutions as an asynchronous relationship in their favour. One respondent said: *'We tell them what we need – and they usually listen.'* Another interviewee said: *'Oftentimes, this is a one-way street, where we have to be the proactive part.'*
3. *One-way street from the VET provider to the enterprise*
In other interviews, the image was reversed. Here, companies reported that they by and large do what they are told by the education institutions and structure the apprenticeship in accordance with their wishes. One respondent stated: *'We have a contact person at the education institution who tells us what to do,'* another one said: *'We ask the apprentice to present us with an application where they describe the purpose and the subject of the apprenticeship. Generally, the purpose and the subject are decided by the schools.'*
4. *Relying primarily on formal standards and interacting only when required*
A fourth form of collaboration reported by the respondents is a very distant relationship where collaboration only takes place when it is formally required. For instance in countries where companies and VET institutions are required to take part in coordination meetings but where at least one of the parties see little meaning in closer collaboration. One respondent stated: *'The teachers are generally busy and not on top of our business and our priorities. They do not always understand our world, so we do what is described in the national standards and what we find to be meaningful for the apprentice.'*
5. *No collaboration at all*
A number of the enterprises reported of no collaboration at all with VET providers. One respondent said: *'We do not collaborate with vocational schools... (...) structures are very stiff and communication is not very good.'*

Perhaps not surprisingly, the respondent who identified their collaboration as 'close and frequent' were primarily found in countries with dual-VET systems where there are long-lasting traditions and policy frameworks promoting business VET collaboration.

The Danish apprenticeship centres

In September 2013, 50 so-called ‘apprenticeship-centres’ opened across Denmark. These small units are found at the largest Danish VET institutions. They have two main purposes: 1) getting more VET students into apprenticeships in local companies and 2) raising quality of existing apprenticeships. This is done through large-scale outreach activities conducted by full-time employees.

The key ingredients in achieving these goals are to establish a solid overview of the local enterprises and how they function, reach out to them, establish and maintain a mutually beneficial relationship based on an understanding of each other’s worlds and needs.

It is still too early to evaluate the effectiveness of the apprenticeship centres, but the model clearly demonstrates a new and slightly aggressive approach to establishing apprenticeships.

When asked about the respondents’ general perception of the level of business-VET collaboration in their sector or country, the general answer was that a lot more could be done.

3.6 Challenges and the way forward

One thing is agreeing that more could be done to raise the quality of apprenticeships. Another thing is to agree on what the specific challenges are and what to do about them. The respondents presented a number of different perspectives on what the current challenges are and what should be done to address them. A crosscutting view of the respondents’ responses reveals three main challenges and related solutions:

3.6.1 Reducing use of resources associated with taking on apprentices

A number of the companies interviewed mentioned that taking on apprentices is highly resource demanding, and that it has an effect on the willingness of companies to take on apprentices and how many there are willing to take. The costs most frequently mentioned were:

1. the resources spent on administration;
2. the time invested in mentoring, which takes the time away from other obligations in the company; and
3. The money spent on salaries/compensation for the apprentice.

It stood out from the interviews that it is particularly hard for SMEs to finance these investments, since they do not have the same financial and administrative capacity and often operate with a shorter return on investment compared to the large European enterprises.

‘...the financial costs associated with apprenticeships makes it harder for SMEs to provide them compared to large enterprises.’ (Industry association)

One representative of a national SME organisation underlined the significance of this barrier by referring to the fact that the number of SMEs in Europe exceeds 20 million and that SMEs employ 2/3 of all Europeans.

8 recommendations for better apprenticeships in SMEs

The representative organisation of SMEs in Europe, UEAPME, referred to the following eight recommendations for more and better apprenticeships in crafts and SMEs in Europe:

1. Establishing the right institutional setting (including setting up an enabling policy framework

and ensuring the involvement of social partners).

2. Setting-up strong partnerships (including bringing stakeholders closer together and ensuring social partners' role in governance)
3. Promoting a training culture (including campaigns directed at companies and awards for companies engaging in training)
4. Tailored advice and support for SMEs: making apprenticeships more attractive (including Individual advice and support for SMEs to set-up and strengthen the provision of apprenticeships)
5. Resources and financial incentives (including tax credits, grants, lower social security contributions or even exemptions for SMEs taking on apprentices)
6. Lightening administrative burdens and comprehensible training regulations (including making training regulations accessible and understandable to SMEs)
7. Transnational learning mobility (including removing practical, legal and technical obstacles)
8. Promoting entrepreneurship and transfer of enterprises (including highlighting the value of apprenticeships for learning entrepreneurial skills and setting-up a company)

Note: The information contained in the parentheses above is explanatory text authored by the authors of this report and is not formal text from UEAPME. More information on the 8 recommendations can be found here: http://www.ueapme.com/IMG/pdf/UEAPME_paper_contribution_of_Crafts_and_SMEs_to_apprenticeships.pdf

A number of solutions to these barriers were also presented by the respondents, who generally pointed to the following measures:

- provision of direct financial compensation for companies taking on apprentices;
- public recognition/publicity for companies taking on apprentices;
- reducing the administrative burden to a minimum; and
- Tailored advice and support for SMEs.

The role of public policy will be further treated in chapter 0.

3.6.2 Making it easier to get the right people in

Another often mentioned challenge was the difficulties associated with attracting enough - or the right – students. This was mainly raised by the enterprises and their representative organisations, but the view was also found on the side of the VET providers:

'It is vital that the quality of the students is good, so the companies can actually make use of the apprentices...' (VET provider)

A number of respondents referred to a branding and popularity issue facing VET education programmes. Moreover, the current demographic developments, where relatively fewer youngsters enter the education system, reinforce the problem. A number of respondents talked about the need for making vocational education and training and apprenticeships more attractive through, e.g., campaigns. On top of that comes what two respondents referred to as a low level of quality in the apprenticeship applications, making it hard to identify the right match:

'We receive about 1400 applications from schools which are really badly filled out. So one incentive would be if schools and colleges could teach basic application skills and offer proofreading service...' (Large company, accommodation and food services)

3.6.3 Building a closer relationship between the institutions and companies

As mentioned above, many respondents highlighted a close and effective relationship between the company and the VET provider as the key ingredient for ensuring high-

quality apprenticeships. At the same time, many of them found such relationships to be absent in their daily handling of apprenticeships. Companies and their representative institutions as well as VET providers held this view.

Although the respondents recognised the problem across the board, what they did not agree on is where the problem lies and who is responsible for the collaboration not working out optimally. A number of respondents took a neutral view, stating simply that 'there is a collaboration gap' or that 'we need more and better collaboration'. A number of the enterprises and their representative institutions instead saw the VET providers as the source of the problem:

'Some VET schools are rather uncooperative and stick to their curricula (...) it works out sometimes, which leads to the two parties meeting to discuss learning content, guidelines and so on. But in my point of view this does not happen very often. Unfortunately, a lot of vocational school headmasters are not very open for collaboration.' (Large company, energy)

A number of respondents believed that a lack of resources on the side of the education providers was a clear source of the problem. Others believed that the education institutions' fear of being criticized and, as a result, being forced to adjust their routines and practices, was the main reason for them not always welcoming collaboration with companies.

Perhaps unsurprisingly, the interviewed VET providers did not find themselves to be uncooperative. Instead, they mentioned a lot of different measures that are taken to ensure that their students get apprenticeships in companies and that good collaboration exists once these are up and running.

'We try to intensify the close collaboration with the enterprises. Just recently, we hired additional consultants whose responsibility it is to take contact to the enterprises regarding apprenticeships and skills demands.' (VET provider, country with dual-system)

Regardless of what the source of the problem is, there is a clear feeling among respondents that more can be done to ensure a better collaboration on apprenticeships between the companies and the VET providers. How to specifically address this from a policy standpoint will be further discussed in chapter 0.

Development of entrepreneurial skills

There is a growing realisation among policy makers and enterprises across Europe of a need to promote and support entrepreneurial skills in the workforce.

*'The role of education in promoting entrepreneurial attitudes and behaviours is widely recognised today. Transversal competences like creativity, sense of initiative and entrepreneurship will help young people to develop their capacity to think creatively and to innovate, to develop pro-activity, flexibility, autonomy, the capacity to manage a project and to achieve results.'*⁹

To gauge the state of affairs, part of the survey was dedicated to exploring the efforts of companies to promote this type of skills – within the company itself and in cooperation with VET schools. In the context of the survey, focus has been on entrepreneurial skills in a wider sense, as described in the entry for 'entrepreneurial initiative' in the glossary of the European Skills Panorama:

*'A sense of initiative and entrepreneurship that refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports individuals, not only in their everyday lives at home and in society, but also in the workplace in being aware of the context of their work and being able to seize opportunities, and is a foundation for more specific skills and knowledge needed by those establishing or contributing to social or commercial activity.'*¹⁰

In the public debate however, 'entrepreneurship' and 'entrepreneurial skills' are often used in a much narrower sense as shorthand for the skills and abilities needed to start your own business. However, an academic expert in the survey observed:

'Entrepreneurial training should not have the effect that all young pupils have to start their own business later. ... If you define entrepreneurial education in the sense of creativity and problem solving competences, then it is important for everyone.' (SME research institute)

To avoid misinterpretation, the wider understanding of entrepreneurial skills was therefore briefly introduced to those interviewed in the survey thus:

'In the next questions, we will define entrepreneurial skills as the alertness to new opportunities and the ability to perform complex and innovative problem solving.' (Survey Questionnaire)

Nevertheless, a few of those interviewed had difficulties abstracting from the idea of entrepreneurial skills being synonymous with the skills necessary for starting a new business. For example, one representative of a business association stated (after being introduced to the definition above):

'SMEs represent 99% of companies in [Country], therefore graduates should know how to start their own companies. It is less important from the employers' point of view to have VET students with entrepreneurial skills. It should be emphasised and highlighted that entrepreneurial skills are a way to open one's own businesses.' (Business Chamber).

⁹ European Commission, DG Enterprise (2012): *Building Entrepreneurial Mindsets and skills in the EU. A Smart Guide on promoting and facilitating entrepreneurship education for young people with the help of EU structural funds*. Luxembourg, Office for Official Publications of the European Union. [Online] http://ec.europa.eu/enterprise/policies/sme/regional-sme-policies/documents/no.1_entrepreneurial_mindsets_en.pdf

¹⁰ <http://euskills Panorama.cedefop.europa.eu/Glossary/default.aspx?letter=E>

This illustrates that care should be taken when using terms that may be well-established and generally understood in an educational context when talking to representatives from the world of business, and vice versa. Language may act as facilitator, but also as barrier, when it comes to improving cooperation between ‘the world of education’ and ‘the world of work’. When addressing companies, ‘skills for innovation’ is often more readily understood than entrepreneurial skills:

‘Most businesses are focused on innovation. Thus, when there is a good solid collaboration between the VET providers and the businesses, innovation naturally becomes a focus because entrepreneurial problem solving skills are demanded by the businesses.’ (European Providers of Vocational Education and Training)

Terminological confusion aside, most of those interviewed agree that entrepreneurial skills and initiative are of crucial importance for innovation and competitiveness in European businesses. The few exceptions are mainly found among sector associations. Some of these argue that skilled workers in their sector do not need entrepreneurial skills – indeed one respondent complained that VET schools put too much emphasis on providing VET students with transversal skills at the sacrifice of trade-specific skills.

Below, the arguments for the need to promote entrepreneurial skills are presented as well as companies’ and associations’ suggestions for improving the situation.

4.0 Promoting entrepreneurial skills

‘Being a person only taking orders doesn’t make sense any more’ (SME research institute).

Almost all the interviewed business associations, be they sector bodies, SME bodies or employer associations, emphasise the importance of promoting entrepreneurial skills in the workforce. A representative from an association within manufacturing observes:

‘Innovative problem solving is a competences that gets more and more important. Moreover, it is an area where a company can distinguish itself and develop competitive advantage. (Industry Federation at European level)

Likewise, a representative from the care sector observes that

‘...in our profession you have to find innovative solutions all the time, you have to improvise. In the care sector there is much more work than you can manage in a day so you have to set priorities (...) 70% to 80% of our target group are people with dementia, this means that you have to be creative. You have to put yourself in the position of the old person, try different ways of finding a solution. (...) Our employees need methods they can use in order to get better and handle difficult situations.’ (Foundation, care sector)

When it comes to the important question of ‘how’, the responses point to a variety of approaches that not only differ according to sector, country, or size of company. It also appears that there are different opinions about the main locus of the responsibility for developing entrepreneurial skills. While some companies (and their associations) indicate that this is a responsibility of companies, other companies think that VET schools must bear the responsibility, while a third group consider the development of entrepreneurial skills as an issue that is best approached through cooperation.

Only a few associations state that the development of entrepreneurial skills is neither a priority for them nor for their members.

4.1 How to develop entrepreneurial skills in the company

More than ¾ of the representatives of large enterprises that were interviewed stated that their company has adopted initiatives geared towards developing entrepreneurial and/or

innovative skills. They argued that the workforce holds a creative and innovative potential, which can be harnessed to the benefit of the company. Many companies reported that they support initiatives coming from staff, as this contributes to the development of entrepreneurial skills.

Similarly, the interviewed SME associations were very aware of the need to promote the development of entrepreneurial skills in companies.

Finally, some large companies are aware of the importance of entrepreneurial skills, but have chosen a less proactive strategy:

'We appreciate when employees develop new solutions, but in general we do not put up any internal conditions that promote and support complex and innovative problem solving.' (Large company, financial sector)

'Most of the work done at [Company] is already very challenging and inspirational, therefore there is no need to introduce new elements as they come as a part of the job.' (Large company, wholesale & retail trade)

4.1.1 Development of entrepreneurial skills through staff training

A sizable share of the large companies address different aspects of entrepreneurial skills in their staff training programmes. There is, however, great variation in the thematic scope of the training. Some of the companies emphasise the business aspects, others seek to foster initiative and creativity, and others still attempt to cover both business-related skills and individual attitudes. The following quotes illustrate the variation in approaches.

'We provide in-house training which focuses solely on soft and business skills where staff can develop entrepreneurial competencies of all kinds.' (Large company, manufacturing and engineering)

Approaching entrepreneurial skills through training does not necessarily imply a focus on soft skills in staff training. Offering employees training in subjects outside of their professional area of specialisation may also contribute to developing the entrepreneurial skills. For example, a large trading company in Austria offers financial training to many more staff than those in the finance department to ensure that they understand the whole business and can relate their daily work and new ideas to the business. The company stresses the importance of understanding its business model. *'Every employee who has been with the company for more than one year should be able to explain the business model,'* they say.

The survey reveals that some companies have adopted a very systematic approach to developing the entrepreneurial skills of their staff. That is not to say, that there is one common approach, on the contrary, as the following examples illustrate.

4.1.2 Assessing entrepreneurial skills as part of performance management

One way to foster entrepreneurial skills is to render these skills visible and reward them. A few companies report that the development of entrepreneurial skills is supported through their performance management system. Indicators of entrepreneurial skills have been established, and are included in staff performance reviews:

'Entrepreneurial skills are part of our "development file". There is an appraisal meeting every year or every second year, where employees get feedback; also the apprentices receive feedback (did they take over responsibilities, were they cooperative), we try to teach these skills in specific projects.' (Large company, transport)

'In our employee appraisals for all of our employees within the company, including apprentices, there is also feedback on entrepreneurial skills. Thinking and acting

economically as well as customer orientation are skills that we foster and evaluate. The objective is that employees can work autonomously, save resources, be efficient – which we support to a great extent.’ (Large company, automotive)

4.1.3 Cultivating entrepreneurship skills by collecting ideas from the workforce

Other companies have developed systems and tools that ensure that ideas and suggestions from the workforce are collected and channelled into an evaluation process as input into the innovation of the company. In this respect, using company intranets is mentioned more than once as a valuable vehicle.

‘We try to involve trainees in all aspects of the business – our management style is to get ideas from the workforce. We have set up a company intranet where employees and trainees can post blogs and ideas for improvements and business development. Each year there is an employee survey, from which we take ideas and suggestions and there is an annual meeting in which employees and apprentices can contribute.’ (Large company, transport)

‘All staff have the opportunity to develop entrepreneurial skills in the company as they have access to an ICT-based idea management programme embedded in the intranet. This programme launches challenges of all kinds and is associated with a national innovation initiative.’ (Large company, ICT)

4.1.4 Organising work so that autonomy is required

A few companies say that they deliberately organise work in ways that are conducive to the development of entrepreneurial thinking and the development of entrepreneurial skills:

‘A very important part is the issue self-determined learning. Our employees have to do their own planning for their job, they have to work in a self-determined way. They have to do the check-ups on their own. They have to learn this right from the start.’ (Large company, manufacturing and engineering)

4.1.5 Supporting a corporate culture which facilitates entrepreneurship skills

A few companies emphasise that entrepreneurial skills are furthered by a corporate culture that assigns positive value to these skills and actions demonstrating them. Hence, their strategy is to ensure that managers as well as supervisors at all levels are aware of the importance of promoting and rewarding entrepreneurship among their staff.

4.1.6 Giving employees opportunities for developing their own projects in the workplace

Finally, a couple of companies give the staff opportunities to develop their entrepreneurial skills by giving them time and access to the workplace and resources for them to pursue individual projects, the results of which are then assessed with a view to implementing them in the company as new products or new processes:

‘Employees are given the time, space, and freedom to define their own projects to work on. This is a way to foster an entrepreneurial company culture. The results and outcomes from the projects are then presented at a top management level. Entrepreneurial skills and behaviour are highly appreciated in the company.’ (Large company, health and social care)

4.2 What can VET schools do to promote entrepreneurial skills in students

Some of the companies and business associations that we talked to offered suggestions on how VET schools may contribute better to promoting entrepreneurial skills in students.

When considering these suggestions, it is important to bear in mind, that the respondents' frame of reference is the VET system of their own country. VET systems in Europe differ considerably in several respects: Governance (central/ regional/local, involving social partners or not); if weight is mainly on school- or work-based learning, or if there is a dual system where school- and work-based learning is integrated into one curriculum; and with respect to the importance attached to key skills and basic skills in the curricula.

With this caveat, the companies and associations that we have interviewed suggest that VET schools adopt the following measures to improve entrepreneurial skills.

4.2.1 Developing the skills of teachers

A large share of companies and associations point to VET teachers as the crucial link in promoting entrepreneurial skills in the workforce:

'It is all about the VET teachers, the practitioners working with apprentices. It is about their approach to the issue. If the teachers are very practical, have a lot of experience, and connect with the real companies, this will enable them to use real-world examples from the companies, and this is very valuable.' (SME association)

Many respondents report that in their view, VET teachers in their country are not properly qualified or that their connections to companies are too weak. Therefore, they see a need for the VET schools to develop their teachers' competences to enable them to teach in a way that develops the initiative and problem-solving capacities in VET students.

'VET teachers should receive further qualification trainings. Very often there are not enough VET teachers at the VET schools, and they are under-qualified and do not receive relevant further training. In a lot of VET schools, apprentices cannot get the necessary training, because there is a shortfall of teacher capacity and quality.' (Large company, manufacturing and engineering)

A number of companies and associations offer training programmes for VET teachers, either by themselves or in cooperation with schools. Some of these efforts are described in more detail in section 0.

4.2.2 Introducing inter-disciplinarity into courses

A number of associations and federations stress that interdisciplinary cooperation within VET education and training is highly effective in instilling initiative and problem-solving skills in students. In the workplace, it is increasingly necessary that employees cooperate to come up with innovative solutions or new ways of performing existing tasks. This requires that they understand their own contribution as part of a bigger picture, where those with other types of skills have a different contribution to make, and that they are able to combine those skills in problem solving.

'There is a huge potential to develop entrepreneurial skill through interdisciplinary collaboration. Inter-disciplinarity means that different education institutions should work together and complement each other regarding skills development.' (Sector association, engineering)

'In [Member State] there are some interdisciplinary training centres where students get knowledge about other sector and fields. You could say that this is an alternative way to promote the development of entrepreneurial competences.' (Sector association, manufacturing)

4.2.3 Review and revise curricula

Some VET schools or national VET systems have approached the need to develop entrepreneurship skills by developing specialised training modules designed to impart such skills to the students. For example, in one Member State in one of its regional

colleges, students have the right to choose modules up to 15% of their time, and one of these optional modules is on entrepreneurship in the wider sense.

However, a large share of the companies find, that VET curricula in their countries need to be revised fundamentally to enable the schools to deliver entrepreneurial skills. In the survey, they reported that VET curricula are outdated and do not integrate technologies currently in use, not to mention emerging technologies, sufficiently. In addition, some companies observed that VET curricula do not leave room for experimenting or letting students carry out projects on their own or in smaller groups.

'Before that happens [that students learn entrepreneurial skills, ed.], the VET schools would have to change a lot of content of teaching to redo it completely. It would have to be more modern, more up-to-date with new working techniques. The VET schools do not teach enough skills in Excel or PowerPoint for example.' (Large company, accommodation, food service and tourism)

'When you look at the primary and lower secondary school system, it is really fascinating how teachers run projects where pupils do learning by doing. Learning things by heart is out - it is all about teaching sustainable learning competences, to create interest by letting pupils test things themselves. This principle would also be good for VET schools, who are supposed to teach the theoretical background for the in-company training. Theoretical teaching could be supported by experimenting more, which would motivate the VET students.' (VET Research institute, country with dual system)

However, companies in some Member States observed that there are structural barriers to changing curricula to better accommodate the need to develop entrepreneurial skills:

'The problem with entrepreneurial skills is that this is not part of the national qualification framework. This is a huge structural barrier in the vocational education system. These skills are not integrated into the curricula. The problem is exacerbated by the strong and increasing focus on entrepreneurial skills in companies.' (SME association)

4.2.4 Tailor assessment to support the development of entrepreneurial skills

In some countries, VET schools use forms of assessment that facilitate the use and development of creativity and problem-solving skills. This includes project-oriented assignments, open-ended assignments (where there is no 'right' solution), and assignments that require students to collect information from stakeholders outside the school. An example of this use of assessment can be found in section 4.3.3 below (Entrepreneurial driver's licence).

4.3 Companies and schools cooperating to promote entrepreneurial skills

In the survey, companies and associations were asked about their experience with working with VET schools on the development of entrepreneurial skills. The responses indicate a large scope for intensified cooperation between schools and companies in this field.

If we leave out the cooperation which occurs in connection with individual apprenticeships, more than two thirds of the *large companies* in the survey had no prior experience with direct cooperation with VET schools about the development of entrepreneurial skills, and a sizeable number did not find such cooperation immediately relevant:

'We have very close cooperation with VET providers, however the focus of the collaborative efforts is on basic skills development more than on entrepreneurial skills. Education of the students to become more entrepreneurial should be more of the responsibility of the VET providers, through teaching 'foundation' i.e. basic

subjects in the field and raising their interest. The apprenticeships are to learn about practical skills needed to a profession.’ (Large enterprise, Accommodation & Food service activities)

Others acknowledged the importance of cooperation, but pointed out that it is resource demanding:

‘A good and close collaboration require resources both in terms of time and finance. Due to the financial crisis, companies have reduced such resources, and as a consequence reduced the cooperation on how the vocational education system and companies can develop entrepreneurial skills. The public budgets are under pressure, thus new resources are not expected to be allocated, but subsidies would be of help. Secondly, European grants are also a possibility but applying for such grants is very cost-intensive.’ (Network for HR professionals)

Perhaps due to the cost involved, some companies report that they are willing to consider cooperation, but they would expect the initiative to come from the schools:

‘I must say that I would expect a VET school to contact us, not the other way around. We are prepared to invest a lot of money because we pay for a lot of things for our apprentices. And we would be prepared to work together with a VET school - that would be okay. But the VET school would have to take the first step (or any other school/ institution).’ (Large company, accommodation, food service and tourism, Member State with dual system)

Finally, a sizable number of the large companies indicate that cooperation with VET schools is not relevant, because they have the financial means and competences to take care of competence development in-house. Others cooperate with VET systems at a higher level, and often with a view to cultivating special talents, for instance by participating in international initiatives like Young Enterprise¹¹ or the Global Enterprise Project.¹²

Associations and sector bodies were also asked whether their members cooperate with schools in this respect. As some of the associations pointed out, a large share of their members are micro enterprises with less than 10 employees, and in such companies, targeted development of entrepreneurial skills requires external assistance and resources. Many of the associations acknowledged that a closer cooperation at sector or regional/local level between for SMEs and VET providers is part of the solution. About half the SME associations note that direct cooperation between schools and companies is frequent among their members, and that it is often organised regionally or locally. A small number of associations indicated that involvement of social partners in the governance of VET takes care of collaboration and ensures that the vocational education system delivers the right skills. The associations that voiced this opinion did not all belong in countries with dual systems.

In many instances, cooperation between schools and companies with a view to promoting entrepreneurial skills takes place at the sector level. An example of such a cooperation is the *eSkills Malta Foundation*, which is a coalition of various representatives from Government, industry and vocational education at all levels. This foundation works to promote ICT skills in Malta. The Foundation has developed ‘*Standards for ITalent*’, a competency framework providing descriptions of required competences and role descriptors at NQF levels 2 to 6.¹³ The Standards propose 7 areas of responsibility for an

¹¹ A non-profit organisation whose purpose it is to promote and support entrepreneurial skills. The organisation arranges an annual competition where students demonstrate their complex and innovative problem solving skills. Their solutions are presented to enterprises. <http://ja-ye.org/>

¹² See <http://www.globalenterpriseproject.eu/>

¹³ NQF: The Maltese national qualification framework.

ICT professional, and among these are 'Creative thinking' and 'Problem solving'. Competencies are described in terms of Knowledge, Understanding and Performance Criteria¹⁴

The Foundation engages in several other initiatives to promote innovation and growth in the ICT sector through developing skills in and for the sector. One example of a concrete initiative is found in the box below.

The MITA Student Start-up Award

The Maltese Information Technology Agency collaborates with the Centre for Entrepreneurship and Business Incubation, the University of Malta Business Incubator, and the Faculty of ICT, will present an award of EUR 5,000 to the best proposal by a final year student at the Faculty of ICT for a start-up venture based on a concept developed as part of their dissertation or final year project.

The competition is aimed at stimulating entrepreneurship and creativity in the field of ICT based innovative and well-researched ideas, as well as to promote research which, in addition to meeting academic requirements, can be further developed into a product or service. Our aim is to make this an annual award, and to use the experience of this pilot year to implement improvements for future cycles.

Source: <http://mita.gov.mt/en/startupcompetition/Pages/Startup-competition.aspx>

In all, more than half of the interviewees saw a potential in increased cooperation between companies and schools, and a few explained that intensified collaboration is needed to gain a better mutual understanding of the needs of each of the partners. Examples of ad-hoc cooperation

Quite a few companies mentioned that they engage in different types of ad-hoc cooperation with individual schools. One such activity is hosting company visits, where a group of students are introduced to the company or to concrete activities or technologies, or to working in the sector, or to the tasks and working conditions of the employees of the company.

'Sometimes we host school classes for a company visit. We also attend workshops for simulating job interviews. The schools appreciate a lot the direct exchange with our company.' (Large company, manufacturing and engineering)

Another type of ad-hoc cooperation involved companies participating in job fairs and competitions hosted by schools or associations. These types of cooperation do not require many resources or a long-term commitment from the companies. However, the effects in terms of mutual learning may be negligible.

4.3.1 Systemic cooperation

Some business associations have described many-faceted efforts to improve the cooperation between schools and companies. A chamber of trade and industry for examples supported an 'Education Cluster', which entailed support to regional cooperation among schools and companies and educational providers with the aim to foster occupational orientation and entrepreneurial skills in students.

A very extensive and systemic approach to cooperation to promoting entrepreneurial skills and innovation is represented by the Basque organisation Tknika, which is responsible for VET teacher development in the Basque region. Tknika is a centre under the Sub-Department of Vocational Training & Lifelong Learning in the Basque Department of Education, Universities & Research – see the box below.

¹⁴ The Standards for ITalent can be found here:
<https://www.mita.gov.mt/en/DigitalOutReach/standardsforitalent/Pages/Standards-for-ITalent.aspx>

Immersing schools in innovation processes

Tknika presents itself as ‘the innovation tool for the Basque Vocational Training System’. Under TknikaINNOVA, the Centre’s innovation management model, Tknika incorporates into its activities companies, technology centres, research centres, universities and other institutions that can add value to the system – all based on the dynamic of open innovation.

Tknika also works in partnership with INNOBASQUE, the Basque Innovation Agency, to coordinate and further innovation in the Basque Country in all fields and to promote the spirit of entrepreneurship and creativity.

As an example of Tknika’s approach, Zerbehar is a network of Vocational Training Centres coordinated by Tknika, the centre for innovation in vocational training; Zerbehar is the outcome of other projects (GIGA, GOIKERRI and DNF) which in recent years have made strides in terms of broadening the scope of services offered to businesses.

The mission of Zerbehar is to promote the idea among businesses and public institutions that vocational training centres are organisations that not only offer them solutions to their training and personnel problems. They can also offer more specialised services, such as technical or technological solutions to particular problems, development of technology projects, consulting in the area of entrepreneurship and internationalisation, support in the implementation of quality systems, etc. In this way, businesses can achieve greater competitiveness and raise the level of innovation processes.

Source: <http://www.tknika.net/liferay/en/tknika>

4.3.2 Cooperation targeting teachers

As already noted, many of the large companies in the survey said that seen from their perspective, VET schools are not sufficiently geared to delivering entrepreneurial competences.

‘Without the good collaboration it is very difficult to develop the skills as the culture of entrepreneurship does not exist in the world of education.’ (Sector association, Hotel and restaurants, country with school-based system)

‘The best way to learn entrepreneurial skills is in companies. Teachers and trainers lack competences and skills within this field.’ (SME association, country with school-based system)

Some SME associations suggest that this could be remedied through closer cooperation, which would entail that teachers spending more time in companies:

‘The teachers and teachers should upgrade their entrepreneurial skills. A concrete suggestion is that this could be done by teacher-apprenticeships. In this way, they get a practice-oriented understanding of how enterprises work with regards to entrepreneurship and innovative problem solving.’ (Employer association)

According to the survey, this form of cooperation is already put into practice in a number of Member States, although the survey does not reveal how widespread the practice is. A few of the SME associations mentioned that either the association itself or (some of) its members offer internships to VET teachers and trainers to give them an insight into the culture and operating conditions in a small business. In one country, most VET teachers work half time in VET schools and the other half in a company. Finally, there are examples of projects aimed at supporting competence development in VET teachers by setting up a framework where the teachers are offered specialist advice from companies.

Upgrading teachers to promote entrepreneurial skills

In Denmark, the project 'Horizontal Innovation through Competence Development - Everyday Innovation' was started by a partnership between four VET schools (secondary as well as post-secondary VET), a university research centre, and the Danish Federation of Small and Medium-sized enterprises. The aim of the project is to deliver entrepreneurial and innovation competences to small and medium-sized companies. In the project, VET teachers' competences to deliver entrepreneurial skills are developed in close cooperation with the SMEs. In the context of the project, VET schools can offer targeted advice to SMEs within their field of specialisation.

Source: <http://hverdagsinnovation.net/>

Regrettably some companies have found that some VET schools are not so eager to cooperate in spite of innovative initiatives from companies:

'In our department stores, we offer internships for vocational school teachers, so they can get an idea of what is going on. Unfortunately this activity is not received very well, it depends on the headmaster.' (Large company, retail trade, country with dual system)

4.3.3 Cooperation targeting learning content

A large share of the associations are involved in different types of cooperation with a view to supporting the development of entrepreneurial skills in students. The cooperation is frequently aimed at developing tools and training materials, which the VET schools can use.

A number of companies and associations report that they are involved in the development of modules which are taught in VET schools and emphasise that such efforts contribute to consistency and continuity in the student's learning.

'We develop modules that are taught in our workshops and in the vocational school (e.g. literacy, numeracy, personal competences). These programmes come from us (e.g. a programme for supporting the development of apprentices); we tune it with the vocational schools which provides the advantage that the apprentices hear the same at school and with us.' (Large company, automotive)

Other companies (mainly in dual systems) are involved in the development of innovative learning concepts where textbook learning is supplemented with or partly replaced by work-based learning, which can take place in schools, in companies or both.

'We also support 'junior companies' in VET schools, where the students found and manage mini-enterprises. We started the 'Working Group Business and School' (Arbeitsgemeinschaft Wirtschaft und Schule) order to address teachers in a better way. This group develops new training material including a lot of entrepreneurial skills, there are games on different levels.' (Chamber of industry and commerce, country with dual system)

A similar approach is found in Belgium (Flanders), where the UNIZO Foundation for Teaching and Entrepreneurship (UNIZO is a large Belgian business association) has developed a course called 'The educational business venture' (see the box below).

The Educational Business Venture

The Learning Company entails that VET students are guided through all phases of setting up a company in an area that matches their field of study. The support for teachers who want to implement the Learning Company includes:

- Training of teachers who supervise the Learning Company,

- Provision of teaching materials.
- Personal coaching
- Access to a local advisor who can help with questions concerning the start-up, coaching of students, organisation of events, etc.
- A practical 'how to'-guide for Learning Companies tailored to each stage of setting up a company.
- Free accounting software for the Learning Companies
- A Starter Guide that includes theoretical input into entrepreneurship: How to start your own business, preparatory steps to be taken, trade and tax regulations, how to support creativity in your company and much more.
A Screening Instrument that teachers can use to assess students during the term of their Learning Company.

The programme is further supported by a range of activities where teachers and students in Learning Companies interact with each other. For example, UNIZO has organised regional thematic workshops for all Learning Enterprises, for example on sales techniques, social media, marketing and packaging techniques. Each year, there is also a Logo competition, and one day is dedicated to company visits.

Source: <http://www.ondernemendeschool.be/viewobj.jsp?id=76467> (in Flemish)

Finally, entrepreneurial skills may be supported through educational concepts where emphasis is on assessment and certification, like in the Austrian 'Entrepreneurial driver's licence' (see box below).

Entrepreneurial driver's licence

The Austrian Economic Chambers have developed a concept that is taught in almost all schools throughout Austria called the "Unternehmerführerschein" (entrepreneurial driver's licence). There are three modules happening at school with a fourth module being the entrepreneur's exam. If students pass this exam they do not have to attend the official exam for people who want to run a business and hire employees (notice: in Austria you have to pass an "Entrepreneurs Exam", otherwise you are not allowed to employ other people in your business).

Source: Interview with The Austrian Economic Chambers
<http://www.unternehmerfuehrerschein.at/Content.Node/index.en.html>

4.3.4 Cooperation needs to be flexible

Several of those interviewed emphasised that there is no one-size-fits-all solution to models for cooperation, and that cooperation needs to be flexible to allow for differences between sectors and national/regional/local peculiarities. The form of cooperation should reflect the conditions in the segment of the labour market that the VET course addresses. For example, in some Member States, the financial sector has its own in-house training system and the companies in the sector are not particularly interested in cooperation with VET schools. At the other end of the scale, small and micro companies may need intensive cooperation and assistance in understanding entrepreneurial skills and how to promote them. Particularly the schools are advised to ensure that their communication with companies is proactive and goal-oriented, and that they prioritise sufficient resources for the task.

'You need very active communication between the company and the VET school(s). For this you need resources. You cannot expect this from one single training supervisor. The vocational schools are usually quite open minded for collaboration. My experience with VET school teachers is good, they usually look after each apprentice. If there is a problem between a VET school teacher and an apprentice

we expect him to talk to us about it and vice versa. Each side expects the other to address them. (Large company, Member State with dual system)

4.4 Apprenticeships as a way to promote entrepreneurial skills

In the survey, companies were asked if apprenticeships could contribute to more entrepreneurial attitudes in their company, and associations or federations were asked if this could be the case in their member companies.

A large share of those interviewed (predominantly from countries without dual systems, and where apprenticeship is not a feature of mainstream VET programmes) declared that they were not able to answer this question. That may partly be a result of the connotation of 'starting your own business' making the question a bit difficult:

'When I think about my apprentices I wouldn't talk about entrepreneurship but self-responsibility and initiative, and of course, problem solving is very important.' (Large company, automotive, Member State with dual system).

Among those who did offer an opinion, many were somewhat doubtful that apprenticeships can contribute to promoting entrepreneurial skills. In fact, a few companies (particularly in Member States without dual systems) responded that it was the other way around:

'The problem is not the lack of entrepreneurial attitude in the companies - it is the opposite way around. Enterprises have a much more positive entrepreneurial attitude than VET schools. But apprenticeships could contribute to more entrepreneurial attitudes in the vocational education system.' (SME association, Member State without dual system)

From a more operational perspective, a few companies stated that the requirements for learning outcomes in the form of technical skills for apprentices in their companies would not allow for developing other types of skills during the apprenticeship:

'I am not sure that applies to us. It is generally hard for us to develop entrepreneurial skills through apprenticeships, because our work is so technical. We need them to do some very specific things while they are here. So not much room for that.' (Large company, manufacturing and engineering, Member State without dual system)

Further to this observation, a national association of HR professionals observed that during the crisis enterprises in the association's Member State have become increasingly focused on performance. According to the association, the enterprises expect that when they hire a graduate from a VET school he or she possesses a complete set of skills customised to the company's needs.

A number of companies and associations also emphasise that apprenticeship can and does contribute to promoting entrepreneurial skills and attitudes in the staff as well as in the apprentices. This is mainly due to the diversity that apprenticeship introduces to the workforce in terms of age, background, knowledge and talents.

'The more diverse groups are, the more creative they are and the more productive they are.' (Large company, wholesale and retail trade, Member State with dual system)

'That is very important in our company. Young people bring new ideas, they are open-minded.' (Large company, health and care, Member State with dual system)

A slightly different argument mentioned by a few companies for promoting apprenticeship is that entrepreneurial culture is found in enterprises and to a lesser extent in schools. In order to be immersed in this culture, VET students need to engage in work-based learning, and apprenticeships are expedient in ensuring the right balance between theory and practice, so that responsibility and initiative are cultured into the students:

'I believe that apprenticeships are the best way to promote more entrepreneurial attitudes. The VET schools are not characterised by an entrepreneurial culture or entrepreneurial problem solving as is the case in the enterprises.' (European level SME association)

However, most of those interviewed argue that apprenticeships may contribute to developing entrepreneurial skills, but that they do not do so by necessity. Certain conditions need to be fulfilled, in the companies, in the schools and in the regulation of apprenticeships to realise the potential.

4.4.1 Gearing apprenticeships to promote entrepreneurial attitudes

Some of the respondents who agreed that apprenticeships could contribute to building entrepreneurial skills, not only in the apprentice, but in a wider sense, offered ideas as to how this potential could be fulfilled. The precondition mentioned by most was that the schools should change their curricula and pedagogical methods to better instil in the students an entrepreneurial attitude:

'If the innovation mind-set is implemented in the school education, then the apprentices will bring out the competences to the enterprises afterwards.' (SME association, Member State with dual system)

4.4.2 Establishing in-company and in-training companies

In some countries and sectors – in particular in countries with dual systems – ‘apprentice-run companies’ within companies have been established (one such company is described in more detail in Section 3.3.3. The rationale for establishing such companies is that apprentices should not only be trained in the technical and professional skills of the trade. By running their own company within the safe environment of the parent company, they acquire a wider set skills that are sought after in labour markets.

'There are many projects in an in-company VET. Retail companies, for example, run trainee-stores, e.g. Lidl, where apprentices have to run the shop for a certain amount of time. They have to learn to take responsibility for everything, practice entrepreneurial thinking, check the receipt of goods, organise HR. This is very popular by now. There are also special restaurant evenings where gastronomy apprentices run everything. Companies do this in order to foster entrepreneurial thinking.' (Chambers of Commerce and Industry, Member State with dual system)

4.4.3 Other ways to explore the potential of apprenticeship

Finally, some companies offered more operational perspectives on measures that can contribute to developing apprenticeships in a direction where they contribute to the development of skills in the company at a broader scale.

One such proposal had to do with the matching of apprentices with mentors in the company. One company mentioned that they always make a point of matching apprentices with the most entrepreneurial mentors/consultants. In the same vein, another company representative remarked:

'I made the experience that existing employees are really happy to help the apprentices to grow and to become part of a company, and this is good for the ambience. Also, as technologies change fast, young people going to school will come with the new technology and they can bring this value to our employees.' (Large company, manufacturing and engineering)

A different approach to exploring the potential of apprenticeship is to involve them in the recruitment processes. The company, who gave the above observation added:

'We try to attend as many job fairs and open houses in VET schools as possible. The team that represents our company consists of the apprenticeship coordinators and some of our apprentices. The idea is to let young people discuss with other young people especially concerning the technical skills and their experience.' (Large company, manufacturing and engineering)

Training cooperation between companies

Whereas cooperation between companies and educational institutions on training is a quite common phenomenon, inter-company cooperation is much less frequent. The main argument for cooperation between companies, particularly between SMEs, is not only related to sharing training costs, but also to the need to provide training with a broader scope than the one a single company can provide. Finally, joint training initiatives can underpin mutual learning, especially where enterprises are part of the same value chain and/or not engaged in direct competition for markets or resources.

5.1 Training collaboration arranged bilaterally

The survey asked the respondents if they are part of a group of companies that co-finances vocational training programmes, for example through inter-company training centres. The survey shows that only very few of the interviewed companies participated in such activities. When companies take part in co-financing of inter-company training, one of the main reasons is that they can pool their resources and create joint educational courses focusing on common problems. A respondent from a representative organisation describes why some of their member companies are taking part in inter-company training programmes:

'The crisis has implied that some of the companies have closed down their individual vocational training programmes. But now the companies have united their vocational training in inter-company training centres. The costs are distributed on several players.' (Industry association)

Another respondent from a company mentions common challenges as the main reason and a basic condition for their collaboration with other companies on training:

'Sometimes we cooperate with 14 different employers in the region. (...). We always find partners because within this sector everybody has the same problems.' (Large company, health and social care)

Besides the cost savings related to participating in joint training programmes, a large European company mentions inter-company training as a good way for their apprentices to gain an understanding of the other companies in their chain of production, but also so the employees in their supplier companies can learn more about their company. The initiative is not a pure training initiative, but it still illustrates some of the possible positive added benefits related to joint company initiatives. The respondent says:

'We try to cooperate with the "Youth Initiative". There is job coaching together with our suppliers in order to motivate them to hire apprentices. We want to offer the chance to apprentices to take a look at our supplier companies or vice versa.' (Large company, wholesale and retail)

The "Youth Initiative" is a good example of a strategic way of using co-training initiatives for more than only reducing costs related to training. In this case, the company uses a joint training initiative as a way for their apprentices to gain a better understanding of the whole value chain and vice versa.

There are also examples of companies that invite other companies to join their private training initiatives against payment. However, this type of inter-company training is not co-financed, and therefore it cannot be construed as a joint training initiative.

5.2 Training collaboration arranged by representative organisations

In addition to direct inter-company training, the survey shows that when companies participate in joint training programmes that are not public, they primarily do it through initiatives controlled by representative organisations. However, the companies finance the

joint training programmes in some cases. A respondent from an industry association described such an initiative in the construction sector:

'The construction sector is very much involved in this, they finance a kind of vocational training centre where VET students go to in order to learn certain fields in construction. This happens much more in Germany and Switzerland but this also exists on another level in Austria. (...) There is a fund into which all employer associations have to pay their share, (...). A part of this sum is used for financing vocational training associations and further training for apprentices.' (Industry association)

5.3 Why not all companies cooperate on training initiatives

The data point towards three overall reasons for why the majority of the interviewed companies are not taking part in co-financed inter-company training. First, many of the large companies have the resources and capacity to conduct their own training programmes. A respondent from a large company describes this fact clearly in the following quote. Asked if they have considered participating in a joint training programme, he answers:

'No. We are big enough for offering or paying for the training we need.' (Large company, manufacturing and engineering)

This quote clearly shows that some of the large companies are not interested in cooperating on training initiatives. Some of the large companies emphasises that they want full control of the content of the courses, and as they have capacity and resources, it is better for them to run the courses themselves. A respondent clearly emphasises this fact by saying:

'Where we have more ownership of the programme we are able to better develop it to suit the current industry needs' (Large company, manufacturing and engineering)

Another important reason for not cooperating on inter-company training is that the companies with the same training needs typically are competitors. The companies see competence development as a way to distinguish themselves from other companies and gain competitive advantages, and therefore they do not cooperate with their direct competitors. A respondent from a large company says:

'No. We take care of this ourselves. We see competence development as a way to distinct ourselves from our competitors. Competences are a long-term strategic advantage.' (Large company, manufacturing and engineering)

The quote indicates that the competition between companies can pose an important structural barrier for companies to cooperate on training, as they see skill development as an important competitive advantage and a way to distinct themselves from rival companies.

The third reason why companies are not cooperating on joint training is the lack of resources as it is expensive to participate in a training initiative. Many of the companies simply do not have the resources to finance a private training initiative even if they are only financing some of the initiative. A respondent says:

'Such [training] initiatives require financial strength to get involved with. (...). This makes it difficult and costly for SMEs to cooperate on such initiatives. It is mostly, large enterprises that have the financial capacity to initiate such initiatives.' (Sector organisation)

As the quote shows, the lack of resources is primarily an SME barrier. The respondents of the survey commonly support this viewpoint. However, many of the respondents also

pointed out that co-financing of training could be a way for SMEs to mobilise the necessary economic resources to gain access to the necessary training.

5.4 The level of interest in cooperating on training initiatives

Although the clear majority of respondents indicated that they do not take part in inter-company training collaboration, some of them state that participating in such training schemes could be potentially interesting for them or their member companies. In particular, SME organisations voice this point of view:

'There is great potential for inter-company training centres, especially among SMEs. Such training centres could be divided within sectors or industries.' (Sector organisation)

Thus, there is a broad acknowledgement of inter-company training as a way for SMEs in particular to gain access to additional vocational training, whereas large companies are more sceptical towards the idea. However, the survey indicates that the SMEs lack the necessary resources to take part in private inter-company training. For the moment, they are primarily relying on sector organisations or the public sector to arrange additional vocational training for their employees, as this is much less resource demanding for the companies. In order to promote intercompany training collaboration across Europe, many indicators point to external facilitation as a necessary driver.

The role of public policy in improving vocational education and training

This chapter analyses the survey results in respect of the role of public policy in ensuring that companies have access to human resources with the right skills heading into the future.

As mentioned in chapters 2, 3 and 4, there is broad agreement among the respondents that more collaboration between VET providers and businesses is key to addressing the current skill gaps, ensuring more and higher quality apprenticeships and promoting entrepreneurial skills among VET students. Even though the picture is relatively mixed across countries, sectors and types of organisation, the respondents pointed towards two main barriers that need to be addressed at different policy levels:

- poor image and attractiveness of VET (the image of VET is poor in many countries);
- poor quality of VET provision in some areas of Europe (the scope and extent of quality assurance of VET varies considerably between national VET systems); and

In essence, the issues of image, quality and enhanced business-VET collaboration are interlinked. It is a vicious circle in the sense that the image and quality problems have a negative effect on the level of business-VET collaboration, while enhanced collaboration seems to be an important instrument for addressing the image- and quality issues. Hence, public policy interventions, and probably at all levels, is necessary in order to break out from the negative spiral.

6.1 Image and attractiveness of VET

Respondents consistently reported that vocational education has an image problem, which poses a fundamental barrier to the development of the VET system. With such a fundamental image problem, it becomes very difficult to secure the required quantity and quality of the skilled labour force in European countries in the future. Especially within the technical vocational educations, where the survey indicates that there is a still growing shortage of graduates with technical vocational skills.

There is a deeply rooted 'negative' attitude towards vocational education as having less value than higher education. This attitude seems to be prevalent across most European countries based on the information from the survey. In other words, public opinion towards vocational education has become a pivotal point, and this rather negative attitude needs to be reversed. One respondent noted:

'Nowadays, everybody wants a higher education. A university degree should not be seen as the only possible career path.' (Large company, Member State with dual-VET system)

A different respondent expressed the same fundamental problem in another way:

'The attractiveness of the VET system and the manufacturing sector needs to be upgraded. At the moment the attractiveness is so low that it is hard to recruit new students to the VET system.' (Sector organisation)

It can thus be inferred from the interviews that vocational education has a lower status among prospective students, and that a prestige boost is needed. From a policy standpoint, several respondents highlight the need for better orientation efforts concerning the opportunities offered by vocational education and training in order to (re)establish VET as a viable and relevant alternative to a university degree. Action is called for at a much earlier stage in the educational system to promote vocational education to prospective students and their parents, who play a vital role in guiding their

children on educational choices. A respondent describes the need for early action towards prospective students:

'The knowledge and the possibilities in vocational education system have to be illustrated and disseminated in the primary and lower secondary school – the attractiveness has to be increased.' (Large company, manufacturing and engineering)

The main political responsibility lies at the national policy level as well as locally with the individual VET providers. However, a general effort to promote vocational education at the European policy level could possibly raise political awareness on the issue at the national level.

Another contributing factor to the image problem is the increasing tendency of vocational education being seen as a 'dumping ground' for the less gifted students, as one respondent puts it. This not only affects its overall image, but also the attractiveness of VET for the students. Several respondents highlight the fact that there are generally no minimum requirements for starting a vocational education as a problem in this respect. In order to address the overall skill gap problem, it is important that vocational education attract a bigger share of the stronger and more committed students. Unfortunately, there is a tendency that the stronger students deselect vocational education because of its poor image and low attractiveness and instead enter an upper secondary education aimed at higher education. However, some respondents also call for more holistic political efforts to ensure that more students are equipped with the required skill set that will enable them to undertake and complete a vocational education:

'It has to be ensured that people get the minimum of qualifications they need in order to be able to start VET.' (National sector organisation)

Another respondent agrees with this standpoint, but also points toward the lack of motivation as a factor that needs to be evaluated before admission to VET:

'Motivation and skills must be evaluated at admission' (Sector organisation)

While some respondents emphasize that the required skills and motivation must be present upon enrolment another respondent emphasizes that public policy needs to communicate that VET is not a blind alley with no possibilities for further competence development:

'If public policy could be changed to publicise the careers and ongoing continuous professional development of social workers and foster careers, it would improve the sector enormously' (Company, health and social care)

The opportunities of continuing education and better access to other parts of the education system have also been an important part in the recent Danish VET reform, focusing on raising the attractiveness of the VET system (see box).

The attractiveness of vocational education is not only connected with its poor image, but also largely with the quality of the provision of VET, see section 6.2. Another factor closely connected with the attractiveness of vocational education is the availability of high-quality apprenticeships (see chapter 0).

It is vital to attract more and better students. While most respondents pointed towards policy actions to improve its image by increased orientation efforts, some respondents indicated the need for reforms in the national education systems to better accommodate the development of vocational education, as the problems cannot be solved by exclusively by focusing on the vocational education system.

The Danish VET reform

In February 2014, the Danish parliament passed a new reform on the vocational education and training system. The reform will come into force in the fall of 2015. With the reform, it is the ambition that before 2020 at least 25 pct. of a cohort will choose a vocational education before 2020. Today the number is 19 pct.

The main features of the Danish reform include:

- General minimum requirements will be introduced. The requirements will be different from education programme to education programme
- Measures to prepare students to meet the requirements will be put in place.
- There will be greater flexibility in the VET system and improved access to higher education after a completed vocational education.
- More resources will be earmarked to the upgrading of qualification of the teachers.

6.2 The quality of VET provision

Roughly speaking, the quality of VET can be assessed by the skill gap that is left behind. Even though there are substantial variations in VET systems across countries, and even across regions, there is a consensus among the respondents that the quality of VET provision is a pivotal point in addressing the skill gap. Across Europe, there are huge differences in the quality of VET and how well the individual VET systems correspond to the industry's needs. In many ways, the quality of the education itself is interlinked with the quality of the collaboration between the educational sector and the industry. One respondent highlighted the fact that in several European countries real collaboration does not exist, as these countries are in the early stages of developing a more collaborative system. This means that the two parties have little or no mutual understanding of each other's needs. As opposed to this, the dual education systems in Germany, Austria and Denmark are mentioned as best practice cases, as VET providers and the industry collaborate closely on the actual content of the different VET programs.

Generally, two main factors are pointed out in terms of quality: (1) The curricula that are taught by VET providers need to be up-to-date and reflect the industry needs, and (2) VET teachers need to have sufficient skills and knowledge to undertake teaching that is in line with the times. Several companies referred to these two issues as obstacles to increased collaboration:

'What I really want is a modernisation of the VET curricula. VET programmes have to be modernised.' (Large company, Member State with dual-VET system)

'The main problem is the teachers and trainers in the vocational education system. They often lack experience and knowledge about working procedures and problem solving in the companies.' (Large company, Member State with school-based VET system)

In order to develop and continuously keep the curricula up-to-date, the arrow once again points towards greater business-VET collaboration. Thus, some respondents specifically pointed towards the dual education systems in e.g. Denmark, Germany and Austria as a best practice case. One of the initiatives to ensure high-quality of VET education, both in terms of content and teaching, is the formal collaboration through tripartite collaboration at all levels, including local education committees. Such a committee consist of labour market representatives and its purpose is to ensure that the social partners can influence on the vocational education content. There is a local trade committee at every school, for each individual education program.

However, as mentioned by several respondents, funding becomes a major impediment. Up-to-date skills require up-to-date facilities and training equipment at the VET schools, which ultimately requires more funding, either public or private. As mentioned by three

respondents from large German and Italian companies, VET schools across the countries are equipped very differently. Some VET schools, especially in the more peripheral regions, have machines and equipment that are older than most of the students, which is obviously not ideal in terms of keeping the curriculum up-to-date. Several respondents mention funding as the crucial barrier to improving VET curricula and keeping it up to speed; and some respondents even point their fingers at politicians for making empty promises.

A few respondents also mentioned the development and application of e-learning methods as a significant tool in the modernisation process.

The other prerequisite for raising the quality of VET provision is attached to the teachers and trainers, who, just as the curriculum, need up-to-date knowledge and teaching skills. A respondent from a large company said:

'The vocational education system should be updated – this both regards technology, tools and not least teachers' and trainers' competencies' (Large company, manufacturing and engineering)

Some respondents call for some sort of apprenticeship arrangement for teachers and trainers, which will give them a better and up-to-date understanding of what is needed in companies. Others wish to enhance the teaching quality by increased use of business professionals as teachers at the schools. Many respondents across the entire spectrum also highlight the importance of increased focus on entrepreneurial skills in the education and believe that the basis for supporting and promoting entrepreneurial skills lies with the teachers and trainers. This subject is discussed in more detail in chapter 4.

To sum up, there is a broad consensus that it is necessary to overhaul the vocational educational systems across Europe - at least to some extent. This is simply seen as a prerequisite for addressing skill gaps and ensuring that the skilled labour force meets the requirements of the companies. A dialogue is required at all levels, nationally as well as internationally, to establish a strong political will to solve the problem. It is important to note that any collaboration must go both ways. Hence, it is vital for such a dialogue to foster mutual understanding between the parties. One respondent put it this way:

'We need to bring the world of education and the world of business closer together. Teachers from the "real world" need to be more visible in the education systems. And on the business side, we could learn a lot from bringing research into the world of business.' (Large company, Member State with school-based VET system)

Some respondents calls for more international knowledge sharing and collaboration. Both with regards to the dissemination of best practice examples, but also concerning more international collaboration and coordination of apprenticeships. Elements that would be very beneficial for both the schools and the students. Furthermore the increasing international possibilities of the VET system could be a factor increasing the attractiveness of the VET system. According to a respondent from a European representative organisation the European Commission should play a crucial role in the enhanced internationalisation:

'The European Commission should take a larger role. The large differences across European VET systems request that the European Commission should take on a more coordinating where countries could learn from each other. There is a need to disseminate knowledge about the well-established and functioning VET systems' (European sector organisation)

A targeted dialogue at national and European level will also make it easier to disseminate what works and what does not work, and for policymakers at all levels to learn from each other, while still having in mind that no one-size-fits-all model exists when it comes to promoting business-VET collaboration.

Main conclusions

European businesses find themselves facing a number of significant developments that affect their ability to operate in the market, necessitate adjustments, and set new demands for ensuring that their future employees are properly trained and educated. The survey conducted as preparation for the 2014 European Business Forum on Vocational Training has turned out a number of interesting findings on how to support and further develop the field of VET in Europe.

Companies generally have access to the vocational skills they need...

Generally, companies seem to be quite satisfied with the skills and competences held by the students coming out of the VET institutions. Around two thirds of the respondents were generally positive towards the level and relevance of the basic skill sets provided by the VET system in their respective country, while only a small minority were directly negative.

A large group of respondents demonstrated a clear sense of understanding of the fact that VET providers cannot provide the more specialised competences required in their specific sector or business. As a result, many of the interviewed companies have introductory training schemes in place for graduates entering their company to provide a more specialised supplement to the education and training provided by the VET institutions. A slightly smaller group were less understanding and saw it as the clear responsibility of the VET institutions to provide more specialised skills and competences.

...but there is still room for improvement

The main skill gaps highlighted by the respondents were related to transversal skills (also often referred to as multi-disciplinary skills and crosscutting skills). Specific skills mentioned by the respondents to be lacking were communication skills, personal skills, language skills, organisational skills and entrepreneurial skills. Apart from skills, a number of respondents also talked about the attitudes and mind-sets of the graduates not being ready for the world of work. Many of them pointed to immaturity and lack of experience as the main reasons. A number of respondents expressed the view that work-based learning is a good way to promote the transversal skills, mind-sets and attitudes that are often missing.

Although the companies are generally satisfied with the skills of graduates applying for jobs, a clear challenge is the declining number of graduates described mainly by respondents in the fields of manufacturing, engineering and ICT. This makes it harder for them to attract the right people with the skills and personalities fitting their organisations.

Apprenticeships are regarded as being strategically important to companies

A clear majority of the enterprises reported that they provide apprenticeships as a natural part of their daily operations. They generally offer apprenticeships to young people – not because they exclude other age groups, but simply because that is where the primary supply is. A number of companies and educational institutions pointed to a growing tendency for companies to take on apprentices from vulnerable groups. Specific groups mentioned were seniors, immigrants and young people from disadvantaged backgrounds.

The most frequently mentioned reason for providing apprenticeships is to establish a solid and sustainable recruitment channel, giving the enterprises the chance to try out a potential future employee while at the same time teaching the apprentice company specific skills and practices. A few companies – all faced with significant financial pressures – saw apprentices as an attractive source of cheap labour. There are substantial variations across countries, sectors and organisation size in terms of how they work to integrate and provide learning to apprentices.

Achieving a high level of quality in apprenticeships takes efforts at multiple levels

The enterprises and representative organisations interviewed generally seemed highly focused on assuring a high level of quality in the apprenticeships they provide. The primary reason for enterprises using apprenticeships is that it is a means of recruitment, which in turn makes them dependent on securing the best possible learning outcome. The respondents generally pointed to three ways of ensuring high-quality apprenticeships:

- Setting up enabling framework conditions;
- Ensuring access to enough - and the right apprentices; and
- Applying effective quality assurance measures during the apprenticeship period.

Collaboration between company and VET providers is a key ingredient for ensuring quality

The respondents generally saw close business-VET collaboration based on mutual recognition as a key ingredient for ensuring a well-working apprenticeship. Nevertheless, far from all respondents reported that such a relationship was in place at their own organisation. Based on the interviews, we identified five collaboration archetypes describing the interaction between companies and VET providers on apprenticeships:

1. Close and frequent collaboration based on mutual understanding and recognition
2. One-way street from the enterprise to the VET provider (the enterprise tells the VET provider what they want)
3. One-way street from the VET provider to the enterprise (the VET provider tells the enterprise what they want)
4. Relying primarily on formal standards and interacting only when required to
5. No collaboration at all

When asked what could be done to make it more attractive for companies to provide high-quality apprenticeships, the respondents gave three main recommendations:

- Reduce the use of resources associated with taking on apprentices
- Make it easier for companies to get 'the right apprentices'
- Build a closer relationship between the schools and companies.

A clear recognition of the importance of promoting entrepreneurial skills

Almost all the business associations that were interviewed, be they sector bodies, SME bodies or employer associations, emphasise the importance of promoting entrepreneurial skills in the workforce. Many expressed the view that the workforce holds a creative and innovative potential, which can be harnessed to the benefit of the company. The most commonly mentioned measures applied by companies to develop entrepreneurial skills among their employees were:

- Development of entrepreneurial skills through staff training
- Assessing entrepreneurial skills as part of performance management
- Cultivating entrepreneurial skills by collecting ideas from the workforce
- Organising work so that autonomy is required
- Supporting a corporate culture facilitating entrepreneurial skills
- Giving employees opportunities to develop their own projects in the workplace

Entrepreneurial skills developed in the cross-field between VET provider and company

In terms of the role of VET providers, the respondents offered a number of suggestions for how VET schools may contribute better to promote entrepreneurial skills in students. They included developing the skills of teachers, introducing inter-disciplinary intro

courses, reviewing and revising curricula, and tailoring assessments to support the development of entrepreneurial skills.

A number of respondents also regarded apprenticeships as an effective way of promoting entrepreneurial skills among the students. In the companies, apprentices are often presented to an entirely new world compared to life at their educational institutions. In the companies, they are suddenly a player in the market. They are faced with open-ended assignments, are required to take initiative and ownership and to demonstrate a sense of responsibility. However, when asked about whether taking on apprentices also develops the entrepreneurial skills in the company, only a few respondents believed that it would.

If leaving out the cooperation that occurs in association with individual apprenticeships, more than two thirds of the large companies in the survey have no prior experience with direct cooperation with VET schools about the development of entrepreneurial skills, and a sizeable number do not find such cooperation immediately relevant. Others acknowledge the importance of cooperation, but point out that it is too resource demanding.

Inter-company training collaboration is attractive to many SMEs, but external facilitation and support is needed

Furthermore, the survey showed that very few enterprises are part of co-financed vocational training programmes with other companies. The large companies prefer to provide their own training programmes in order to ensure the right specialisation and avoid compromising their competitive advantage in the market. Smaller companies see such collaboration schemes as attractive, but they lack the resources and external facilitation necessary to make it happen.

The main argument for engaging in cooperation between companies in training and skill development is not only related to sharing training costs but also to the need for providing training with a broader scope than the one an individual company can provide. Finally, joint training initiatives can underpin mutual learning, especially where enterprises are part of the same value chain and/or not engaged in direct competition for markets or resources.

Business-VET collaboration: a key ingredient

One clear overarching conclusion that can be made based on the present survey is that robust, sustainable and mutually beneficial business-VET collaboration is widely regarded as a key component of an effective VET system. The interviewed representatives of enterprises, SME organisations, social partners, sector organisations, chambers of commerce as well as VET providers generally shared the view that business-VET collaboration has a positive effect on a number of elements. These include the ability of the VET system to provide the relevant skills in the labour market, promote the development of entrepreneurial competences, and improve the quality of apprenticeships.

Although, there was general agreement on the importance of a healthy business-VET collaboration among the respondents, a significant number of enterprises reported that a collaboration of this nature did not exist in their case. Some of the respondents found it be too resource demanding to engage in such collaboration, others found the VET system in their respective countries to be counterproductive or unsupportive, and others found their counterparts to be uncooperative. Although the respondents gave many different reasons for the problem, there seemed to be a broad consensus on how to solve the problems.

Collaboration should be promoted externally

The respondents generally agreed that the decision to engage in business-VET collaboration should not be left entirely up to the involved parties depending on their ad hoc interests and commitment. This makes the collaboration too vulnerable to economic

conditions and short-term market developments. Leaving the business-VET collaboration entirely in the hands of the two parties has been the preferred model in most EU countries to date. The survey indicates that this has not led to a breakthrough with regard to a more integrated approach to the development of vocational competences. Instead, business-VET collaboration should, according to respondents, be systematised and integrated as a natural part of the VET system. Some respondents believed that the companies, social partners and chambers of commerce should meet regularly with the VET providers and play a significant role in formulating the content of the VET educations. A number of respondents - from countries with very different VET systems – pointed to the dual-VET systems in Germany, Austria, Denmark and Luxembourg as model systems in this regard.

The survey findings summarised in this report have contributed to a deeper understanding of the opportunities and challenges facing European enterprises and VET institutions in a number of different, but still interrelated areas. It has highlighted a number of interesting issues, opinions and practices, while at the same time identifying clear areas of potential improvement. It has thus formed a solid basis for further discussion on these issues at the second European Business Forum on Vocational Training that will take place in Brussels on 23-24 September 2014.

Annex 1: List of respondents

Respondent	Organisation	Position
<i>Large enterprises</i>		
Danielle Suinot	Airbus Industries	Head of Employment, Learning & Competences
Sandrine Halleux	Alcatel-Lucent	Recruitment & Internal Mobility EMEA
Magnus Hamp	ATEA Sweden	HR Manager
Kate Hickey	Bam Nattall Ltd	Apprentice and Higher Education Advisor
Pedro Raposo	Banco Espírito Santo	HR Director
Jan Eggert	BMW AG	Head of IVET and CVET
Lucia Pavani	Coloplast S.P.A.	HR Manager
James Bonello	Crimsonwing Malta Limited	Managing Director
Joao Coelho	Critical Software	HR Department
Oskar Heer	Daimler AG	Head Working Market Politics
Janni Thunø	Dansk Supermarked	HR-manager
Catrin Liess	DB Mobility Logistics AG	Department for Employee Principles
Mareike Onnebrink	E.ON Service GmbH	Education policy
Finn Brøndum Mikkelsen	Grundfos	Education Manager
Sten Gjerrild	Haldor Topsoe	HR Consultant
Anu Ulp	Hanza Tarkon	HR Department Manager
Sarah Martin	Hay Travel	HR Manager

Respondent	Organisation	Position
Marcus Fränkle	Hotel Der Blaue Reiter	CEO
Walter Beretti	Husky Injection Molding Systems	Apprenticeship coordinator
Sandra Guilfoyle	Jones Engineering Group	Human Resources Manager
Ian Dickerson	Kier Group	Head of New Entrants & Funding
Lorenzo Bono	Kone	HR and Legal director
Anne-Marie Baeza-Mathieu	MAN	HR Director
Jozsef Soter	Margitsziget Grand Hotel	Head of VET training
Peter Krasberg	METRO AG	Director Group Labour Relations & Labour Law
Yann Penfornis	Multiplast	Director
Stephanie Hronicsek	Nestlé Austria Ltd.	Hr Business Partner
Giacomo Piantoni	Nestle Italia	Head of HR
Ivailo Nenkov	Nimero	CEO
Tommy Avaki	Ovako	HR Manager
Christina Rasmussen	PFA Pension	HR Coordinator
Hans Dijkman	Philips	HR Manager
Donatella de Vita	Pirelli	Manager Training & Welfare Department
Thea Jaansen	Port of Tallinn	Head of Personnel Department
Jackie Hunt	Prudential	Chief Executive
Salvador Lorenzo Martinez	Repsol	Head of marketing and professional integration

Respondent	Organisation	Position
Dominique Pépin	Saint Gobain	Director Corporate Training & Development
Caroline Louat de Bort	Saint-Gobain Emballage	Learning Director
Tatjana Trebaticka	Slovnaft	Head of HR Development Department
Ida Sirolli	Telecom Italia	Manager of Research and Education
Alex Zerl	Terme Maribor D.D.	Legal and Personnel Affairs director
Sven Tilch	Tilch - Ganzheitliche Pflege und Betreuung	CEO
Marie-Zoé Beaugrand	Trescal	HR Director
Lara Vanden-Eynden	Unilever	Director Learning Europe, Customer Development
Torsten Schwetje	Volkswagen Group	VET brand VW
Ingrid Hastedt	Wohlfahrtswerk für Baden-Württemberg	Board chairwoman
Vinko Bresan	Zagreb Film	Director
<i>Other respondents</i>		
Philippe Perfetti	APCMA Chambre de métiers et de l'artisanat	Deputy Director for Training and Employment
István Kovács	Association of Hungarian Hotels and Restaurants	Secretary general
Jakub Skaba	Association of Small and Medium-Sized Enterprises and Crafts of the Czech Republic	Project manager
Alfred Freundlinger	Austrian Economic Chambers Vienna	Department Education Policy and VET
Fiona Fanning	Cepis - The Council of European Professional Informatics Societies	Secretary general of CEPIS

Respondent	Organisation	Position
Francis Petel	CGPMA - The General Confederation of Small and Medium sized Enterprises	HR Director
Berit Heintz	Chambers of Commerce and Industry	Head of Education Department
Julie Blake	Compass Community Foster Care	Training and Development Officer
Silvia Ciuffini	Confartigianato - Confederazione Generale Italiana dell'Artigianato	Head of Labour Market and Vocational Training
Jose Alberto Gonzalez-Ruiz	Confederación Española de la Pequeña y Mediana Empresa - CEPYME	Secretary General
Christina Sancristoval	Consejo Superior ed Camaras	Senior advisor
Esad Colakovic	Croatian Managers' & Entrepreneurs' Association	Manager
Leonidas Paschalides	Cyprus Chambers of Commerce and Industry	Director
Lars Kunov	Danish Vocational Schools	Managing director
Jan van der Putten	EFCA - European Federation of Engineering Consultancy Associations	Director
Pat O'Mahony	ETBI - Education and Training Boards Ireland	Education and Research Officer
Agnes Roman	ETUCE - European Trade Union Committee for Education	Coordinator Education & Training Policy
Bettine Gola	Eurochambres - The association of European chambers of commerce and industry	Advisor, EU Affairs
Alicia-Leonor Sauli-Miklavcic	European Association of Institutions in Higher Education	Secretary General of the Association of Slovene Higher Vocational Colleges
Veronique Feijen	European Providers of vocational education and training	Senior policy advisor

Respondent	Organisation	Position
Bert D'Hooghe	European Round Table of Industrialists	Policy advisor
Domenico Campogrande	FIEC - European Construction Industry Federation	Director, Social Affairs
Henrik Garver	FRI - the Danish Association of Consulting Engineers	Director
Markku Lahtinen	Helsinki Region Chamber of Commerce	Secretary of Education and Labour Affairs
Krispijn Yperman	Horeca Vorming Vlaanderen	Director
Heike Hoffmann	Håndværksrådet - The Danish Federation of Small and Medium Sized Enterprises	Chief consultant
Michael Holz	Institut für Mittelstandsforschung - Institute for KMU research	Researcher
Vincent Zammit	Institute of Tourism Studies	Contact for the Centre for Cultural and Heritage Studies
Vittorio Maglia	Italian Federation of the Chemical Industry (Federchimica)	Director
Emilie Bourdu	La Fabrique de l'industrie	Education Manager
Manfred Polzin	MBO Raad- The Netherlands Association of VET Colleges	Senior policy advisor international affairs
Oana Dasca	National Council of SMEs, Romania	Head of Communication and International Relations Department
Hans Brouwer	NVP - The Dutch Association for Personnel Management & Organisation Development	Director
Akos Kovacs	Oxigen Klub	Director
Henrique Mota	Principia	Director
Mikko Koskinen	SAK- The Central Organisation of Finnish Trade	Training Manager

Respondent	Organisation	Position
	Unions	
Johan Olsson	Svenkst Näringsliv - Confederation of Swedish Enterprises	Educational Policy Manager
Ode Rooman	Syndicat Neutre des Indépendants et des PME	Legal advisor
Zsuzsanna Javorkane Kiraly	Szterenyi Jozsef Szakkozepiskola es Szakiskola	Director
Vibeke Nørgaard	TEC	Head of International Relations
Liliane Volozinskis	UEAPME	Director for Social Policy and Vocational Training
Lennart Grönberg	Union of commercial employees	Secretary of education
Nele Muys	UNIZO, Unie van Zelfstandige Ondernemers	Policy advisor
Mika Tuuliainen	Yrittajat - The Federation of Finnish Enterprises	Head of Educational Affairs

Annex 2: Interview guides

The interview guides below were used in the 91 interviews carried out as part of this survey. The first interview guide was used in interviews with enterprises; sector organisations; labour and industry associations; and national and international organisations representing SMEs. The second guide was used in interviews with VET providers.

Interview guide for enterprises; sector organisations; labour and industry associations; and national and international organisations representing SMEs.

Note: When interviewing representative organisations, questions will be rephrased to talk about 'your members' instead of 'you' or 'your company'.

Skill needs

(Interviewer: "With the first questions we would like to explore the situation in your company regarding qualifications versus skills, because, as you might have experienced, this is not the same")

1. Do you find that the vocational education system in your country delivers graduates with the right vocational skills for your sector/industry?
2. What is your experience when recruiting VET graduates? Do they have the relevant skill sets?
3. Do you collaborate actively with any vocational education or training institution(s) on skills development, and, if yes, how?

High-quality apprenticeships

[Interviewer: 'In the next questions, apprenticeships are typically defined as work-based learning in vocational education and training for young people, but it can also be offered to adults'.]

4. Do you provide apprenticeships or any other form of work-based learning as part of vocational training?
5. a) If yes, please explain what you offer (for young, for adults).
 b) If yes, how do you cooperate with VET school(s) in order to identify training needs and to develop training content for the apprentices?
 c) If yes, what measures do you take to ensure quality in your work based learning? (Mentoring, guidance, basic skills training, continuous training of trainers, etc.)
 d) If no, what would be good incentives for you to cooperate with a local VET school on the development of apprenticeships in your company?

Cooperation on entrepreneurial skills

[Interviewer: 'In the next questions, we will define entrepreneurial skills as the alertness to new opportunities and the ability to complex and innovative problem solving'.]

6. Is your organisation set up to actively promote the development of entrepreneurial skills in the workforce? If yes, in which way?
7. Have you worked with VET schools on the development of entrepreneurial skills, and, if yes, what is your experience?
8. Do you have any thoughts on how a closer cooperation between VET schools and

companies could contribute to the development of entrepreneurial skills?

9. Do you think that apprenticeships could contribute to more entrepreneurial attitudes in your company? How?

Training cooperation between enterprises

10. Are you part of a group of companies that co-finances vocational training programmes (inter-company training centre)?
11. a) If yes, what is your experience and how do you ensure that training programmes fit your needs?
- b) If no, would you be interested in participating in a training network where a group of companies share the training input/expenditure to save time and costs?

Public policy

12. What could be done from a public policy stand-point to ensure that your company has access to human resources with the right skills heading into the future?

Identifying good practice

13. Are you part of a specific programme or initiative related to collaboration with education institutions on skills, entrepreneurship or apprenticeships from which other companies could learn?

Interview guide for VET providers and representative organisations

Business-VET collaboration

1. What are the current trends in relation to how your members collaborate with businesses and their representative organisations on developing VET?
2. Which models for collaboration between VET providers and enterprises can be highlighted as particularly successful? Why?

Cooperation on entrepreneurial skills

3. How are your members working to promote entrepreneurial skills among VET students?
4. How do they work with small and how they work with large companies on this issue?
5. Are you aware of good examples of how VET providers and enterprises collaborate on promoting entrepreneurial skills and competences? (Look in particular for cases on SMEs)

High-quality apprenticeships

6. What are the key ingredients for a successful and mutually beneficial apprenticeship arrangement between a VET provider and a company?
7. What are they keys to getting smaller companies engaged in apprenticeships?
8. Based on your experience, what can be done to improve quality in apprenticeship arrangements across the EU?

9. To which degree do you experience that your members are rethinking how they collaborate with enterprises on apprenticeships?

EU's role

10. How can the EU support that European VET students possess the skills and qualifications demanded by European businesses heading into the future?

11. How can the EU work to support the development of entrepreneurial competences in Europe?

12. What can the EU do to increase the quality of apprenticeships in Europe?

Identifying good practice

13. Are you aware of specific programmes or initiatives related to apprenticeships or collaboration between VET providers and enterprises from which others could learn?

