



FINAL REPORT

MAY 2016

THE COST-EFFECTIVENESS OF APPRENTICESHIP SCHEMES

MAKING THE BUSINESS CASE FOR APPRENTICESHIPS



With the financial support of the European Commission

Table of contents

	Key messages	3
	Recommendations	4
1.	Introduction	7
2.	Project design and methodology	8
3.	The challenge of defining apprenticeship	9
4.	Apprenticeship schemes	10
5.	The dual learning principle	18
6.	Contractual arrangements	19
7.	Provision of apprenticeships by SMEs	25
8.	Cost-effectiveness of apprenticeship schemes	27
9.	Sectoral perspective: ICT, engineering, commerce	37
10.	Effectiveness of apprenticeships in meeting enterprises' skills needs	46
11.	Governance, partnerships and social dialogue	46
12.	European and bilateral cooperation for partnerships and reforms	57
13.	National reforms	59
14.	Conclusions	61
	Who we are	65

THE COST-EFFECTIVENESS OF APPRENTICESHIP SCHEMES – MAKING THE BUSINESS CASE FOR APPRENTICESHIPS

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Key messages

- I. Apprenticeships are first and foremost a means of training, primarily of the young, to enhance employability and future employment prospects.
- II. Across Europe, some apprenticeship systems are employment-based, whereas others are rooted in education and training and/or more school-based. Apprenticeship systems can also be demand-led, to varying degrees, depending on the extent to which employers' skills needs are taken into account. This often relates to the role that employers and their organisations play as part of the apprenticeship system.
- III. Well-functioning apprenticeship systems are dependent upon enterprises being able to create training vacancies (and job opportunities) to take on learners.
- IV. Well-functioning apprenticeship schemes help meet enterprises' skills needs and appropriately take into account cost drivers with a view to encouraging enterprises to invest in apprenticeships. Consequently, there needs to be an openness at national level to better adapt systems to enterprises' needs and to better enshrine employer and, where appropriate, social partner involvement in the governance of apprenticeship systems. In parallel, it is necessary to develop closer partnerships and cooperation between enterprises, social partners, vocational education and training (VET) providers, and the state.
- V. In well-functioning apprenticeship systems, enterprises recoup their investments over time in terms of a better skills fit and through the partial productive activation of learners during training. If apprentices are then hired into regular employment, additional payback comes in terms of immediate productivity upon graduation, fostering of enterprise culture, and higher employee loyalty, therefore making apprenticeships an effective means of recruitment.
- VI. The return on the enterprise's investment in apprenticeships will be reached earlier when schemes are demand-driven and when employers can select the candidates, contribute to curriculum design, and deliver parts of the training. For SMEs, notably micro-enterprises, the cost/effectiveness of apprenticeship schemes depends on additional factors such as duration of the scheme and time spent in the enterprise; retention of apprentices or support in administrative management.
- VII. Employment-led apprenticeship systems can involve higher costs for enterprises, for instance when apprentices have the status of an employee and receive a wage close to entry level pay or minimum wages, where they exist. Apprentices can also have the status of an employee with a specific training contract or only receive a training contract. The nature of the relationship is determined in the context of national industrial relations systems and education and training practices.
- VIII. Irrespective of status, the key point for employers is that the level of the wage or compensation needs to be set at a rate that makes it possible for the enterprise to see a return on its investment, so as to encourage and foster the supply of apprenticeship places. Part of this is to foresee an appropriate element of co-investment and commitment by the apprentices, reflecting the benefits apprenticeships bring them in terms of future employment opportunities.
- IX. Apprenticeship is a relevant education and training pathway to balance technical, soft, and social skills in an integrated approach. Currently the lack of soft and digital skills, less qualified students and more complex jobs gives apprenticeships the opportunity for a more prominent role. Digital skills are increasingly required across all sectors and occupations, including in the ICT, commerce and engineering sectors.

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- X. The esteem and attractiveness of apprenticeships for learners depends, to a large extent, on the quality of VET systems. Excellence programmes can help to improve the motivation of learners to undertake an apprenticeship. The fact that some companies report difficulty in attracting motivated students with appropriate basic skills illustrates the need to improve the image of apprenticeships in society.
- XI. There is a need at EU level to foster the quality, supply and attractiveness of apprenticeships. The European Alliance for Apprenticeships is a good platform to support this and could be further strengthened in these areas as part of the next review in 2017. Mutual learning could also be further strengthened within the framework of the meetings of the Directors General for Vocational Training, the Advisory Committee on Vocational Training and the relevant ET2020 working groups. At the same time, given the diversity of national systems, existing European definitions provide enough clarity and there is no need for further European-level action on attempting to define apprenticeships.

Recommendations

Governance

- Member States in cooperation with employers, VET providers and, where appropriate, social partners need to design and implement reforms in vocational education and training systems to make them more responsive to current and future labour market needs. Such reforms also need to provide a policy environment that makes a country a competitive place for enterprises to operate and invest in, and a mindset to educate for employment;
- Member States need to better involve enterprises and employers' organisations at all levels to ensure that employers have more control over the design of apprenticeship systems. This should be based on a shared understanding, between employers, VET providers and governments of the value of improving apprenticeships so that they more appropriately reflect the world of work;
- Member States and, where they are involved, social partners should put in place the framework conditions that allow for the cost-effective engagement of enterprises in apprenticeship schemes. This requires broad acknowledgment that apprenticeships are primarily a training process and, accordingly, that the wage or compensation that apprentices receive should be lower than for a full employee, while being in line with national rules and ensuring the quality of the training provision and the learning outcomes. This is true both for national systems in which apprenticeships are conceived as an education experience, and others where they are defined as an employment relationship;
- Member States, in cooperation with VET providers, employers and, where appropriate, social partners, should aim to reduce the burden of the accreditation procedure for enterprises, where it exists. They should also look to ensure a more flexible approach to the recognition of prior learning that is required to start an apprenticeship, while respecting necessary entry standards.

Meeting enterprises' skills needs

- As part of a renewed EU strategy on flexicurity, the European Commission should set up an EU system of benchmarking, which could have particular added value to promote education and training provision (including apprenticeships) that better meets labour market needs. Possible benchmarks that could improve national VET systems include:
 - > share of work-based learning in overall initial education and training;
 - > percentage of training time (as part of work-based learning) spent in the enterprise;
 - > number of months after completing work-based learning before gaining employment.
- In parallel with an EU system of benchmarking, the European Commission should further encourage and facilitate mutual learning and the exchange of knowledge and ideas between relevant actors to support Member States and national social partners in adapting the requirements of apprenticeship training;
- Employers, VET providers, universities and Member States should explore the possibilities for setting up national pilot actions to develop a public-private partnership to foster the promotion and acquisition of digital skills. The role of employers is important, notably in the design of curricula, so as to embed technological and business skills into apprenticeship schemes.

Excellence

- Member States with the involvement of social partners, in line with national industrial relations and education and training practices, need to adapt VET systems in view of improving the quality, flexibility and permeability of education and training systems. This will enhance the attractiveness of VET;
- Member States, in consultation with employers' organisations, enterprises and, where appropriate, economic chambers should expand the practice of apprenticeships beyond secondary VET. They should support projects that introduce apprenticeships and the principles of dual-learning across all sectors of the economy and into different types and levels of education pathways, notably higher VET as well as university education;
- The European Commission, Member States, social partners and VET providers should further reflect on the potential for enhancing the mobility of apprentices. This includes exploring how mobility could have a positive impact on the training and future employability of apprentices. Mobility can contribute to a better parity of esteem between VET and general education. Therefore, it can help to improve the wider attractiveness of apprenticeships;
- Member States, in partnership with VET providers, employers and, where appropriate, social partners, should ensure that teachers and trainers, in schools and enterprises, are sufficiently trained and able to update their skills and competences to train apprentices in accordance with the latest teaching methods and labour market needs.



Promoting apprenticeships

- Employers' organisations and, where appropriate, economic chambers should provide information and guidance as well as motivate and support enterprises to become involved in apprenticeship schemes. They should give them advice and support, in particular to Craft and SMEs, including through the organisation of cooperation between enterprises providing information about national framework conditions. They should also actively contribute to developing and updating qualifications frameworks, training rules and curricula to ensure that they are well aligned with enterprises' skills needs;
- To help ensure a better understanding of apprenticeships and how they foster employability and lead to promising careers, schools, VET providers and employers should have a stronger role in systems of career and educational advice to promote VET, and apprenticeships in particular, as an equitable choice as compared with university education. Information from EU benchmarks could help to enhance the image of apprenticeships;
- In addition to careers advice, schools, together with local enterprises and VET providers, should better promote to students and parents, the possibility to undertake an apprenticeship. This could include organising, in cooperation with business organisations and enterprises, school visits to enterprises, teachers spending time in a local enterprise to observe its apprenticeship scheme, and apprentices coming into schools to talk to pupils;
- As part of EU and/or national campaigns aiming to improve the image and attractiveness of apprenticeships, the European Commission, Member States, VET providers and, where relevant, social partners, should build on existing initiatives that aim to promote excellence in VET in the field of skills and competence development, such as Euroskills and VET weeks.

1. Introduction

There is strong evidence that well-functioning apprenticeship systems can simultaneously help to meet enterprises' skills needs and ease the transition from education and training into employment.

Evidence suggests that by 2020 most job opportunities will require employees to have medium-level qualifications (including many vocational qualifications) and these jobs will continue to provide employment for around half of Europe's workforce¹.

Looking further ahead to the skills needed² in eleven of the 15 countries in this study – Czech Republic (CZ), Slovakia (SK), UK, Ireland (IE), Finland (FI), France (FR), Italy (IT), Poland (PL), Greece (EL), Hungary (HU) and Bulgaria (BG) – by 2025 there will be an increase in the need for people with high skill levels. In Portugal (PT) and Spain (ES) there will be an increase in the need for people with medium levels of education and in Latvia (LV) and Estonia (EE) there will be an increase in the need for people with low levels of education.

Some of these national differences need to be seen in the context of the demographic composition of each country as well as their economic and labour market structures. More information on the situation in each of the 15 countries is included in the national reports that accompany this publication.

It is clear that when apprenticeship schemes are designed around the real needs of the labour market they contribute to the increased productivity and competitiveness of enterprises, which fosters job creation and supports youth employment.

The EU youth unemployment rate is more than double the overall unemployment rate (19.7% compared with 9%). There are significant differences between countries: the gap between Member States is more than 40 percentage points with Germany (7%) having the lowest rate of youth unemployment and with Greece (48.6%) and Spain (46%) having the highest rates. Some countries with low levels of youth unemployment have dual-track apprenticeship schemes as a main part of their Vocational Education and Training (VET) system e.g. Germany (7%), Austria (11.2%) and Netherlands (11.2%). Others, such as Denmark (10.3%) are known for their integration of work-based learning in a well-founded VET system.³

This report has been prepared to present the findings of the employer-led project on *the cost-effectiveness of apprenticeship schemes – making the business case for apprenticeships*. This is a European Commission funded project led by BUSINESSEUROPE on behalf of the EU cross-industry employers' organisations (BUSINESSEUROPE, CEEP and UEAPME); the European organisations for the commerce, engineering and metal, and digital sectors (EUROCOMMERCE, CEEMET and DIGITALEUROPE); the European Round table of Industrialists (ERT) and organisations representing vocational education and training (VET) providers at the European level - EUproVET and EfVET. The project focused on 15 "target countries": Bulgaria; Czech Republic; Estonia; Finland; France; Greece; Hungary; Ireland; Italy; Latvia; Poland; Portugal; Slovakia; Spain; and UK. It has also drawn on the experience of those countries that have well established apprenticeship systems: Austria, Denmark, Germany, the Netherlands and Switzerland. These are referred to as the "resource countries".

¹ CEDEFOP, www.cedefop.europa.eu/files/9068_en.pdf (2012)

² EU Skills Panorama/CEDEFOP (2013)

³ EU Labour Force – Survey report updated 02.02.2016 - <https://ycharts.com/indicators/sources/eurostat>

The assumption behind the project is that the involvement of companies and employer organisations in apprenticeship schemes is an effective way of identifying and meeting skills needs in the labour market. However the project also assumes that employers in some countries are reluctant to engage in apprenticeships because of the high cost of training. For example costs can involve the need to adapt to accommodate trainees; mistakes made by apprentices; administrative paperwork; the time required from enterprise trainers and employees who need to support and monitor apprentices.

The project aims to explore the business case for apprenticeships by analysing what makes for a cost-effective apprenticeship scheme for employers in the ICT, commerce and engineering sectors. It also looks at the broader benefits that apprenticeships bring for enterprises. Bringing together these two aspects, it considers the potential reforms that are needed to make systems more cost-effective to increase employer engagement.

This final report provides an overview and analysis of the experiences of the 15 countries and identifies a set of general recommendations to inspire national reforms that will improve the functioning of apprenticeship systems and increase employer engagement. In providing a unique employer perspective this study supports possible future joint work on apprenticeships by the EU social partners.

2. Project design and methodology

This report is based on the information collected over 18 months; an analysis of the 15 national reports; a review of selected studies from the European Centre for the Development of Vocational Training (CEDEFOP), Refernet, the European Foundation for the Improvement of Living and Working Conditions (EUROFOUND), the European Commission, the OECD and other documentation available in each country. The report also takes account of the comments and written contributions from participants during the cluster seminar discussions; the main conclusions of each cluster seminar; visits to enterprises and schools during the cluster seminars; an online questionnaire on cost-effectiveness (76 responses were received - 60 in English and 16 in French. Approximately 40% of the responses provided additional information to inform this report); and interviews with employers, which informed the production of 10 case studies.

The project was based on the following steps:

- Desk research covering apprenticeship systems and planned and existing reforms in the 15 target countries;
- Desk research into apprenticeship systems in the five resource countries;
- Questionnaires with members of BUSINESSEUROPE, CEEP, UEAPME, CEEMET, EUROCOMMERCE, DIGITALEUROPE, ERT, EUpVET and EFVET to capture information on each apprenticeship system in the 15 countries;
- A specific enterprise questionnaire on issues concerning cost-effectiveness;
- A set of guidelines relating to good practice as the basis for interviews with companies and employers' associations;
- Case studies that aimed to achieve a balance between geographical spread, sector and size of companies;
- Five cluster seminars for groups of three countries.⁴ These seminars enabled participants to discuss the apprenticeship system in their country and to explore the experiences of the five resource countries. The national reports were also discussed and updated based on information that emerged during the seminars.

⁴ 1st Seminar – Bratislava 26/27 February 2015 – CZ/SK/EE; 2nd Seminar – London 16/17 April 2015 – IE/FI/UK; 3rd seminar – Budapest 9/10 July 2015 EL/LV/HU; 4th Seminar – Paris 17/18 September 2015 IT/PL/FR; 5th Seminar – Madrid 12/13 November BG/PT/ES

The 15 national reports were used as a basis for the discussions in the cluster seminars and helped to underpin the conclusions in this report. The reports are structured around the following themes:

- The national youth employment situation including information on those not in education, employment or training (NEETs); employment rates; and skill needs;
- The VET system;
- The arrangements for training apprentices including the definition of an apprenticeship, the legislative framework, some examples of work-based learning programmes, the number of students, the contractual arrangements and any examples of bilateral cooperation;
- The drop-out rates from schools, apprenticeships and alternative pathways for young people;
- Future reforms planned for the apprenticeship system;
- An evaluation of the existing system and potential ways that it could be improved;
- Cost-effectiveness analysis.

3. The challenge of defining apprenticeship

The European Commission defines apprenticeships as formally combining and alternating company-based training (periods of practical work experience at a workplace) with school-based education (periods of theoretical/practical education followed in a school or training centre), and lead to nationally recognised qualification upon successful completion. Most often there is a contractual relationship between the employer and the apprentice, with the apprentice being paid for his/her work⁵.

Achieving a better understanding of what is understood to be an apprenticeship, within a given national context, can help to strengthen employer engagement in apprenticeship schemes, enhance the quality in terms of learning outcomes, and increase their attractiveness for young people. This can also help to foster mobility both during and after an apprenticeship. However there are different types of vocational programmes which combine work with theoretical study to promote employment and employability. This variety and the changing policy landscape (e.g. emergence of traineeship programmes, reform of school-based VET systems, and revisions to work-based learning which is part of a school-based programme) makes it difficult to apply a clear and precise definition of apprenticeships.

The term 'apprenticeship' is assigned to many different vocational programmes. Under the label 'apprenticeship' there are programmes which fit within the EU definition and provide separate vocational pathways for young people (e.g. UK, IE, FI and FR) alongside school-based VET. In addition new apprenticeships are being developed across the EU. The development of new policies in this rapidly changing field of VET is dependent inter alia on national traditions and culture; the needs of individual sectors; the size of an enterprise; and the involvement of employers' associations. There are also forms of apprenticeship which focus on unemployed adults (e.g. PL).

The European Commission's definition of an apprenticeships highlights the following:

- it is part of the formal VET system;
- it involves a dual learning principle which combines or alternates enterprise-based training (periods of practical experience at a workplace) with school-based education (periods of theoretical/practical education in a school or training centre);
- completing the apprenticeship leads to a nationally recognised IVET certificate/degree;
- there may be a contractual relationship or agreement between an employer and apprentice.

These key features are used as the basis for analysing the differences and similarities between the apprenticeship systems in the 15 target countries.

⁵ European Commission "European Alliance for Apprenticeships – Good for Youth, Good for Business" June 2015.
<http://ec.europa.eu/social/BlobServlet?docId=14127&langId=en>.

4. Apprenticeship schemes

In countries with school based or mainly school based VET programmes, the following types of provision can be seen:

- **Apprenticeship as a separate track**

In these countries an apprenticeship is primarily led by an enterprise and is seen as part of the initial VET system. In these situations an apprenticeship is one option, alongside school-based formal initial VET, that is available to young people after completing compulsory education. It is one way to achieve a legally-recognised vocational qualification. For these countries apprenticeships combine in-company training with school-based/theoretical learning. Apprentices are formally employees and apprenticeship contracts are employment contracts. Examples of this type of provision can be seen in France, Finland, Ireland, UK and Italy.

- **Apprenticeships are integrated into school based initial VET**

In most countries with school-based initial VET and without an apprenticeship tradition, the legal/formal definition of an apprenticeship is often missing. The apprenticeship does not form a separate vocational pathway in initial VET. In these systems initial VET includes work-based learning and work placements. Sometimes the work-based learning parts of these schemes are referred to as apprenticeships. In these systems apprentices are legally students and where there are contracts, they are usually concluded between school and enterprise. Typically the share of work-based learning is lower than in the first model. Examples of this type of system can be found in CZ and SK.

- **Work-based learning**

Some countries have developed apprenticeship-like programmes (they are usually called ‘work-based learning programmes’). These are not legally part of the formal VET system even though they include some theoretical study in a vocational school. The programmes (e.g. in EE and LV) usually lead to a recognised certificate or qualification and address various labour market needs such as finding ways for the unemployed to return to work.

- **Traineeship**

In some countries there are short-term vocational programmes. These are traineeships which are not connected to the formal education system – they do not lead to a nationally recognised certificate or qualification even though they are often referred to as an ‘apprenticeship’ (e.g. EL). These programmes usually focus on those who are unemployed and/or NEET in order to support their entry into the labour market⁶.

In the 15 countries in this study the total number of learners following an apprenticeship is low. This situation can be seen in countries regardless of whether there is a well-established and a newly established apprenticeship system. This contrasts with the resource countries where some form of VET is offered to a large percentage of secondary school students and there are high numbers of apprentices. This difference in countries’ experiences highlights the potential for expanding apprenticeship provision. In this context the VET providers have an important role to promote apprenticeships as an alternative to general education and other forms of VET.

For the resource countries, the added value of apprenticeships is widely known and considered to be part of the education and training culture where employers and unions have a much greater stake in the apprenticeship and dual training system. The systems are built on well-established traditions and the social partners are convinced that the system is in the best interest of employers of all sizes and employees:

For employers:

- the system assures the best match between the skills they need and the training of young people. Employers can secure the skilled labour they need. This is particularly important for smaller companies which do not have the power to influence the curriculum of vocational training and sometimes find it hard to attract the attention of talented young people. The cost of inducting new staff is reduced compared with the cost of recruiting qualified applicants from the labour market, as young workers spend three or four years as an

⁶ Traineeships are different to internships. According to the EURES – The European jobs network, Internships are usually shorter and frequently carried out by people looking for experience before job hunting and they are not linked to recognised qualifications.
<https://ec.europa.eu/eures/public/news-articles/>

apprentice before they are hired. In addition, the company is able to evaluate an individual's performance based on what he or she actually does, rather than relying on certificates. This knowledge of each candidate enables the employer to avoid costly recruitment mistakes;

- apprentices follow a general curriculum in order to achieve a transferable qualification which is valuable in the labour market. Qualifications define a set of occupational competences which are trusted by employers – however there is enough scope for companies to include their own specific requirements;
- the productive contribution of apprentices makes apprenticeships cost-effective for companies. In many cases there is a positive return on investment during the apprenticeship or within the first year of employment;
- in many cases companies see apprenticeships and the responsibility to train young people as a challenge which motivates them to review their processes and check that each of their processes is of high quality - this helps to improve their overall production/service quality;
- in each resource country, employer organisations have a strong influence on curricula, definition of occupations, and implementation of training policy.

For young people

- apprenticeships are attractive as they enhance their employability and bring employment opportunities when the training is completed;
- apprenticeships are seen as an opportunity to use theoretical and practical talents in a hands-on environment. This makes apprenticeships an excellent opportunity for a wide range of learners. In recent years apprenticeships have been reformed and they are now more flexible – they often offer entry level qualifications (EQF Level 2) and pathways to tertiary education and VET qualifications at EQF Level 5 or 6;
- in countries like Germany, Austria and Switzerland, it is quite common for CEOs of large corporations to have started their career with an apprenticeship. This knowledge of practical learning strengthens the public image of CEOs;
- achieving a vocational qualification at EQF Level 5 or 6 e.g. “Meister” (Master Craftsman, Master of Industry) entitles the individual in many occupations to open his or her own business. These qualifications therefore have a strong role in encouraging entrepreneurship;
- Apprenticeships are seen as a phase of learning and training and this justifies the relatively modest compensation that makes them cost-effective for companies, even if the apprentice is not hired afterwards;
- learning in the context of a company or business provides role models and real world experiences for young people and therefore contributes to their personal growth. Apprenticeships are used to provide people with soft skills as well as the skills which are required for specific occupations.

As all those who are involved regard the dual system as an outstanding success, the dual principle is being expanded to the tertiary sector. Dual studies are not just for those without other opportunities, they are a form of learning which is preferred by companies and learners for many tertiary level qualifications.

It is interesting to see the perspective of employers and VET providers in the 15 target countries on why they consider apprenticeships to be important. While there are many theoretical reasons for employers wanting to be involved in apprenticeships, the following three main reasons arose from the research and discussions:

- Apprenticeships are seen as enhancing young people's employability and this increases their employment prospects. This helps to smooth their entry or re-entry to the labour market and provides an opportunity to combine work with the acquisition of a vocational qualification. In addition:
 - > employers increasingly acknowledge that apprenticeships are not only for young people wishing to enter the labour market. Some countries (e.g. UK, FI and FR) organise apprenticeships for those over the age of 25. This promotes the idea of a new career and mobility (FI) or helps citizens to adjust to unemployment (e.g. EL and BG) or both. In some countries (e.g. UK and FI) apprenticeships are explicitly designed for young and adult learners;
 - > there is a trend for apprenticeships to offer higher level qualifications as well as qualifications that are achieved at the secondary school level;
- Apprenticeship training offers many advantages to enterprises/employers, notably the opportunity to better

match apprentices' skills and competences with those required by an enterprise as a result of providing part of the training in the company. The ability to select an apprentice also helps employers to recruit staff with potential;

- Apprenticeships have a wider impact on the labour market e.g. apprenticeships increase the number of skilled workers, apprenticeships make VET more attractive by providing possibilities to learn and acquire a qualification while working, and apprenticeships help to upgrade the quality of VET by providing more and flexible possibilities for training. This is important for employers (and the economic development of regions) as it helps to avoid skill shortages. Apprenticeships avoid the problems that are often seen in purely school-based systems, by involving companies in the selection process, which ensures a better qualitative and quantitative match through taking into account the company's skills needs and the number of places available.

As a rule an apprenticeship includes qualifications at various levels, e.g. apprenticeships can include a qualification at EQF Level 2 or 3. However many countries have developed higher level apprenticeships which offer a qualification at EQF Level 5 through training in a VET college or polytechnic (e.g. in CZ, SK, UK, IE, FI, HU, FR, IT and ES). Exceptionally some countries (e.g. the UK) offer an apprenticeship with an EQF Level 6 qualification and Italy has an apprenticeship that leads to a doctorate degree (EQF Level 8).

In the resource countries, training up to EQF Level 3 or 4 (Level 2 as an exception) is the rule. In Germany, new dual study schemes result in Level 5 or 6 qualifications, as does the traditional "Meister" degree. The master craftsman/foreman is the top specialist vocational qualification and authorises the person to manage an enterprise and train apprentices. Skilled workers and master craftsmen can select from a wide variety of options for further training. Examples include further training as a crafts management expert for entrepreneurs and managers. Master craftsmen who have passed a pedagogical examination are responsible for training in the company (which is mostly implemented by experienced workers). The title "Master" is a qualification gained through further training which builds on the professional graduation. The responsibilities of Master Craftsmen in Industry (Industriemeister) include the professional and organisational management of workgroups or departments in industrial organisations. There are similar qualifications in services and trade (Master Chef (Küchenmeister), Master of Hospitality (Hotelmeister), Fachwirt (in trade)). In Austria there are similar rules; and in Switzerland the higher vocational exam ("höhere Fachprüfung") reflects a similar professional profile.

The following table summarises the apprenticeships in each country.

Table 1 – Apprenticeship schemes

Most of the 15 target countries (CZ/SK/HU/LV/PL/BG/PT/ES) have school-based apprenticeships: they have different arrangements for the practical training. In some countries (SK/CZ/BG) the first steps are being taken to strengthen apprenticeships and integrate work-based learning. In EE/FR/IT/FI/EL there are both school- and work-based programmes with either a systematic (FR) or a less systematic approach to addressing sensitive issues like youth unemployment (EL). Only the UK and IE have a separate work-based approach.

School-based systems

CZ	• There are no apprenticeships as defined by the EU. The secondary technical schools offer a matura certificate and the secondary vocational schools offer a vocational certificate. • There is an initial VET programme with a higher level qualification offered by professional schools.
SK	• There are no apprenticeships as defined by the EU but reforms are ongoing to start a dual training system. Currently the initial VET programme at the upper secondary level is mainly school-based with some practical experience or vocational experience. Depending on the programme, two certificates can be offered – a certificate of apprenticeship or a ‘maturita’ school-leaving certificate. • There is an initial VET programme offering a higher level certificate in the professional schools. • The secondary specialised schools offer a mainly school-based programme which leads to a higher level certificate.
HU	• Initial VET is provided at the upper secondary level in vocational training schools. This training leads to a secondary school leaving certificate and a vocational qualification. An apprenticeship is not a separate track but a way of organising the practical training part of a VET programme. • There is a recently introduced ‘training contract’ if enterprise-based training is over 50% of the practical training. The aims of the apprenticeship (dual VET model) are to contribute to improving youth employability and economic growth; to adjust to the needs of the labour market; and to improve the attractiveness of vocational training.
LV	• Apprenticeships are mainly offered as an integrated part of school-based initial VET. • There are initial VET programmes at the tertiary level which are provided by higher education colleges. • There is a new workplace-based apprenticeship-type scheme called ‘work-based learning’ (2013). This is a pilot project with a dual VET system component. The aim is to make training more relevant to the needs of the labour market; to help learners acquire skills more quickly; and to help companies find employees with the right skills.
PL	• The system is mainly school-based and provided by upper secondary schools. These can be specialised general secondary schools, technical secondary schools or basic vocational schools. • There is apprenticeship training (three to six months) for a specific job. This training aims to prepare an apprentice to work as a vocationally trained worker. • There is initial VET which is offered at the tertiary level through higher education vocational institutions. The system aims to prepare the unemployed to work or gain a specific qualification.

BG	• The system is mainly school-based. Initial VET is offered at the upper secondary level through two separate programmes. • There are traineeships for those who are unemployed or have low level qualifications. These are based on an internship model. Some elements of dual training have been implemented very recently.
PT	• Initial VET is offered at the upper secondary level and leads to a vocational course, a professional course, a specialised technological course or an apprenticeship course. Apprenticeships can be an integrated part of school-based initial VET. The aims are to promote employment and reduce unemployment; enhance entry to the labour market; and provide opportunities for learners to progress to higher education.
ES	• Initial VET is offered at the upper secondary and tertiary level. It is based on either intermediate level vocational training or advanced vocational training. • 'Dual vocational training' is used as an umbrella term to include different types of training which can be part of the 'training and learning contracts' or more general initiatives in initial VET. This training is for young people without qualifications who are aged between 16 and 25. An apprenticeship is considered as a way to gain a vocational qualification and provide support to young people wishing to enter the labour market.

Systems that use both school- and work-based programmes

EE	• There are work-based and school-based programmes (work-based training is defined as study where the work practice constitutes at least two thirds of the volume of the curriculum). In the work-based programme, the curriculum is individualised to assist those who are already working and need a formal qualification. The system aims to 1) improve individuals' skills and help them to acquire work experience 2) enhance opportunities to enter or become more mobile in the labour market • The school-based programmes are at the upper secondary level and provided by a vocational school which offers a leaving certificate, a vocational certificate or an award of a nationally recognised qualification.
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FR	• There are school- and work-based programmes. The work-based programmes are based on apprenticeships that lead to one of the following qualifications: the Vocational Baccalaureate; Diploma of Vocational Studies, Certificate of Vocational Aptitude, Higher Technical Diploma or University Technological Diploma. • There are work-based programmes based on a professionalisation contract that lead to one of the following qualifications: the Vocational Baccalaureate; Diploma of Vocational Studies, Certificate of Vocational Aptitude, Higher Technical Diploma, or University Technological Diploma. These qualifications are covered by a collective agreement and registered in the National Qualifications Framework. • The school-based initial VET programmes are offered at upper secondary level and lead to a Professional Skills Certificate, a Professional Studies Certificate, a Vocational Certificate, a Technician's Certificate or a Vocational Baccalaureate. • There are school-based initial VET programmes at the tertiary level. These lead to higher education diplomas and degrees, a Higher Technician's Certificate), a University Technological Diploma, a Specialised National Technology Diploma or a University Scientific and Technical Studies Diploma. The aims are for employers to find people with the right skills and fill their vacancies; and to provide support for 16 to 25 year olds to gain employment.
IT	• There are school- and work-based apprenticeship programmes. • The mainly work-based apprenticeship schemes lead to a formal qualification and professional diploma. There are three types of work-based apprenticeship scheme – apprenticeship leading to a qualification or vocational qualification; professional apprenticeships; advanced training and research apprenticeships to gain a secondary or tertiary level diploma from the education system or a doctorate degree. • The mainly school-based programme are offered by the vocational upper secondary schools and higher technical institutions. Learners receive a certificate from the technical institutions, vocational/professional institutions or a post-secondary, non-tertiary provision in a higher technical institution. The system aims to support young people to gain access to the labour market; to complete compulsory education or acquire a professional qualification or diploma.

FI	• There are work-based and school-based programmes. For the work-based apprenticeship training, initial VET is organised at the upper secondary level and leads to a vocational qualification certificate. Learners can receive certificates for completing individual modules or units in a qualification. • In the school-based programme, apprenticeships are an integrated part of school-based provision. • There are initial VET programmes at the tertiary level which are provided by the Polytechnics. The aim is to provide opportunities for young people and adults to achieve a vocational qualification.
EL	• There are work-based and school-based programmes, and apprenticeships are offered as a separate track through a traineeship programme which is called the 'apprenticeship year'. • Apprenticeship can be an integrated part of school-based initial VET. The aim is to provide opportunities for learners to enter the labour market; to link education with work; to ensure learners complete work experience before they enter the labour market; to better meet the needs of the labour market; and to develop training which leads to a specific occupation.

Systems which include a work-based track

UK	• Apprenticeships are offered as a separate, work-based track and lead to qualifications at the intermediate, advanced or higher level. • Apprenticeships can be offered as an integrated part of an upper school-based initial VET programme. The system aims to be more rigorous and responsive to the needs of employers; prepare young people aged from 16 to 24 for their future careers; help apprentices to become 'work ready'; provide essential work preparation; improve individuals skills in mathematics and English; and provide the work experience that is needed to gain employment.
IE	• Apprenticeships are offered as a separate, work-based track and lead to national qualifications. • There is some initial VET training in the upper school schools. The system aims to prepare apprentices for a specific occupation. Currently there is a limited range of occupations covered by apprenticeship programmes but this is set to change.

We should note that each system can be considered in relation to whether apprenticeships:

- are school-based or not;
- are a way to achieve a formal qualification (IE/PT/HU/EE/FI/PL);
- for young people or adults;
- for those who are employed or unemployed.

In some countries apprenticeships are designed to prepare young people for a specific occupation (IE/EL) as well as providing the opportunity to gain a qualification. For other countries apprenticeships are part of a national strategy to promote employment (PT/ES/PL/IT/HU) and reduce unemployment. Only a few countries see apprenticeships as delivering training that employers need – in these systems enterprises are at the heart of the system (UK/FR/LV).

As well as apprenticeships that include a formal initial VET qualification, there are a number of short-term traineeship programmes which support transition to the labour market. These are often developed to complement an initial VET programme or to provide additional help to those who are unemployed. These programmes can be loosely connected to formal VET even though they do not lead to a recognised qualification. Sometimes the distinctions between an apprenticeship and traineeship are not clear. Some countries (e.g. HU and EL) have recently implemented new apprenticeship-type programmes which can be seen as traineeships even though they have some of the key characteristics of an apprenticeship, as defined by the EU.

The range of traineeship programmes can be seen by looking at three examples which complement school-based initial VET:

- in Greece there is an ‘apprenticeship year’ which is the last year of the three-year initial VET school-based programme. During the year workshop lessons are combined with workplace learning for 28 hours/week. The programme is governed by a contract between the Employment Services and the employer. During the year the employer is able to evaluate the effectiveness of the trainee - this provides an incentive to the learner and the employer in relation to future employment;
- in Hungary there is a ‘training contract’ which is part of the school-based programme offered by VET schools – it is not a separate vocational pathway. This is a practical training component of an initial VET programme and it can be organised – in whole or in part – in a school workshop and/or in an enterprise. The decision is made by the VET school in partnership with the learner and depends on the availability of external training places. If the practical training component is more than 50% of the VET programme then work-based learning should be provided in the form of a ‘training contract’;
- in Ireland, traineeships involve on-the-job and off-the-job training. They are based on an internship model involving a partnership between business and a local training centre. The employers’ involvement is high as they are responsible for developing the curricula and providing work-based learning. It is also possible for the enterprise and the education and training provider to propose new programmes.

In most countries (but not all) apprenticeships compete with colleges and universities. There can be an assumption that an apprenticeship is a ‘second-best’ option and this can discourage parents from encouraging young people to become an apprentice. For apprenticeships to compete with higher education they need to be offered at a higher level and they need to lead to a qualification which is as well regarded as the outcomes from higher education. There is a need to do more to develop higher level apprenticeship routes that are closely aligned with labour market needs.

5. The dual learning principle

The share of in-company training varies greatly between countries and apprenticeship schemes. In countries where school-based initial VET is the main model for apprenticeship there are many different kinds of work placement. These arrangements have different rules ranging from legal requirements at the national/regional/sector level to individual agreements between VET schools, enterprises and apprentices. Sometimes the share of in-company training is regulated in an apprenticeship scheme (e.g. UK, IE and EL), sometimes it is decided by the VET school, and sometimes it is based on an individual agreement between the VET school and the enterprise (e.g. CZ, SK, EE, FI, HU, PT and LV). The following table sets out the duration of an apprenticeship: it is clear there are significant differences in the 15 countries and the time spent in the enterprises is insufficient to enable the companies to be the drivers of apprenticeships.

Table 2 – Programmes with the greatest share of in-company training⁷

Countries where in-company training is less than 50% of the apprenticeship (or when the percentage is more than fifty, training is in school workshops)

CZ	The practical training component of the two- to three-year programme is 35-45% and takes place in special school premises or at an external workplace.
SK	A new apprenticeship-type scheme will increase the amount of practical training (it will be approximately 60% of the programme) in appropriately equipped VET centres when companies cannot be involved.
HU	Enterprise-based training makes up more than 50% of the practical training, but in the first year of practical training has to take place in a school workshop.
EL	In the 'apprenticeship year' school-based lessons in workshop are combined with workplace learning which lasts for 28 hours/week.
LV	On the two to three year programmes, 50% of the time is allocated to theory and 50% to practice.
PL	On the four-year programme, vocational placements last for four to six weeks during the summer of each academic year.
BG	On programmes which last for four years, 40% of obligatory vocational preparation classes is in school-based practical training.
PT	On the three-year programme, 60% is theoretical training and 40% is completed in a work environment.
ES	On the two- to three-year programme, there are workplace training modules during the second year. These last for 400-600 hours (10-12 weeks).

⁷ Sometimes 'practical training' may include time spent in a school workshop.

Countries where in-company training is more than 50% of the apprenticeship

EE	The training programme can last between six months and four years but 2/3 of the training is practical and takes place in an enterprise.
UK	The programme has to last at least two years with one day/week in a school and four days/week in a enterprise.
IE	During the four-year programme, 35% of time is school-based and 65% is work-based. Apprenticeships are organised in seven phases which are alternately provided by an employer and a training institution.
FI	The two- to four-year programme (and the shorter four- to twelve-month programme) includes 70-80% of time in the workplace.
FR	On the one- to three-year programmes, the theoretical courses take up 25% of the available time (400-600 hours) in one or two days per week are spent at an Apprentice Training Centre (CFA). The apprentice spends 60% to 75% of their time in a enterprise.
IT	In the so-called “professional apprenticeships”, the majority of the time is assigned to work experience. For the other two types of apprenticeships (qualification or vocational qualification / higher education and research) the amount of time spent in education is provided by the law and the training programme. Generally the amount of time spent at work increases each year.

6. Contractual arrangements

One principal difference between countries relates to the contractual agreement and status of an apprentice – Whether they are employees or students. This can determine whether they are part of the employment or education system. Table 3 highlights the main features of the contractual arrangements and funding of apprenticeship. It is clear that the arrangements for apprentices' wages/compensation are extremely diverse.

Table 3 – Contractual situation for apprentices

As a training contract

CZ	Under the legal arrangements apprentices are students. Contracts are not regulated at the national level – they are ad hoc agreements between vocational schools and enterprises. Compensation: Apprentices receive financial remuneration during their practical training if they are involved in productive activities that generate income. Apprentices receive 30% of the minimum wage (around 110 Euros/month).
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SK	During their placement the legal position for learners is as students. Compensation: The new ‘apprentices’ receive a stipend from a enterprise that offers practical training. The amount of the compensation is decided on a case-by-case basis but when the salary is between 50% and 100% of the minimum wage, it is exempt from levies.
HU	A training contract between the student and the enterprise is the legal basis for practical training. It includes a regular allowance for the student. The availability of a ‘training contract’ varies according to the sector/occupational field/occupation. The allowance is related to the minimal wage, time spent in practical training and the student’s grade and level of performance. Under certain conditions a VET school may organise a ‘cooperation agreement’ with an enterprise to provide practical training for its students. In this situation the learners are students and they are not contractually linked to the employer and they do not receive any remuneration unless their practical training takes place during their summer holidays.
LV	There is a tripartite agreement between the student, the VET institution and the work-based learning entity (usually an enterprise). Employers do not have to pay a wage or remunerate students during their work-based learning, internship or craft apprenticeship, even though apprentices often receive remuneration from the second year of their apprenticeship. This is paid by the craft master or the enterprise. Some employers offer employment – either after the training has been completed or during the period of work-based training. In these situations an employment contract is signed. This means that the salary has to fully comply with the tax on labour. Expenses for work-based learning are covered by employers.
PT	Apprentices sign a training contract with the training organisation. This includes: objectives of the contract; the location of the training; the training schedule, assessment and certification criteria; the rights and duties of the apprentice; the rights and duties of the training organisation and the organisation providing support to alternance; the duration of the agreement; contract cessation; sanctions; regulations; funding; and applicable legislation. This contract ends when the apprentice completes the course or training. A tutor is appointed by the organisation responsible for the practical component of the workplace training and collaborates with the training provider. There is no compensation paid by the enterprise.

ES	'Training and learning contracts' combine paid work and vocational training in a training centre. The contracts are organised by vocational training centres which establish cooperation agreements with enterprises. Compensation: Apprentices should be paid maximum 75% of the minimum wage in their first year and 85% in their second year i.e. €6,776 and €7,679 per year. Apprentices are not paid during their time in the classroom. Their wages during their time at work needs to cover their costs while in the training centre.
BG	Apprentices are learners undertaking a specific form of vocational training. This training enables individuals to acquire professional qualifications on the basis of a partnership between one or more employers and institutions for vocational education and training. Employers are seen as partners for the organisation and learning through work.

As an employment contract

EE	Apprentices are employed. There is a three-party contract between the school, the apprentice and the workplace. Apprentices sign a study and work contract and have a four-month probation period. During their time in training in the enterprise apprentices receive a wage and, on completion of their theoretical studies in school, they receive a study allowance. There is a contract between the schools and enterprises (this includes the organisation of learning, rights and obligations of all three parties, remuneration of the apprentice during work – at least the official minimum wage). Sometimes the employment contract is between the apprentice and the enterprise and in this situation the apprentice receives a salary.
UK	Apprentices are employed. An apprenticeship is primarily a job rather than training. Compensation: Employers are required to pay apprentices at least the minimum wage set by the UK government. The National Minimum Wage in UK (2016) per hour for those over 21 was £6.70, for 18 to 21 year olds £5.30; for those under 18 – £3.87 and for apprentices £3.30. An apprenticeship agreement is between the apprentice and the employer. This is a contract of service and reflects the fact that the apprentice has the same rights as other employees.

IE	Apprentices are employed. A wage is negotiated between the trade unions and employers under a contract of apprenticeship. Compensation: The apprentice is paid while in the industry phase of their training. The state pays the apprentice a training allowance, and in certain circumstances travel or subsistence allowances, while he/she is in the training centre or college. The value of this allowance is based on the net take-home pay of the apprentice based on the gross wage normally paid in the industry or sector. The National Minimum Wage in 2016 per hour for an experienced adult worker is €9.15; for those over 19 and in their second year of their first job €8.24; for those over 18 and in the first year of their first job €7.32; and for aged under 18 €6.41. An experienced adult worker – for the purposes of the National Minimum Wage Act – is an employee who has an employment of any kind in any 2 years over the age of 18.
FI	Most apprentices are employed. There is a written fixed-term employment contract between an employer and an apprentice who is at least 15 years old. Compensation: As part of the contract employers pay apprentices a wage for their time in the workplace. This wage is set by each sector's collective agreement. The theoretical training which is provided by a training institution is free and funded by the state. Learners also receive social benefits (a daily allowance, allowance for accommodation and travel expenses, etc.). The employer receives funding from the institution providing the theoretical apprenticeship training – this is to cover the cost of training provided in the workplace.

FR	The apprentice contract is signed between the apprentice and the employer and is subject to the existing labour law and collective agreements. Apprenticeships are based on a tripartite employment contract signed by the employer, the apprentice and the training institution. The length of this contract varies from one to three years or does not have an end-date, depending on the profession and qualification. The apprentice's employment contract gives the learner the double status - as a enterprise employee and a student in an Apprentice Training Centre. Both employers and students benefit from the apprenticeship contract. Students do not pay tuition fees and earn a percentage of the minimum wage during their academic training. Enterprises can recruit young talent and, during the course of the apprenticeship, receive government subsidies and are exempt from paying social security contributions. Training takes place both in the workplace and the Apprentice Training Centre. The time when apprentices receive a salary includes the time spent in the Centre. Higher education apprentices benefit from the same legal status as other apprentices. They are covered by the provisions in the labour legislation and the collective agreements that apply in the enterprise where they work. Compensation: Apprenticeship contracts pay a wage which varies between 25% and 78% of the SMIC – <i>salaire minimum</i> – according to their age and how far they have progressed in their training. The minimum gross wage is €9.61 per hour which translates to €1,457.52 per month. Some sectors have collective agreements with more favourable arrangements.
IT	Apprentices are employed under a regular employment contract on a permanent basis and each young person is paid for their work. There are three different types of contract: • apprenticeship leading to a qualification or vocational qualification; • professional apprenticeships; • higher education and research apprenticeship. The employer and the apprentice sign the contract and agree the training programme. The contract defines the roles and responsibilities of all parties (including the terms and conditions of the apprenticeship, training programme, the apprentice's probationary period, occupation, tasks, wage increases, both the entry and final grade which determines the salary levels and the qualification). Compensation: The apprentice's salary is determined by the collective agreement on the basis of the salary that would be earned by a qualified member of staff. The collective agreement can either set the compensation as a percentage of the salary given to a qualified worker, or fix the apprentice's minimum wage up to two levels lower than the wage of a skilled employee. Generally, the salary increases during the contract. A enterprise tutor is required to assist the apprentice who, when not in training, works the same number of hours as other enterprise employees.

A mixed arrangement of training and employment contract

PL	A written contract is signed between an employer and an apprentice (this can be time-limited or open-ended). This specifies the type of apprenticeship training, the duration and place of apprenticeship training, the way of providing theoretical training and the remuneration. The apprentice has a double legal status as an apprentice covered by the labour code and as a student for whom the education laws apply. Compensation: The regulations ensure that apprentices receive not less than 4% (in their first year of training), 5% (in their second year) and 6% (in their third year) of the average monthly salary. Employers can pay a higher salary but may only apply for reimbursements up to the level set out in these rules.
EL	The apprentice is contractually linked to the employer and receives a wage. Training is governed by a contract between the Employment Service and the employer. Apprentices receive funding to cover the cost of food, lodging and books. The employer pays for their insurance during their practical training.

Apprentices as students	Apprentices as employees	Mixed arrangement
Czech Republic Slovakia Hungary Latvia Portugal Spain Bulgaria	Estonia UK Ireland Finland France Italy	Greece Poland

The type of contract, the specific conditions and other details of the apprenticeship depend on the country and the vocational education traditions. In the countries where apprentices are employees the contracts are between apprentices and enterprises, and apprentices are paid by the enterprise for their productive work. Examples of this kind of contract can be found in IT, UK, IE and FR.

In systems that are mainly school-based, from a legal perspective apprentices are students and they are part of the education/VET system. Agreements concerning the aims and terms of an apprenticeship are made between the provider of the theoretical training (e.g. the VET school or training centre) and the enterprise. In these situations apprentices may receive remuneration which is regulated (nationally, regionally) or based on an individual agreement between the enterprise and apprentice (e.g. in CZ, SK, and LV). In such cases the apprentice is not an employee and therefore does not receive a wage. If an enterprise offers employment to an apprentice then an employment contract is signed.

In some countries apprentices have double status and they are both employees and students (e.g. PL). In Greece, for those apprenticeships that are aimed at unemployed people, the apprentice is contractually linked to an enterprise even though they are paid by an Employment Agency. Regardless of the status of the trainee there can be bipartite or tripartite contracts.

The decision about whether an apprentice is a student or employed has a number of implications. When apprentices are employed: the recruitment decisions are more likely to be taken by employers; training is more likely to be designed around the needs of the employer; and employers are more likely to be involved in assessment and quality decisions. When apprentices are students, the VET provider is the owner of the process and there is a risk that their time with employers will be seen as a placement rather than learning time.

When apprentices are employees the importance of the collective agreement where applicable and the sector organisation is crucial to the ownership of the system by the enterprises. The time spent in the enterprise, the duration of training and apprentices' productivity are aspects to be considered. The role of the enterprise-based tutor is stronger when there is an employment contract as the extent of their involvement is directly link to the productivity of the apprentice.

Table 3 shows that there are many arrangements for apprentices' compensation. These range from a salary established by collective agreement to situations where apprentices' compensation are organised and decided on a case-by-case basis. These situations are not comparable and this precludes a systematic analysis or commentary. However, individual compensation decisions are more likely when there is a school-based system and apprentices are less likely to receive compensation during the time spent in an enterprise (with the exception of PT where the VET provider pays the apprentice).

7. Provision of apprenticeships by SMEs

The interviews identified that apprentices are sometimes the only way for SMEs to recruit skilled people. For many SMEs, in particular micro-companies, apprenticeships are part of a long-term strategy to grow the business and look at new markets. In addition the interviews identified that SMEs felt there was a need to continue to:

- provide information to companies to increase the number of apprenticeship opportunities;
- inform and educate potential apprentices about employers' needs for skilled labour.

The arrangements and the approach used to encourage and support apprentices depend to a large extent on the size of the enterprise. In well-functioning apprenticeship schemes, SMEs form the largest share of employers of apprentices and they are able to consider apprenticeships as a worthwhile investment. However, in many ways, large enterprises are in a better position when it comes to organising an apprenticeship programme to meet their needs. In countries with mainly micro businesses and SMEs (e.g. EL, EE and LV) – particularly when there is a school-based VET system - the establishment of apprenticeship systems face a number of difficulties and challenges. Nevertheless, in countries with well-established apprenticeship systems (e.g. Switzerland) it is the attitude and realism of the small arts and crafts businesses that creates success. The personal relationship between the 'master' and the 'learner' is a key aspect of success. Based on the old craft traditions, this relationship fosters technical skills as well as a more holistic development of the apprentice. The master (and other experienced workers) is expected to be a role model for the apprentice. Therefore, the apprentice learns in an environment focused on professional requirements and the productive organisation of an actual enterprise, receiving immediate feedback from co-workers and customers rather than learning among peer students. For many types of learners being able to see and touch the results of their own learning, a quality product and/or positive customer feedback is highly motivational, as is the teamwork to achieve these results.



In Denmark – another example of a solid apprenticeship system – SMEs are more involved in receiving apprentices than large companies. It seems that apprenticeships provide SMEs with the opportunity to find the skilled people they need. In Poland, apprenticeship training is organised by SMEs mainly in the skilled handicrafts sector which plays an important role in the economy. In France, SMEs remain the main users of apprenticeships and in 2015 they issued 74% of new contracts. Within SMEs the service sector is the biggest user of apprenticeship contracts. In France, public enterprises are involved in the apprenticeship system as a way of renewing and revitalising public administration and they have targets for recruiting apprentices. An example of how apprenticeships are used by SMEs can be seen in Finland.

R-Sarkon⁸ is a medium sized business with 60 employees. Founded in 1989, the enterprise produces professionally turned and machined parts for industry in Finland and abroad. The enterprise can vary the size of each production run and can produce prototype batches or hundreds of thousands of items. Each year R-Sarkon manufactures over 1,500 different items and produces 11 million parts and sub-assemblies for manufacturers in many industrial sectors. The enterprise has a high level of automation– this requires a workforce with high levels of specialisation. In 2014 the enterprise's turnover was 7.5 million euros.

Training apprentices ensures R-Sarkon's future employees are able to operate effectively within the enterprise. The programmes can be in-house or managed by an outside organisation, allow the enterprise to decide the level of knowledge and competence that apprentices need. Apprenticeships (which can be 2.5 years in length) demonstrate that the enterprise is interested in its staff and that it supports their continuing education. As a result of apprenticeships there is an increased commitment from employees as well as improvements in knowledge which have financial benefits, e.g. better trained staff are more productive and the lead-time to prepare the lathes for a new production run can be reduced. As a great deal of bulk production has moved to low-cost countries, R-Sarkon has to remain flexible and this can only be achieved with well-trained staff. In addition the transfer of large production runs to low-cost countries has meant that R-Sarkon increasingly focuses on more complex items. In order to respond to the changing needs of existing customers, and more technical requirements of new customers, the enterprise knows that it is dependent on the skills and abilities of its multitalented employees.

One additional benefit is the development of apprentices' broader understanding of business – apprentices' training is more than a narrow focus on technology. This supports the enterprise as apprentices become interested in improving the processes used by R-Sarkon; they become interested in new projects and want to take greater responsibility; and they develop skills, which help them to manage new projects in order that they are concluded successfully.

How the apprenticeship programme is organised is particularly important to a medium-sized enterprise and the practicalities have to be carefully managed, e.g. everyone starts the programme at the same time as the enterprise does not have the resources to manage apprentices operating at different levels and at different stages of their programme.

In addition, R-Sarkon has to work closely with the local training provider. This includes regular involvement with the vocational school on many issues (e.g. participating in planning the programme; giving feedback of the students' level of knowledge; evaluating students that complete a work placement in the enterprise, etc.)

The enterprise is clear about the costs of the apprenticeship programme (the Government pays for external training and the enterprise pays apprentices' salaries and the costs of internal training). The costs and benefits are predictable and this has helped the enterprise to develop a long tradition of using apprenticeships.

⁸ <http://www.r-sarkon.fi/index.php?id=24>

The discussions in the cluster seminars revealed that a meticulous approach to matching applicants to companies is particularly important for SMEs. Hiring the right apprentice and avoiding drop-out from the apprenticeship are the most important factors of cost-effectiveness of apprenticeships. Close cooperation between schools and SMEs and a well-designed apprenticeship contract are factors which help to make a success of this matching process. SMEs can benefit from good support systems provided by VET providers, chambers or employers organisations. These systems can assist SMEs in the organisation of their apprenticeships, the administrative arrangements and the implementation of up-to-date training methods. Training networks (e.g. 'Lehrverbünde' in Switzerland and 'Ausbildungsverbünde' in Germany) can support access to apprenticeships for very small or specialised SMEs and they can enhance the training quality and effectiveness.⁹ The role of the intermediary bodies was seen as a key aspect of the success of the resource countries as these organisations advise and help SMEs. In countries without this type of structure, it would be helpful to identify employers' associations able to take on this supportive role.

8. Cost-effectiveness of apprenticeship schemes

A number of approaches have been used at national and European level to assess the cost-effectiveness of apprenticeships. These include the questionnaire approach used in Switzerland in 2013 (2,500 companies with apprentices and 1,000 companies without apprentices); the analysis of the annual or quarterly labour market returns completed by industry (e.g. the UK's analysis of the quarterly Labour Force Surveys in 2007); the case study approach (e.g. England's Department of Business, Innovation and Skills looked at 80 case studies in 2013 as the basis for its analysis of effectiveness in 2013); the use of an econometric model to determine effectiveness (e.g. the UK's National Audit Report in 2012); and regression analysis as used by the European Commission's 2013 report for the DG Employment, Social Affairs and Inclusion.

Currently only Germany and Switzerland have implemented empirical and representative studies on the costs and benefits of apprenticeships from the perspective of companies. In this 15 country project we have looked at apprenticeships which are in different stages of development – consequently the analyses of their cost-effectiveness is a challenging task.

Data for the cost-effectiveness of the apprenticeship scheme in Germany was completed by the BIBB - The Federal Institute for Vocational Education and Training. This led to a model of costs and benefits for companies engaged in apprenticeship. The model assesses employers' apprenticeship costs by dividing them into three categories (the costs of apprentices - salaries and social benefits; remunerations for the training personnel; other costs). This model has been further refined by BIBB and 'other costs' have been divided into:

- capacity costs and material costs (costs for workplace equipment, training workshop, and in-company education);
- various miscellaneous costs (costs for learning and teaching material, external courses, protective and specialist clothing, administrative costs to manage the training including fees to the Chambers, and costs for recruiting trainees).

Apprenticeships are seen as a way to make VET more attractive, particularly in countries where VET has a poor image. However the 'return on investment' model is a very important consideration as many apprentices remain with their training employer for a long time and the benefits continue over many years. For example, in the UK and FI the following financial advantages are clear:

- apprenticeships offer a relatively effective means of meeting the skills needs of employers. This is typically more cost-effective than recruiting skilled workers from the external labour market;
- apprenticeships produce a pool of skilled people from which promotion into more senior roles is possible;
- labour turnover rates are often reduced as a result of providing apprenticeship training as apprentices who train with an enterprise are more likely to be retained;

⁹ Resource Countries' report (long version) chapter 7.3

- apprenticeships allow for enterprise values and ethos to be instilled in workers. Employers consider this to be particularly important when apprentices stay with the enterprise after training.

The study team's on-line questionnaire and interviews aimed to:

- develop a better understanding of the skills and competences acquired through the apprenticeship programme;
- identify the costs incurred by employers (and sometimes the apprentices) and whether any or all of these costs are covered by government or other public funds;
- identify the typical career path of someone who has completed an apprenticeship (in terms of future earnings, contribution to productivity, the need for subsequent training;
- evaluate the likelihood of the apprentice moving to another employer or accessing further training;
- highlight the extent to which a successful apprentice can work autonomously once he/she is qualified;
- identify the level of an apprentice's salary compared with a fully-trained employee.

These interviews identified the following costs and benefits for enterprises.

Table 4 – Possible costs and benefits

Typical costs can include	The benefits can be
• wages/salaries; • social security costs associated with apprentices; • the salaries of tutors and other staff who support apprentices; • the costs of correcting mistakes made by apprentices; • the cost of trainers, training materials, equipment for apprentices, clothing in some situations, and travel expenses; • the cost of any external training; • assessment or examination costs; • the cost of assuring the quality of work by apprentices; • recruitment and selection costs.	• increased enterprise loyalty; • improved brand image and reputation; • the earnings which result from the work of the apprentice; • reduced recruitment costs when apprentices are retained in the business; • improvements in the diversity of the enterprise's staff – and for those whose target market is young people, a greater awareness of the needs of their customers; • a cheap way to recruit talented individuals and to pick up the best in times of demographic change; • an opportunity to distinguish the enterprise from its competitors; • reductions in staff turnover (and associated costs) because of better retention; • an opportunity to save money on the usual enterprise induction scheme; • potential grants and subsidies from the state; • opportunities to improve the reflective skills of all staff who become involved in supporting or training apprentices.



Decisions by enterprises on whether to engage in apprenticeship training is, to a large extent, determined by the cost-benefit ratio of such an investment compared with other ways to secure skilled workers. Consequently it is important to understand the individual enterprise/employer's motivation for taking on apprentices as this is significantly affected by the context (e.g. sector, trade, size of a enterprise and bureaucracy). Typical motivations which were identified in the interviews included:

- the opportunity to recruit talented and skilled individuals. This is particularly important when there is also a need to develop the enterprise's employees and it is difficult to recruit in the labour market;
- the ability to build the enterprise's brand image (a type of marketing policy);
- a sense of social responsibility;
- it is part of the culture and expectations of employers;
- a long-term investment;
- because it is common in society/the community (everyone else does it);
- the modest compensation for apprentices can be justified as apprenticeships can be profitable for companies even when they do not hire the apprentice afterwards;
- a combination of these motivations.

Employers' interest and motivation depend on the state of the labour market. For example, during the recent economic crisis the supply of labour was relatively high. However during periods of economic growth, the supply of labour with the right skills and competences is relatively low. In the latter situation there is more interest in apprenticeship training. When recruitment is relatively easy (e.g. for large companies with household names/brands and well-regarded graduate entry schemes) an apprenticeship programme provides an opportunity to recruit from a more diverse pool of talent. Sometimes employers see apprentices as the main way of recruiting when the labour market is difficult (e.g. due to local circumstances; in an industry that is not seen as particularly attractive; or for employers who experience high recruitment costs).

There is a need to avoid situations where apprenticeships are seen as job creation schemes. The purpose of apprenticeships is to train people to acquire a set of skills that enhances their employability and, therefore, their employment prospects, relative to labour market needs. It is also important that apprenticeships are not politicised by policy-makers, at both national and European level through, for example, the setting of targets for the number of apprenticeship places that are to be created by a certain date. Such targets can deter employers from getting involved in apprenticeship training if the context for promoting their engagement is seen as achieving social policy goals targeted on those young people who are most disadvantaged. This can also detract from the quality of the apprenticeship in terms of its usefulness to employers in meeting their skills needs and for the apprentice in respect of learning outcomes and employability.

In almost all countries there are cost-sharing mechanisms in place. These ensure that the costs of apprenticeship, including the costs of training in the workplace, are shared between employer and the state/public sector and/or apprentice. This sharing of costs arises because there are benefits to society in the training and subsequent employment of apprentices; there are benefits to the individuals because apprentices are more likely to find a well-paid and meaningful job; and there are benefits to employers in the recruitment of well-trained staff. There are many policy decisions to be made in relation to how best (and whether) to assign the costs of an apprenticeship scheme to those who receive the benefits.

In the resource countries there are mixed systems of funding which follow the general principle that the vocational school parts of the training are state funded and training in the enterprise, including apprentices' remuneration, is paid by the individual enterprise. Within this general principle there is considerable variation in the systems used by the resource countries. During the cluster seminars there was no agreement between employers' organisations on the value of public funding. While some funding is welcome, some employer representatives, e.g. from Austria and Germany, emphasise the responsibility of social partners for the apprenticeship system.

Examples from the resource countries highlight the different approaches used for sharing the costs of apprenticeships:

- **in Germany** the in-company training parts of apprenticeships are funded by companies. The costs of vocational schools, teachers' wages and the costs for material needed for lessons are covered by the federal states. If specific support is needed for weak apprentices, there are support programmes (e.g. the cost of additional teaching) funded by the employment agency;
- **in Austria** the enterprise part of apprenticeships is paid for by companies. This includes costs for the premises, training staff, remuneration of the apprentice, fees for external training courses and examinations during and at the end of the training period. There are public subsidies (basic funding 'Basisförderung' which was introduced in 2010) for companies, e.g. for quality enhancement there is a grant for participating in a quality-related procedure; there are inter- and supra-company training measures which subsidise training alliances, training of job-specific additional qualifications for apprentices, preparatory courses for the apprenticeship leaving exam. There is some public support for measures to support the continuing education and training of training staff; measures to support apprentices with learning difficulties and measures to equalise access for young women and men to different apprenticeship occupations. School maintenance (building and equipment) and the payment of teachers is the responsibility of the federal provinces and 50 percent of teaching costs are refunded by the federal government;
- **in Switzerland** the government institutions provide no direct subsidies to firms for taking on apprentices. Instead, the state bears primary responsibility for funding the required off the job education in vocational schools ('Berufsfachschulen'). There is a strong role for employer organisations as the professional organisations provide both services and funding for the Swiss VET/PET system - they do the groundwork, run their own training centres and promote specific occupations (VET) and professions (PET). The system is completely employer-led and sectoral employers determine the curricula which are implemented by the vocational schools.
- **in Denmark** public financing is central to the VET system. Coordinated by the AUB system (Arbejdsgivernes Uddannelses Bidrag) all public and private enterprises, regardless of their involvement in VET, contribute a fixed amount per employee to a central fund. Enterprises are then partially reimbursed from this central fund for the apprentices' wages while they are completing off-the-job training. Companies pay the apprentices' wages during on-the job training;
- **in the Netherlands** (until recently) companies which offered learning places for apprentices/dual pathway received a tax concession for each place occupied. This has recently changed to a subsidy.

The costs and benefits of apprentices vary according to occupation, the size of the enterprise and the economic sector. As a rule, by taking apprentices, employers experience a short-term net cost but in the longer term there is a net benefit. For example, positive effects on companies' gross profit in the short-term are found for trade, commercial, craft and construction occupations. For firms with apprentices in manufacturing occupations there are net training costs during the apprenticeship with subsequent gains throughout the long-term employment of former apprentices.

In some countries the cost-benefit estimates have shown the same tendency, i.e. negative in the short-term and positive in the long run. In others the analysis of the payback period indicates wide variations which depend on the occupation, the funding system, the size of the state subsidies and other circumstances.¹⁰ In France, in general it takes a minimum of one year to secure a return from a enterprise's investment in an apprenticeship.¹¹ Some countries such as PL claim that usually companies receive a positive financial benefit from an apprenticeship after the third year¹². Other countries have evidence that the apprenticeship is cost-neutral¹³ in general (e.g. FI) and other countries, like HU, claim that apprenticeship schemes are not cost-effective¹⁴.

¹⁰ UK country report

¹¹ FR country report

¹² PL country report

¹³ Countries reports

¹⁴ Countries reports

In the UK the National Audit Office has estimated that the economic return on every £1 of public funds spent on apprenticeships (assuming the training would not have occurred without public funds) was £18 [25 Euro] across all levels of apprenticeship.¹⁵ The UK's Department of Business Innovation and Skills' 2012 research paper¹⁶ and the associated 2012 research¹⁷ identified that the payback period varied by sectors from nine months in business administration to three years and eight months in engineering. The net training costs to UK employers are highly dependent on the sector and the level of training – they can vary from £ 3,000 [4,200 euro] for an EQF Level 2 qualification in retailing to £39,600 [55,400 euro] for an EQF Level 2 or 3 qualification in engineering. In general enterprises find their costs associated with training apprentices are greater than the cost of other forms of work-based learning.

In a well-functioning apprenticeship training system, a large share of enterprises can recoup their training investments by the end of the training period and retain the most suitable apprentices. Enterprises find that offering apprenticeships is an attractive strategy to recruit their future skilled work force.

In Switzerland's analysis of cost-effectiveness, apprenticeships became profitable for the enterprise in the third year of a four-year programme¹⁸. However, this analysis does not apply to countries whose programmes last two years (e.g. ES). Depending on the sector and country context, it can also be that companies only see a return on their investment after the completion of the apprenticeship, e.g. in the Czech Republic enterprises do not expect a quick return on their investment and therefore they welcome the possibility of deductions and tax concessions. The rate of return on their investment depends particularly on the size of the enterprise, level of engagement and business sector. This raises the question of how to protect investments made by companies to train apprentices if they subsequently leave the enterprise at the end, or before the end, of their training. This can be a particular concern for SMEs and may reduce their propensity to offer apprenticeship training.

The research from Germany and Switzerland demonstrates¹⁹ that the point at which the financial returns of apprenticeships exceeds the costs is dependent on a number of factors such as occupation, size of the enterprise, remuneration of apprentices, complexity of the work, training methodology (work-integrated or training centre), etc. Therefore no generalisations can or should be made. It can be said that a high degree of involvement of the apprentice in the work process and a modest remuneration result in an early break-even point, while more complex occupations which require more investment in theoretical parts of the training result in a negative balance during the apprenticeship. However, as many companies of all sizes in the resource countries trust apprenticeships for training their staff even if it is a long-term investment, it is obvious that looking only at the short-term benefit is short-sighted. Obviously for many companies the cost of hiring from the labour market and inducting external applicants exceeds the investment in their apprentices.

Countries can be considered in relation to the 'maturity' of their cost-effectiveness considerations as well as their cost-sharing mechanisms. UK, IE, FI, FR and IT are examples of countries with well-established systems of apprenticeships in terms of either legal rules; a tradition of negotiations between social partners; an awareness of their country-specific needs for apprenticeships; or the recognition that there are a wide range of motives for apprenticeships which extend beyond financial effectiveness.

The experiences of large enterprises and SMEs differ considerably. SMEs' and especially micro companies' capability to develop apprenticeship training; their interests and needs, their opportunities to take apprentices and their ability to be cost-effective or even cost-neutral are different from those of larger enterprises. SMEs wanting to work with apprentices face a range of difficulties relating to planning, funding, organising training, setting expectations, assessing learning outcomes and dealing with bureaucracy need specific support strategies to be in place. In some countries large companies encourage SMEs in their supply chain to become more involved in apprenticeships as a way of maintaining the quality of their final products and services.

¹⁵ National Audit Office, Estimating economic benefits from apprenticeships – Technical paper, 2012

¹⁶ Employer investment in apprenticeships and workplace learning: the fifth net benefits of training to employers study <https://www.gov.uk/government/publications/employer-investment-in-apprenticeships-and-workplace-learning-the-fifth-net-benefits-of-training-to-employers-study> [Accessed 3-3-15]

¹⁷ Employer investment in apprenticeships and workplace learning: the fifth net benefits of training to employers study <https://www.gov.uk/government/publications/employer-investment-in-apprenticeships-and-workplace-learning-the-fifth-net-benefits-of-training-to-employers-study> [Accessed 3-3-15]

¹⁸ Resource Countries' report

¹⁹ Resource Countries' report (long version) chapter 8.2

A large component of the cost-benefit ratio is determined by public policy. Looking at the target countries, in some the cost of apprentices for companies is reduced by government-sponsored employer incentives such as direct subsidies for apprenticeships (e.g. FI, HU and UK) and/or the availability of tax deduction schemes (e.g. CZ, SK, FR and IT). However there are risks associated with such incentives if they focus on a short-term approach to reducing unemployment statistics. Instead, financial incentives need to promote employer engagement in apprenticeship schemes and this needs to go hand in hand with appropriate framework conditions that allow for the sustainable and, therefore, cost-effective, involvement of enterprises when any financial incentive runs out. There are different ways for the state to support apprenticeships, including by subsidising employers' costs associated with apprenticeships, for example:

- A state subsidy covers the school-based training periods of apprenticeships and the costs for in-company training are covered by employers (e.g. EE, LV and IE);
- Apprenticeships are funded by the state and subsidies cover most parts of the training except apprentices' salary. For example, in Finland the state covers the cost of the theoretical training. It also compensates the employer for training provided by the enterprise and for the students' welfare benefits;
- In most countries employers are responsible for the costs of enterprise training which include apprentices' wage (usually a percentage of the legally regulated level) or payment to apprentices for their productive work. In some situations the cost-sharing arrangement is organised as a reduction of the social security contribution for employers (e.g. IT).

However, in many countries with well-established apprenticeship schemes, the share of public subsidies or cost-sharing arrangements with incentives from public money is limited and/or it is used to support particular initiatives or target groups.

As explained (above) the resource countries use a variety of funding systems based on the general principle that the vocational school parts of training are state-funded and training in the enterprise is paid for by the individual enterprise. In general SMEs (as well as other organisations) resist additional bureaucracy and consequently they try to avoid the additional regulation which comes with public subsidies. Most companies feel apprenticeships are part of their responsibility and in their own best interest rather than an implementation of public policy.

The variation in the resource countries' systems shows there is no agreement between employers organisations on the point of public funding, e.g. the German Association of Employers' Confederations, BDA²⁰ highlights that a dual system that is completely organised and funded by the state without a real commitment and responsibility from employers will not work. For BDA, employers must be willing to take co-responsibility for the system including the finances, offering suitable training places, providing qualified training personal and paying remuneration to the apprentices. However, state assistance for training specific target groups would be appreciated and assistance from public funds as 'seed money' is needed to introduce comparable systems elsewhere. Similar views were expressed when seminar participants from Germany, Austria, Denmark and the Netherlands emphasised that their engagement in apprenticeships is not dependent on public subsidies. With the exception of targeted support for groups with additional needs, the preference is for the system to be managed by companies according to their real needs without too much political interference.

There are also examples of sectoral self-regulation of funding, e.g. the German construction sector fund for SMEs which is based on a collective agreement. The SMEs contribute to the fund with 2.1% of their payroll, however they are reimbursed when they participate in training activities. In many cases employers are supportive of tripartite arrangements, e.g. Austrian Economic Chambers representatives welcomed funding for companies and some tripartite arrangements for infrastructure such as training centres and training networks of companies. However employers' organisations support a large public role in the transition phase of establishing a system, particularly in relation to securing institutional arrangements and establishing preconditions for apprenticeships.

²⁰ BDA – Association of German Employers' Confederations – response to BUSINESSEUROPE Questionnaire, February 2015

England – an example

England provides flexible support for employers by combining fixed rules with grants which depend on the target group, sector and size of enterprise, e.g. the government covers all or part of the cost of training for apprentices depending on the apprentice's age. The full training cost is paid for a young person aged between 16 and 18; and 50% of the cost of training is paid for apprentices aged between 19 and 24. The government may also provide funding for up to 50% of the cost of those who are 25 or older. The employer covers the remaining costs.

Funding for apprenticeship is paid to the organisation that provides and supports the apprenticeship training; in most cases this will be a training provider or in case of large employers who register with the National Apprenticeship Service (the national organisation in England which supports apprenticeship schemes), they may receive the funding. One advantage of the current system is the creation of a simple administration system for employers as this enables businesses to treat an apprentice as a 'normal employee'.²¹

As part of this project the on-line questionnaire identified that:

- Apprentices are often a way of filling 'hard-to-recruit' positions and apprenticeships are seen as an effective way to identify/test/recruit new members of staff;
- Apprentices' training is mainly provided by ordinary members of staff (they are not trained by special trainers);
- The cost of the enterprise's training varies depending on the apprentice's occupation (e.g. the capital costs associated with engineering apprentices are much higher than similar costs in the commercial sector);
- The financial benefits exceeded the costs and the financial returns on an employer's investment in apprentices increase in line with the length of time they remain with the organisation. The more time that is spent in training, the greater is the development of soft skills such as autonomy and responsibility. These are important skills for employers which have a significant impact on the cost-benefit analysis of apprenticeship programmes.

In some countries (e.g. the UK, IE and FI) there are notable government attempts to support and promote apprenticeships. However, the responses to the online questionnaire highlight that implementing policies can be difficult. The importance of taking into account the views of employers when preparing and implementing policies is also key for the ensuring the engagement of enterprises. This can be seen in recent reforms in England.

The introduction of an apprenticeship levy on employers

In 2015 the British government decided to introduce an apprenticeship levy on employers in England in order to fund an increase in the number of apprentices and to address emerging skills shortages. Employers' organisations are keen to ensure that the arrangements which follow the introduction of this levy will be of benefit to enterprises. These organisations have highlighted four concerns which they feel need to be addressed to ensure the long-term success of the policy. These are:

- the need to ensure the system is driven by economic and business needs;
- it is essential that there is flexibility in relation to sectors and the size of the enterprise;
- the system should be based on funding quality provision and reward commitment;
- there need to be relevant and simple apprenticeship standards.

The following examples show how companies which work in very competitive markets manage their apprenticeship schemes.

²¹ The Trailblazer scheme in England also seeks to use a simple, easy-to-operate administrative system.

Table 5 – Enterprise costs and benefits

enterprise	What are the costs of apprenticeship to your enterprise?	What are the benefits for your enterprise?
SAP – SE (ICT sector)	• The costs are manageable and we expect a financial return within two years – this is usually achieved but we always get a positive financial return within three years. • When apprentices are working in the enterprise, approximately 50% of their time is allocated to training. Often they are not productive during their first year of employment because of their level of skills. • Once the apprentices complete their programme they start working in a normal job at SAP. In this role they do not have to complete the usual enterprise induction programme which takes between three and six months. This saves the enterprise the cost of providing this induction.	• With apprentices the risks of poor selection are eliminated as SAP knows they will be suitable for a job after they complete the apprenticeship. • It is hard to recruit new talent and the market is competitive. Having organised apprenticeships for many years this model is seen as a success and it enables SAP to recruit the best students. • The model is being used with SAP's apprentices in India (100 people per year), China (100 people per year), Brazil, Hungary and Ireland. The model is based on the principles behind the dual system – but the arrangements in each country are adjusted to meet local needs and circumstances.
IBM – UK (ICT sector)	• The costs are predictable and easy to manage. They are monitored every month and adjustments can be made. There are no surprises as most of the costs are associated with the apprentices' salaries (21,000 euros per annum).	• All the apprentices are employed on client-facing work and are expected to generate earnings for the enterprise. • There are significant gains for the brand value of IBM as this is seen as a good thing to do. • The skills and competences of the apprentices acquire from being in the working environment are very impressive. Their ability to learn enables them to overtake those who are recruited to IBM's graduate programme. • They build skills quickly and add vibrancy to the business. • It is a very cost-effective programme and there are positive returns on IBM's investment very quickly.

METRO – SK (Commercial sector)	• The total cost to the enterprise of each apprentice is 500 Euros per month. This is seen as a worthwhile and cost-effective option.	• Apprenticeships are part of the enterprise's approach to working with young people in order to attract and retain talented employees – they are not the cheapest way to engage with young people but it is effective in attracting and retaining the staff the enterprise needs. • There is an added benefit for the enterprise in relation to its position in the labour market – the apprenticeship programme is one way to show the importance of employees and brings a practical dimension to the enterprise's ethos of investing in its staff.
Jones Engineering group – IE (Engineering sector)	• The Irish national model for apprenticeship helps to make the costs predictable and manageable – the enterprise only pays the apprentices' salaries when they are at work and completing on-the-job training. The government covers the salaries during time spent off-the-job. • The enterprise can ensure the apprentice programme is cost-effective. This is achieved by combining apprentices and experienced staff when tendering for a contract.	• The most important benefit for the enterprise is the ability to develop a pool of talent. In addition the enterprise is able to influence and determine the level of skills of their staff and can ensure that these skills are those that the business needs. • As the enterprise has organised apprenticeships for a long time, many potential customers know about Jones Engineering's apprenticeship programme and this helps to create effective relationships with potential clients. • Providing apprenticeships is also seen as a good public relations strategy.
Engineering Ingegneria Informatica Spa – IT (Engineering sector)	• The ability to manage the training programme helps the enterprise to control and manage their costs. In addition to the apprentices' salaries and the social security contributions, the main costs are associated with the cost of the time of the people responsible for supporting and training the apprentices.	• Apprenticeships give the enterprise the opportunity to train new workers in a cost-effective way, due to reduced social security contributions associated with apprentices. • The enterprise's success is partly due to their investment in apprentices as young people are seen as one way to support the enterprise's future and strengthen innovation.



R-Sarkon – FI (Engineering sector)	• The enterprise is clear about the costs of the apprenticeship programme - the Government pays for external training and the enterprise pays apprentices' salaries and the costs of internal training.	• As a result of apprenticeships there is an increased commitment from employees as well as improvements in knowledge which have financial benefits, e.g. better trained staff are more productive and the lead time for a new production run can be reduced. • In order to respond to the changing needs of existing customers, and more technical requirements of new customers, the enterprise knows that it is dependent on the skills and abilities of its multi-talented employees.
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Table 6 summarises the information on cost-effectiveness which was identified through the research on resource countries and target countries; the discussions in the cluster seminars; and the interviews with stakeholder representatives and selected companies. Table 6 also includes information on those risks and incentives which were mentioned most often.

It is only in Germany and Switzerland that there has been in-depth research on the size of the costs and benefits²² (a summary of the costs and benefits is included in Table 4). A level of stability in the system is a pre-requisite for making such research meaningful and useful for policy. We should note that there has been some research which aims to calculate costs in other countries. When the costs are more clearly defined, the stakeholder discussions revealed that benefits can more easily be identified by decision-makers but they are still hard to calculate quantitatively. It is not unreasonable to assume that most companies make informed decisions based on their perceptions of the benefits rather than an accurate quantitative calculation of these benefits. Nevertheless desktop research and stakeholder discussions have identified those factors which influence the risks and incentives for employers.

²² Synthesis from the Resource Countries' report.

Table 6 – enterprise risks and incentives

Risks for companies:	Incentives for companies:
• poaching of trained apprentices • inconsistent and/or unstable rules • social partners disagree about the relevance and benefits of apprenticeships • companies are asked to develop apprenticeships as part of a government social policy • unstable business environment • low appreciation of VET has an impact on the quality of applicants	• high level of employer influence on the design of the curriculum and the definition of adaptable qualifications • being part of a culture of employer-led skill formation • working at the regional level can limit poaching • social partners agree on the value of apprenticeships • good support structures (networks, chambers, VET providers) • good cooperation with schools to assure the best match between applicants and companies • public funding of school-based parts of training • availability of external training courses for specific technical skills • availability of support for developing apprentices' social or soft skills, and additional courses in basic skills for apprentices • cost-sharing schemes

9. Sectoral perspective: ICT, engineering and commerce sectors

There are many reasons why governments encourage apprenticeships:

- They are an effective way for companies to recruit/develop skilled people;
- Apprentices can learn quickly and develop into high-performing members of staff. For enterprises this is a cost-effective strategy compared with recruiting more senior staff from the labour market;
- They encourage employers and social partners to become more involved in the education and training process;
- They are one way to improve the image of vocational training in order to make it more popular with students and their parents;
- They provide young people with a high-profile, 'earn while you learn' route into a good career – this helps employers to offer something attractive to those with potential;
- They are one way to address youth unemployment as apprenticeships enhance the employability and future employment prospects of young people.

However these general reasons may not provide sufficient motivation for individual companies. To understand what is driving or encouraging the involvement of individual enterprises we need to look at each sector. It is clear that the drivers and motivations differ in each sector. These reasons for becoming involved in apprenticeships have led to broadly-based policies that address the needs of each sector. The work of the study team and input of the sectoral organisations involved in the project suggests that the following are the main drivers or reasons why employers engage in apprenticeship training.

In the **ICT sector** companies choose to be involved in apprenticeships because:

- Employers know that support for digital transformation requires the harnessing of digital and entrepreneurial skills – these skills are a pre-requisite for their success. However, ICT companies are suffering from a shortage of digital technology experts (currently there is a shortage of more than 700,000 people). While the demand for ICT practitioners is growing by around 3% a year, the number of new ICT graduates and skilled ICT workers is not keeping up. This is partly due to the fact that ICT-related studies are not seen as attractive, and often young students are not aware the career opportunities that are available to those who decide to choose ICT as an educational path.
- In addition to the lack of interest in ICT careers, it is difficult for ICT companies to find the right candidates to fill their growing vacancies. There is a mismatch between the school and university curricula and the actual requirements of employers. The sector is growing extremely fast, the skills requirements are changing and this makes it difficult for the education providers to keep up. This makes a 'grow your own' policy an essential part of any IT company's human resource strategy.
- It can be difficult to recruit a sufficient number of staff with the skills and competences that are required in emerging occupations, such as big data manager, app developer, cyber security specialist, Internet of Things experts.

Employers find it more and more necessary to become involved in the design and modification of university and training curricula to ensure they are in line with the emergence of new technologies. Apprenticeships can be seen as a very useful approach to upskill and retrain internal staff – and this involvement can facilitate the adaptation of the workforce to the ongoing process of digitisation. Furthermore, through the implementation of an apprenticeship system, companies can play a more active role in the design of curricula to make sure their requirements are adequately reflected in the learning outcomes. The demands on employers to recruit the 'right staff' have led to the emergence in some countries of so-called 'e-apprenticeships'. The following three case studies highlight how apprenticeships are part of a long-term strategy to recruit 'talent' into IT companies.

SAP SE²³ is a multinational enterprise which designs software to help businesses manage their operations and their relationships with customers. SAP's head office is in Germany and the enterprise employs more than 74,000 people through its offices in 130 countries.

SAP's apprenticeship system is part of their policy of attracting 'early talent' as well as one way of bringing new ideas and creative thinking into the business. Apprentices (usually aged from 19-24) are considered to perform at a higher level than the enterprise's average employee; more than 80% of the apprentices complete the training; they are loyal and remain with the enterprise for many years; and they bring new perspectives on the needs of the enterprise's younger customers. Even though the benefits are clear and substantial, the apprenticeship system has to be cost-effective as the shareholders expect and require a return on their investment.

SAP can predict costs and this helps the enterprise to plan and manage the programme. It can cost an average of 2,000 Euros to recruit an apprentice but there are subsequent savings as apprentices do not take the enterprise's induction programme (which lasts from three to six months) after they complete their training.

SAP prefers to organise the apprentices' training and manage the programmes 'in-house'. It is only those areas of training (e.g. foreign language development) where SAP does not have the expertise that they look for support from an external training provider. The company-based training includes the use of project-based tasks, self-study, mass online open courses (MOOCs) and support from a company-based trainer for half a day each week. In total 50 per cent of the apprentice's time is spent in training; this makes them less productive in their first year but the enterprise sees a positive return on the investment within two years.

²³ <http://go.sap.com/index.html>



It is difficult to recruit new staff in the IT sector – and there is intense competition for talented individuals. The apprenticeship programme provides SAP with an opportunity to attract young people at the start of their career. The principles which support the apprentice model that is used in Germany have been adapted and used in China, India, Hungary and Ireland. The expansion of the apprenticeship programme is helping SAP to identify ‘early talent’ and attract the best students.

IBM has offered a graduate recruitment scheme for many years. In the UK the enterprise decided in 2010 to offer an apprenticeship route in both business and technology for school leavers²⁴ based on the graduate programme. Initially it was offered at European Qualifications Framework (EQF) Level 3; it is now available to 60 learners each year at EQF level 4. All the apprentices are employed in permanent roles and undertake client-facing roles with an expectation that they will earn income for the enterprise.

IBM’s apprenticeship system is part of a policy of attracting ‘early talent’ and many of their apprentices have overtaken those who were recruited to the graduate programme. During their training apprentices are paid £15,000 (€21,000) per annum. They are described as ‘amazing’ learners with the ability and enthusiasm to acquire new skills and make rapid progress. They add vibrancy to the business and they are great ambassadors for a company-based apprenticeship scheme.

IBM is able to predict their costs and this helps the planning and management of the programme. Most of the training is completed in-house through on-the-job training. Each apprentice is assigned a mentor and is expected to complete a journal which can be reviewed and assessed. Those aspects of training provision that IBM does not want to organise (e.g. liaison with the UK’s inspection system and the qualification awarding body) are organised by a VET provider.

It is hard to recruit new staff in the IT sector – and it can be difficult to recruit graduates with the right skills and competences. The apprenticeship programme is very cost-effective and IBM very quickly receives positive returns on its investment. There are also benefits to IBM in terms of improving the value of the brand as providing an apprenticeship programme is seen as a good thing to do. The success of the programme has encouraged IBM to establish an EQF Level 6 apprenticeship scheme in partnership with two universities in the UK.

Engineering Ingegneria Informatica Spa²⁵ was established in Padua 30 years ago. Today ‘Engineering’ is the leading IT enterprise in Italy offering a wide range of services. Compared with the overseas information and communication technology giants, the enterprise has been described as a ‘pocket-sized multinational’. ‘Engineering’ focuses on research into the way that people work, which has enabled it to develop software solutions to support employers, and become Italy’s largest software enterprise. The enterprise has 7,800 direct employees in Italy and 3,000 people working in related activities. In 2014 international sales were worth 853 million Euros.

The enterprise has 130 apprentices who are working at the secondary school and bachelor degree level. The enterprise works closely with schools and universities to recruit the best candidates through an interview process. In Italy an apprenticeship is based on a contract of employment for those aged from 18 to 29 years. Training apprentices is attractive to ‘Engineering’, particularly following the Jobs Act reforms, which included a lowering of the social security contributions that companies need to pay when training apprentices – thus making apprenticeships more cost-effective. The enterprise’s success is partly due to their investment both in apprentices and in the internships as young people are seen as one way to support the enterprise’s future and strengthen innovation. Outside Italy the enterprise uses internships.

²⁴ <http://www-05.ibm.com/employment/uk/school-leavers/apprentice/>

²⁵ <http://www.eng.it/gruppo/intro.dot>

The enterprise uses its own IT and Management School – ‘Enrico Della Valle’²⁶ with 200 certified lecturers and 315 courses. The school provides nearly 17,000 training days each year. This enables the enterprise to organise all the apprentices’ training - from analysing skills needs to the design and delivery of initial and continuing VET. The school is responsible for maintaining and evaluating its connections with the enterprise, and produces a daily summary of the activities completed by the apprentices alongside reports, which measure the effectiveness of their learning. Since 2015 the school has been exclusively used by internal staff, suppliers and clients.

The training arrangements for apprentices are based on regional requirements which reflect the different labour markets e.g. in the North the maximum duration of an apprentice’s contract is two years while in the south it is three years. Each apprentice’s career plan and future working role is defined during their two- or three-year training programme and only fixed at the end of the contract. After completing the programme (assuming the outcomes of the apprentices’ assessment are positive) individuals are moved to a fixed-term contract.

The ability to manage the training programme helps ‘Engineering’ to control and manage their costs. In addition to the apprentices’ salaries and the social security contributions, the main costs are associated with the cost of the time of the people responsible for supporting and training the apprentices.

Even when there are no formal apprenticeship schemes, some companies find ways to train staff in the ICT sector – in Bulgaria the Telerik Academy for Software Engineers’ provides an example of how a enterprise can develop a successful apprenticeship model.

There are no systematic research reports on the cost-effectiveness of apprenticeship schemes in Bulgaria. However there are examples of practice from companies which have developed their own programmes, such as the Telerik Academy for Software Engineers’, which is regarded as highly successful. It is very popular among young people because of the quality of the training and the positive employment outcomes. 15% of the apprentices from the enterprise’s Software Academy were hired immediately by Telerik and more than 50% of the apprentices are in employment six months after completion the programme. This programme succeeds because there is:

- a) strong brand recognition (Telerik was recognised as the ‘Best Employer in Bulgaria’ in 2007-2012);
- b) widespread publicity which increases students’ awareness of the programme;
- c) high quality training based on blended learning and on-the-job learning;
- d) development of ICT skills which are in high demand in the labour market.

In the **engineering sector** companies choose to be involved in apprenticeships because:

- For long-established employers, apprenticeships are central to the way the sector works. Investing in staff, building a enterprise’s reputation in the community, promoting enterprise values, and succession planning are all enhanced by taking apprentices.
- Technological changes are making college and university-based equipment and methods obsolete. New recruits need to be trained in the latest methods and with the most advanced technologies – apprenticeships are a good way to ensure this happens.
- Apprenticeships are a means to increase the number of people with science, technology, engineering and mathematics (STEM) related skills and competences, which are particularly vital in this sector and for which there is already a shortage;
- Within the broader scope of STEM skills there is growing demand for people with IT-related skills and competences, and apprenticeships can help to address this need.

²⁶ <http://www.engineeringformazione.it/?id=4>



The following case study from the engineering sector illustrates how apprenticeships can be used to attract new talent and distinguish an employer from its competitors.

Jones Engineering group²⁷ is a group of companies that provide mechanical, electrical, instrumentation, fire protection and maintenance solutions. The enterprise employs more than 1,500 people and it is the largest trainer of building services apprentices in Ireland with over 300 people on training programmes²⁸.

Apprentices are seen as the main way to recruit high quality staff: without this policy the enterprise is unlikely to be able to attract a sufficient number of qualified employees. Apprentices form an important part of the workforce and 90% of the enterprise's supervisors have completed an apprenticeship and many former apprentices have moved into a managerial role.

Within the context of an expanding labour market in Ireland, it is increasingly hard to attract young people to the workforce compared to the higher education sector. Whereas 15 years ago skilled and motivated young people would have sought an apprenticeship, nowadays they expect to go into higher education. In this situation the enterprise needs to employ apprentices to ensure it has enough staff to meet the growing demands on the business. Apprenticeships are a key way to recruit enough talent.

As mentioned in Table 5, the Irish national model for apprenticeship helps to make the costs predictable and manageable – the enterprise only pays the apprentices' salaries when they are at work and completing on-the-job training. The government covers the salaries during time spent off-the-job. Jones Engineering has the ability to ensure the apprentice programme is cost-effective because it is a contracting group which provides engineering services to clients. For each client the enterprise combines apprentices and qualified staff to ensure each contract is profitable and provides opportunities for the apprentice to be trained. Deciding on the right 'mix' of apprentices and experienced staff is critical to earning a profit and ensuring the apprenticeship programme is cost-effective.

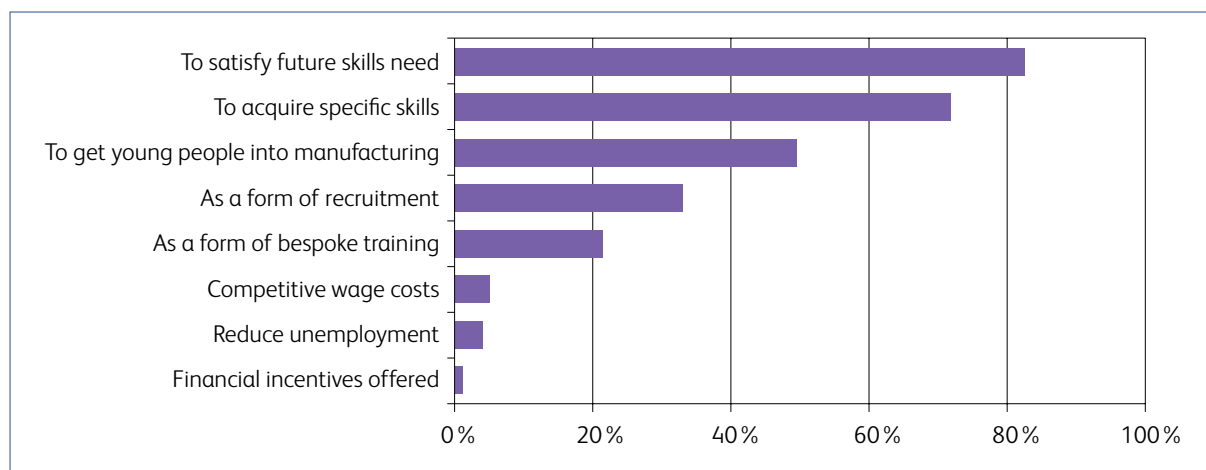
The most important benefit for the enterprise of taking apprentices is the ability to develop a pool of talent. In addition the enterprise is able to influence and determine the level of skills of their staff and can ensure that these skills are those that the business needs. As the enterprise has organised apprenticeships for a long time, many potential customers know about Jones Engineering's apprenticeship programme and this helps to create effective relationships with potential clients. Providing apprenticeships is also seen as a good public relations strategy.

²⁷ <http://joneseng.com/about-us/>

²⁸ <http://joneseng.com/about-us/people/>

In the UK, EEF²⁹ the manufacturers' representative organisation and a CEEMET affiliate asked members why they offered apprenticeships. Chart 1 analyses their members' responses where the importance of the skills needs can be observed.

Chart 1: Reasons why manufacturers offer apprenticeships



Source: EEF Skills Survey

The Salvador Caetano Group³⁰ includes more than 100 companies located in Europe, Asia and Africa. With its head office in Portugal, the group has more than 5,500 employees and covers five business areas: industry; distribution; retail; energy and services. The Group is one of the few organisations in Portugal with its own autonomous training structure dedicated to training employees and young people through the apprenticeship system. Between August 2014 and August 2015 more than 91% of apprentices were employed following their completion of an apprenticeship.

This approach to training staff began in 1981, with some pilot projects for apprentices in 1983. This led to the development of an apprenticeship system to meet the skills needs of companies in the Group. Now all the skills that are needed for mechanics, car painting, body-repair, welding, cashiers and reception staff are met through the apprenticeship system. The Group has created its own qualifications and identified the skills it needed but could not find in the labour market. This failure to find the required skills in the labour market was the main reason for creating this training system. Since the Group was established the philosophy has been “if you cannot find the right workers, create them”.

The Group organises apprenticeships that cover the professions and qualifications they require or will require in the future. As the Group expands (it is currently developing expertise in the aeronautical sector and the production and transformation of composite materials) they develop new apprenticeship programmes as they experience serious difficulties in recruiting in the market workers in these areas. Even though there are difficulties in recruiting fully qualified staff, the Group is able to attract interest from potential apprentices e.g. for a recently advertised programme the Group received 130 applications for 20 places. Applicants from the professional school are given priority as the Group does not consider students who have completed other vocational courses to be well prepared or ready for the labour market. The Group provides 90% of the training and has a strong interest in providing high quality training as they expect to hire the apprentices when they qualify.

Apprenticeships benefit the companies in the Group because apprentices are able to acquire the skills needed by

²⁹ <https://www.eef.org.uk/about-eef>

³⁰ http://www.gruposalvadorcaetano.pt/default_gsc.asp?l=en

the employers (these skills are not provided by the regular school system). In addition, offering apprenticeships enhances the general image of the Group and is part of what it sees as its social responsibility.

In the **commerce sector** companies choose to be involved in apprenticeships because:

- There are significant changes taking place in relation to the occupational roles in the commercial sector. The skills needed for these new roles are influenced by external and internal drivers (e.g. consumer preferences; the state of the economy; technological, organisational and regulatory change), and this means wholesalers and retailers face new challenges.
- There is generally a consensus on the core skills and competences that are required for each occupation;
- The emerging occupations include international trade specialist, technician/international trade assistant, e-merchandise, e-commerce employee front office/e-shop assistant, entrepreneurial e-commerce employee, technical specialist in e-commerce, e-commerce operator, and expert in digital CRM - customer relationship management.
- In many Member States, local authorities and national sector social partners have set up successful educational initiatives such as the dual apprenticeship.
- Apprenticeships are based on the combination of theoretical (school) and “on the ground” (enterprise) learning. These models are not always easily transferable because of differences in national education systems, but they all lead to significant outcomes.
- Apprentices help to address problems which may arise when employers look for staff able to multi-task and use their specialist skills. Apprentices are also able to operate in an environment where there is a lack of formal job profiling and little recognition of the competences, including soft skills, which are typically needed in jobs involving direct interaction with customers.
- In this sector social partners play an important role in analysing skills development and support public and private bodies in the education system to define and update job profiles via collective agreements or through joint recommendations.
- Apprentices help to create a skilled, up-to-date workforce, able to work with current sectoral trends and consumer habits. This is critical to improving the quality of service provided to customers.

The following case study from the commercial sector illustrates how apprenticeships are part of the strategy to attract and retain the staff the enterprise needs.

Metro³¹ is an international wholesaler with ‘cash and carry’ outlets for the retail sector in 27 countries. The enterprise’s website notes that ‘in light of the demographic change and its impact on societies around the world, especially regarding the intense competition for talents, it is crucial for us to recruit, retain and develop skilled and expert employees for METRO Cash & Carry.’

This can be seen in the Slovakian approach to working with young people in order to attract and retain talented employees. In order to develop their own staff, identify potential, and respond to an increasingly competitive labour market METRO Cash & Carry Slovakia uses a range of schemes to focus on recruiting young people. Apprenticeships are part of its approach – they are not the cheapest way to engage with young people but they are the most effective in attracting and retaining the staff the enterprise needs. They also provide an opportunity to distinguish METRO Cash & Carry Slovakia’s offer from the schemes that are provided by competitors and similar businesses seeking to recruit from the same group of young people.

The enterprise is able to organise and plan its own training, select the partner organisation it works with, and contract out those parts of the provision where others can add value to the training offer. This flexibility enables the enterprise to control and manage its costs, and this ensures the benefits of the apprenticeship programme exceed the costs. The enterprise’s ability to select individuals for apprenticeships is critical to the programme’s success.

³¹ <http://www.metrogroup.de/en/metro-cash-and-carry>



Those who complete the programme are significantly more motivated than those who are recruited through other schemes – this ensures that the subsequent training costs are lower and productivity is higher. There is an added benefit for the enterprise in relation to its position in the labour market – the apprenticeship programme is one way to show the importance of employees and brings a practical dimension to the enterprise’s ethos of investing in its staff.

There is considerable interest in the government’s 2015 decision to support the dual system of training. This model, while more expensive than other models, will provide a further opportunity for the enterprise to demonstrate its commitment to employees and distinguish METRO Cash & Carry Slovakia from its competitors. Even though it will cost 500 Euros per month for each apprentice, this is seen as a worthwhile and cost-effective option.

Another example from the commercial sector shows how apprenticeships offer a flexible way of training employees and a way of encouraging staff to reflect on their work and analyse business processes.

The Tokmanni Group is the largest discount retail chain in Finland and the Nordic countries. The Group has more than 150 stores and employs approximately 3,000 staff³². Its human resource strategy includes support for apprentices who, in Finland, are over 25 years of age and are usually already employed by the enterprise. The enterprise receives public funds to support the programme and the majority (more than 75%) of the training is completed by a vocational school. The apprenticeship programme is seen as a good and cost-effective way to train existing staff and, in some situations recruit new employees.

The Tokmanni Group’s apprenticeship programme is based on training and assessment which is arranged by a vocational education and training provider. The enterprise is fully involved in designing the programme, can select the training provider and can ensure that the content of the training aligns with the employee’s normal activities. However, funding is provided by the state. This gives the employer control over the programme without incurring high costs. The training is organised to enable employees to reflect on their work and analyse various business processes – this increases employees’ productivity and improves their motivation.

The Tokmanni Group pays a full salary to all apprentices during their training days. Most apprentices have between 15-20 days “off work” for their training. In addition to the salary costs of the training days, the enterprise covers a number of planning and coordinating costs, and allocates time for study at work. This makes it easy to predict the total cost to the enterprise.

As apprenticeships are focused on current staff who have experience at work, the training programmes are relatively short compared with other European schemes. There are proposals to reduce the length of the programme to six to eight months. This is seen as a good move as it provides more flexibility for the enterprise and an opportunity to adjust the programme to the needs of individuals.

³² <https://yritys.tokmanni.fi/suppliers>

10. Effectiveness of apprenticeships in meeting enterprises' skills needs

Cost-effectiveness is one aspect of the overall effectiveness of apprenticeships. Additionally, there are other aspects of 'effectiveness' that need to be considered as each can make an apprenticeship system attractive.

The wider benefits to society of apprenticeships include social benefit through their contribution to the employability and employment of young people by smoothing the transition from education to the labour market; they provide work experience opportunities; and they contribute to economic growth. When skills are standardised and nationally certified, successful apprentices who leave their training firm provide a pool of recruits for other firms. This can help to widen the pool of skilled workers in a region, but it can open up the opportunity for some employers to 'poach' apprentices who have been trained by their competitors.

Apprenticeships also help to make qualifications more widely available and help individuals to develop or change career, e.g. in Germany the unemployment rate of skilled workers has fallen from 6.6 percent in 2009 to 5 percent in 2012 while the unemployment rate of unskilled workers was 19.0 percent in 2012. The employability of skilled workers is much higher than that of unskilled workers, but not as high as that of university and college graduates. Unemployment of master craftsmen and technicians was as low as 2.1 percent in 2012 (lower than the university graduate rate of 2.6 percent in 2012). The ratio of apprentices employed by their training enterprise after completion of their training in Germany was 67 percent. Data from Austria show that graduates from a dual-track apprenticeship have a much higher probability of employment 18 months after graduation compared with graduates of VET schools and vocational colleges. In Switzerland in 2012 unemployment for 18-21 year olds immediately after the end of their apprenticeship was under 10% and decreased to just above 5% one year after completing the apprenticeship. In general there is a smooth transition to employment without a period of involuntary unemployment. In the Netherlands, taking the year 2011 as an example, the unemployment rate of school-based compared with apprenticeship-based VET was 75%/20% for those with a Level 1 or 2 qualification and 8%/2% for those with a qualification at Level 3 or 4.

From an employer's perspective there are many long-term benefits which make apprenticeships attractive, for example the early integration of apprentices into the company's culture; apprentices identify with and adopt the enterprise's culture; increased loyalty and better motivation; and young people are more easily acclimatised with the work environment. For employers, apprenticeship schemes are sometimes part of their corporate social responsibility and an instrument to improve the company's brand and image.

11. Governance, partnerships and social dialogue

If companies are to see apprenticeships as an investment there needs to be the provision for them to have greater ownership of schemes, notably the design of the curricula, and, where appropriate, greater control over funding. Moreover, cooperation or partnerships with vocational education and training (VET) providers and/or trade unions as part of the governance of apprenticeship systems can add value. Such partnerships need to reflect the diversity of the labour market situation and national industrial relations and education and training systems.

In some resource countries, apprenticeships are closely connected with VET centres and in some countries such as NL there are more school-based than company-based pathways. However VET providers have a strong supportive role in many countries, e.g. in Germany there are state-run vocational schools (Berufsschule) and a limited number of occupations are taught through school-based approaches in technical schools (Fachschulen), particularly occupations in the health care and social services sector. In addition, the training centres run by the chambers offer many types of professional courses which teach technical skills to apprentices in the dual training system. These centres provide further vocational training including preparatory courses for Masters of Industry, Masters of Crafts as well as in services and trade (Fachwirt).



VET providers and training centres (which are sometimes run by employers or unions on a non-profit basis or as commercial organisations) offer a wide range of courses which support enterprise learning, rehabilitation and reintegration in the labour market. There are courses to facilitate the transition from school to apprenticeships for candidates not regarded as ready for an apprenticeship, and to support apprentices with additional learning on general subjects such as mathematics and German. Particularly in Eastern Germany, there is a strong system of cooperation among training companies and VET providers (training networks ('Ausbildungsverbünde') which provides support and training for basic skills, particularly in the first year of the apprenticeship. These networks exist when it is inefficient to teach a few apprentices in smaller companies. This helps to ensure smaller companies offer apprenticeships. There are similar arrangements in Switzerland and industry courses ("Industriekurse") are a highly appreciated part of the system.

In Germany the close cooperation of companies and VET providers has been a constant topic of reform and innovation. This reform includes pilot projects such as 'heterogeneity in training' which addressed cooperation between VET providers and companies to train non-traditional groups of learners such as recent migrants. Other pilot projects (e.g. 'Strategic Marketing of Training' and 'Quality Assurance of Training through cooperation of places of learning') have focused on VET provider and enterprise cooperation. Facilitating transition from school to apprenticeships, supporting companies and apprentices during the apprenticeship, and providing further vocational training, often in cooperation with companies (as on-site training offers) create significant market opportunities for VET providers.

Enterprises with their own vocational training centre can better adapt training to their needs and think about their future skills needs.

The role of the state is important in all countries, particularly when there is no tradition of involving employers or working with social partners. For those countries beginning to develop an apprenticeship system, there is a need for a governance framework alongside clear mechanisms for engaging employers in the design of apprenticeship schemes. In particular there is room for improving social partnership arrangements in countries where social partners' involvement in VET is relatively recent, e.g. in EE and LV.

The following table illustrates how social partners are involved in apprenticeships.

Table 7 - Social partners' engagement in apprenticeships

Countries where social partners have a consultative role

CZ	Vocational schools are autonomous and play a key role in defining the curricula and work-based learning profiles. Schools create ad hoc agreements with enterprises when they organise partnerships for their apprentices and there is therefore no systematic cooperation. Employers' organisations have an important role as part of the governance of VET. Their functions vary by sectors although their responsibilities include contributing to the identification of the skills that are needed; the development of shared objectives with the VET providers; keeping the content of VET programmes aligned with the needs of the labour market; motivating enterprises to provide practical training; and facilitating school-enterprise cooperation. Regional/sector councils design and develop national occupational standards. Sector or/and regional councils bring together stakeholder representatives (e.g. employers and representatives of professional organisations) for this task.
SK	Vocational schools play a key role in defining the curricula and the educational profiles of work-based learning /apprenticeships.
HU	The national VET system includes advisory bodies: National Vocational and Adult Training Council (reports to the minister), National Qualifications Register, National Employment Fund, National Qualification Committee and the County Development and Training Committee (for improving VET). Since 2010 the Hungarian Chamber of Commerce and Industry (MKIK) has an increasingly significant role in shaping VET policy particularly in relation to assuring the quality of work-based learning. MKIK is responsible for the core curricula and examinations for the majority of IVET qualifications, works directly with enterprises to set out the benefits of receiving apprentices, provides information about the training contract, and coordinates the national media campaign to promote apprenticeships. MKIK has developed a 'Guarantee by the Chamber' which provides assurance to VET students and enterprises regarding the practical training placement of the apprenticeship. Support from Government to underpin social dialogue is fairly modest.

EL	The social partners in Greece do not play an operational role in the apprenticeship scheme. They have a small institutional role in the Board of Directors of the Greek Manpower Employment Organisation which is the public organisation for the implementation of apprenticeships, and in the National Apprenticeship Committee which is an advisory body for the modernisation of the apprenticeship system. In future the establishment of SMEs networks for apprenticeship will include a central role for social partners.
IT	One of the main challenges is the need to reduce formalities and the complexity of the multi-level governance of VET. Companies complain about a lack of support in reducing the level of bureaucracy. In professional apprenticeships, social partners play a relevant role, which concerns also the definition of the length of the contract and of the content of the training programme. On the other hand, for the other two types of apprenticeships, the role of the social partners is limited and mainly concerns working profiles rather than training and education.
PL	Vocational schools play a key role in defining curricula and the educational profiles of apprenticeships. The vocational curricula for each sector/profession are approved by the Ministry of Education after consulting with representative entrepreneur organisations. The employers that supervise apprenticeship training are usually members of a guild or chamber of handicrafts. The Polish Association of Crafts and the Federation of Polish Employers have developed networks of companies that provide work placements. The social partners' involvement in VET is organised through the main institutional platform, the Tripartite Commission on Socioeconomic Issues (Komisja Trojstronna ds. Społeczno-Gospodarczych). This Commission includes representatives from public administration, employers, the largest trade unions and some sector-based trade unions. There is a second national body to support social dialogue - the Central Employment Board (Rada Rynku Pracy). It has an advisory role to the Minister for Labour and includes representatives from public administration, employers' organisations, trade unions and local government. It is consulted on issues related to training for unemployed people, programmes which promote employment, planning, and use of the state labour fund (a national social insurance system for those who are unemployed). The regional commissions for social dialogue include representatives from regional administration, employers' organisations, trade unions and regional government. At the regional and district levels, regional and district employment boards take actions to achieve full employment in their region, evaluate the management of the state labour fund, submit applications on how to use the state labour fund, and design the teaching programmes used by the VET schools. Regional and municipal authorities also have a role in establishing and/or reforming existing standards.

BG	In Bulgaria recent reforms have affected the involvement of social partners. Representative organisations for employers and employees participate in: • development, coordination and updating of the State Educational Requirements; • decisions about which qualifications are relevant for each profession; • development, coordination and updating of the List of Professions for Vocational Education and Training; • organisation of examinations for the acquisition of vocational qualifications; • development, coordination and updating of the legislative framework and other strategic documents. The National Council for Tripartite Cooperation (the national authority for the social partnership) is consulted on draft legislation on employment and vocational training, and participates in the formulation of policy in VET.
PT	The social partners are involved in the general definition of policies for the VET system through their advisory role. This is in line with the agreements and commitments relating to social dialogue which cover various policy areas including VET. Although social partners have an advisory role, their impact on the training and education policies is greater than this implies. Some social partners, such as the employers' confederations and the trade union confederations, are responsible for delivering training to their members/associates and managing their own Training Centres. There are 16 Sector Councils with responsibility for qualifications and they respond to the needs of industry. They are technical groups which include representatives from Ministries, social partners, enterprises, VET providers (e.g. state schools, training centres, certified VET providers, etc.), and the regulatory authorities. They: a) work with experts to update the National Qualifications; b) identify the changes taking place in each sector of the economy and evaluate the impact these changes have on qualifications; c) help to build and maintain collaborative networks.

ES

Vocational schools play a key role in defining curricula and the educational profiles of apprenticeships.

Employers, through the Chambers of Commerce, have declared their support for the development of a dual training system inspired by the experiences of Germany. However, there is limited interest from some Spanish employers - especially SMEs - to invest in this type of training.

The social partners' role is limited under the current system. They have a consultative role in the initial design and updating of professional qualifications, vocational training degrees and issuing professional certificates. Business organisations and the Chambers of Commerce could play a greater role in the process, particularly in relation to:

- accrediting apprenticeships in companies;
- selecting trainees and external tutors;
- offering training to tutors and teachers; managing the bureaucracy that could be generated;
- monitoring the training processes;
- developing indicators to evaluate and review the system;
- campaigning and promoting apprenticeships through existing networks; and
- organising events, conferences or workshops.

The involvement of companies and business associations is highly variable and depends on the Autonomous Communities, the training centres and the nature of the projects. However, the number of companies that plan to participate or are participating in dual vocational training projects has increased by more than 300% from 513 companies in 2013 to 1,570 in 2014.

Regional and municipal authorities have a role in establishing and/or reforming the existing standards.

Representatives of the main Spanish employers' and workers' organisations collaborate with the public authorities in the General Council for Vocational Training (Consejo General de Formación Profesional). This is a consultative, tripartite body to improve VET policies in general and the new VET degrees and qualifications proposed by the Public Authorities. Spanish social partners also collaborate with the National Institute of Qualifications (Instituto Nacional de las Cualificaciones).

LV	The VET system is based on strategic cooperation and social dialogue - since 2000 this has been based on the National Tripartite sub-council for the Cooperation in Vocational Education and Employment. This brings together representatives from many ministries (e.g. Welfare, Economy, Finance, Justice, Agriculture, Education and Science, Regional Development and Local Government Affairs), employers (e.g. Employers' Confederation of Latvia) and employees (e.g. Free Trade Union Confederation of Latvia). Since 2011 twelve sector councils have worked to align vocational education to the needs of the economy. To raise the attractiveness of vocational education, several projects, co-financed by EU Structural Funds, have been implemented. These includes projects on modernising the vocational education infrastructure; promoting social partners' participation in education policy; implementing sector-based qualification frameworks; drafting occupational standards for a range of professions; improving the types and programmes of vocational education; introducing a modular approach; and raising vocational education teachers' competences. The challenge for Latvia is to ensure these reforms are sustainable after these projects are completed.
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Countries with a leading or strong role for social partners

EE	At the national level, the intermediate bodies e.g. Employers Federation and Chambers of Skilled Crafts or Commerce are in dialogue with the government about work-based learning and participate in the development of the national curricula. Companies which are members of a Chamber or Federation are better informed about opportunities and are more willing to participate in apprenticeships. Employers and other social partners (e.g. schools, local authorities, and professional/expert organisations) play an important role in the Sector Councils which were established as part of the national qualification framework in 2001. These Councils have several responsibilities including the development of occupational standards, taking part in the qualification examinations, etc. Employers have a leading role. At the local level, social partners participate in the VET school advisory bodies which comprise seven people who are appointed for five years. There are many roles for these advisory bodies: to connect the school with the local (business) community; advise the school management; planning; developing teaching and learning approaches; and participating in curricula development. Regional and municipal authorities also have a role in establishing and/or refining occupational standards.
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UK	The role of social partners is mainly limited to employers' organisations which play an active role through the work of Sector Skills Councils. They are active in the improvement of learning supply through the definition of National Occupational Standards for the profession/sector, influencing and shaping sector qualification frameworks and designing apprenticeship frameworks. They work with the Office for Qualification and Examination Regulation which regulates general and vocational qualifications in England and Northern Ireland. (Different arrangements apply in Wales and Scotland).
IE	In partnership with the 16 Education and Training Boards, SOLAS (the Irish National Qualifications authority) is responsible for the integration, coordination and funding of training and further education programmes. These include apprenticeships which involve partnerships between business and a local Training Centre, and internships. Employers are involved in the development of the traineeship curricula (on and off-the job training) and the certification of trainees. As suggested by the National Apprenticeship Review Group, November 2014 saw the launch of the enterprise-led Apprenticeship Council in partnership with key stakeholders. New governance arrangements include the appointment of an enterprise-led Apprenticeship Council.
FI	Social partners have a developmental role and participate in national projects to develop apprenticeship. The requirements for vocational qualification are developed in close cooperation with stakeholders. Representatives from the social partners are involved in: • setting the national objectives for the Government programme as described in the Development Plan for Education and Research; • predicting the national and regional needs for skills and education through the Training and Qualification Committees, various advisory committees and consultation processes. The representatives of enterprises are closely involved in defining the vocational competence requirements of qualifications as well as drawing up the expectations for each qualification at a national level. At the regional level enterprises are involved in the design of local curricula; organising and planning training and skills demonstrations³³; regional committees; assessing skills demonstrations in upper secondary qualifications; and assessing skills in the competence tests used in competence-based qualifications.

³³ Skills demonstrations are the means by which individuals are assessed in relation to the competences required from a qualification. Each learner demonstrates their skills and is assessed by the VET provider, an employer and through a self-assessment process.

FR	Social partners are strongly involved in VET policy-making, and this role is clearly enshrined in the Labour Code. There is strong involvement from the social partners who have a role on the boards of governors of the Apprentice Training Centres, and on the Commissions set up within the Organismes Paritaires Collecteurs Agréés (Accredited Organisations for the Collection and Distribution of Training Funds). The social partners are committed to VET in different ways such as: • defining the training policy for a sector; • participating in the “consultative vocational committees”; • creating and developing the VET qualifications; • managing the training funds of sectors (through the organisations that they manage); • promoting specific training such as those programmes aimed at members of the public with low qualification levels; • liaising with very small companies on the design of sector qualifications. In addition ministries develop certificates based on the opinions of consultative bodies which may include professional consultative committees (CPC - Commissions professionnelles consultatives for the Ministries of National Education, Employment, Social Affairs, Agriculture, Youth and Sport, and Culture). In France a system of “study contracts” (contrats d’études prospectives) are a key means for the state and social partners to collaborate in analysing the future skills needs of companies.
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An analysis of the social partners’ role in apprenticeships identifies the following trends:

- intermediary bodies are crucial in facilitating connections with companies, apprentices and families. The current networking arrangements and the partnerships between employers’ associations and training providers could be more effective and useful. Furthermore, in many countries chambers of crafts and chambers of commerce play an important role as intermediaries between businesses and VET providers in governance (design of curricula, assessment of learning outcomes, etc.), training, recruitment, and support notably for SMEs and micro companies;
- the significance and importance of sector organisation has grown (e.g. CZ, UK, LV and EE) and in some countries sector organisations have an increased role in the negotiations between social partners, in quality assurance and in the governance of apprenticeship. Their importance has increased because the supply and demand for apprenticeship is usually sector-specific;
- building and embedding National Qualification Systems/Frameworks (NQS/NQF) has created a strong impetus for social partners to become involved in skills anticipation and the development of occupational standards. The networks which have been created as part of the NQS play an important role in consolidating the cooperation of stakeholders in apprenticeship programmes. The NQFs have made a considerably contribution to the governance of VET and the leading role is often held by employers’ organisations. The occupational councils, established as part of a qualification system, have helped to facilitate cooperation between the various stakeholders (e.g. employers, unions, professional organisations, state representatives);
- a sector approach is a better way to meet the skills needs of employers. In the design of qualifications all stakeholders must be involved in translating the language of education into the language of the labour market.



The emergence and growth of intermediate structures can be considered as positive as they facilitate cooperation, help to establish a clear division of responsibilities and make the governance of the VET/apprenticeship system more transparent. In addition they lead to cooperation and a shared understanding between social partners and other stakeholders. In some countries these processes have a long tradition (e.g. the UK, FR and IE) while in other countries their establishment is relatively recent and arises from the establishment of NQs (e.g. sector councils in LV, PL and PT).

In most countries social partners have a listening/consultative/advisory role in relation to apprenticeships. In those systems where there is a long tradition of apprenticeship training like Germany, Austria and Switzerland, the structures are more institutionalised and employers are part of the system on national, state and regional level e.g.:

- in Germany social partners at the federal level they are represented on the Board of the Federal Institute for Vocational Education and Training (BIBB) which is responsible for drafting vocational training schemes, vocational training regulations and other ordinances under the Vocational Training Act. At the level of federal states, social partners are members of 'Land' Committees for Vocational Training. These committees advise the Land (state) government on vocational training issues and endeavour to steadily improve the quality of vocational training. At the regional level the social partners are members of the vocational training committees. The social partners are also involved in the boards of examiners as there has to be an equal numbers of employer and employee representatives on the board;
- in Austria social partners are included on the Federal Advisory Board for Apprenticeships ('Bundes-Berufsbildungsbeirat' – BBAB) and the Regional Advisory Boards on Apprenticeships (Landes-Berufsbildungsbeirat);
- in Switzerland employers have responsibility for determining the content of VET and national examinations. They have the exclusive right to initiate the design of new legislative instruments, update existing ones and prepare training plans. Employers are also directly engaged in the provision of VET by offering apprenticeship places, contributing to the establishment and operation of industry courses and carrying out the part of the national examination process that is related to the workplace;³⁴
- in Denmark the cooperation of social partners who are represented equally throughout the system is seen as an asset. This involvement allows for coordinated responses to new skills demands, the development of flexible pathways and increasing the permeability between vocational and general education.

A strong level of consensus about the training system (and the tradition of self-regulation by the sector, the social partners or the employers) creates a dependable environment for companies. Companies feel their needs are heard and taken into account. Strong employers' organisations can play a role in the more informal aspects of the training culture e.g. in balancing the interests of large corporations and smaller companies. Therefore the risks of poaching and free-riding can be limited.

³⁴ Resource Countries' synthesis report

Two examples show recent approaches to working with social partners:

In 2015 Portugal took action on the mismatch between skills demanded by employers and those provided through training – this led to the establishment of the System for the Diagnosis of Qualifications Needs (SANQ). This system is driven by the state with the involvement of social partners as they can highlight the skills which are needed, and identify those professions and work activities which are expanding and which will lead to future skills needs. SANQ produces clear guidelines which define the training offer and updates the National Qualifications Catalogue.³⁵

Denmark has a well-regulated labour market based on agreements between employers' associations and trade unions through social dialogue. This traditional collaborative approach, first practised in 1899, is also used to develop initial VET and design standards and curricula for apprenticeships. August 2015 saw the introduction of VET reforms to strengthen the quality of the apprenticeship provision. The reform's underlying premise is that Denmark is and must remain a competitive production and knowledge society and that immediate focus is needed to provide also the labour force and qualifications needed in an ever more sophisticated manufacturing sector. To meet industry's needs for innovative employees who could achieve higher level qualifications, the VET system must attract bright young people.

VET should not be seen as a 'second choice' or a 'second chance' for learners. For this to happen the quality of provision and the attractiveness of VET schools have to improve. The reform, including a programme for adults over 25, aims to raise the number of students choosing a VET pathway. This will be achieved by focusing on VET quality, improving links between schools and work-based learning, and promoting apprenticeships.³⁶

In this context, and reflecting concern about the lack of skilled workers in Denmark, the Confederation of Danish Industry³⁷ launched a two-year project 'Operation Apprenticeship'. The project, launched in March 2015, aims to encourage companies to secure sufficient skilled labour through the creation of additional apprenticeships and advice on how to recruit apprentices. The project consists of three steps:

- the first step involves the collection of data and information on the need for skilled labour and apprentices. In two months the Confederation of Danish Industry completed 1,000 telephone interviews with member companies. Furthermore the Confederation of Danish Industry conducted a survey among its members. The preliminary conclusions identified that 25% of companies which employ skilled labour did not educate apprentices; 60% of respondents agreed that apprentices quickly and smoothly joined the skilled workforce and 52% saw apprenticeships as an active part of the enterprise's recruitment strategy. A large majority of the respondents pointed out that applicants' motivation and interest within the field are main requirements for a successful apprenticeship;
- the second step includes forecasting the supply and demand for skilled labour in 2025. The decline in the supply of skilled labour is expected to be greatest in the fields of machine technology and production, mechanics, power and electronics;
- the third step is to draw up a strategic plan with actions and an agenda to improve the situation. A panel of enterprise representatives with practical experience of VET has been established to contribute to this process.

³⁵ <http://sanq.anqep.gov.pt>

³⁶ The Danish system uses a dual apprenticeship model with one third of a learner's time in school and two-thirds of their time in a enterprise. There is a high drop-out rate after the first part of the school-based training especially in the fields of retail, trade and administrative clerks.

³⁷ <http://di.dk/English/Pages/English.aspx>



The interviews confirm that apprenticeships are an important means to recruit skilled labour for all types of companies and that especially the small and medium-sized enterprises are conscious about this opportunity to recruit the employees they need. In addition the interviews identified that there was a need to continue to:

- provide information to enterprises to increase the number of apprenticeship opportunities;
- inform potential apprentices about the opportunities offered through apprenticeships in fields where the need for skilled labour is rapidly growing.

A recent sector response from SMEs in the metal industry of Catalonia highlights the need to continue to support and promote apprenticeships. The sector association uses a dual-track system to support companies in recruiting and developing staff with the required technical skills.

ADECAT, Associació de Decolletadors i Mecanitzadors de Catalunya³⁸ is a non-profit business association set up in 1978. It aims to support the development of the turning and machining sector in Catalonia. The Association includes turning and machining companies (associate members) and their supplier companies (technical members).

ADECAT is a member of the Alliance for the Dual Vocational Training which is promoted by the Bertelsmann Foundation, the Foundation Princess of Girona, CEOE and the Cámara de Comercio de España. Together they are developing apprenticeship schemes in Catalonia based on the dual system.

This Dual Vocational Training programme is designed to meet companies' needs and to give young people an opportunity to gain a technical degree. The students complete theoretical training in schools and practical training in a enterprise affiliated to ADECAT. Under Spanish legislation, the Government of Catalonia cannot create a new qualification but it can adapt 50% of a qualification. This has allowed ADECAT to sign an agreement with the Government to adapt the two-year curriculum of a Vocational Higher Degree in Production of the Programming in Mechanical Manufacturing. This Dual Vocational Training in Mechanical Manufacturing began in 2015 with 25 students.

ADECAT has signed the contract between the vocational school and enterprises, and supports companies in using the Dual approach. This is part of the Association's work to show industry as an interesting career option and enable SMEs to provide Dual Training. ADECAT is convinced with a dual training experience will support technological development and enable its member companies to be more productive and profitable.

The first year of the apprentice's training is spent in the school. In the second year, they spend four hours each morning in the enterprise and afternoons at school. During the second year their contract with the enterprise is for a salary equal to 50% of the national minimum wage. The enterprise is exempt from paying social taxes for the apprentices.

The Association aims to extend the programme to other schools in Catalonia and, through its affiliation with the International Association (Syndicat International du Décolletage³⁹) to international partners through a trainee mobility programme.

The initial feedback from the enterprises has been very positive. This has been particularly gratifying as the Association works with small, traditional companies with employees whose average age is high. The arrival of apprentices also encourages existing staff to return to training.

³⁸ <http://www.adecat.org>

³⁹ <http://s-i-d.org/>

12. European and bilateral cooperation for partnerships and reforms

EU initiatives, notably the Copenhagen Process and Bruges Communiqué (2002), support apprenticeship and promote cooperation between governments, social partners and VET providers in Member States. In addition, in recent years, EU initiatives to strengthen apprenticeship training have been guided by the experience of countries with long traditions and a rigorous apprenticeship scheme (e.g. DE, AT and others). In December 2012 five countries (LV, PT, ES, IT and EL) signed a memorandum of cooperation in vocational education with the German Federal Ministry of Education and Research to cooperate in developing apprenticeships inspired by the dual model. This cooperation has led to the creation of many projects, e.g. in Portugal there is a training programme for work-based learning tutors in companies.

The European Alliance for Apprenticeships (launched in 2013) co-signed by the cross-industry European social partners aims to strengthen the quality, supply and image of apprenticeships in Europe. The majority of Member States have committed to the European Alliance for Apprenticeships and this has supported plans for the reform of apprenticeship systems.

The Alliance can be particularly important for countries which have historically used school-based systems and are beginning to develop apprenticeship systems inspired by the dual system. For those countries seeking to strengthen dual learning principle in the apprenticeship schemes there is a need to:

- Build an education strategy and create a legal framework;
- Make access to apprenticeships easy and reduce bureaucracy;
- Create support (including financial support) for sectors and SMEs;
- Motivate the main stakeholders in the system (e.g. schools, teachers, trainers and tutors) as they are crucial to improving the employability of apprentices;
- Promote apprenticeships to young people and their parents;
- Ensure that VET providers and enterprises have the same expectations of what apprentices should learn.

Putting in place the systems and structures that allow employers to engage in cost-effective arrangements and to have greater ownership of apprenticeship schemes should be the priority for the Alliance in the coming years. Conversely, signing pledges to increase the number of apprenticeship places may be relevant for some enterprises that intend to develop their use of apprenticeships under existing systems. However, signatures by themselves will not foster the development or strengthening of national apprenticeship systems. It is system change that is needed to significantly increase employer engagement in apprenticeship schemes.

The following examples show how individual Member States are creating partnerships or bilateral agreements to support projects connected to apprenticeships:

- Slovakia has a bilateral agreement with the Austrian Federal Economic Chamber which runs projects to set up a dual apprenticeship system. T-Systems Slovakia, with the support of the German – Slovak Chamber of Industry and Commerce, offers training to 30 students. The programme is a three-year higher level programme with up to 70% of the curriculum being based at work and training is provided by the enterprise;
- There is close cooperation with the Czech-German Trade and Industry Chamber. The Czech Republic has signed a Memorandum of Cooperation with WIFI International (Austria) on implementing elements of the dual system in the Czech Republic;
- In the context of the Memorandum of Understanding with the German Federal Ministry of Education and Research, Greece has launched feasibility studies to:
 - > better understand the introduction of enterprise-based training structures in Greece;
 - > look at other opportunities to introduce enterprise-based training structures;
 - > consider possible solutions when implementing enterprise-based approaches as part of the pilot training projects.

These feasibility studies provide information on how to sustain the pilot projects and identify the need for a sustainable model to finance enterprise-based training. One enterprise initiative is organised by Siemens in Greece. This offers employment to students who wish to train in electrical and/or electronic engineering through an apprenticeship programme. Each trainee completes his or her education in Berlin and undertakes work-based training through an assignment to Siemens in Greece;

- In France, the Franco-German Youth Office supports reciprocal mobility programmes which allow young people in vocational training to follow part of their programme in the partner country;
- In 2014 a 'memorandum of cooperation in VET' was signed by the Baltic countries and Switzerland. The memorandum focuses on work-based learning. The three Baltic countries will coordinate their national activities through their ministry representatives. The project also aims at launching a Baltic Alliance of Apprenticeships in order to strengthen cooperation in the field of VET;
- The labour and education ministries of Germany and Italy have reached an agreement on promoting youth employment. Based on a Memorandum of Understanding, a joint work programme has been established including in-depth discussions on effective practice in relation to dual training. The work programme for vocational education cooperation includes detailed expert discussions on the principles of the dual system of vocational training and the introduction of pilot projects based on good practice. German and Italian EURES partners (a cooperative network between the European Commission and the Public Employment Services in European countries) also provide information about jobs and apprenticeship vacancies in Germany as part of a tour of Italian towns and cities which began in 2013. The Association of German Chambers of Industry and Commerce has signed a memorandum of understanding with its Italian counterpart to encourage dialogue between the two nations regarding their vocational education systems;
- In Ireland, the 2013 review of apprenticeships included discussions with the German-Irish Chamber of Industry and Commerce;
- Poland is part of the European Alliance for Apprenticeship and has planned a series of VET reforms up to 2020. One major initiative will be to increase employers' involvement in education and VET examinations by asking employers to organise practical training;
- Bulgaria had a tradition of offering apprenticeships during the Communist period but this practice was abandoned. The Bulgarian government is in discussions with the Swiss government in order to improve the Bulgarian VET system and strengthen the apprenticeship scheme approved in September 2015;
- Spain is one of the six EU countries working closely with Germany to reform their system of vocational training and education. In November 2012, the German Federal State of Hessen and the Autonomous Community of Madrid signed a mutual cooperation agreement which includes support to the Madrid region in establishing a dual system of vocational education and training. In this context the Chamber of Skilled Crafts Frankfurt-Rhein-Main is giving 45 Spanish young people an opportunity to experience the dual system of vocational education and training in Frankfurt. The high degree of practical orientation in the dual apprenticeship training course provides the young people with a choice of careers in both Spain and Germany. Approximately 80 interviews were held in Madrid to determine which candidates would participate in the project. Spanish interest in starting a dual course of vocational education and training in the Frankfurt region is very high. The programme has also attracted a very positive response among SMEs in the Frankfurt region;
- in Estonia and Latvia a European Social Fund programme supports the development of work-based learning and extends cooperation to include one-person enterprises. It includes an extensive set of measures to raise awareness of work-based learning, provide training and information for enterprises/supervisors and encourages cooperation between VET institutions and enterprises.

13. National reforms

Over the last three years many countries have reformed their VET systems, especially in relation to work-based learning, the introduction of elements of the dual systems and improving their apprenticeships. In nearly all the 15 target countries VET systems are being reformed and strengthening the role of employers and social partners is central to this process.

Greece has reformed its apprenticeship and VET system. These reforms are seen by the government (including the Ministry of Education and Religious Affairs, the Ministry of Labour, Social Security and Welfare, and the Manpower Employment Organisation (Employment Service) as having the following advantages:

- increase VET attendance. In the 2013-2014 school year there was an increase of 9% compared with the previous year;
- increase employer awareness of VET programmes in all fields;
- further improve the quality and efficiency of the VET system;
- identify the most successful and cost-effective approaches through studying existing apprenticeship and traineeship programmes;
- provide strategic, operational and policy-focused advice to stakeholders at the national, regional and local level in relation to establishing, running or evaluating apprenticeship and traineeship schemes.

In 2015 Slovakia introduced a new form of initial VET with “elements of the dual system” to increase the amount of practical training (it will be approximately 60% of the programme) in enterprises (or appropriately equipped centres of VET) with the provision of theoretical education in VET schools. The reforms have:

- confirmed that a “Slovak dual system trainee” is a student of a secondary specialised school and not an employee of an enterprise which provides the practical training;
- continued the system which ensures that practical training curricula are developed by the State Institute of Vocational Education rather than by employers.

From the start of the 2014 school year in the Czech Republic there has been a new curriculum which focuses on competences and learning outcomes. This operates at two levels – nationally and in individual schools:

- at the national level, it sets out minimum requirements for the education system;
- at the school level, it allows adjustments to meet regional needs, the interest of the sectors and the capacities of the students.

Employers are heavily involved in this reform process and have emphasised the importance of adapting workplace training to meet their needs. There are discussions about introducing selected elements of the dual system. A national pilot project POSPOLU – Fostering Cooperation between Schools and Enterprises with a Focus on Vocational Education and Training in Practice – is being implemented to test these elements.

In Ireland a national review of apprentices began in May 2013. The review was based on the assumption that apprenticeships should be employer-led; have a duration of at least 2 years; have a minimum of 50% on-the-job training and governed by a contract of apprenticeship.



In Italy there are three types of apprenticeship (apprenticeships leading to a diploma or vocational qualification (type 1) – professional apprenticeships (type 2) and apprenticeships for higher education and research (type 3). The 2015 reforms to the apprenticeship system have encouraged type 1 and 3 apprentices. This is because the enterprise's payments to trainees have been drastically reduced because compensation is now 50% lower as the time spent in school is not taken into account. One of the challenges for Italy is to change the target of an apprenticeship so it becomes an option not only for young people but also for older workers who are affected by restructuring processes. The goal is to re-skill workers to re-enter the labour market.

In Spain several educational and employment measures were included in VET reform during 2013. These have been introduced to reduce unemployment (especially youth unemployment) and to increase the skills base of the population. The reforms include the implementation of a dual system to foster work-based learning in VET with an apprenticeship and training contract. Implementation of the dual training system involves the creation of a new training model based on a stronger dialogue between stakeholders. To help to overcome any reservations about dual training there is a need to share examples of good practices based on the results of the regional projects. Employers, trainees, VET teachers and society in general need to be more aware of what dual training can offer. For this purpose a national Alliance for Dual Training⁴¹ has been established.

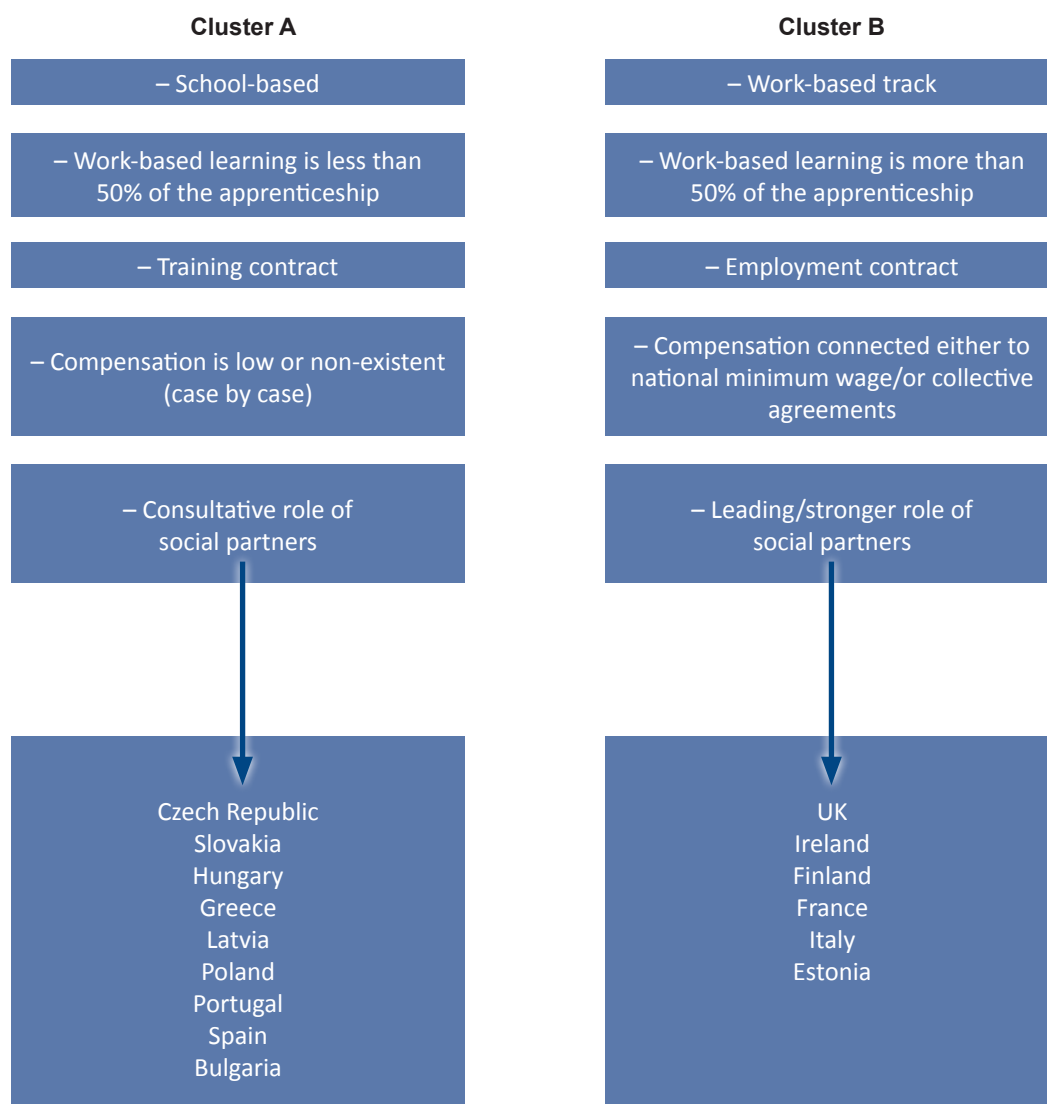
In Bulgaria measures to increase the quality, supply and attractiveness of apprenticeships have been initiated. Arrangements for a dual-track form of education were introduced in September 2015. These regulations govern the terms and conditions of training through work which is organised and conducted in accordance with Vocational Education and training Law and the Labour Code. Dual training in the formal VET system aimed at young people aged between 16 and 24, early school leavers and those who drop out of education or training.

⁴¹ <http://www.alianzafpdual.es/>

14. Conclusions

The functioning of an effective apprenticeship system depends on many elements, such as its place in the VET system, contractual arrangements, governance, salary levels, cost-sharing, support structures, recruitment procedures. Even among well-established apprenticeship systems, all these elements are fine-tuned in different ways. It is important to find the right balance between these elements and respect the diversity of different countries' education and labour market situations.

It is possible to organise the countries according to the following characteristics:



However, the fifteen countries do not easily fit into the two clusters – there are some countries with mixed elements like PL/EE/EL. (For this exercise they are placed in line with the main characteristics.)



Well-functioning apprenticeship schemes help enterprises to meet their skills needs and are cost-effective. This is particularly the case when apprenticeships are demand-driven with an appropriate governance system with employers in the lead in relation to determining and delivering training; and of the selection/recruitment procedures. Where these processes (identified in the clusters above) are under the overall competence of the education or VET system, employers are less likely to see the benefit of becoming involved in the governance of the apprenticeship system and to offer apprenticeships.

To guarantee sustainability of the system, a legal framework is a necessary pre-condition as stakeholders, particularly enterprises, need clear rules and certainty as a way to improve trust at both the governance and operational level. The government should be a catalyst for introducing change in how apprenticeships are organised (at the policy level) and for this to be the case it is important to avoid creating additional administrative burdens for enterprises. The social partners can also play an important role in improving apprenticeship systems, in particular where they are deeply involved in their delivery.

To improve the effectiveness of apprenticeship there has to be a more effective and targeted communication strategy. Promotion and communication have to use simpler and more understandable terms to increase the supply and take up of apprenticeships across all sectors and particularly in IT, engineering and commerce.

For SMEs and in particular micro-companies, apprenticeships are relatively difficult to manage – these enterprises often have less control or influence over the curricula and training arrangements, and have more difficulties in dealing with recruitment and administrative procedures. As a result, the return on investment in apprenticeships is less obvious. In such situations employers, business organisations, and the intermediary bodies (e.g. chambers of crafts and chambers of commerce) which are also VET providers need to continually ‘put pressure’ on national authorities to ensure that apprenticeship schemes are designed to fit in with SMEs’ needs. The creation of strong support systems for apprenticeships in SMEs (consultancy, handling paper work, targeted supporting courses, and training networks) and ensuring a good match between companies and applicants reduces the risk of costly drop-out. These are key themes in the establishment of apprenticeship systems in SMEs.

Encouraging and promoting apprenticeships is a shared endeavour – employers, social partners, VET providers, governments and many national/regional organisations are interested in creating and supporting effective initiatives. Responsibility cannot be left to one type of organisation. Even when the objectives are the same – more apprentices completing well-organised apprenticeships – each stakeholder’s motivation is different, e.g. employers want to recruit well-motivated and able staff; trade unions want to support the development of employability skills and support young people to find their first job; governments want to offer individuals a choice between school and vocational courses, qualifications and successful careers.



Apprentices provide enterprises with opportunities to make a positive return on their investment. But the advantages of apprenticeship are much more significant than just the financial return – they provide a cost-effective way to recruit talented individuals; they distinguish companies from their competitors; they help to build enterprise loyalty; they improve the skills of all staff involved in their training; and they enable companies to fill vacancies (this is particularly valuable when the economy is growing, when talent is hard to find, and when there are significant mismatches between what an enterprise needs and the training that is provided by VET institutions/colleges/universities).

The success and effectiveness of apprenticeships relies also on the use of up-to-date and effective training methodologies. Process orientated work integrated learning (e.g. using methodologies which include project learning, learning through working assignments etc.) demands good preparation/planning and the building of training competences in companies. Apprenticeships should not be confused with bringing classroom training inside the enterprise, nor are they merely working alongside the senior workers. Establishing effective apprenticeship schemes can benefit from the development of learning methodologies. Employer organisations can facilitate the exchange of knowledge and experiences.

Employers are more likely to find apprenticeship schemes effective in meeting their skills needs when they are rooted in on-the-job training as opposed to being primarily classroom based. At the same time, this can involve higher costs for companies when apprentices have a contract of employment and receive a wage.

Apprenticeships are first and foremost a means of training someone, primarily the young, to enhance their employability and future employment prospects. At the same time, an apprentice can have the status of an employee or be in receipt of a training contract – this is determined in the context of national industrial relations systems and education and training practices. The key point for employers is that irrespective of the status, the level of the wage or compensation needs to be set at a rate that makes it possible for enterprises to see a return on their investment. This will encourage and foster the supply of apprenticeship places.

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Who we are



BUSINESSEUROPE is the leading advocate for growth and competitiveness at European level, standing up for companies across the continent. A recognised social partner, it speaks for all-sized enterprises in 33 European countries and it incorporates 39 national business federations as its direct members.



CEEP is the European Centre of Employers and Enterprises providing Public services incorporates enterprises and authorities from the EU, Norway and Turkey (associated members) and several European associations (individual members).



UEAPME is the employers' organisation representing the interests of European crafts, trades and SMEs at EU level. UEAPME is a recognised European Social Partner. It is a non-profit seeking and non-partisan organisation, that incorporates around 65 member organisations from 34 countries.



EuroCommerce is the principal organisation representing the retail and wholesale sector. It embraces national associations in 31 countries and 5.4 million companies. EuroCommerce is the recognised European social partner for the retail and wholesale sector.



CEEMET is the European employers' organisation representing the interests of the metal, engineering and technology-based industries with a particular focus on labour market issues and industrial relations. CEEMET's members include employer federations from 21 countries across Europe.



DIGITALEUROPE represents the digital technology industry in Europe. Its members include some of the world's largest IT, telecoms and consumer electronics companies and national associations from every part of Europe.



The European Round Table of Industrialists (ERT) is a forum bringing together around 50 Chief Executives and Chairmen of major multinational companies of European parentage covering a wide range of industrial and technological sectors.



EUproVET is a representational platform for European VET providers' associations. It offers the possibility to voice the interests of VET providers on the European level and to collaborate with other relevant actors on common European goals regarding the role and importance of vocational education and training.



EFVET is a European-wide professional association which has been created by and for providers of technical and vocational education and training (TVET) in all European countries.



Tapping the business case for apprenticeships



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