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Vocational education and training for better skills, growth and jobs

Accompanying the document

Communication from the Commission

Rethinking Education: Investing in skills for better socio-economic outcomes

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Executive summary

The “Rethinking Education” Communication supports the Member States by identifying a range of issues relevant for improving the efficiency of education and training systems. This Staff Working Document highlights the evidence base for the policy proposals outlined in the “Rethinking Education” Communication on vocational education and training (VET) and vocational skills.

The Bruges Communiqué of December 2010¹, which defines the European VET strategy up to 2020, calls for an active policy to enhance the potential of VET to support smart and sustainable growth, and to turn VET across the EU into a highly attractive learning choice.

This document responds to this demand, helping Member States and other stakeholders put into practice the reforms needed to exploit the potential of VET for growth. Its findings are based on analyses, coordinated by the Commission in cooperation with Member States, of best policy practice across the EU and beyond, and on comparative data and current research.

It summarises key results of exploratory work by the Commission involving experts representing key VET stakeholders². It highlights the unexploited potential of VET to support economic development, notably by better integrating VET in economic growth strategies at local, regional and national levels. Furthermore it identifies for policy makers concrete steps which can facilitate this kind of development. It also attributes specific attention to issues of sustainable development, which will be one of the key drivers of change to be reflected in VET policies and practices.

The performance and outcomes of Vocational education and training systems vary significantly between Member States...

Recent Cedefop data shows that, at the medium level, European VET graduates are more successful than candidates from general education in finding employment (see Figure 1). This applies in particular to graduates from VET programmes with strong workplace orientation. The same data also shows that VET candidates are better paid than candidates from general education, even if this decreases over time³. However, enrolments⁴, attractiveness and quality of VET vary significantly across countries as further analysed in chapter 3.

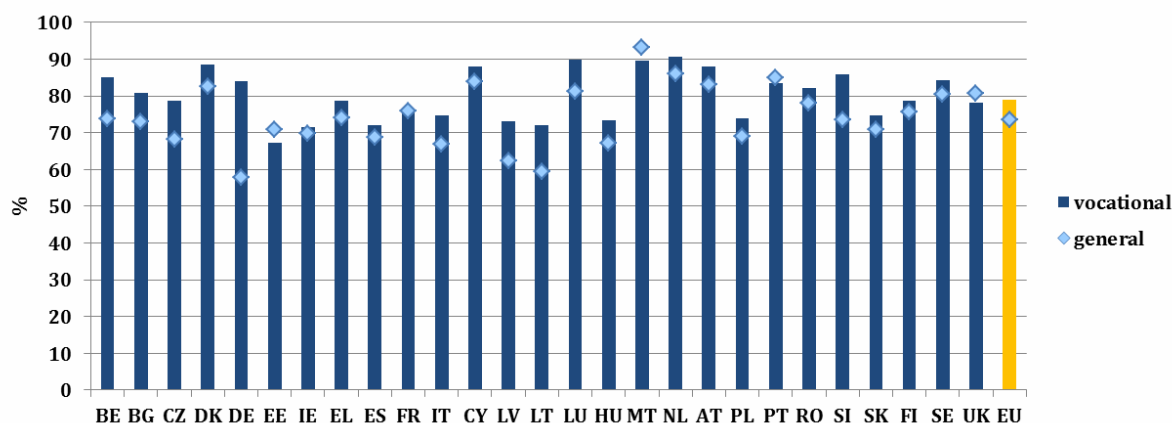
¹ European Commission (2010). The Bruges Communiqué. Available from Internet: http://ec.europa.eu/education/lifelong-learning-policy/doc/vocational/bruges_en.pdf

² This part is based on a report prepared for the European Commission, Directorate General for Education and Training, by ICF GHK and Danish Technological Institute

³ Cedefop, 2012, From education to working life. The labour market outcomes of vocational education and training. See: <http://www.cedefop.europa.eu/EN/publications/20448.aspx>

⁴ Today 50% of young people in Europe at upper secondary level are enrolled in vocational training. The rate in individual countries varies between 13 % in Cyprus and 77% in Austria. For more VET statistics see <http://www.cedefop.europa.eu/EN/statistics-and-indicators/input-indicators.aspx>

Figure 1 – Employment rates for medium level graduates aged 20-34 and no longer in education by orientation (% of corresponding population), 2009



Source: Cedefop's calculations based on Eurostat, EU LFS 2009 AHM

Notes: Medium level graduates refers to individuals whose highest level of education corresponds to a qualification at ISCED level 3 or 4 (excluding 3c short qualification)

...but the EU and the Member States have adopted a European strategy for the modernisation of vocational education and training

Work on modernising VET does not start from scratch. The development of vocational training has been a subject of enhanced political cooperation at European level during the past decade. In December 2010, the Member States, the European level social partners and the Commission adopted together the Bruges Communiqué, which defines an ambitious agenda for modernising vocational education and training systems in Europe, so that VET directly contributes to the objectives of the Europe 2020 strategy⁵. It identifies key challenges and proposes actions both at national and European levels so as to advance towards a seamless European training area:

- Attractive and inclusive VET - with highly qualified teachers and trainers, innovative learning methods, high-quality infrastructure and facilities, a high labour market relevance, and pathways to further education and training;
- High quality initial VET (IVET) which enables learners to acquire specific vocational skills combined with key competences and which learners, parents and society at large recognise (again) as an appealing option, of the same value as general education. IVET should equip learners with both key competences and specific vocational skills;
- Work-based learning is included in all initial VET courses, ensuring that young people have the knowledge, skills and competences they need for a successful first step into the labour market. Companies are engaged as training providers, together with VET schools or other education/training institutes;
- Easily accessible and career-oriented continuing VET for all employees, irrespective of their educational background, employers, independent entrepreneurs and unemployed people, which facilitates both competence development and career changes;

⁵ European Commission (2010c)

- Improve permeability between the different education and training subsystems (school education, VET, higher education, adult education) and cater for the validation of non-formal and informal learning, including competences acquired in the work place;
- A European education and training area, with transparent qualifications systems which enable the transfer and accumulation of learning outcomes, as well as the recognition of qualifications and competences, and which facilitate transnational mobility;
- Substantially increased opportunities for transnational mobility of VET students and VET professionals;
- Easily accessible and high-quality lifelong information, guidance and counselling services, which form a coherent network and which enable European citizens to take sound decisions and to manage their learning and professional careers beyond traditional gender profiles.

The EU strategy for VET must be implemented as a core element of the Union's growth agenda

Targeted investment and reforms in vocational education and training are necessary to boost innovation and competitiveness. Member States should engage in reforms promoting excellence in VET and better connecting VET to local and regional economic strategies, in particular in the context of research and innovation strategies for smart specialisation linked to cohesion policy support. New types of strategic partnerships between VET providers, companies, other economic actors, social partners and authorities are crucial in this respect.

Efforts towards VET excellence described in this document aim at both:

- Establishing VET excellence as a common goal and reference point for all VET systems in Europe;
- Bridging the gap between EU countries as regards the performance, quality and impact of VET, and its outcomes in term of more and better skills.

Furthermore, VET systems are more closely linked to labour markets than other sectors of education and training systems. Yet the potential of work-based learning, and in particular apprenticeships, to tackle youth employment also remains to be fully exploited in many countries. While unemployment is caused by many factors, part of the solution can be found in high quality vocational education and training (VET) systems in which a strong element of work-based learning facilitates young people's transition to work. This is confirmed by the recent Cedefop study on labour market outcomes of VET. Countries with strong and attractive VET systems, and notably those with well-established apprenticeship systems, tend overall to perform better in terms of youth employment.

The political commitment to promote apprenticeships is there. The European Council in its January 2012 informal meeting called on Member States to substantially increase the number of apprenticeships and traineeships. Member States and social partners committed themselves in the Bruges Communiqué to the objective of including work-based learning in all initial VET courses. The challenge remaining in many countries is to identify, adapt and adopt the best measures to put these commitments into practice.

The Commission's proposals to exploit the potential of work-based learning are further developed in the forthcoming Commission Communication on Youth Employment.

Effective strategies for improving VET need to be realistic in their ambitions and tailored to each country's situation ...

Realistic reform strategies have to reflect the different starting points of Member States, their national traditions and economic realities. Well-developed VET systems may face the challenge of ensuring that VET is not a dead-end and, therefore, have to work on pathways that link VET and higher education.

On the other hand, more rudimentary VET systems will have to invest of time, work and money to achieve the objective of VET excellence: for them a "big bang" is not an option at hand; they may first have to set up the necessary infrastructure and facilities, ensure the availability of qualified teachers, accomplish a suitable legal framework, build up institutions and forge a good cooperation and partnership with business and social partners. A realistic strategy will sequence the necessary reforms and set out a reasonable timeline. To establish VET as a means to achieve recognised and promising careers - in the absence of long-standing traditions and a tried-and-tested framework - takes time.

... and the potential of work-based learning to deliver skills for employment deserves special attention

The value of work-based learning – and notably of apprenticeships or "dual training" systems - in facilitating youth employment and increasing economic competitiveness is clearly recognised. Countries with strong and attractive VET systems, and notably those with well-established apprenticeship systems, tend to perform better in terms of youth employment.

Despite this, the supply of apprenticeship and traineeship places in the EU remains under-developed. The picture varies greatly by country. Efforts are needed to invest in expanding the offer of apprenticeships and traineeships in countries where opportunities for this type of learning remain very limited.

The political commitment is there. The country specific recommendations adopted in July 2012 related to workforce skills and competences and VET clearly highlight the need for reforms to better connect VET and labour markets, strengthen the relevance of VET and support a better transition from VET to work.

Countries can tackle this challenge in different ways, by investing in work-based learning which is tailored to their situation. Alternance schemes or **apprenticeships** are typically known in Austria and Germany as the "dual system". These are based on the integration of companies as training providers together with VET schools or other education/training institutes. In these programmes, learners spend a significant time on training in companies. In parallel, in "alternating" periods, they acquire general and occupation-related knowledge and key competences in VET schools or other education/training institutes. This model typically shows strong results in terms of successful transitions to the labour market. Another model is school-based VET which includes **on the job training periods** in companies, typically covering internships, work placements or traineeships that are incorporated in VET programmes leading to formal qualifications. Finally, work-based learning can be integrated in a **school-based programme**, through on-site labs, workshops, kitchens, restaurants, junior or practice

firms, simulations or real business/industry project assignments which aim to create a "real life" work environment.

Given the diversity of experiences and models, the potential for mutual learning is clearly high. Some Member States are already engaged in peer learning activities, and the Commission is ready to support further collaboration of this type to fully exploit the potential of work-based learning to support employability.

Effective VET strategies require continued investments and fair burden sharing

Bringing reform efforts to fruition also requires substantial investments, which will certainly be seen as difficult to fund in times of tight public finance. Delaying the modernisation and improvement of VET means to relinquish the growth and innovation potential that is inherent in better VET systems.

The lower the development level of a country's VET system, the bigger the overall funding needs will be. Interventions of EU structural funds can help to meet these funding needs. At national level, the strategy to improve VET should be reflected in a country's budgetary policy, as part of smart fiscal consolidation.

In the area of continuing vocational education and training, the situation is even more complex: it is difficult to strike the balance between the interests and motivation of employees and employers respectively, as it is necessary to share the potential benefits and the financial burden of training measures in a way that creates positive incentives for both sides.

There structural under-investment in the skills of adult workers. The stagnating share of adults taking part in lifelong learning activities attests of it. And this insight is a cause of concern in view of the global, knowledge-based economy that is propelling constant technological change. It might only be possible to overcome this stalemate by agreeing, in a broader framework, on the conditions for taking part in and for shouldering the financial burden of CVET activities.

1. Vocational education and training as an engine of innovation and growth

The boundaries of vocational education and training are shifting: an unexploited potential to support growth

The potential of vocational training to support or even drive competitiveness, innovation and growth policies has largely been neglected in education and training policies, in particular when compared with the role attributed to the higher education sector. This neglect is harmful as it underestimates the crucial importance of high volume and high quality VET for retaining and developing the economy. Countries like Austria, Denmark, Germany and the Netherlands exemplify the importance of combined strategies where VET and higher education are seen as complementary and where one cannot be developed without the support of the other.

Traditionally conceived as preparing people for technical, manual or crafts occupations, the boundaries of VET have been shifting for quite some time: vocational qualifications are spreading to higher levels of education and training. This reflects the need for vocational skills and competences at increasingly advanced levels, but is also reflecting the need to combine academic and professional preparation.⁶ Young people participating in initial vocational training (IVET) need to develop relevant technical skills but also to learn to cope with change, complexity and the need for continuous skills development. However given demographic tendencies, it is also crucial that adults in working life constantly update, upgrade and or reorient their skills and competences. Continuing vocational training (CVET) is gaining strategic importance through equipping older workers with skills necessary for changing jobs as well as for entrepreneurship.

The challenge of better exploiting the potential of VET for growth is not unique to Europe. All our major international competitors are currently addressing the same issues. For this reason, the document draws not only upon the experience of the Member States, but refers also to internationally recognised good examples.

Developed and imagined economies: investment in VET to support growth and productivity

-In 2012 the US president Barack Obama committed 8 billion dollars for a period of three years to boost partnerships between community colleges and regional employers with the aim of training 2 million workers for careers in high-growth industries such as advanced manufacturing and health care.⁷

-Australia emphasises the role VET in driving economic growth and social inclusion. The current National Skills and Workforce Development Agreement aims for a VET system which delivers a productive and highly skilled workforce and sets the target of doubling the number of people who hold higher level (VET) qualifications.⁸

-China's national medium and long term talent development plan 2010-2020 sets out an ambitious programme for VET which is seen as a major channel to boost economic growth⁹. Support shall be made available for the development of excellent VET schools and colleges¹⁰.

⁶ Cedefop (2011). Vocational Education and Training at Higher Qualification Levels. Luxembourg: Publications Office (Research Paper 15). Available from Internet: http://www.cedefop.europa.eu/EN/Files/5515_en.pdf

⁷ http://www.americanprogress.org/issues/2012/02/community_colleges_budget.html

⁸ Council of Australian Governments (2008). National Agreement for Skills and Workforce Development. Available from Internet: http://www.federalfinancialrelations.gov.au/content/national_agreements/skills_workforce/skills_agreement_new.pdf

⁹ Source: English translation of the Outline of China's National Plan for Medium and Long-term Education Reform and Development (2010-2020),

https://www.aei.gov.au/news/newsarchive/2010/documents/china_education_reform_pdf.pdf

¹⁰ Assistance shall be available to turn some secondary vocational schools into model schools for vocational education reform, or into schools that excel in particular fields. Support shall be provided to the construction of exemplary vocational colleges. Source: English translation of

EU industry has radically changed over the last 10-15 years. There has been a massive increase in manufacturing labour productivity by some 46% between 1995 and 2007, compared with economy-wide productivity growth of less than 20% over the same period. This performance has been achieved through process and product innovation, outsourcing of non-core manufacturing business activities (e.g. logistics, facility management, ICT) and the increasing use of a better qualified workforce. However, the rate of productivity growth in the last fifteen years in Europe lags behind that in the US. This is in particular visible when examining not just labour productivity (GDP per hours worked) but also multifactor productivity (level of output compared to all inputs – labour as well as capital)¹¹, which is a better indicator of the use of technology and innovation in production.

An effective VET system can facilitate innovation and economic restructuring ...

Skills are a key driver for growth, employment and competitiveness: they lay the foundation for productivity and innovation. Investment in training is also an investment in innovation, since much technical change results from incremental innovations by skills workers and engineers on the factory floor.¹²

Traditionally innovation is seen as a result of R&D activities carried out by highly qualified staff and thus a domain of higher education rather than VET. However, there are at least three reasons why high quality vocational education and training is relevant to supporting innovation:

- technological and process innovations can be absorbed by businesses provided that employees at all levels of the production chain have the required skills;
- given that the majority of European companies (including small enterprises) are involved in global value chains, constant innovation and efficiency are a must to ensure competitiveness in a global context. That has implications for skills and work organisation practices.
- Innovation cannot be limited to high tech industries – it also takes place in low-tech industries which account for a large share of employment in Europe. Firms in low-tech industries innovate in an incremental way by further developing their products, taking these products to new markets or improving production and delivery processes. In doing so they build on the *practical knowledge* within the firm which arises from ‘*learning by doing*’ or ‘*learning by using and interacting*’¹³ which is not a prerogative of a specific category of employees.

Vocational education and training can play a key role in the processes of economic restructuring. The analysis of case studies in specific clusters (medical technologies; textiles; advanced engineering;

the Outline of China's National Plan for Medium and Long-term Education Reform and Development (2010-2020)

¹¹ Van Ark, B.; O'Mahony, M. and Timmer, M. (2008). The Productivity Gap between Europe and the United States: Trends and Causes in *Journal of Economic Perspectives*—Volume 22, Number 1—Winter 2008—Pages 25–44. Available from Internet: http://www.indexmeasures.ca/dc2008/papers/vanark_productivity.pdf

¹² COM(2012) 582: A stronger European Industry for Growth and Economic Recovery.

¹³ Hirsch-Kreinsen, H.; Jacobson, D. (eds.) (2008). *Innovation in Low-Tech Firms and Industries*, Edward Elgar, Cheltenham, UK; Northampton, MA, USA.

finance; and renewable energy) made by Cedefop¹⁴ showed that strategic investments in skills – which pay due account to the role of VET – have to potential to create dynamic skills eco-systems which support economic development and innovation:

- the supply of highly skilled labour (including through VET) is a critically important factor in the growth and competitiveness of regional and/or industrial clusters;
- Firms, governments and workers undertake considerable efforts to supply the skills needed for high quality production, the efficiency of operations, and for innovation meaning that both public agencies and private firms are engaged in the supply of knowledge which firms within the cluster require for the networks to flourish;
- training investments are pivotal for restructuring. Human capital investments are not restricted to supporting the expansion of growth industries. In declining industries, such as textiles or shipbuilding, available skills are adapted and transformed into new occupations to establish the knowledge base for more productive activities. Training, therefore, is the key investment for the reallocation of labour into the growth industries;
- the high degree of innovation observed in all the case studies would not have been achievable without the long-term accumulation of professional knowledge in local labour markets; and training systems play a pivotal role in organising this knowledge transfer over time;
- there is a high degree of cooperation among companies within clusters, which aids sharing of knowledge for the benefit, in the first instance, of the production process;
- production structures are heavily influenced by the provision of skills in local labour markets. Skill provision allows for the development of high-value production allied to relatively good working conditions and points to the key role of human capital investment which is at the very beginning of economic restructuring and development.

... promote smart growth...

Some regions in the world have adopted diversified development strategies to encourage economic growth by including education and training providers. In the United States, knowledge is perceived as the key asset in economic development: for instance, in some States the community college system offers targeted workforce development measures, including non-credit courses which can be quickly developed and tailored to the needs of companies.¹⁵ The aim is to stimulate job creation and growth by making the commitment to provide companies with a skilled local workforce from day one. As a result, local economic development resources are prioritised for these companies.

VET and smart growth in practice: Sweden, The Netherlands

In Sweden the Centres for Advanced VET as well as the Centre of Vocational Excellence can be seen as attempts to situate VET as a central player in smart growth. Both in Sweden and the Netherlands,

¹⁴ Cedefop (2012a), Sectoral perspectives on the benefits of vocational education and training. See: <http://www.cedefop.europa.eu/EN/publications/19891.aspx>

¹⁵ Shaffer, D.; Wright, D. (2010). A new paradigm for economic development. The Nelson Rockefeller Institute. Available from Internet: http://www.rockinst.org/pdf/education/2010-03-18-A_New_Paradigm.pdf

partnerships not only rely on indirect representation through employer or social partner organisations, but are based on direct involvement with enterprises. Central to the partnerships are opportunities to develop innovative teaching and learning processes based on work based learning models, where students get genuine opportunities to learn through and from tackling complex and authentic challenges.

In the Netherlands, VET excellence centres typically comprise both vertical and horizontal cooperation with other VET institutions, universities, and research and business organisations and businesses, mirroring the characteristics of the regional innovation system.

In Karlstad, Sweden, the 'Paper Province' develops cooperation between pulp and paper technology businesses in Värmland, northern Dalsland and the county of Örebro in central Sweden. Around 200 companies with approximately 12.000 employees are active in the sector. Karlstad Technology Centre plays an important role in ensuring a qualified workforce for the industry. The Technology Centre offers tailored work force development programmes as well as a two year vocational programme. It is developed in close cooperation with industry. Students undertake a placement scheme, which aims to train the students in using theory to solve complex practice based problems and as the foundation for building skills conducive to practice based innovation.

Excellence centred network to boost skills supply – North Carolina (USA)

The state of North Carolina in US has been internationally recognised for its proactive use of community colleges as strategic partners in economic development. These colleges provide both post-secondary vocational qualifications as well as tailor made continuing training to companies. In the early 2000s North Carolina identified bio-technology as one of the sectors with the biggest potential for growth and jobs. An analysis showed that 2/3 of possible new jobs would require specific qualifications below bachelor level. To seize the opportunity the state launched a specific initiative to strengthen the supply capacity of the community college system. Seven centres of bio excellence were created in the state, linked to the network of 58 community colleges. This approach has dramatically increased the capacity – both quantitatively and qualitatively - of the community college and has directly benefited the development of the bio-technology industry in North Carolina. The employment in the sector grew from 34 500 jobs in 2003 to 58 000 in the year 2009, including a substantial amount of jobs for people with medium level qualifications below bachelor's degree.¹⁶In Europe, Northern Ireland has drawn lessons directly from the experience of North Carolina and applied them within the "Assured Skills" programme.¹⁷

...and support the transition towards the green economy

The transformation brought about by greening economies will accelerate structural changes between sectors and the process of restructuring within many sectors, calling for measures to enable the adaptation of workers in existing and emerging economic activities as well as retraining of displaced workers from shrinking sectors.

¹⁶ <http://www.delni.gov.uk/es/north-carolina-bioscience>

¹⁷ <http://www.delni.gov.uk/index/successthroughskills/skills-and-training-programmes-2/assured-skills-programme.htm>

Sectoral and occupational changes brought about by greening economies call for a greater degree of policy coherence and a better understanding of the interactions between education, VET, labour market and low carbon and energy efficiency policies. Yet, a review of national practices reveals that the coordination between green policies and skill policies ranges from comprehensive and well-targeted to fragmented, ad hoc or virtually non-existent¹⁸. In Denmark, Germany and France for instance, there are well-established institutional frameworks for reflecting changes in skills needs in education and training responses. These frameworks combine quantitative forecasting, qualitative needs assessments and formal and informal dialogue with education and training providers. For example, the approaches adopted in France and Germany in this respect tend to be ‘integrated’ ones - adjusting or refining vocational training curricula, rather than creating specialised green occupations.

Examples of VET initiatives based around new and emerging sectors of economic activity have been observed in **Austria**. Here, national and local governments have launched a joint initiative, called the Environmental Technology Masterplan (Masterplan Umwelttechnologie, MUT). This brings together policymakers, business and relevant research institutions to improve the competitiveness of the industry. A key component of this plan is the consideration of innovative and needs-related vocational training in the green technology sector.¹⁹

Germany: initiative to adapt IVET and CVET to the requirements of the green economy

The Federal Government of Germany is currently acting upon the transition to the green economy by promoting sustainability and environmental protection as a transversal, overarching goal of VET. Rather than creating new, specific green occupations, many occupations and training curricula have been adjusted and refined to take account of the skills needs of increasingly green aspects of mainstream industry and business, as well as eco-industries. The skills response has followed an integrated approach, rather than focusing on specialised occupations, to guarantee flexible use of skilled workers and better job opportunities.

The approach favoured so far for the VET systems is “topping-up” competences to enhance the skills already possessed by the workforce, to collectively meet the demands of existing jobs requiring green skills or jobs that need retraining. This topping-up is most likely to be characterised by additional training to familiarise workers with new concepts and practices that will enable them to operate in low-carbon industries. Relevant developments in Germany’s initial training include the creation of 82 occupations and the modernisation of 219 occupations; only a small number of dual apprenticeship training schemes have been established related to green occupations.

Source: Thiele, P. (2011).

2. Financial incentives for continuing vocational education and training

The importance of continuing vocational education and training (CVET) is rising hand in hand with ageing population and changes in technology and work processes. An efficient and effective system of CVET is contributing to VET excellence by making sure that people continually acquire and update the skills needed by the labour market.

In order for CVET to be efficient and effective, the whole CVET system needs to be built taking into consideration the objectives that are to be reached. For example, as the participation in CVET of older

¹⁸ Cedefop and ILO (2010), Skills for green jobs - European synthesis report. See: <http://www.cedefop.europa.eu/EN/publications/16439.aspx>

¹⁹ Eurofound (2009). Greening the European economy: Responses and initiatives by Member States and social partners. Dublin, 2009, EF/09/72/EN. Available from Internet: <http://www.eurofound.europa.eu/eiro/studies/tn0908019s/tn0908019s.htm>

and less qualified persons is often lower, this could be a main priority for support measures. Much CVET takes place in companies, but this training is targeted mainly at those who are already in employment, who have high qualifications levels and who are relatively young. In order for CVET to reach also other target groups, it is important that also other stakeholders, such as Social Partners, participate in the design and financing of CVET.

One of the objectives expressed through the Bruges Communiqué is to increase participation in CVET through an appropriate framework of incentives, rights and obligations should support the company investment in CVET. All the elements linked with the design, delivery and financing of CVET should support one another, not act in isolation. However, it seems that knowledge on financing mechanisms for CVET is relatively scarce. This is why this question merits a closer look.

A well-functioning support system for CVET is extremely important if participation is to be increased. At the moment, most European countries are still far from reaching the EU target of 15 % participation in adult learning (*see Commission Staff Working Document "Rethinking Education: Country analysis"*).

Both for individuals and for companies, costs of training is the main obstacle for training²⁰. Member States have implemented a variety of approaches, and while impacts on returns are mixed or unclear²¹, recent analyses may help improving these and increasing their impact on targeted groups. However, this is an area which requires rigorous research at national level.

In order to increase the participation in CVET, much is going on in Member States. In addition to measures in place already at the time of the adoption of the Bruges Communiqué, countries are introducing measures or strategies that aim at increasing the participation.

The results of the latest Continuing Vocational Training Survey show a slight increase in both training in enterprises and a slightly more marked increase in employee participation in training as compared to 2005. Today around two third of European enterprises train their personnel.²² However, the situation varies greatly between countries, in particular for the level of the investments that companies make in training their personnel.

In order to further increase training demand and supply, public support is necessary. This chapter discusses the main mechanisms that are used to (co-)finance CVET.

²⁰ For individuals, Adult Education Survey, cited in Dohmen and Timmermann (2010) Financing Adult learning at times of crisis, and for companies, Eurostat, Continuing Vocational Training Survey 4, reference year 2010, preliminary results.

OECD (2004), Co-financing lifelong learning: towards a systemic approach, Paris: OECD Publishing.

²¹ Oosterbeek, EENEE report on adult learning

²² Eurostat. Continuing Vocational Training Survey 4, reference year 2010, preliminary results.

2.1. Evidence on the effectiveness of incentives and funding mechanisms for CVET

Several financing and regulatory mechanisms, such as levy-based schemes (training funds), tax incentives, vouchers/individual learning accounts, (low-cost) loans, training leave and payback clauses have been set up to stimulate the demand for continuing learning, which can be distinguished between those targeting individuals and those directed to enterprises. Most of these mechanisms are at least partly financed by governments; most of them also require a contribution from employer or employees. This chapter concentrates rather on the co-financing instruments which require sharing of responsibilities.

The various financing mechanisms are known to have advantages, such as stimulating participation in learning (as shown by the evaluation of tax incentives in the Netherlands), increase private investment (e.g. training funds) and they can strengthen social dialogue (e.g. sectoral training funds in Italy), to mention but a few. However, despite these advantages, none of the financing mechanisms is free of potential drawbacks, which should be taken into account in design and implementation. The latter mainly include deadweight losses and heavy administrative burden. Comprehensive evaluations of financing mechanisms to support the demand for learning are still scarce in Europe.²³

Almost all the financial mechanisms targeted towards individuals and employers to support the demand for lifelong learning can engender deadweight losses. The magnitude of these losses may vary among financial mechanisms. For instance, high potential deadweight losses are often associated with tax incentives²⁴ and are apparent in case of skilled individuals. Also, levy-based funding schemes are often criticised for their high 'deadweight'. This is particularly relevant among large enterprises that would have spent more than legal minimum anyway. Deadweight effects can be limited through targeting the incentive to groups traditionally underrepresented in training. However, this may lead to increased administrative burdens for both suppliers and employers²⁵.

A last drawback relates to administrative complexity and burden engendered by these financial mechanisms. Administrative complexity is apparent in the French train-or-pay scheme due to the complexity of the transfer of funds to various education and training stakeholders and to multiple training initiatives. Such complexity tends to reduce the effectiveness of the scheme in France.²⁶ Administrative requirements to benefit from these financial mechanisms can be too heavy, and thus act as a disincentive for employers and individuals. However the level of administrative burden differs

²³ CEDEFOP (2009), Using tax incentives to promote education and training, Luxembourg: Office for Official Publications of the European Communities; CEDEFOP (2009), Sharing the costs of vocational education and training: An analysis of schemes in the newer Member States, Luxembourg: Office for Official Publications of the European Communities.

²⁴ Ibid.

²⁵ CEDEFOP (2008), Sectoral training funds in Europe; Luxembourg: Office for Official Publications of the European Communities.

²⁶ Pierre Cahuc and André Zylberberg (2007), Les dérives de la formation professionnelle, Formation Emploi, No 98.

among the various financing mechanisms; tax-based schemes for individuals and enterprises are often associated with a low level of administrative burden, contrary to subsidy-based schemas.²⁷

2.2. Financial incentives for individuals to stimulate participation in CVET

Across Member States, financial support to individual learners can take the form of:

- a) Individual learning accounts, vouchers and training allowances;
- b) Training loans;
- c) Tax-based schemes.

a) Individual learning accounts, vouchers and training allowances;

These three financing instruments are the most widely used instruments in Europe.²⁸

The main characteristics of a funding system based on *vouchers or learning accounts* are²⁹:

- Rather than allocating public funding to education and training providers the purchase power of individuals is stimulated;
- The demand from the side of individuals should affect the supply in terms of type of offer as well as its costs;
- Such system requires a comprehensive information system to: 1) enable information flow between supply and demand side, 2) control the utilisation of loans and vouchers, 3) ensure the quality of education training supplied meets the required standards.
- In terms of socio-economic characteristics of participants: women tend to benefit more, utilisation increases with education levels; evidence on the extent to which the funding is effectively used by those who would not have been able to benefit from training otherwise is mixed, and a significant proportion of those who benefit would have funded the training even in the absence of the vouchers or account system (i.e. there is considerable deadweight funding); older people are underrepresented.
- There is a need to monitor the quality of training provided (e.g. through accreditation) which creates other types of costs compared to direct subsidies to providers.

²⁷ CEDEFOP (2009), Using tax incentives to promote education and training, Luxembourg: Office for Official Publications of the European Communities; CEDEFOP (2009), Sharing the costs of vocational education and training: An analysis of schemes in the newer Member States, Luxembourg: Office for Official Publications of the European Communities.

²⁸ Dohmen B3-forthcoming

²⁹ Dohmen and Timmermann (2010) Financing Adult learning at times of crisis

Individual learning accounts have gained increasing attention of policy makers over recent years, especially in the Netherlands, the United Kingdom, Austria, Ireland, Italy, and Malta. However, their success has been sometimes questioned. For instance, the United Kingdom suspended its "Individual Account for Learning" programme in 2001, only a year after its creation. The programme foresaw a complement of 150 GBP from public resources to an individual's deposit of 25 GBP. The individual was to use this amount to finance training provided by registered providers. The government expected that one million accounts would be opened in two years with the cost of 15 million. However, in one year, more than 2,5 million learning accounts were opened, and the programme was suspended due to numerous fraud cases that occurred due to lack of sufficient control mechanisms.³⁰

Other European countries such as Sweden or the Netherlands also decided not to proceed further with the initial individual learning accounts they set up.³¹ In a comprehensive international review of individual learning accounts, Cedefop found that the participation of certain at-risk groups of individuals – namely workers with low incomes, the low skilled of employees working in SMEs – is extremely low unless these mechanisms target such groups.³² A summary of evidence on saving accounts indicates that this type of funding is likely to only have a marginal role to play as sums saved are in general low and the people most at need are unlikely to be able to put money aside³³. According to several studies there seems to be rather large deadweight loss³⁴ (more than 50%) in using learning accounts. However, those individuals who would not have taken part in learning had they not used the learning account, seem to have these characteristics: being risk-averse and using the funds for training of rather general nature.³⁵

Vouchers and training allowances can be used to cover the cost of tuition fees and the indirect training costs such as the transportation costs, the accommodation expenses, the costs of study materials, and the forgone earnings. Training allowances covering tuition fees are nevertheless sometimes subjected to refund if the learner does not complete successfully the learning programme.

However, an analysis shows that considerable deadweight can be associated with this instrument.³⁶

Training vouchers in Germany

³⁰ Yves Urieta (2011), 40 ans de formation professionnelle: bilan et perspectives.

³¹ UKES (2010), Personal learning accounts: building on lessons learnt, London: UK Commission for Employment and Skills.

³² CEDEFOP (2009), Individual learning accounts, Luxembourg: Office for Official Publications of the European Communities.

³³ Dohmen and Timmermann (2010) Financing Adult learning at times of crisis

³⁴ An increase in the demand of lifelong learning from individuals and employers having benefited from public support that can be judged to have occurred anyway, in the absence of any assistance, is termed a deadweight loss.

³⁵ Falch and Oosterbeek for EENEE (2011) Financing Lifelong Learning: Funding Mechanisms in education and training

³⁶ Hessel Oosterbeek for EENEE (2012) More on the financing of lifelong learning.

The Federal Employment Agency (Bundesagentur für Arbeit – BA) is the labour market's biggest service provider. As a public body with self-governance it acts independently within the framework of applicable law.

The training voucher contains among other things information on the education aim, the duration required until reaching this education aim, the regional scope and the validity of no more than three months in which the training voucher must be redeemed. On the conditions defined on the training voucher, the person interested in education can redeem the training voucher at an institution approved for supported further education of his/her choice. But also the measure must be approved for supported further education. The participation must be necessary for the professional integration of unemployed persons, to avert concretely threatening unemployment or because the necessity of further education is approved due to lack of training qualification.

The participant can redeem the training voucher within its validity period for the participation in an approved measure with an education aim corresponding to the training voucher. As proof of the admission of a further education measure, the respective institution can present certification of an expert authority. Information on approved measures can be obtained from the data base for training and further education KURSNET. The approval must be valid at the time of entry in further training. The education institution selected by the participant confirms on the training voucher (copy for the institution) the admission to the approved measure and presents the training voucher to the issuing Employment Agency before the beginning of the measure.

Source: http://www.arbeitsagentur.de/nn_431528/EN/zentraler-Content/Leistungen/Bildungsgutschein-EN-55440.html

A refund of tuition fees for enrolment in formal adult education programmes in Austria

In Austria, the province of Upper Austria has introduced a system named Bildungskonto. Under this scheme, the administrative office of the government of Upper Austria refunds 50 % of individual course fees to people participating in further education, up to a maximum amount of EUR 830 ('general' Bildungskonto). People over 40 years of age and unskilled persons may have up to 80 % of their course fees refunded. The 'special' Bildungskonto allows participants to submit a request for financial support amounting to 50 % of their personal costs up to a maximum of EUR 1,660 if they produce a certificate confirming successful completion. Preparatory courses for officially recognised exams (e.g. Berufsreifeprüfung, apprenticeship certification exams, foremen's exams, etc.) are among the most frequently subsidised educational activities. Different schemes to refund tuition fees also exist in all other provinces of Austria.

Source: extracted from Education, Audiovisual and Culture Executive Agency (2011), Adults in formal education: policies and practices, Luxembourg: Office for Official Publications of the European Communities

Training vouchers in Belgium

In Belgium, in the Flemish Community and in the Brussels-Capital Region, employees may purchase up to EUR 250 worth of training vouchers per calendar year. They can use these vouchers to pay for training programmes organised by education and training providers which are recognised by the

public service for labour and employment (VDAB), such as centres for adult education (CVOs). The employee only needs to pay half of the cost of the training vouchers.

Source: extracted from Education, Audiovisual and Culture Executive Agency (2011), Adults in formal education: policies and practices, Luxembourg: Office for Official Publications of the European Communities

b) Training loans

Some countries allow learners to benefit from training loans that are guaranteed by public authorities. In the EU, 19 countries have loan schemes, but most of them are aimed at higher education.³⁷ However, this could benefit adult learners as it might facilitate adult access to higher education. These bank loans must be repaid by learners at the end of the learning period. In the case of loans³⁸:

- The principle is to provide individuals with insufficient liquidity/purchase power with the possibility to fund education and training;
- Public loans intervene in the absence of lack of private bank loans which do not exist because the investment is considered insecure;
- Given that loans are to be repaid they are more likely to be employed for professionally relevant learning;
- This mechanism could be a good complement to fund education and training that is costly or to intervene in times of economic downturn when employers have less funds to support training.

Evidence of their effectiveness is not broadly available, but in the UK the evaluation of the Career Development Loans shows that those who benefit most are males and people with relatively low incomes, though being in general qualified or highly qualified³⁹. In the United Kingdom, there exists one loan scheme expressly targeted at disadvantaged groups.⁴⁰

Evaluation of UK PCDL (Professional and career development loan)

The evaluation report available for the UK PCDL was commissioned by the Learning and Skills Council (LSC; then the managing institution of the scheme) and produced in January 2008 (LSC, 2008). Surveys of learners, learning providers, and other stakeholders were carried out covering the period of learning 2001-06. The impact of the PCDL scheme was evaluated positively: more than 80% of learners agreed that the loan helped them develop new skills and had a positive impact on their qualifications, income, employment prospects or future training. The deadweight effect was estimated to be low (with half of respondents

³⁷ FiBS – Forschungsinstitut für Bildungs- und Sozialökonomie and DIE – Deutsches Institut für Erwachsenenbildung, a forthcoming study commissioned by the European Commission, DG Education and Culture.

³⁸ Dohmen and Timmermann (2010) Financing Adult learning at times of crisis

³⁹ Learning and Skills Council (2008) Evaluation of the Career Development Loans Scheme CDL Learner Survey

⁴⁰ The Kent Community loan Scheme. See Cedefop (unpublished), The role of loans in financing vocational education and training in Europe, final report (by PPMI; November 2010).

saying they would not have been able to take the course without the loan and only 13% saying they would have definitely taken the course), but it was also reported that most borrowers had decided to learn before they explored the PCDL as a funding option. However, the learning providers indicated that the loan scheme was very important in giving an opportunity for those without sufficient financial resources to take the learning. This was confirmed by the survey findings that, for nearly 90% of the learners, PCDL were the only source of financial assistance for which they were eligible. The scheme was also reported to have created over GBP 90 million (EUR 104.49 million) of additional wage revenue. In terms of equity, it was noted that people living in London and South East England (the most economically prosperous areas in the UK) were significantly overrepresented among the scheme users. This raises significant concerns about the ability of people from less economically developed regions, as well as people with lower income in general, to access the loan. However, it was reported that 60% of loan takers earned GBP 15 000 (EUR 17 415) per year or less, so most of the borrowers were low-income. Access to loans did not differ significantly between ethnic groups. The sustainability of the scheme was also evaluated positively, considering the low cost to the public purse.

Source: CEDEFOP (2012) Loans for vocational education and training in Europe; Luxembourg: Office for Official Publications of the European Communities.

Cedefop's review of education and training loans in 33 European countries (with focus on those schemes where government plays some role⁴¹) revealed that they are widely available for higher education. There are fewer loans available for continuing VET. The review allowed identifying some core 'good practice' principles for designing and implementing loan schemes⁴²

- Extended eligibility (including part-time learners)
- Flexible repayments with built-in income safeguard
- Operated by a specialised institution with expertise, know-how
- Level of State subsidy aligned with loan scheme
- Involvement of financial institutions and tax authorities in administering the loans (e.g. repayment collection)
- Synergies with other financing instruments and other public policies
- Use of non-financial measures (monitoring and evaluation; communication and guidance strategies)

c) Tax-based schemes

⁴¹ CEDEFOP (forthcoming), Training leave in Europe: Regulations and practice in Europe.

⁴² CEDEFOP (2012) Loans for vocational education and training in Europe; Luxembourg: Office for Official Publications of the European Communities.

Half of the European countries⁴³ have set up various *tax-based schemes* to encourage individuals or certain groups of individuals to participate in learning activities, although in many countries tax policies are still disconnected from education and training policy.

Tax-based schemes for individuals mainly consist of tax allowances, tax credits, and tax exemptions. Tax incentives for individuals are often more restrictive than those for employers. They often require individuals to undertake learning in the traditional formal education and training system, generally at secondary or higher education level. In addition, not all individuals undertaking such learning can benefit from these taxes in several countries where they are available. Finally, the type of costs supported by tax incentives can be restricted to course fees only.⁴⁴ According to Cedefop studies, tax credits for individuals are effective, whereas tax allowances (both for individuals and for legal entities) are in many cases regarded as ineffective⁴⁵. Tax incentives to individuals are more interesting to those with high incomes than to those with low incomes which results in lower net costs for those with higher incomes⁴⁶. Overall, it seems that tax reductions for direct training expenditure are an effective means to stimulate participation in education and training and up-skilling of people in employment. Based on calculations that build on empirical evidence it seems that at a marginal tax rate of 0.4, every euro invested by the government in the form of tax deduction, leads from 0.75 to 1.5 euro of private expenditure on training⁴⁷.

Time is an important resource for training – about 70 % of those not engaged in adult learning mention time as a constraint (AES 2007), either because of family responsibilities (particularly female) or work schedule (particularly male). This is why an important source of support to individuals is **time for training or paid (or unpaid) leave**. Most countries have in place some form of educational/training leave. Training leaves can be funded either publicly or by employer. SMEs experience probably the highest difficulties in using training leave.

The paid training leave addresses two main constraints that prevent adults from participation in education and training: time and financial constraints. Cedefop review of educational/training leave implementation in 33 European countries⁴⁸ shows that SMEs seem to face two major difficulties: lack of information and considerable difficulties in organising training leave, due to administrative burden and human resources constraints.

The review showed that the impact of the crisis on implementation of training leave was two-fold. On the one hand, in some countries the funding available to training leave diminished as State and employers could not retain the previous level of investment. On the other hand, some countries adopted the instrument and increased funding to keep people employed and raise their skills.

⁴³ FiBS – Forschungsinstitut für Bildungs- und Sozialökonomie and DIE – Deutsches Institut für Erwachsenenbildung, a forthcoming study commissioned by the European Commission, DG Education and Culture.

⁴⁴ CEDEFOP (2009), Using tax incentives to promote education and training, Luxembourg: Office for Official Publications of the European Communities.

⁴⁵ CEDEFOP (2009) Sharing the costs of vocational education and training: An analysis of schemes in the newer EU Member States.

⁴⁶ Dohmen and Timmermann (2010) Financing Adult learning at times of crisis

⁴⁷ Falch and Oosterbeek for ENEE (2011) Financing Lifelong Learning: Funding Mechanisms in education and training

⁴⁸ CEDEFOP (forthcoming), Training leave in Europe: Regulations and practice in Europe.

Training leave in Austria

During the crisis the regional governments provided additional funding through *Bildungskarenz-Plus*, which allowed overcoming reluctance of employers to send employees for training leave and preventing redundancies in companies. There was a sharp increase in take-up of training leave from 2008 onwards – up to 10.000, i.e. 0.3% employees (traditionally, on average there were 1.000 participants, i.e. 0.03% of employees). The training leave became more inclusive in terms of sectors, regions and qualifications covered. The take up of training leave for education and training at ISCED 2-3 increased sixfold and in seasonal qualifications increased sevenfold. Men, manufacturing sector employees and the regions hit hardest by the crisis started to use training leave more.

Source: Cedefop (forthcoming) *Training leave in Europe: Regulations and practice*

The review of training leave across Europe showed that targeted, group-specific training leave is the most successful type of training leave in terms of overall performance. Unpaid training leave does not provide equal access for disadvantaged employees as they do not have the resources to cover foregone income as well as other costs of training leave. High-skilled employees in large companies will always benefit more in using untargeted and (or) unpaid training leave. Therefore the key objective is to promote (via paid training leave) access of disadvantaged employees.⁴⁹

Alternative solutions to subsidised training leave are learning time accounts. Documentation of the effectiveness of these funding forms is limited but they seem to be rather underused⁵⁰.

2.3. Financial incentives for employers to stimulate supply of CVET

Funding mechanisms for employers can be divided in two main categories:

- Compulsory arrangements with levy-exemption schemes
- Non-compulsory arrangements with subsidies and tax incentives

a) Compulsory arrangements – levy-exemption schemes

Many European countries have set up compulsory arrangements to ensure a minimum financial commitment of employers in learning. Levy schemes, based on a contribution of a given percentage of firms' payrolls (fixed by governments or collective agreements) set up predetermined minimum levels of funding in training to be committed to by employers.

⁴⁹ CEDEFOP (forthcoming), *Training leave in Europe: Regulations and practice in Europe*.

⁵⁰ Dohmen and Timmermann (2010) *Financing Adult learning at times of crisis*

These schemes can be sectoral, regional or national. Especially the sectoral schemes address the poaching problem. In general they reach their aim of increasing the incidence of training in companies, and thus they also contribute to raising the productivity, competitiveness and incomes of enterprises and individuals by providing them with needed skills⁵¹. However, it has also been noted that for those companies that would train in any case, these schemes may reduce training to the minimum required.

These arrangements mainly consist of levy-grant schemes. The French model is significantly different from the others. French enterprises are subject to a 'levy-exemption (also called train-or-pay) mechanism'⁵². Firms can then reduce their levy obligations and even be exempted of such obligations by financing training to their employees. Unspent funds are then transferred to special funds.

The train-or-pay scheme in France

All enterprises in France have to contribute to the financing of continuing vocational training. The financial contribution is based on a percentage of enterprises' gross payrolls. This percentage nevertheless varies according to the size of enterprises. From the continuing vocational training tax of 0.55%, the employer with less than 10 employees should allocate:

- *0.15% to special (multi-) sectoral actions defined by social partners and to the national initiative, called droit individuel à la formation, granting the right for each employee to participate in continuing vocational up to 20 hours per year*
- *0.40% to training under the employer training plan.*

From the continuing vocational training tax of 1.05%, the employer with 10 to 19 employees should allocate:

- *0.15% to special (multi-) sectoral actions defined by social partners*
- *0.90% to training under the employer training plan.*

From the continuing vocational training tax of 1.55%, the employer with more than 20 employees should allocate:

- *0.20% to specific national initiatives on training leave (congé individuel de formation, congé de bilan de compétences, congé validation des acquis de l'expérience)*
- *0.50% to special (multi-) sectoral actions defined by social partners*
- *0.90 % to training under the employer training plan.*

If the employer does not invest the required percentage of the tax to training under the enterprise' training plan, the unspent funds are then allocated to special national funds.

⁵¹ Johanson, R. (2009). A Review of National Training Funds. Washington: World Bank 2009.

⁵² CEDEFOP (2008) Sectoral training funds in Europe; Luxembourg: Office for Official Publications of the European Communities.

b) Non-compulsory arrangements – subsidies, tax incentives and payback clauses

Through non-compulsory arrangements, employers can receive financial incentives to invest in learning, mainly subsidies and tax incentives. The eligibility requirements to benefit and use these financial mechanisms are often targeted at certain groups (e.g. SMEs or groups of workers), certified learning programmes, accredited training providers, direct training costs, and firm and sector specific learning content.

Subsidies to employers are used by governments to share the direct costs of training and also a substantial share of the indirect costs (e.g. foregone income) of internal or external training borne by employers. These subsidies are frequently granted to firms on a selective basis, often to firms in the framework of active labour market policies in order to provide learning to at-risk workers so that they are not excluded from the labour market. Subsidies are also often used by governments to support the training of workers in SMEs who are often less likely to receive the most formalised forms of continuing vocational training than their counterparts in larger firms.⁵³

In many European countries, governments provide **tax incentives** for employers to give them the right incentives to invest in training, including initial vocational training.⁵⁴ These taxes for employers consist of tax allowances, tax credits, and tax exemptions. Most of them are however tax credits. Government intervention to support investment by enterprises can take the form of training loans, especially for SMEs.

Payback clauses are another form of encouraging employers' investment in training. They are essentially a legal instrument that encourages companies to bear the costs of training by allowing them to retain employees for a certain time after training in compensation for its provision. In fact, employees are free to move to another company but, if they terminate the contract within contractual retention period, they may be requested to reimburse (a share of) the costs of training⁵⁵.

Payback clauses and associated with them contractual retention period should not be seen, however, only as a safeguard for employers (preventing from poaching, fluctuations of trained staff) but also as a safeguard for employers (who may feel more secure about continuity of employment after

⁵³ European Commission (2007), *Employment in Europe 2007*, Luxembourg: Office for Official Publications of the European Communities.

⁵⁴ CEDEFOP (2009), *Using tax incentives to promote education and training*, Luxembourg: Office for Official Publications of the European Communities.

⁵⁵ CEDEFOP (2012), *Payback clauses in Europe: supporting company investment in training*; Office for Official Publications of the European Communities.

training)⁵⁶. Although payback clauses can be found in most European countries (regulated through national law, collective agreement (at (inter-)sectoral level between social partners) or agreements at company level (between employer and individual, or management and trade union representatives), little data is available on their implementation in employment/training contracts or enforcement.⁵⁷

Agreement for information, communication and technology sector in Netherlands

In this sector, companies are requested to design a concept for easier access to qualification programmes. This agreement states how employers shall contribute financially to the development of employee's skills and acquisition of qualifications depending on the kind of training. The following differentiations are made:

- *training for current functions or tasks that need to be fulfilled on short notice within the company;*
- *training for future tasks within the company.*

In both cases, expenses are to be borne by the employer and training should take place as much as possible during working hours. In the case of training for maintaining and increasing employability that has no direct connection to the current employee's function or a task s/he will fulfil in the near future, but which can be regarded as reasonable for a possible future task, the following differences are to be made. The employer shall grant full financial support for tuition and enrolment fees, exams and administration costs, and 50% for the expenses for learning materials such as books for training that leads to a diploma or certificate within the period of time agreed prior to training. The qualification units shall take place as much as possible during working hours.

Reimbursement of training costs

The employer has the right to reclaim reimbursement of costs in case of training interruption by the employee without specific justification and due to termination of employment shortly after completion of training. The employee can be requested to reimburse 100% of the costs within the first year and 50% during the second year after completion of training. These standards are also valid if the employee is dismissed for reasonable causes.

Source: Cedefop, Payback clauses in Europe: supporting company investment in training; Office for Official Publications of the European Communities

⁵⁶ CEDEFOP (2012), Payback clauses in Europe: supporting company investment in training; Office for Official Publications of the European Communities.

⁵⁷ CEDEFOP (2012), Payback clauses in Europe: supporting company investment in training; Office for Official Publications of the European Communities.

The experience of an appliance manufacturing company in Sweden

A large Swedish appliance manufacturer with around 2 500 employees promotes career development by providing training. For higher and postgraduate education programmes the company reaches agreements on payback clauses only with employees with permanent employment contracts. The clause includes fees and payments for training courses as well as travel and subsistence costs. The retention period and the reimbursement conditions are specified case-by-case according to the amount of training expenses, but the following example is typical:

- contracts on the obligation to reimburse the cost of paid training;*
- the employee (name) has been offered and has accepted the invitation to attend the training course called XXXX on Trade;*
- the cost of training amounts to SEK (amount);*
- the training is conducted during the period up to (date);*
- the employee (name) agrees to reimburse part of the training cost upon the employee's voluntary termination of employment as follows:*
 - 100% of course fee has to be reimbursed prior to the completion of training;*
 - 100% of course fee within six months after the completion of training;*
 - 75% of course fee within one year after training;*
 - 50% of course fee within two years after training;*
 - 25% of course fee within three years after training.*

In the event that a newly hired employee has to reimburse the cost of training provided by former employers, the company assumes the reimbursement obligation if the new employee has left his or her former employer explicitly to join the company for professional reasons. Currently, only around 10 contracts contain agreements on payback clauses in this company. As the share of employees who undertake training and subsequently resign within the retention period is equal to zero, there have been no reimbursement requests in the last year and so far the company has never brought legal proceedings to obtain reimbursement from employees unwilling to reimburse.

Source: Cedefop: Payback clauses in Europe: supporting company investment in training; Office for Official Publications of the European Communities

3. State of play of VET systems in the EU in view of developing excellence

This section provides an overview of progress Member States have done in key areas (so called "short term deliverables") defined in the Bruges Communiqué closely related to VET excellence:

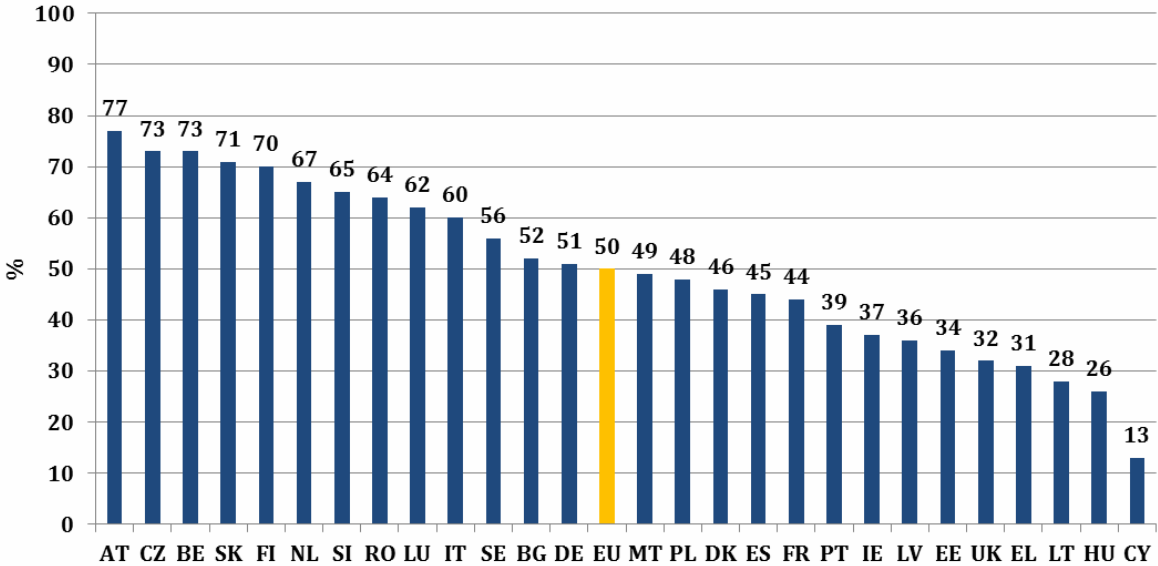
- VET attractiveness;
- Work-based learning and cooperation between VET institutions and enterprises;
- Partnerships for creativity and innovation as well as effective use of innovative technology in VET.

The information in this chapter is Cedefop's analysis of EU Member States' progress in addressing the short-term deliverables of the Bruges Communiqué⁵⁸, designed notably to serve the purpose of following-up the Bruges Communiqué. Country specific information may be subject to change, as validation by Member States was still on-going at the time of writing.

3.1. VET attractiveness in the EU countries

VET attractiveness is a multidimensional concept which depends on unique characteristics of countries system. One element which captures VET attractiveness is the share of VET students in upper secondary education (see Figure 2 below).

Figure 2 – Students enrolled in vocational upper secondary education, 2010, as a % of all students enrolled in upper secondary education (ISCED level 3)



Source: Cedefop, based on data from Eurostat, UOE data collection on education systems

Date of extraction: 05/10/2012

- Students in pre-vocational programmes are included both in the numerator and the denominator of the indicator
- [Additional country notes available on Eurostat website](#)

Within the Bruges Communiqué, countries have agreed to support VET attractiveness by demonstrating the value and benefits of VET through campaigns and skills competitions. The following table gives an overview of possible policy measures in this area countries had in place in 2010 and progress they have made since then.

⁵⁸ Cedefop (2012, forthcoming): Trends in VET policy in Europe 2010-2012. Progress towards the Bruges Communiqué. The information is subject to validation by Member States' Directors General for Vocational Training to be made following their meeting on 22-23 October 2012, i.e. November 2012

Table 1 – Campaigns and skills competitions to promote VET attractiveness - trends

	Education and career fairs with a focus on VET	Skills competition(s)	Campaigns to attract young people to VET	Campaigns to make adults aware of the benefits of VET	Campaigns encouraging enterprises to provide or invest in VET
EU (Total by status)	■ ■ ▲ ▲ ✕ 17 9 4 0 0	■ ■ ▲ ▲ ✕ 13 13 3 0 1	■ ■ ▲ ▲ ✕ 3 14 9 2 2	■ ■ ▲ ▲ ✕ 8 7 9 5 1	■ ■ ▲ ▲ ✕ 12 4 4 4 6
Belgium - Flanders	■	■	■	■	■
Belgium - German Com.	■	■	✕	■	■
Belgium - Wallonia	■	■	■	■	■
Bulgaria	■	■	■	▲	▲
Czech Republic	■	■	■	■	■
Denmark	■	▲	▲	■	■
Germany	■	■	▲	▲	■
Estonia	■	■	■	▲	✕
Spain	■	■	■	▲	▲
France	■	■	▲	▲	✕
Italy	■	■	✕	✕	✕
Cyprus	▲	▲	■	▲	■
Latvia	▲	■	▲	▲	■
Lithuania	■	▲	■	■	■
Luxembourg	■	■	▲	▲	▲
Hungary	■	■	■	■	✕
Malta	■	■	▲	■	■
Netherlands	■	■	■	■	■
Austria	■	■	■	■	■
Poland	■	■	▲	▲	▲
Portugal	■	■	▲	▲	■
Romania	■	✕	▲	▲	▲
Slovenia	■	■	▲	▲	▲
Slovakia	■	■	■	▲	▲
Finland	■	■	■	■	■
Sweden	■	■	■	■	✕
UK - England	■	■	■	■	✕
UK - Northern Ireland	■	■	■	■	■
UK - Scotland	▲	■	■	▲	■
UK - Wales	▲	■	▲	■	▲

Note: no data for Greece and Ireland

- In place by 2010 and not changed
- In place by 2010 and changed since
- ▲ Put in place since 2010
- ▲ preparing for implementation
- ✕ no action reported

Source: Based on Cedefop (2012, forthcoming): Trends in VET policy in Europe 2010-2012. Progress towards the Bruges Communiqué. Please note that the results have not yet been validated by all Member States. It should also be kept in mind that the selection of policy options is not comprehensive; indications should be seen also in the national context of all actions taken in a general strategy to achieve the objectives of the Bruges Communiqué.

Improving the attractiveness of VET has been a European policy objective since the beginning of the Copenhagen process in 2002; and countries have devoted a lot of attention to the issue, also before 2010. Education and career fairs with a VET focus take place in all

countries and skills competitions are held in almost all of them. Campaigns to attract young people to VET have been subject to some adjustments since 2010 in the majority of countries while 9 countries have introduced them. Two main trends are visible. A number of countries are expanding or improving the use of the internet to promote VET (BE fl, BE fr, DE, EE, FR, PL, SI) and several countries are increasingly promoting VET opportunities to young people that meet current or future labour needs or shortages (DE, LT, NL, SK).

Making trades a hands-on experience

Trade villages help young people discover technical and craft occupations. Young people (18-25) still in training present their skills using practical experiments. The villages are a highly appreciated initiative: 2 500 pupils, parents, workers and job seekers attended the villages and appreciate the hands-on experience with a range of jobs.

Source: ReferNet Belgium for Cedefop (2012, forthcoming)

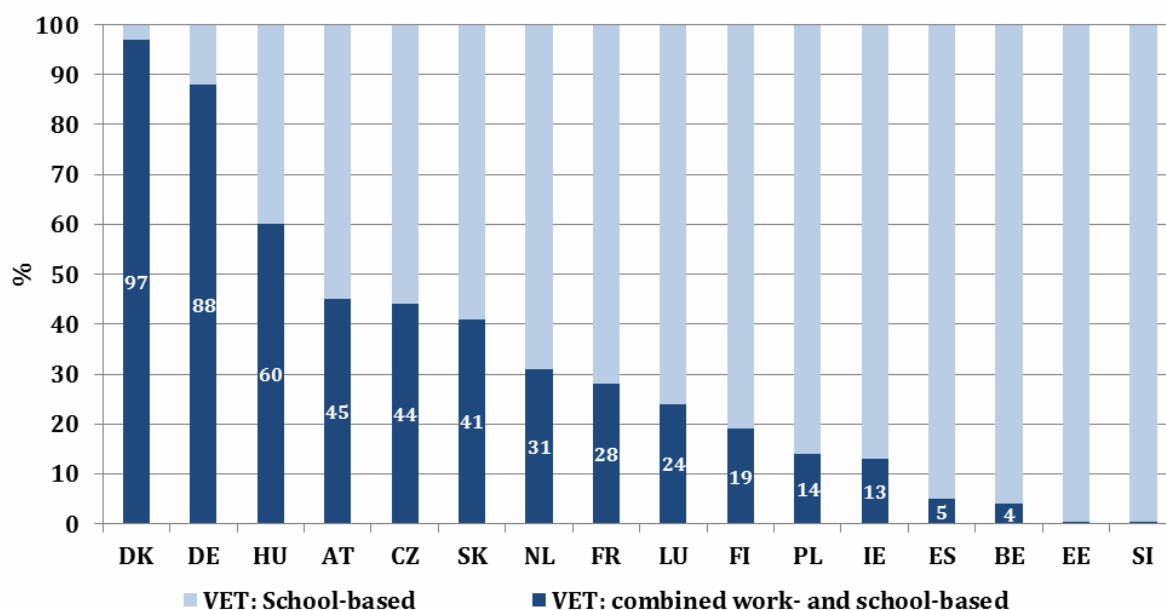
Campaigns to make adults aware of the benefits of VET were in place in 2010 in about half of the countries. 8 had them in place by 2010, 7 have adjusted them since and 9 have introduced them since 2010.

Campaigns to encourage enterprises to provide or invest in VET were in place in about half of the countries, 4 countries have introduced them since 2010 and 5 countries are preparing to implement campaigns. These campaigns sometimes include financial support for apprenticeship places or encourage enterprises to cooperate more with VET (LU, PL) to support VET teachers' and trainers' competence development. Only 6 countries do not (yet) have campaigns to encourage enterprises to become involved in VET.

3.2. State of play of work-based learning and cooperation between VET institutions and enterprises

Work-based learning is becoming a more popular feature of VET systems. Based on available data from 17 EU countries, the proportion of work-based learning in VET is more than 20% in 9 countries (see the Figure 3 below).

Figure 3 – Proportion of VET students enrolled in combined work- and school-based VET, 2010, as % of all students in upper secondary VET (ISCED level 3)



Source: Cedefop, based on data from Eurostat, UOE data collection on education systems

Date of extraction: 03/07/2012

- In the UOE data collection, a VET programme is classified as "combined work- and school-based "if 25% or more of the curriculum is presented outside the school environment. Programmes where the work based component accounts for 90% or more of the curriculum are excluded from the UOE data collection.
- **Data only available for a sub-set of countries.** Based on the UOE metadata, the category "Combined work- and school-based VET" is not applicable to the educational systems of Bulgaria, Greece, Italy and Portugal; figures on the category "Combined work- and school-based VET" are very low in Slovenia and Estonia (less than 1%); they are not available in Malta, Romania and the UK. Cyprus reported real zero values. Additional information on the magnitude of the category "Combined work and school based VET" has been retrieved elsewhere for the following countries: Sweden (OECD, EAG 2012): negligible; Lithuania (Eurostat, EU-LFS AHM 2009): important
- Students in pre-vocational programmes are considered in both the numerator and the denominator of the indicator.
- [Additional information on UOE methodology is available at Eurostat website](#)

In the Bruges Communiqué, countries have committed themselves to maximising work-based learning. Table 2 indicates a range of possible policies and measures in the area of work-based learning countries had in place in 2010 and developments in these areas since then.

Table 2 – Work-based learning – developments and trends in selected policy areas

	EU (total by status)	Belgium - Flanders	Belgium - German Com.	Belgium - Wallonia	Bulgaria	Czech Republic	Denmark	Germany	Estonia	Spain	France	Italy	Cyprus	Latvia	Lithuania	Luxembourg	Hungary	Malta	Netherlands	Austria	Poland	Portugal	Romania	Slovenia	Slovakia	Finland	Sweden	UK- England	UK- Northern Ireland	UK- Scotland	UK- Wales
		Apprenticeship or similar programmes	12 13 2 3 0																												
Guidelines providing for work based learning in VET	10 13 0 7 0																														
Work-based learning elements in school based IVET programmes	16 8 2 3 1																														
Strategy to foster VET-Enterprises cooperation to ensure quality and relevance	7 6 7 8 2																														
Incentives for enterprises to provide training or employment	9 11 3 4 3																														
Learning methods in VET including simulated or real business experience	17 5 0 5 3																														
Campaigns encouraging enterprises to provide or invest in VET	12 4 4 4 6																														
Services that assist in finding training places for VET learners in enterprises	13 2 5 3 7																														

Note: no data for Greece and Ireland

■ In place by 2010 and not changed ■ In place by 2010 and changed since ▲ Put in place since 2010 ▲ Preparing for implementation ✗ No action reported

Source: Based on Cedefop (2012, forthcoming): Trends in VET policy in Europe 2010-2012. Progress towards the Bruges Communiqué. Please note that the results have not yet been validated by all Member States. It should also be kept in mind that the selection of policy options is not comprehensive; indications should be seen also in the national context of all actions taken in a general strategy to achieve the objectives of the Bruges Communiqué.

One of the most important aspects of work-based learning is its quality and relevance to labour market needs based on cooperation between VET providers and enterprises. In this area, a significant progress has been made: 7 countries have developed and put in place a strategy to foster cooperation between VET and enterprises and another 8 countries are preparing to implement such a strategy. Some

examples of measures that were put in place are new adult education training centres involving employers (DK), a national plan for quality assurance in VET involving social partners (IT), and the qualification-employment programme focused on upgrading staff during periods of work time reduction in cooperation with employers (PT). Some countries are preparing a stronger involvement of enterprises in VET in curricula and planning (EE, LT, PL); the UK national occupational standards strategy requires consultation with employers on skill needs to ensure relevance of CVET.

Incentives for enterprises to provide training or employment are a common feature in many VET systems. But more importantly the incentives provided to enterprises are not static, but evolve dynamically: 12 countries made changes or adjustments to measures that were already in place by 2010. Such adjustments concern employment subsidies to enterprises to train or employ unemployed (BE, LT, PT) and new or increased bonuses for companies that train (DK, DE). Austria started to subsidise wage for apprentices abroad and Norway increased its special grant scheme for apprentices with special needs and high risk of drop out. Four countries are preparing or introduced new measures to provide financial support to enterprises for apprenticeship places (BG, SI, IS, SK).

More training places needed in Denmark

To make sure that by 2015, 95% of youth will complete at least secondary education, the Danish government is promoting new training places, which have been in short supply. In 2011, 9 000 extra training places were created and bonuses to enterprises who create them were increased. The government created 2 200 places in the public sector and 1 500 places in colleges. Creating new training places does not only help young people to successfully complete school. It also helps to make IVET more attractive. Many young people considering IVET don't choose it as they fear not being able to find a suitable training place.

Source: ReferNet Denmark for Cedefop(2012, forthcoming)

Learning methods in VET that include simulated or real business experience were in place in 23 countries by 2010. In 5 countries, business experience is currently being introduced in VET learning methods. Countries integrate business experience in VET in diverse ways. In Denmark, a foundation for entrepreneurship develops learning methods, while Estonia introduced entrepreneurship camps in some VET schools, where students put together a business plan in 12 hours. Poland introduced innovative entrepreneurship tools that include virtual business games.

Services that assist in finding training places for VET learners in enterprises existed in 22 countries by 2012 and 3 further countries are developing such services. These countries strengthen the responsibility of VET schools in supporting students in finding training places (EE, RO) or see a role for industry chambers in providing this service (LT). Only six countries did not report on services helping VET learners find enterprise training places by 2010 and undertook no action since.

Table 3 below shows in other possible ways in which VET cooperates with business, notably to ensure teacher development is up-to-date.

Table 3 – Cooperation between VET institutions and enterprises to ensure teacher development is up-to-date

	Training VET teachers/trainers to help learners acquire entrepreneurship skills	Guidelines for VET teacher development including enterprise traineeships	Services that assist VET institutions in finding partners in the business world	Guidelines encouraging staff exchange between enterprises and VET providers	Services that assist in finding training places for VET teachers in enterprises
EU (Total by status)	■ ■ ▲ ▲ ✕ 14 1 4 4 7	■ ■ ▲ ▲ ✕ 10 1 2 7 10	■ ■ ▲ ▲ ✕ 12 2 3 2 11	■ ■ ▲ ▲ ✕ 6 2 1 5 16	■ ■ ▲ ▲ ✕ 7 1 1 1 20
Belgium - Flanders	■	■	■	✕	■
Belgium - German Com.	■	✕	■	✕	✕
Belgium - Wallonia	■	■	■	✕	✕
Bulgaria	▲	■	✕	▲	✕
Czech Republic	■	■	✕	■	✕
Denmark	■	▲	■	✕	✕
Germany	▲	▲	■	▲	✕
Estonia	■	▲	✕	▲	✕
Spain	■	▲	✕	■	■
France	✕	■	▲	■	▲
Italy	✕	✕	✕	✕	✕
Cyprus	✕	▲	✕	■	✕
Latvia	▲	▲	■	✕	✕
Lithuania	▲	▲	■	▲	▲
Luxembourg	■	✕	✕	✕	✕
Hungary	✕	✕	■	✕	✕
Malta	■	✕	■	■	■
Netherlands	■	■	■	■	■
Austria	■	■	■	✕	■
Poland	■	▲	✕	▲	✕
Portugal	▲	✕	✕	✕	✕
Romania	▲	✕	▲	▲	✕
Slovenia	■	■	■	✕	✕
Slovakia	▲	✕	✕	✕	✕
Finland	▲	■	▲	✕	■
Sweden	■	▲	✕	■	✕
UK - England	✕	✕	▲	✕	■
UK - Northern Ireland	✕	■	■	✕	✕
UK - Scotland	✕	✕	■	✕	✕
UK - Wales	■	■	▲	■	■

Note: no data for Greece and Ireland

- In place by 2010 and not changed
- In place by 2010 and changed since
- ▲ Put in place since 2010
- ▲ preparing for implementation
- ✕ no action reported

Source: Based on Cedefop (2012, forthcoming): Trends in VET policy in Europe 2010-2012. Progress towards the Bruges Communiqué. Please note that the results have not yet been validated by all Member States. It should also

be kept in mind that the selection of policy options is not comprehensive; indications should be seen also in the national context of all actions taken in a general strategy to achieve the objectives of the Bruges Communiqué.

By 2010, 16 countries were training their VET teachers and/or trainers to help learners acquire entrepreneurship skills, which may involve VET-business cooperation, 4 countries started doing so since 2010 and another 5 countries are preparing to implement such training.

Local councils in Sweden bridging school and the world of work

To make upper secondary VET more relevant, local programme councils were established in 2011. These councils contribute to cooperation between VET and the world of work, assist VET providers in arranging training places and participate in organising and assessing diploma projects. Schools can deviate from national programmes after consultation with the local programme council. Students are not forgotten. The councils consult with students to get their point of view.

Source: ReferNet Sweden for Cedefop (2012, forthcoming)

Business taking the lead in developing a VET programme in Slovakia

A Slovak gas supplier and the chamber of trades jointly analysed skill needs in the gas industry and the challenges that VET schools face in providing the right skills. This led to the development of a new VET programme and study facilities (equipment, learning materials, teaching aids) at three VET schools. Partnerships between schools and business strengthened VET delivery, secured the quality of training and helped to create jobs for graduates.

Source: ReferNet Slovakia for Cedefop (2012, forthcoming)

Countries that introduce training to help teachers transmit entrepreneurship skills are taking several types of actions. Germany's entrepreneurial spirit initiative encourages teachers through professional development and a dedicated webportal. Portugal created a training benchmark for entrepreneurship and business creation (four short term training units), which helps to prepare teachers. Slovakia introduced several accredited teacher training programmes.

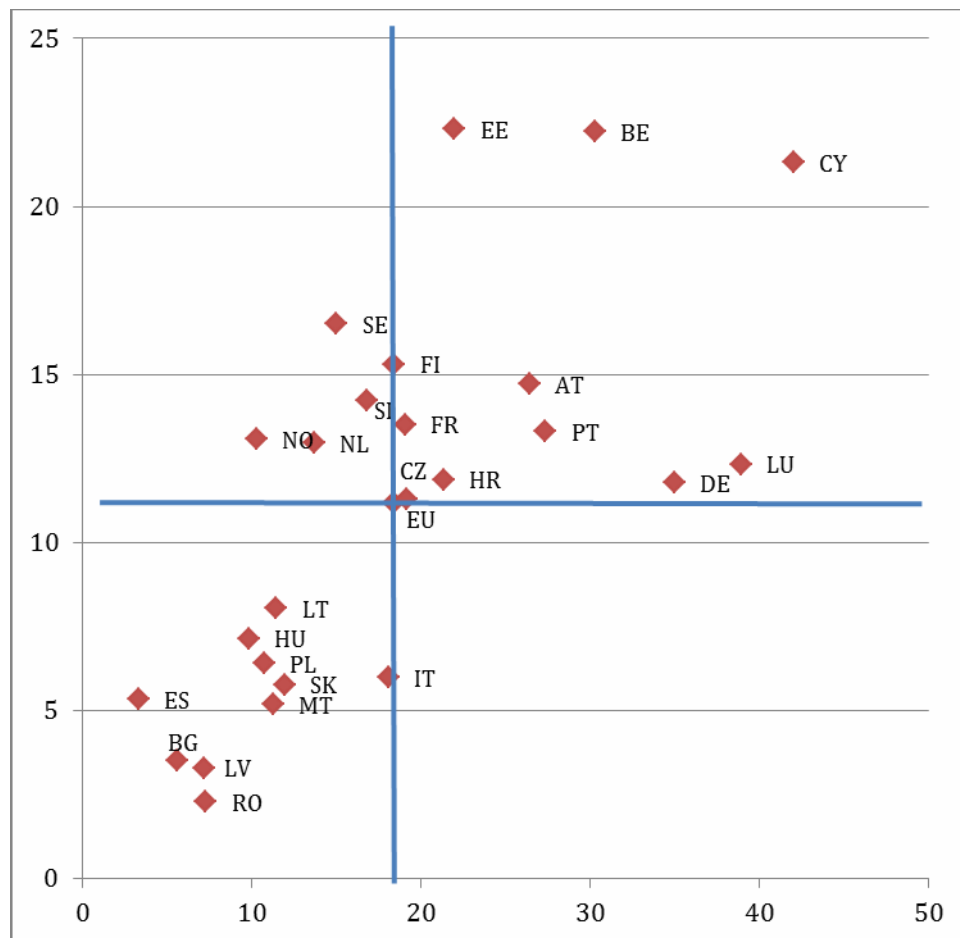
By 2012, 14 countries had guidelines for VET teacher professional development in place that includes traineeships in enterprises. Another 8 countries are planning to implement such guidelines. Dedicated services that assist VET institutions in finding partners in the business world currently exist in 15 countries, and progress in this area appears slow. 12 countries did not report on having taken action to establish such services since 2010. Staff exchange between enterprises and VET providers are not a prominent feature of VET-business cooperation, but there is significant progress: 6 countries are

preparing to implement guidelines to this effect. In 2012, services that help VET teachers to find traineeships for professional development in enterprises are only present in 8 countries and progress in this area is very limited: in 2012, such services do not exist in 22 countries.

3.3. Development of partnerships for creativity and innovation and effective use of innovative technology in VET

Creativity and innovation in VET are important as they drive new ideas in business and industry, support competitiveness through the development of new technologies, processes, and services and ultimately impact on growth and prosperity. Figure 4 combines two core dimensions that give an indication of innovation climate: enterprises with training to support technological innovation (as a share of all enterprises) and the share of innovative SMEs that cooperate with others. Cooperation could be among SMEs but also between SMEs and other institutions (which include VET).

Figure 4 - Share (%) of enterprises with training to support technological development (2008, horizontal axis) and share (%) of innovative SMEs cooperating with others (2008, vertical axis)



Source: Cedefop – based on data from Eurostat and Regional Innovation Scoreboard. Notes: Data is not available for all EU countries; EU average includes EU countries except DK, IE and UK for the share of enterprises with training to support technological development; EU average includes EU countries except EL for the share of innovative SMEs cooperating with others.

On average, in the EU, almost 1 in 5 enterprises train their staff to support innovation while 11.2% of innovative SMEs cooperate with others. Countries with an above average share of innovative enterprises investing in training tend to also have relatively many SMEs that cooperate with others. The conditions for innovation and creativity appear to be less favourable in 10 countries (RO, LV, BG, ES, MT, SK, PL, HU, LT and IT).

Table 4 gives an overview of developments and trends in possible policies and measures to support creativity and innovation. .

Table 4 – Partnerships for creativity and innovation – developments and trends in selected policy areas

	EU (total by status)	Belgium - Flanders	Belgium - German Com.	Belgium - Wallonia	Bulgaria	Czech Republic	Denmark	Germany	Estonia	Spain	France	Italy	Cyprus	Latvia	Lithuania	Luxembourg	Hungary	Malta	Netherlands	Austria	Poland	Portugal	Romania	Slovenia	Slovakia	Finland	Sweden	UK - England	UK - Northern Ireland	UK - Scotland	UK - Wales
		Skills competition(s)	■ 13 ■ 13 ▲ 3 ▲ 0 X 1	■	■	■	■	■	▲	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Creativity and innovation competitions open to VET learners and institutions	■ 11 ■ 9 ▲ 3 ▲ 1 X 6	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Creativity and innovation as an underlying principle in VET	■ 9 ■ 5 ▲ 2 ▲ 6 X 8	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Innovation or creativity clusters involving VET providers	■ 6 ■ 5 ▲ 2 ▲ 8 X 9	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Innovation strategy including VET	■ 3 ■ 3 ▲ 5 ▲ 11 X 8	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Guidelines encouraging partnerships for creativity and innovation in VET	■ 6 ■ 5 ▲ 1 ▲ 7 X 11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Cooperation to develop learning methods in VET fostering creativity and innovation	■ 6 ■ 4 ▲ 2 ▲ 6 X 12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Knowledge exchange platforms for creativity and innovation involving VET	■ 8 ■ 6 ▲ 3 ▲ 2 X 11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Incentives for creativity and innovation partnerships including VET providers	■ 6 ■ 2 ▲ 3 ▲ 6 X 13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Note: no data for Greece and Ireland

■ In place by 2010 and not changed ■ In place by 2010 and changed since ▲ Put in place since 2010 ▲ Preparing for implementation X No action reported

Source: Based on Cedefop (2012, forthcoming): Trends in VET policy in Europe 2010-2012. Progress towards the Bruges Communiqué. Please note that the results have not yet been validated by all Member States. It should also be kept in mind that the selection of policy options is not comprehensive; indications should be seen also in the national context of all actions taken in a general strategy to achieve the objectives of the Bruges Communiqué.

Next to skills competitions, creativity and innovation competitions open to VET learners and institutions are common in many countries. 21 countries had such competitions in 2010 and another 3 countries developed and held creativity and innovation competitions since then. 9 countries adapted, changed or stepped up their innovation competitions between 2010 and 2012. Belgium introduced a new contest for innovation and sustainable development, the Czech Republic started a new competition on innovative teaching and the design of digital material for teachers, and in Latvia, a new education innovation project competition started. Lithuania introduced competitions among training companies and Slovenia held a creativity and innovation week.

In 15 countries, creativity and innovation was already an underlying principle in VET by 2010 and another 9 countries took steps since then to better integrate innovation and creativity in VET. Belgium (FR) launched a creativity programme in 2010 that advocates adapting education and training policies to support creativity and innovation. In France, there is a partnership to create mini enterprises. Slovakia created new VET centres to support innovation and creativity and adopted new strategies on the knowledge economy and science and technology in 2011. Sweden's strategy for entrepreneurship in education and training aims to turn ideas into action by starting new businesses.

There has been considerable progress in terms of including VET in innovation strategies since 2010. By 2010, only 7 countries had innovation strategies that included VET. Since then, 5 countries have put in place such a strategy while 11 countries are preparing for this. Innovation or creativity clusters that include VET and guidelines encouraging partnerships and cooperation to develop learning methods in VET that foster creativity and innovation are also becoming more common, but most countries that took action here since 2010 are still in the preparation stage. The strategic development plan in Belgium (Wallonia) foresees the development of enterprise networks, Estonia prepares to establish centers of competence in 2014 to drive entrepreneurship at regional level, and technical and professional networks are promoted in Italy.

Knowledge exchange platforms for creativity and innovation are present in 17 countries in 2012, but another 13 countries did not report on such platforms. Slow progress in some countries could be due to missing incentives: Half of the countries did not report on incentives for creativity and innovation partnerships including VET providers. Examples of incentives promoting partnerships are financing VET schools to become involved in competence centres (EE), making funding for higher VET dependent on cooperation and partnerships with enterprises and social partners (SE) and national and ESF funding for developing modern training material where priority is given to projects involving partnerships (LT).

Using innovative technology in VET stimulates creativity and innovation, but also fosters the labour market relevance and quality of VET. Table 5 provides an overview of developments and trends in this area.

Table 5 – Effective and innovative use of technology in VET – developments and trends in selected policy areas

	EU (total by status)	Belgium - Flanders	Belgium - German Com.	Belgium - Wallonia	Bulgaria	Czech Republic	Denmark	Germany	Estonia	Spain	France	Italy	Cyprus	Latvia	Lithuania	Luxembourg	Hungary	Malta	Netherlands	Austria	Poland	Portugal	Romania	Slovenia	Slovakia	Finland	Sweden	UK - England	UK - Northern Ireland	UK - Scotland	UK - Wales
VET teachers/trainers trained to use modern technology and learning methods	12 4 0 9 5																														
Strategy to ensure state-of-the-art technology in VET	6 13 1 4 6																														
Cooperation with business/industry to ensure relevance of technology used in VET	9 6 1 6 8																														
Networks/joint ventures between VET and/or enterprises for the use of technology	11 3 0 5 11																														
Incentives for VET provider networks to ensure cost-effective use of technology	4 5 1 5 15																														
Incentives for public-private partnerships for state-of-the-art technology in VET	7 0 1 5 17																														

Note: no data for Greece and Ireland

■ In place by 2010 and not changed ■ In place by 2010 and changed since ▲ Put in place since 2010 ▲ Preparing for implementation ✗ No action reported

Source: Based on Cedefop (2012, forthcoming): Trends in VET policy in Europe 2010-2012. Progress towards the Bruges Communiqué. Please note that the results have not yet been validated by all Member States. It should also be kept in mind that the selection of policy options is not comprehensive; indications should be seen also in the national context of all actions taken in a general strategy to achieve the objectives of the Bruges Communiqué.

By 2010, 20 countries already had a strategy in place to ensure that VET uses state-of the art technology. Another 5 countries have acted since 2010 to put in place such a strategy. More than half of the countries with a strategy in 2010 have made adjustments since. Examples of adjustments include setting up regional technology centres in Belgium (Flanders), regulations that identify crucial areas of technology for SME which are a point of reference for higher VET (IT), changes in funding for upgrading VET school equipment (HU), an improved framework for practical training agreements for students in companies (RO) and increased funding for technology in VET (UKEN).

State of the art not only in technology, but also in ensuring access to all in Belgium Flanders

The 72 hours initiative helps young people in VET schools gain access to state of the art equipment in the training facilities of the employment service. As unemployed also use these facilities, planning is a core concern. Special attention is especially needed to avoid unemployed trainees being pushed away by VET students.

Source: ReferNet Belgium for Cedefop (2012, forthcoming)

By 2012, VET is cooperating with business and industry to ensure relevant technology in 17 countries, while another 7 countries are taking action to promote such cooperation. In 15 countries VET-enterprise cooperation takes the form of networks or joint-ventures. Incentives for VET provider networks and public-private partnerships are not yet commonly available in most countries, but some progress is visible, as some countries have started to prepare to implement such incentives since 2010. Estonia's development plan for the VET system aims to increase the efficiency of cooperation between VET, local government and the third sector to ensure better use of resources. Latvia issued guidelines to optimise its VET network by establishing VET competence centres that methodologically support VET schools. Higher VET in Sweden requires close cooperation and partnerships with enterprises and social partners in order to be funded.

It is of course crucial that VET teachers and trainers are trained to use modern technology learning methods and 16 countries reported on training to support VET teachers and trainers in place by 2010. Another 11 countries are preparing to offer such training to their VET staff. Initiatives include retraining pedagogic specialists to help teachers use state of the art technology (BG), a national training on active learning methods for VET teachers (EE), the implementation of a policy to help trainers use ICT skills in education and keep up with technological developments (CY), teachers working in inter-company training centres to keep up to date (SI), and opportunities for VET teachers to take part in workplace internships (SE).

4. Excellence in VET: key points and lessons from practice

European VET must aim at world excellence, both as regards what it aims for (the standards) and as regards its actual performance. Some of the best VET systems in the world are European and these must be used as reference for future developments. Cooperation on VET excellence means:

- a systematic European cooperation on VET standards to make sure that expected outcomes are explicitly stated and continuously improved with reference to the changing requirements of society and economy;
- a systematic European cooperation on how to most efficiently translate expected outcomes into high quality teaching and learning for initial and continuing VET;

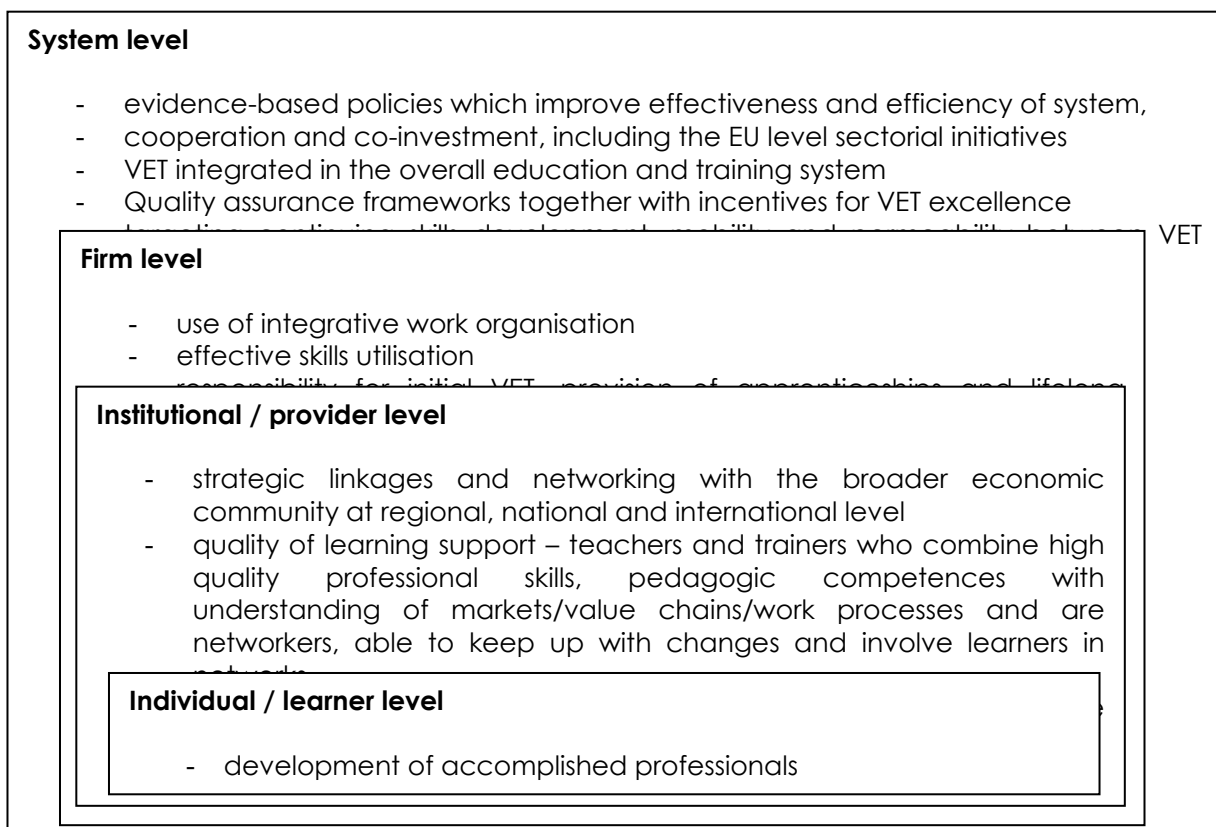
- a systematic European cooperation on measuring and comparing the performance of national VET systems and individual learners, providing feedback on strengths as well as weaknesses of countries, sectors, providers and groups of learners.

A European strategy on VET excellence could, by combining the above elements,

- reduce the difference between EU countries as regards the quality and impact of VET;
- firmly establish world excellence as the common and operational reference point for all VET systems in Europe.

VET excellence at a Glance

While it is important to state a general vision as regards VET, it can only be realised through a multi-level approach. The figure below presents the core features of VET excellence that will be further developed in the following sections. Although these core dimensions can be grouped depending on the level at which excellence is measured, all of them are interrelated and must work in synergy.



improve system performance (OECD/CERI 2010).⁵⁹ Policy alignment between education, training, labour market and economic and innovation policies is another critical condition. Partnerships with stakeholders promote constant systemic innovation. VET is not an isolated subsector, but an integral part of the overall education and training system. Excellence at system level means that VET profiles/qualifications are designed in a close cooperation between social partners, relevant sectors and the education and training system to ensure highest possible relevance and competitiveness. The

⁵⁹ OECD/ CERI (2010). Working Out Change: Systemic Innovation in Vocational Education and Training. OECD, Paris.

revision and renewal of VET standards/qualifications must be continuous and need increasingly to be embedded in and supported by European cooperation, for example through the sectoral mechanisms currently being set up. This process must be supported by quality assurance mechanisms at all levels. Excellence must however also be combined with flexible systems, enabling mobility, permeability between VET and higher education (HE) as well as increased opportunities for individuals to return to learning, including drop outs or low achievers.⁶⁰

For companies, VET excellence is rooted in integrative work organisation and involves multiple measures that support the development of the workforce within a lifelong learning context. It builds on effective skills utilisation that promotes the active engagement and autonomy of the individual. It implies that firms take part of the responsibility to educate and train the workforce of tomorrow. Companies are key actors in the provision of initial VET (by helping to define curricula, hosting and training trainees and apprentices, participating in exam boards) as well as in the field of continuous VET. Strong partnerships with education and training providers regarding issues such as innovative approaches to work based learning for young people as well as the existing workforce, training needs assessment and career guidance, are essential.⁶¹

For VET providers and institutions, a crucial element is a coherent strategy that can be communicated to stakeholders, and whose starting point is the socio-economic profile of the region. Another critical factor for success is to encourage providers to more systematically cooperate with other schools, businesses and institutions in their region. A third factor is to actively and when possible link to partners outside the region, at national and international level. This can provide a source for inspiration and ideas, as well as a reference point for improving the quality of the education and training delivered locally. Finally, institutional leadership, which shows strategic direction and support collaborative environment for all staff, with career development opportunities is also a pivotal condition.

For learners, the aim is to train accomplished professionals who have the competence to master fully and autonomously the tasks of their profession. They are capable of facing problems and coming up with solutions even in challenging situations and innovative or fast changing (work) contexts. They have the capacity and the right attitudes to work in a company and have a broader vision of their profession. They are capable of tackling and solving complex tasks with other professionals from a different background, focusing on process and product improvements and value creation. First and foremost they can cope with change and complexity as they possess the skills and competences critical to lifelong learning which enable people to have more and better jobs as well as create their own businesses.

⁶⁰ Leney, T. et al. (2004) Achieving the Lisbon goal: The contribution of VET. Final report to the European Commission. European Commission

⁶¹ For a thorough discussion on skills utilisation see Skills Australia (2011). Skills utilisation literature review. Available from Internet: <http://www.skillsaustralia.gov.au/better-use-of-skills/skills-utilisation-list/documents/skillsutilisationliteraturereview.pdf>

4.1. Successful VET strategies require a strategic approach to excellence

Some EU countries, VET providers, companies and other stakeholders have developed innovative practises aiming at systematically achieving VET excellence. The lessons from these can be used to mainstream and trigger larger system-level change, including at European level. Evidence shows that excellence in VET requires an approach based on several policy elements:

- VET at all levels (not only higher education) is incorporated in national, regional and local economic strategies which connect skills supply and demand, based on systematic skills monitoring and anticipation;
- Sufficient institutional autonomy and capacity, so that VET providers can develop a strategic approach linked to local and regional economy and react to skills challenges;
- VET providers cooperate closely with companies, authorities, technology centres and educational institutions, ranging from local partnerships to international networks;
- VET systems provide routes for progression and reward and mainstream excellence;
- Companies' engagement in CVET – including skills development and utilisation at the workplace - is encouraged through incentives and supporting structures;
- VET teachers and trainers have opportunities and incentives for continuous professional development in active cooperation with companies;
- European cooperation on VET standards, particularly on a sector basis, ensures that expected outcomes of VET are set and continuously improved in line with the changing requirements of society and the economy – also at global level.

Putting these elements into practice will directly contribute to the Europe 2020 strategy, by helping Member States exploit the unused potential of VET and implement the necessary reforms. At local and regional level, these elements connect VET to Smart Specialisation Strategies, by which regions focus their strategies on sectors where they can be most successful in developing sustainable growth.⁶²

4.2. Designing excellence in VET systems: lessons from practice

The design of an appropriate environment for VET excellence requires several areas of intervention at system level; this chapter provides best practice examples:

⁶²COM(2010) 553 final. Regional Policy contributing to smart growth in Europe 2020 http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/smart_growth/comm2010_553_en.pdf

- a) Make VET an integral part of comprehensive economic development strategies
- b) Ensure that VET includes high level of qualifications and interacts better with other parts of the education and training system
- c) Create conditions for the flexibility and institutional autonomy of VET providers
- d) Include VET in comprehensive labour market intelligence and governance
- e) Provide incentives for and mainstream VET excellence
- f) Maximise the leverage of EU instruments
- g) Increase opportunities for mobility in VET

a) Make VET an integral part of comprehensive economic development strategies

Policy makers need to integrate the VET offer into comprehensive skills and knowledge-based economic development strategies, particularly at regional and local level. This is related mainly to strategies to attract investments, to clusters, innovation, smart specialisation strategies and sustainable growth strategies.

As shown below by the examples of **Australia**, there is a need to create policy frameworks which consider a continuous rebalancing of both skills supply and skills demand.

Comprehensive approaches to skills supply and demand dynamics: Australia

The Australian Skills Ecosystem initiative is a reaction to growing evidence of significant skills wastage at the same time as employers report skills shortages. The initiative aims to align VET with economic development and innovation measures and critically examines both supply side (responsive education and training including training offer, skills profiles, recruitment practices) and demand side (the way that skills can be optimally used, taking into account such factors as work processes, leadership style, technology deployment and competitiveness strategies). The main conclusion is that expanding and improving the supply of qualified people is only a partial solution. Improvements in productivity, innovation and growth are possible only if policies align the supply of a qualified workforce with better use of skills in a workplace.

Key points for Member States:

- All stakeholders ensure better consistency in policy making across different policy areas, institutional cooperation which goes beyond traditional boundaries and commitment mechanisms.
- Policy frameworks consider both supply and demand side factors. Supply side factors can be addressed successfully through comprehensive lifelong learning policies. To address underlying demand side factors it is necessary to develop business cases, which demonstrate that competitiveness strategies that utilise advanced human resource practices pay off in the medium

term. Such business cases may for instance demonstrate that a better skills utilisation can enable firms to move up the value chain or provide tailored services on top of a particular product.

- Employers and sector bodies are stimulated to be proactively engaged in policy making processes by providing analysis and advice on the development of the future workforce to meet the requirements of smart and sustainable growth.

b) Ensure that VET includes high level of qualifications and interacts better with other parts of the education and training system

One key aspect of promoting excellence in vocational education and training is to break down barriers to general and notably higher education. Notably, providing genuinely open pathways, permeability between VET and HE, as well as development of post-secondary or higher VET at EQF level 5 or higher⁶³ has received increasing attention in the Member States. Various approaches are being used, including top-up programmes, recognition of prior learning, or schemes combining VET qualifications with general qualifications (for a more detailed discussion and examples see *Staff Working Document "Partnerships and flexible pathways for lifelong skills development"*).

c) Create conditions for the flexibility and autonomy of VET providers

The ambition of attaining VET excellence requires that providers are proactive players in the regional, local and sectoral economic context. For a VET provider it means developing the internal capacity to deliver training and respond to rapid change. Flexibility and a necessary degree of VET provider autonomy emerge as preconditions for coherent strategies tailored to different national, regional, local and sectoral circumstances.

As the example of centres of VET excellence in the **Netherlands** show, VET institutions and systems require financial flexibility to work with the private sector and other education and training providers. It highlights the need to ensure commitment from enterprises through a combination of private and public investments.

Centres of VET excellence in the Netherlands

In the Netherlands, VET excellence was introduced as a strategic priority parallel to similar initiatives in higher education, through a new programme in 2009 to help develop so-called centres of vocational innovation (CIVs). A CIV is a regional cooperation between vocational schools, businesses, research organisations, and public authorities focusing on one of the economic top sectors in the Netherlands,

⁶³ European Commission (2010). The Bruges Communiqué. Available from Internet: http://ec.europa.eu/education/lifelong-learning-policy/doc/vocational/bruges_en.pdf

such as chemicals or water. The programme is co-financed (50% for five years) by the Ministries of Economic Affairs, Agriculture and Innovation, and Education, Culture and Science. Vocational institutions, corporations and businesses, and SMEs invest together in the CIV, both financially and in kind. All partners share in management and decision making activities. In 2011, four CIVs have become operational, one of them in the automotive field.

Essential characteristics are:

- The CIV operates on demand. This implies that the schools involved adapt their education programmes to the qualitative and quantitative needs of regional businesses.*
- The regional labour market demand is the focal point of a CIV. The focus is on recruiting and training top talents based on the sector based innovation needs of employers.*
- The CIV cooperates closely with education institutions at all levels (secondary, post-secondary and tertiary vocational schools as well as universities), to optimise the use of facilities and to reinforce the dissemination of cutting-edge practices).*

Source: Feijen, V. (2011) Dutch MBO Raad, internal work paper, not published.

Key points for Member States:

- Policy frameworks provide VET institutions with the autonomy and flexibility to be an active partner in the local, regional and sectoral economic context and are able to cooperate with the private sector;
- VET providers are supported to endorse change and innovation and to disseminate cutting-edge practices.

d) Include VET in comprehensive labour market intelligence and governance

From a system point of view, it is crucial to ensure monitoring of structural changes and trends to be able to identify priority sectors, as well as to promote employer-led initiatives which identify future skills needs. These have to be translated, in cooperation with employers' associations, trade unions and VET providers, into training content. In this context, European Sector Skills Councils and Sector Skills Alliances represent operational tools to put these efforts into practice on a sectoral basis.

The practice from the **United Kingdom** below demonstrates how an effective and dynamic interaction between employers and VET providers can function, particularly in view of structural changes.

Future Skills Unit of ConstructionSkills - UK

ConstructionSkills, the UK Sector Skills Council and Industry Training Board for the construction industry, established a Future Skills Unit with a specific remit of collecting intelligence to undertake skills forecasting in the sector, focusing on renewables, zero carbon, low carbon and technological change. The unit was a catalyst for change. It served to facilitate change through high-level partnerships with government departments, agencies and other built environment Sector Skills Councils, which collect labour market intelligence to inform policy and assist the construction industry in responding to changing demands.

The ConstructionSkills Network (CSN) provides a unique method of establishing the future skills and training requirements of the UK construction industry and provides a consensus view of the current and future skills training needs. The CSN provides national and regional sector intelligence based upon robust data and analysis of capacity, productivity and skills. The labour market intelligence model developed has also been used to test scenarios to assist with future planning.

Labour market information systems also serve to provide long-term signals to inform learners, guidance counsellors and public employment services to make/advise on qualified training decisions.

Key points for Member States:

- Employers and employees are supported in a dynamic interaction with VET providers, providing information on future trends and understanding of value chain dynamics;
- VET providers are supported in building the capacity and the flexibility to react to the needs expressed. The critical factor is functioning links between them and businesses;
- "Brokerage" services are put in place to enable communication and formulation of messages between businesses and VET;
- System level, technology and structural changes are monitored and transmitted to curricula development in initial VET.

e) Provide incentives for VET providers and mainstream VET excellence

VET excellence has not yet been visible in the EU. The lack of mechanisms to promote, communicate and reward excellence may impede extra efforts of VET providers and their staff as well as hinder a mainstreaming of VET excellence. For instance, qualifications systems are in general based on minimum requirements rather than rewarding exceptional performance.

As shown in the examples from **Finland, the Netherlands and France**, quality assurance mechanisms which are being currently put in place (based on European Quality Assurance Framework in VET⁶⁴) need to be complemented by a mix of incentives to VET providers (financial, performance based funding and awards) to stimulate and reward excellence as well as promote mainstreaming and

⁶⁴ Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training

scaling up into the whole VET system. In a broader context, benefits of high quality of VET systems should be communicated to a wide public (see the examples of **Germany and Euro/WorldSkills**).

***Finland** has implemented since 2002 a performance based financing scheme which encourages VET institutions to achieve results in relation to employability of students, reducing drop outs and higher staff performance.⁶⁵*

*In the **Netherlands** every year a prize is awarded to an institution that promotes innovative models in vocational education. The winning institution receives a grant of 2.5 million euro. In **France** the label 'lycée des métiers' is awarded to VET schools which demonstrate excellence regarding certain indicators such as local and regional partnerships, students' study and career guidance, openness to different groups or learners and a varied yet coherent offer of training opportunities⁶⁶.*

***Euroskills and WorldSkills**⁶⁷ are international skills competition which provide a means for exchange and comparison of European and world-class competency standards in the industrial trades and service sectors. They support the recognition of the highest achievements in traditional trade and craft skills along with the newer technology multi-skilled vocations.*

*In 2011, the **German Federal Ministry for Education and Research** has started an image campaign 'Berufliche Bildung – Praktisch unschlagbar' (VET – practically invincible) directed towards parents, young people, employers, and employees. It presents the VET route as highly attractive, offering good career prospects for everybody, including young people with a migration background. The campaign is supported by industry organisations⁶⁸.*

Key points for Member States:

- Incentives are put in place to mainstream best practices in the form of financial support (performance based funding) awards and labels;
- Benefits of high quality VET are identified and communicated to a wide public (skills competitions, campaigns) and champions are recognised to stimulate further improvements in the system.

f) Maximise the leverage of EU instruments

⁶⁵ http://www.ammattilinenkoulutus.com/upload/images/muut_kuvat/pdf/alakoht/English/Vocational_education_%20and_training_in_Finland.pdf

⁶⁶ <http://eduscol.education.fr/cid47596/le-label-lycee-des-metiers.html>

⁶⁷ http://www.worldskills.org/index.php?option=com_content&task=view&id=1178&Itemid=817

⁶⁸ <http://www.praktisch-unschlagbar.de/>

Within the European cooperation process in the field of VET, an ambitious agenda has been formulated in the Bruges Communiqué, including efforts which support development towards VET excellence. Member States, economic players and VET providers need to closely collaborate on issues such as innovation, labour market relevance, work-based learning schemes, quality assurance, and competence profiles of VET teachers and trainers.

A European initiative: The European quality assurance reference framework for VET (EQAVET)

The Recommendation on the establishment of a European quality assurance reference framework for VET adopted in June 2009⁶⁹ by the Council and the European Parliament, the so-called EQAVET Recommendation, proposes guidelines along the lines presented above. It notably provides a list of indicators for reaching an evidence based approach including indicators measuring investment in teachers and trainers (indicator 2) and on mechanisms to identify training needs in the labour market (indicator 9).

The work undertaken within the EQAVET network of Member States representatives has identified building blocks both at system and provider level in order to help both levels to develop a quality approach towards excellence. The EQAVET network has finally gathered all these elements in an online tool designed to support national implementation processes and actions aligned to the European quality assurance framework for vocational education and training (EQAVET framework). The tool is accessible via internet on the EQAVET network website at www.eqavet.eu and is free.

A survey undertaken in 2012 among the Member States shows that all Member States have prepared / plan to prepare a national approach for developing a quality culture for VET in line with the framework. The survey also shows that all European VET systems except 2 have national quality standards for VET or similar settings.

The European Commission has launched a number of sector-related initiatives, including Sector Skills Councils and Sector Skills Alliances. These can be used to develop VET standards and ensure that expected outcomes of VET are set and continuously improved in line with the changing requirements of society and economy. Further potential clearly exists for mutual learning based on the top-performing VET systems.

EU-level Sector Skills Alliances

The Commission's proposal for a future programme "Erasmus for All" foresees a new category of transnational partnerships called Sector Skills Alliances (SSA) to promote cooperation between three categories of partners: the world of education and training (VET providers); sector-specific expertise (including social partners, sectoral federations, Chambers etc.); and bodies involved in education and training systems (public or private bodies or authorities). Drawing on evidence of skills needs and trends, SSA will work to design and deliver joint curricula and methods which provide learners with the skills required by the labour market. The overall goal is systemic impact on training in the economic sectors concerned in order to increase their competitiveness.

⁶⁹ OJ C155, 8.7.2009, p. 1.

One of the sectors which are facing a specific skills challenge is healthcare. Demographic changes will have significant consequences on the way healthcare is delivered. Increasing numbers of elderly people with multiple chronic conditions will require new knowledge in treatments, care models and use of technologies. New medical appliances and diagnostic techniques requires technical know-how in addition clinical knowledge. The Lifelong Learning Programme, with its Leonardo da Vinci strand, plays an important role in developing and transferring innovation in training (see below).

Leonardo da Vinci project tackling the skills challenge in the healthcare sector.

Funded under the EU's Leonardo da Vinci programme, the project "On-line Performance Support Environment for Minimally Invasive Orthopaedic Surgery" aims to meet the training requirements of medical staff which have arisen due to developments in biomedical engineering and information and communications technology. In particular, new developments in applications ranging from image processing to robotics lead to new approaches to diagnosis (imageprocessing and analysis) and minimally invasive surgery (arthroscopy).

Source: <http://www.adam-europe.eu/adam/project/view.htm?prj=5590>

Key points for European Commission, Member States, social partners and VET providers:

- All key stakeholders are implementing the VET modernisation agenda, including efforts towards excellence and quality assurance, in order to become a world benchmark in VET;
- All stakeholders are actively engaged in initiatives, including those at European level, to develop high performance VET standards.

g) Increase opportunities for mobility in VET

Mobility of VET students and staff can an important vehicle to promote excellence in European context.

The Leonardo da Vinci is the European mobility programme dedicated to VET. By promoting cooperation between organisations of different countries it aims to exchange best practices and to improve the participants' employability and acquisition of new skills. Since it was created in 1995, the programme has enabled 860 000 people to have an international learning mobility experience. The EU has set a target that the Leonardo da Vinci programme should increase work and training placements in enterprises to 80 000 a year by 2013.

Furthermore, by 2020, an EU average of at least 6 % of 18-34 year olds with an initial vocational education and training qualification should have had an initial VET-related study or training period

(including work placements) abroad lasting a minimum of two weeks, or less if documented by Europass (Council conclusions on Learning mobility)⁷⁰.

Key points for European Commission, Member States, social partners and VET providers⁷¹:

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

4.3. Delivering VET excellence: connecting VET providers and engaging enterprises

Four main areas of action need to be taken forward by VET providers and companies to deliver VET excellence:

- a) VET providers as active partners and networkers
- b) VET providers' ability to respond to the skills challenge
- c) Professional development of VET teachers
- d) Engaging companies in continuing training

a) VET providers as active partners and networkers

Exploiting the potential of VET is not just a matter of matching VET supply to a given demand. It requires a dynamic and fluid interaction between VET and other players within the regional innovation system and the local industry base. It requires a deep understanding of the factors which drive competitiveness, stimulate innovation and improve productivity inside companies. This can be achieved only if VET providers are involved in networks and partnership with concrete firms. This is one of the essential elements of VET excellence which can contribute to smart and sustainable growth.

⁷⁰ http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/educ/126380.pdf

⁷¹ Based on European Commission (2010). The Bruges Communiqué. Available from Internet: http://ec.europa.eu/education/lifelong-learning-policy/doc/vocational/bruges_en.pdf

The example from the **Netherlands** shows how VET providers can be part of networks in their economic context and engaged in vertical (E&T providers) and horizontal partnerships (economic and political players). More generally, these partnerships can take various forms; work-based learning, co-location, technology diffusion, virtual demonstration centres and cross-disciplinary and multi-level partnerships. They include partners such as chambers and local development agencies to address SMEs' challenges in advanced human resource practices. These partnerships should be increasingly of an international nature.

Alfa College in the Netherlands has set up regional strategic alliances with industry and regional policy makers. Beyond student and teacher placements, cooperation with industry focuses on product and process innovation, and on how to translate these into competences that students can acquire. The college works closely with industry on the curriculum to determine what kind of competences will be needed in the region in the coming years. The college has also established cooperation with other VET providers (across disciplines), in the framework of clusters that include SMEs, employers, VET providers. There is for instance one cluster on tourism and one cluster on care.

VET institutions can play a major role in technology diffusion, in particular for SMEs, making the case for instance regarding the benefits of green technologies for business. Schools that have decided to focus their core competences on the latest technologies may also be perceived as attractive partners by technological suppliers within a given field. This may offer opportunities for investment by technology suppliers in joint initiatives to establish Centres of Excellence.

The networking aspect concerns not only cooperation between VET training centres and businesses but also the development of cross-disciplinary and multi-level partnerships with other education and training providers as demonstrated by the example from **France**.

"Compagnons du devoir" in France run projects through which learners from VET and Universities learn from each other. The institution has partnerships with higher education institutions (Grandes écoles) and universities and this cooperation is seen as a very innovative aspect of the education approach. In 2011, the competition "Innovover ensemble" (let's innovate together)⁷² gathered teams of six young people in the leather goods trade. Each team had two young people from a design school, two young people from a management/business pathway in the French Fashion Institute and two future bag makers from "compagnons du devoir". They had six months to create a new product together.

Teachers, trainers and students from one professional field should cooperate with those from other fields (and from other levels of education if relevant) through for example common project work. In practice, professionals with VET qualifications work with professionals with other VET or higher education qualifications. In order for them to work effectively they need an understanding of each

⁷² <http://www.defi-innovover-ensemble.com/>

other's professions and their constraints. This can be gained already in initial training by encouraging cross-sectoral and cross-institutional projects.

Key points for VET providers:

- VET providers are active in networks, both "vertically" with partners such as economic development agencies, chambers, associations, technology centres, business support services and "horizontally" with other E&T providers;
- VET providers play an active part in technology diffusion.

b) VET providers' ability to respond to the skills challenge

VET providers need to deliver the core competences required in the economic context, while also promoting flexibility and adaptability of learners in terms of learning environments, application of knowledge, and multi-disciplinary teams. VET providers should be able to adapt to the skills needs expressed by employers. A specific programme from **Wales, which** provides an example of how to strengthen the capacity of training providers to react to the needs of labour market, is described below.

Delivering Low Carbon Skills in Wales is an ESF and Welsh government funded programme to enhance the evidence base for low carbon skills and support the development of skills and capacity in the further education sector in Wales. A key component of this programme was the delivery of a set of pilot training courses aimed at developing the capacity of the training providers to deliver low carbon training for the built environment workforce, up-skill the built environment workforce in Wales, and test employer demand for up-skilling their workforce with low carbon skills. The programmes offered flexible qualifications able to provide a balance of technical and generic competences by adopting a modular approach with optional modules or additional units to broaden understanding of sustainable principles and operations, and sales and customer service. A suite of 'Train the Trainer' courses which aimed to build the capacity of training providers to deliver courses in low carbon built environment was also established early on.

Companies, as providers of work-based VET, should focus on the combination of specialised skills with process skills, cross-functional skills, social skills, self-management skills and problem-solving in order to support innovation.

They should increasingly provide forms of higher VET to respond to the need for advanced vocational skills (see **Annex 1 for country specific developments in the area of higher VET**). In terms of supporting sustainable growth, VET providers need to deliver a mix of generic and technical skills ("hybrid skills"), shape "green attitudes" of VET learners and increase the offer of CVET to enable a topping-up of green skills.

Key points for VET providers and enterprises:

- VET institutions deliver the core competences required in the local economic context, while promoting flexibility and adaptability of learners, in terms of learning environments, application of knowledge, and multi-disciplinary teams;
- Work-based learning is explicitly recognised as a learning environment for employee-driven innovation;
- Enterprises actively engage with VET providers to test new training approaches that strike a balance between job-specific and transversal skills/competences;
- VET institutions provide VET at higher than upper secondary level in the context of regional economic development as well as work-based learning in higher education.

c) Professional development of VET teachers

Teacher qualifications and competences remain a major issue to achieve VET excellence. As illustrated by the example from **Austria**, prior work experience and connection with the industry are key elements which improve the quality of teaching in VET. In-company traineeships in innovative SMEs (example from the **Netherlands**) can be an effective way of keeping teachers' competences up-to-date with technological development.

*One of the features of **Universities of applied sciences in Austria** is that the teaching is delivered by teaching staff that combines a background in VET with experience in research. Furthermore all teaching staff has to have prior work experience and a connection with the industry. Teaching also includes external interventions from businesses.*

*In the **Alfa College in the Netherlands**, teachers have to undertake in-company traineeships for a minimum of 40 hours per year. These take place in innovative SMEs, in the workplaces where their learners are, and which are connected to the VET institute. Such work experience allows teaching staff to provide a “lifelong” learning perspective to their students. These traineeships are also very important to see how teachers are able to connect to other colleagues, and the extent to which they are able to apply their knowledge to another context. During the traineeships, teachers are put into a variety of contexts, taking them out of their ‘comfort zone’ into positions that they may be less familiar with in order to give them a new perspective on the professional field in which they teach. The college has the possibility to financially reward teachers’ commitment and motivation and also to offer them career progression opportunities.*

VET institutions aiming for excellence need to rethink teaching and learning practices to actively promote skills development which is conducive to innovation. Innovation goes hand-in-hand with practice and thus cannot be limited to the teaching of innovation as a subject. It is just as important to learn innovatively as to learn about innovation. Rewarding excellence should be a system feature to motivate those teachers and trainers who go beyond the minimum standards and implement innovative teaching and training methods.

One of the solutions to improve the technological capacity of the schools and teachers can be to establish centres of excellence such as the CIVs in the **Netherlands** (see the box above). In this way several institutions can share the costs of investment in technical facilities; a joint location with firms also offers opportunities to access advanced technologies for training purposes. As shown by the practice from **Spain, the Basque region**, another solution may be to make use of ICT based simulations, which are increasingly available for training purposes in for example automotive, manufacturing and health professions. Simulators have also drastically brought down costs and improved the effectiveness of training in the different modes of transport. Schools may also partner with firms in innovative ways to update the technological capabilities of the teaching workforce.

TKNIKA (Centre for Innovation and Vocational Teachers Training) in the Basque region has run a project with hybrid cars in which a group of teachers have been working for two years half time in their respective schools and half time in companies to understand the complex technological base underlying hybrid cars. This is the basis for teaching students about the design of hybrid cars, for example through the use of ICT based simulations. To be able to do so, the teachers had to acquire a deep understanding of the design process and technology.

Key points for VET providers:

- VET institutions organise regular company training for VET teachers (teachers' traineeships);
- Teachers have a broader understanding of economic development, technological changes and innovation;
- VET institutions have the means to reward excellence of VET teachers and motivate those who go beyond the minimum standards and implement innovative teaching and training methods.

d) Engaging companies in continuing training

Companies' active engagement in partnerships with VET providers is important for the relevance of initial VET. For continuing VET their role is even more central.

The rapid progress of technology requires that the skills of the existing workforce are constantly updated.⁷³ Therefore companies which invest in and actively encourage learning of their personnel can generate important returns⁷⁴, including through lower job absenteeism, lower turnover of personnel, greater productivity and innovation capacity and the ability to offer products and services of higher value. Furthermore, learning and innovation support one another.⁷⁵

⁷³ Cedefop briefing note: Preventing skill obsolescence. Rapid labour market changes leave too many workers at risk of losing their skills. Forthcoming.

⁷⁴ "Renditen betrieblicher Weiterbildung in Österreich", Arbeitskammer Österreich available at: <http://wien.arbeiterkammer.at/bilder/d93/StudieWeiterbildung.pdf>

⁷⁵ See e.g. Cedefop's study on Adult learning in the Workplace: Skill development to promote innovation in enterprises

Structured learning at the work place is today far from being the rule in European companies, but good examples do exist. Sector and enterprise-led partnerships, such as Skillnets from **Ireland** (see the *Staff Working Document "Partnership and flexible pathways for lifelong learning"*) or the skills training cluster from **Austria**, for example, have helped SMEs share knowledge on challenges and to develop training that can benefit all companies involved. Experience has also shown that the majority of adult learners prefer learning in the context of their daily work, and that traditional education provision for adults with low basic skills is unattractive, with a high risk of drop out. Therefore, it might be both strategically useful and efficient for companies to facilitate – when applicable in partnerships with VET providers - the acquisition of basic skills and transversal competences in the work place.

*The **Qualifizierungsverbund** approach (skills training cluster) in Austria has been set up to support independent enterprises to jointly develop (at least 3 in each cluster) tailored skills training schemes for their staff and coordinate its implementation.*

The commitment from firms to train is essentially driven by the commitment to obtain and sustain relatively high value-added positions in the market.⁷⁶ A further driver is the need to create a stable working environment to retain people within a particular firm or network of firms. If there is a high degree of labour turnover, coupled with skill shortages, the nature of the social contract within the network tends to break down: employers seek to retain their own staff and prevent them, as far as possible, from leaving to join other companies. This will negatively affect cooperative working among companies. Therefore companies need to develop human resource policies, alongside the continuing supply of training, to retain people, if not within a particular firm, then at least within the network of firms.

Although raising skill levels is crucial for innovation and technological progress, it is also essential for those skills to be effectively used by good management and human resource practices within ‘high performance’ workplaces. The benefits of workplace training tend to accrue when integrated within an overall bundle of innovative human resource practices adopted by firms⁷⁷. Several financing mechanisms have been set up to stimulate the demand for continuing learning (see chapter 3 for a detailed analysis).

Key elements for Member States and enterprises:

- An efficient combination of incentives, rights and obligations for all stakeholders strengthens employers' engagement in continuing VET and boosts participation of individuals, particularly from vulnerable groups
- Enterprises, particularly SMEs, engage in joint innovative training schemes, overcoming barriers in investing in continuing VET

⁷⁶ Cedefop (2012a), Sectoral perspectives on the benefits of vocational education and training. See: <http://www.cedefop.europa.eu/EN/publications/19891.aspx>

⁷⁷ Cedefop (2011b), The impact of vocational education and training on company performance - <http://www.cedefop.europa.eu/EN/publications/19219.aspx>; Cedefop (2012b), Skill mismatch - The role of the enterprise - <http://www.cedefop.europa.eu/EN/publications/19658.aspx>

Annex - VET at levels higher than upper secondary programmes⁷⁸

AT	<p>Qualifications acquired in 5-year school-based VET programmes that provide access to higher education and labour market entitlements, have since long been considered equivalent to first diploma level in the context of the recognition directive.</p> <p>The Fachhochschul-programmes that were established in the 90ies intended as short –cycle tertiary-level non-university programmes (ISCED5B) have been converted to universities of applied science and ICSED 5A programmes awarding bachelor’s and also master’ s degrees.</p>
BE NL	<p>At a post-secondary level, higher education institutions provide qualifications associated with Technological Specialisation Courses (CETs), leading to a Technological Specialisation Diploma. By their nature and objectives, these qualifications are also short cycle programmes, with the main goal of preparing students for employment, but also providing preparation for, and access to, the first cycle.</p>
BE FR	<p>Tertiary education encompasses university education, non-university higher education organised in the Hautes Écoles, and artistic higher education organised in the Art Schools (Ecoles supérieures des arts ; Higher Institutes of Architecture (Instituts supérieurs d’architecture) were integrated into universities by the Decree of 30 April 2009.</p> <p>Tertiary education studies may be either short (three or four years) or long- (four years at least). Both types are offered in the Hautes Écoles and Art Schools, whereas the Universities offer only long-type studies.</p>
CY	<p>Establishment and operation of a New Modern Apprenticeship, for 2014. It will embrace young people between 14 and 25 at three apprenticeship levels (preparatory, core and post-secondary).</p> <p>Establishment of Vocational Schools of Lifelong Learning.</p> <p>The non-university tertiary institutions train professionals, such as technical and engineering staff, nurses, forestry workers, police officers, as well as managers, etc., in order to cater for the needs of local industry.</p> <p>Short cycle higher education (SCHE) is organized by the State, by private providers or by professional organisations. It can also be provided by the State. It is provided within vocational / professional colleges or within further education colleges. It is subsidized by the State. SCHE can last between one and three years and is a combination of practice and theory.</p>
CZ	<p>In Czech Republic a double track system exist which was created by upgrading professional schools or by merging specialised institutions into multi-faculty colleges. Private colleges also emerged. Providers of tertiary programmes outside the universities offer programmes mainly at EQF levels 5 – 6.</p>
DE	<p>Germany has introduced a double track system (separation between traditional academic higher education and technical/professional higher education).</p> <p>The tertiary sector includes, first and foremost, the 391 state-maintained and state-recognised different types of institutions of higher education such as Universitäten (universities) and equivalent institutions of higher education (Technische Hochschulen/Technische Universitäten, Pädagogische Hochschulen, theological colleges et al), Colleges of art and music and Fachhochschulen (incl. Verwaltungsfachhochschulen).</p> <p>Berufsakademien (professional academies) form part of the tertiary sector and combine academic training at a Studienakademie (study institution) with practical professional training in a training establishment, thus constituting a duales System (dual system). The companies bear the costs of on-the-job training and pay the students a wage, which is also received during the theoretical part of the training at the study institution.</p> <p>The Berufsakademien or “duale Hochschulen” (Dual universities) are also considered as institutions of higher education. They are recognized by the state. The study lasts 3 years, whereby theory and practice constantly alternate.</p>
DK	<p>Denmark has in place a double track system (separation between traditional academic higher education and technical/professional higher education)</p> <p>There are ten professional academies (e.g. nursery, engineering, etc.) and vocational colleges that are</p>

⁷⁸ For more information: CEDEFOP's county descriptions on VET systems; study on level 5 qualifications in Europe by EURASHE: <http://files.eurashe.eu/wp-content/uploads/2011/11/SCHE-in-Europe-long-version-with-cover140311.pdf?918048>

	<p>in charge of post-secondary VET. Short cycle higher education is organized at national level in Denmark. It is provided and subsidized by the state but organized in vocational / professional colleges or in further education colleges. SCHE leads to a short professional education not necessarily linked to previous studies.</p>
EE	<p>Professional HE may be provided by:</p> <ul style="list-style-type: none"> • applied HE institution (rakenduskõrgkool); • university college (ülikooli kolledž); • VET institution (kutseõppeasutus) that offers post-secondary (non tertiary) vocational education curricula.
ES	<p>Advanced vocational training (ISCED 5B) is offered in centros de referencia nacional (national reference schools) or in centros integrados de formación profesional (integrated vocational training schools).</p> <p>Short cycle higher education (SCHE) is provided by the state (the regional autonomias) , by private education providers and / or by the authorities in collaboration with any of the above. It is subsidized by the state or by the regional authorities (autonomias). SCHE is a short professional education not necessarily linked to previous studies (e.g. nursing). In order to study advanced vocational training, it is necessary to hold the Bachiller certificate. Candidates may also be required to have taken certain specific subjects in the Bachillerato related to the vocational studies they wish to pursue. It has a variable length, though it usually takes two years.</p>
FI	<p>Finland has in place a double track system with HEIs offering a traditional academic education and Polytechnic institutes offering a more practical education.</p> <p>The qualifications within VET in Finland range from vocational upper secondary qualifications (ISCED 3) to further and specialist vocational qualifications (ISCED 4). Professionally oriented education is available at higher education level (Polytechnic degree - Master level). There is no short cycle higher education in Finland.</p>
FR	<p>France has a segmented tertiary education system which combines universities, grandes ecoles, but also other forms of vocational provision (see below). The French system offers various short cycle higher professional education (SCHE) which are clearly vocation in nature – these are:</p> <ul style="list-style-type: none"> - DUT: diplôme universitaire de technologie (technological university degree). - BTS : brevet de technicien supérieur (higher technician’s diploma), - BTSA : Brevet de technicien supérieur agricole - DEUST : Diplôme d’études universitaires scientifiques et techniques - DMA : Diplôme des métiers d'art. - TP : NIVEAU III Titre Professionnel.
EL	<p>Higher education in Greece consists of two tracks: the University sector (Universities, Polytechnics, Fine Arts Schools, the Open University) and the Technological sector (Technological Education Institutions (TEI) and the School of Pedagogic and Technological Education).</p> <p>There are also State Non-university Tertiary Institutes offering vocationally oriented courses of shorter duration (2 to 3 years) which operate under the authority of other Ministries.</p>
HU	<p>Post-secondary VET has expanded since 1998. The goal of launching advanced level VET was twofold: strengthen link between higher education and the economy; increase the number of young people with higher education qualifications.</p> <p>Recent changes concern the introduction of new, competence based, modular Higher Level Vocational Training (HLVT or Short cycle higher education- SCHE) programmes. This form of SCHE education and training is spreading fast in comparison with other European countries, led by the demand of industry. Through the modular system different programmes have to be linked and credit points have to be accepted.</p>
IE	<p>Ireland has double track system (separation between traditional academic higher education and technical/professional higher education)</p> <p>SCHE is an integral part of educational provision in Ireland (outside the universities) and, as a consequence, SCHE courses are provided in various areas of studies but the bulk of provision is in the area of applied humanities, business, science, engineering and technology. Most Short cycle higher education programmes (SCHE) are organized within the institutes of technology and independent registered providers.</p>
IC	<p>Post-secondary education and training is still fairly limited, but growing.</p> <p>In some of the higher education institutions a diploma or certificate is awarded after one or two years’</p>

	<p>study in various subjects, such as pedagogy, gerontology, business and languages. The diploma courses are short, practically / professionally oriented and theory-based. It is not common for these courses to be combined with placement (in industry).</p> <p>Iceland also has post-secondary education at level 5 of the NQF or of the EQF. This is organized by some comprehensive schools, which next to other courses organize post-secondary non-tertiary programmes, such as programmes to educate master craftsmen.</p>
IT	<p>Higher technical education institutes (ITS) and higher technical education and training (IFTS) offer post-secondary vocational education.</p> <p>ITS are specific types of foundations composed by public institutions and private stakeholders (enterprises, etc.) and have to be seen as specialised technological schools of excellence training high level technicians and stimulating technological transfer to industries. IFTS aims at a quick insertion of students into the labour market and at an upgrading of skills for those who are already employed.</p> <p>Although higher technical education is considered to be post-secondary non- tertiary education, the Italian Ministry regards some of the qualifications issued by these institutions as equivalent to the French BTS which is clearly situated in higher education at level 5 of the EQF for LLL. In addition, credits earned can partly be used for courses at university or non-university higher education.</p> <p>In the Veneto region, development of applied Ph.D. in a higher apprenticeship scheme is currently being experimented.</p>
LT	<p>Specific colleges deliver higher level VET education (ISCED 5B) of 3-4 years duration (leading to a professional bachelor degree or vocational qualification).</p> <p>There is no Short cycle higher education (SCHE) in Lithuania yet but there is post-secondary education having no formal links with higher education. Lithuania does have the intention of organizing SCHE in the future.</p>
LU	<p>Higher VET education consists of:</p> <ul style="list-style-type: none"> - Advanced technician's diploma (of 120 ECTS) in a private or public institute of higher education (BTS). The objective of the BTS is to prepare for a profession, the BTS mentioning the professional area concerned. - Master craftsmanship degree. <p>The objective of the University of Luxembourg is to increase, in the future, the range of vocational training programmes ensuring that these vocational training programmes include a significant proportion of workplace learning.</p>
LV	<p>There are various professional higher study programmes: the first level professional higher education or college education (i.e. non university type) (ISCED 4) and the second level professional higher education or university education (ISCED 5).</p> <p>Short Cycle higher education (SCHE) is provided by the state and private education providers. It is subsidized by the state or by other organisations. It is provided within the universities, within colleges and within vocational / professional colleges. SCHE is a short professional education not linked to previous studies.</p>
MT	<p>National Action Plan for 2008-2010 intended to develop professional degrees at level 6, implementing Work based learning courses.</p> <p>Short cycle higher education (SCHE) in Malta is provided by the state or by private education providers. It is organized in universities and in vocational / professional colleges. It is subsidized by the state or by industry or jointly by both of them. The duration of full-time SCHE is two years and students earn between 90 and 120 ECTS credits. SCHE is mainly a preparation for degree studies and is organized mainly on a full-time basis but part-time is also possible.</p>
NL	<p>The Netherlands has a two track system (separation between traditional academic higher education and technical/professional higher education).</p> <p>Since 2006, various higher professional education bachelor programmes (of at least 120 ECTS) have been created. New Associate degree programmes that will be run by the universities of applied sciences in collaboration with upper secondary VET are being developed.</p> <p>The legislation states that Short cycle higher education is a formal degree (Associate degree) within the professional Bachelor degree, that it has at least 120 ECTS. SCHE is clearly situated at level 5 of the EQF. Level 5 belongs to the system of higher education and level 4 is part of secondary vocational education.</p>
NO	<p>Norway has double track system in higher education (separation between traditional academic higher education and technical/professional higher education).</p>

	<p>Short cycle higher education (SCHE) takes two years (within the BA) and is part of the universities or the university colleges.</p> <p>There are some integrated five to five and half year master degrees and some professional study programmes that last 6 years. In addition, there are some master programmes of less than two years duration and some 4-year bachelor's degrees.</p> <p>Tertiary education also includes vocational colleges (ISCED 4) and practical courses of training with duration of half a year to two years as alternatives to higher education.</p>
PL	<p>In Poland has a double track system of higher education. This was created by upgrading professional schools or by merging specialised institutions into multi-faculty colleges. Private colleges also emerged. Providers of tertiary programmes outside the universities offer programmes mainly at EQF levels 5 – 6.</p> <p>Post-secondary schools are not considered to be higher education. Post-secondary schools enable their students to acquire vocational qualifications at the level of secondary, technical or vocational, education. Training in such schools takes no longer than 2.5 years and it depends on the occupation as specified in the Classification of Occupations.</p>
PT	<p>Portugal has a double track system of higher education: Polytechnic education which concentrates on professionally driven vocational and advanced technical training vs. Traditional university education. Polytechnic institutions provide technological specialisation courses (CET), which are technical, practical and vocational in nature. Measures are in place to increase the attractiveness for Polytechnic education.</p>
RO	<p>There is no Short cycle higher education (SCHE) in Romania but there is post-secondary education which has no formal links with Higher Education. Currently post-secondary education corresponds to level 5 EQF, but is not yet decided if some of post-secondary education programs are at higher levels than level 5 EQF. Furthermore the country doesn't have the intention to organize SCHE in the near future.</p>
SE	<p>Higher Vocational education programmes (Yrkeshögskoleutbildning) provide vocational education and training at the post-secondary level outside higher education institutions and are designed to meet the actual needs of the labour market. Therefore, students are given permission for a limited time and then they have to apply in competition with others if they want to continue.</p> <p>HVE programmes normally consist of two years of full-time study, but there are also shorter and longer programmes.</p> <p>Courses must be organised by state universities or colleges, Municipalities or county councils, and individual natural or legal persons. The education provider may organise courses in partnership with others.</p>
SK	<p>Slovakia is adapting its legislation to the introduction of a new kind of higher professional study. In this kind of study the secondary technical schools will provide higher professional education. The term Short-type courses is used in Slovakia for bachelor's studies and lead to the bakalár (Bachelor) qualification. This diploma allows students either to continue the master study level or to enter the labour market.</p> <p>ISCED 5B programmes are currently strongly linked to secondary ISCED 3A programmes and can be seen as an expansion of secondary studies.</p>
SI	<p>Short cycle higher education is organised by the State or by private providers (approximately 50% by each). SCHE is provided at higher vocational colleges (višje strokovne šole) and sometimes also at professional colleges (visoke strokovne šole) as self standing institutions. Occasionally courses offer off-campus in the work place. SCHE is organised in many fields of study.</p>
UK	<p>Foundation degrees are vocationally oriented Higher Education courses below the level of a Bachelor's degree, requiring the equivalent of two years' full time study. They are designed in conjunction with employers and intended to provide individuals with the knowledge, understanding and skills relevant to their employment.</p> <p>Foundation Degrees are awarded by institutions with Degree Awarding Powers, but can be taught or delivered by private providers, industry, professional bodies, public colleges or any other organisation. The awarding body is responsible for quality assurance of the qualification.</p> <p>There is the intention to foster the development of Foundation Degrees (introduced in 2001).</p>