


Cedefop synthesis of the Maastricht Study

Vocational education and training – key to the future

**Lisbon-Copenhagen-Maastricht:
mobilising for 2010**



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Manfred Tessaring
Jennifer Wannan

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A great deal of additional information on the European Union is available on the Internet. It can be accessed through the Europa server (<http://europa.eu.int>).

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Summary and main conclusions

A. Progress towards the Lisbon goals?

1. Over the last four years the overall performance of the European economy has been disappointing, and the gap with North America and some Asian countries has widened. This has been caused mainly by structural weaknesses in the European economy. Few European countries score high on competitiveness and performance.
Three clusters of competitive countries can be identified: the 'core countries', including Germany and France, with high labour productivity, social spending, and well-developed social partnership; the 'Nordic group', including Finland, Norway, Sweden and partly Denmark, with high economic performance and participation in the labour market and education and training, and a pronounced social partner approach; and the United Kingdom (together with the US) with high employment rates, sufficient economic performance, lower social spending and less developed social partnership.
2. In Lisbon in 2000, the European Council set the ambitious goal of making Europe the most competitive and dynamic knowledge-based economy in the world by 2010. All Member States are responsible for ensuring that adequate attention is given to the achievement of the Lisbon goals and related benchmarks within their national contexts. They have made considerable effort but, at this halfway stage, progress is mixed. This reflects the varied starting positions of countries, their different circumstances and specific challenges. Competitor countries are moving forward in modernising their economies as well as their education and training systems.
3. In Barcelona in 2002, the European Council set an additional objective of making education and training a world quality reference by 2010, in particular through better insight into learning demand as the basis for a lifelong learning strategy. Member States have agreed that coherent lifelong strategies be developed by 2006; VET should form a key element. Although many countries have initiated measures to promote lifelong learning, coherent structures are generally lacking. Many fundamental

elements of quality – including strengthening the status and roles of teachers and trainers, quality assurance systems, information, advice and guidance systems, and increased permeability between pathways – have not been implemented on a large scale in most European countries.

4. Vocational education and training is an integral part of promoting the achievement of the Lisbon and Barcelona goals. The Copenhagen process (2002) provides the overall framework for European VET development. It has raised awareness of key issues and has accelerated cooperation, comparison and compatibility of VET policies in Europe. However, there is much need for further action strengthening especially at national level, implementation, cooperation and coordination with all stakeholders, and further developing the open method of coordination.

B. Key challenges

1. Europe has committed itself to becoming a knowledge society, combining economic performance with social inclusion. However, at present 80 million EU citizens are low skilled. It is estimated that by 2010 almost half of the net additional jobs will require people with tertiary level qualifications; just under 40 % will require upper secondary level and only 15 % of jobs will be for those with basic schooling. This means a dramatic decline in job prospects for the low skilled. Therefore, better acknowledgement of the importance and value of learning, knowledge and competences is required. More participation in education and training and acquisition of at least basic skills and a good literacy level should be top of the European agenda.
2. The workforce is both shrinking and ageing owing to the effects of demographic change. Urgent action is needed to integrate those who are currently inactive into the labour force. Europe cannot afford to waste its most precious asset, its human resources. The unemployed and the hidden labour force represent 33 million people in the EU25. It is not only necessary to help more people – especially women – into jobs, we must also help people to remain in jobs for a full working life. It is essential that measures are taken to address structural unemployment, to increase skill levels and to provide better access to, and delivery of, learning for all.
3. Employment and productivity growth are increasingly driven by innovation. To harness the full potential of the new economy for higher skilled, more stable and more rewarding jobs, Europe's workforce must

be skilled and trained to meet modern labour market needs, and the demands of new and rapidly changing technologies. Between 1995-2000 1.5 million jobs were created in the EU in the high-tech sector and 5.5 million in high education sectors. Highly-skilled occupations accounted for over 60 % of jobs created. Skills and competences strongly influence creativity, innovation and adaptability. Academic excellence and research are crucial but the transfer and application of knowledge in companies and organisations also require skilled workers with job-related competences, acquired through initial vocational training and updated by continuing training within a lifelong learning perspective. VET has an important role to play in raising the quality of work, increasing job satisfaction and motivating workers as well as enhancing productivity.

4. The low level of transnational mobility hampers achieving a true European labour market. Having the right skills in the right place at the right time is essential for labour markets to operate more effectively on a European scale and help even out skills bottlenecks. In many areas demand for skilled workers already outstrips supply and skills mismatches are limiting the EU's capacity for growth. Selective immigration to attract new talent and to offset labour market shortages, demographic decline and brain-drain is also needed. Education and training can help reduce barriers to mobility by recognising skills and competences acquired abroad and making people, especially young people, more familiar with training and work in other countries.
5. It is vital that skills and training do not become the preserve of the elite few but are open to everyone. Social cohesion and inclusion are not only social goals, but also economic ones. A high number of socially excluded people is a burden on economies and limits growth and investment in innovative and future-oriented areas and sectors. Raising skills and literacy levels of low performers can yield large economic gains. Tailor-made measures for disadvantaged and at risk groups are needed to increase their participation in training and employment and to prevent high social costs in the longer term.

c. Priorities for VET

To meet the policy goals and respond to the challenges outlined above, VET in Europe needs to address five main priorities.

1. *Tackling the large number of low skilled people.* Although European countries have made some progress in raising the skill levels of their populations, and the benchmark set by the Council of increasing completion of upper secondary education and training to at least 85 % is likely to be reached, the number of people with low skills remains too high and jeopardises social cohesion, competitiveness and future growth. Canada, the US, Japan and others, all have higher skills levels, especially at tertiary level. Barriers to access and take up of VET need to be removed and provision made more flexible and attractive, including entry routes to higher education and training as well as the labour market. A thorough analysis of the characteristics of the low skilled and other disadvantaged groups is needed to develop more learner-centred targeted measures to increase their participation in, and completion of, VET. Action to combat early school leaving (ESL) has an important role to play in reducing the number of people with low skills. The Council benchmark of reducing ESL to 10 % is in sight if efforts are reinforced. Strengthening vocational streams and work-based learning helps prevent school dropout. Lifelong guidance and counselling support increased participation and completion rates by helping younger and older people to find the most appropriate pathways. Countries should strive to put in place more coherent and pro-active career guidance systems which ensure access for all and which develop career and learning management skills.
2. *Promoting continuing vocational training (CVT).* CVT is the weakest link in lifelong learning (LLL). The number of companies in the EU providing training remains low and participation of adults in LLL is still below 10 %. All stakeholders, including the social partners, have to act to develop lifelong learning in practice. Measures are needed, in particular, to encourage companies to train more, to support the development of provision for SME employees and to encourage the participation of non-traditional learners, including women returning to the labour market and older workers. In addition to financial and time incentives, more systematic recognition of non-formal and informal learning is required. LLL pacts in collective agreements between the social partners at all levels, and more learning conducive environments in vocational schools

and enterprises, more flexible learning provision – including work-based, open and distance learning and e-learning – represent important practical ways of making progress. If efforts are reinforced and accelerated, the Council benchmark to increase participation in lifelong learning to 12.5 % is not impossible to reach.

3. *Increasing mobility to promote the development of a European labour market.* The lack of mutual recognition of qualifications and competences is a major obstacle to mobility within the EU. The European Qualifications Framework, together with the new Europass system and more transnational placements, as foreseen in the new generation of education and training programmes, are essential tools for achieving this goal. These tools have to be reinforced and implemented on a large scale under the particular responsibility of countries and social partners. Most countries have not yet given sufficient attention to these issues. Regular monitoring, evaluation and feedback are needed to measure progress and improve the effectiveness of measures. To promote a closer match between education and training supply and labour market demand, strong links between VET institutes and the world of work are required and should be complemented by European approaches for early identification of new and changing skill needs. Strengthening training for entrepreneurship can also reduce high failure rates of business start-ups and contribute to job creation.
4. *Investing in quality VET systems.* The EU average public and private expenditure for primary, lower and upper secondary education and training is below that of competitors such as Australia and the US. More investment is needed to close this gap and raise the skill levels of Europe's population. Despite the importance of skills and competences, expenditure on training is often regarded as an immediate cost rather than a longer-term investment. All actors must accept their responsibility to raise the level and efficiency of spending on initial and continuing VET. European and national budgets should also reflect the Lisbon priorities, in particular education and training and R&D to promote competitiveness. It is necessary to improve data and indicators on VET. Quality assurance (QA) is a pre-requisite in ensuring a better return on investment and more efficient and effective VET systems. Few countries have implemented quality assurance systems. Training departments have lagged behind production and marketing departments in adopting a quality assurance approach. Steps need to be taken to ensure that QA approaches are widely applied by public and private organisations involved in VET.

5. *Ensuring high quality and appropriately skilled VET professionals.* VET teachers and trainers are pivotal in promoting the Lisbon and Copenhagen goals. The quality of VET depends primarily on the quality of its teachers and trainers. VET has to keep pace with rapid changes in work processes and content. The role of VET professionals is shifting from pure instruction to encompass learning facilitation and innovation. VET teaching is an ageing profession and in many countries the pay and image of vocational teachers/trainers are low and shortages exist. As a matter of urgency countries need to improve the status and attractiveness of the VET profession. The right balance needs to be found between further professionalisation of VET teachers/trainers and more flexibility in policies for their recruitment. Special attention should be given to their continuing training, including in how to exploit the learning and innovation potential of ICTs as well as content specific training.

D. Making change happen

In the first phase of the Lisbon and Copenhagen processes, much has been achieved at EU level, many agreements have been reached, concepts clarified, common aims/principles and frameworks established and practical tools developed to support EU education and training policy goals. In the coming period up to 2010, to achieve real impact, the emphasis has to be on moving to concrete action at national and regional levels. Because of its close links to employment and the economy, VET policy has to be conceived as an integral part of a wider policy framework, including all relevant ministries and stakeholders from the education, social, employment, finance, justice and other relevant domains. Moreover, to address effectively the priorities outlined above, all the actors – from the public, private and community sectors – need to mobilise and work together in partnership.

The EU will continue to provide support, both in the form of joint financing and of exchange of experience, mutual learning and peer review. In turn, Member States need to ensure that the financial possibilities for the development of VET offered by the Structural Funds and by the new education and training programmes are used to the full.

To move closer to a knowledge-based society, Europe needs an innovation strategy to foster investment in, and the quality of, human capital. More effective use of resources, a future-oriented design of VET and new approaches to learning in schools and at work are essential ingredients of such a strategy. Special attention needs to be given to the development of key competences, including ICT literacy, learning partnerships (in particular at local and regional levels) and the creation of learning-conducive environments in all settings. To move forward, governments should identify the key issues of such an innovation strategy, supported by public-private partnerships and agreements on innovation pacts with social partners and other stakeholders. Setting benchmarks and regular assessments of progress made should become a joint activity for all those concerned.

Introduction

The Lisbon European Council in 2000 agreed a strategy to transform Europe by 2010 into the most dynamic and competitive knowledge-based economy in the world, delivering sustainable growth, generating more and better jobs and creating greater social cohesion. Implementing lifelong learning has a key role in achieving these goals. The Lisbon process was enhanced in Barcelona and Copenhagen in 2002 as part of the ‘Education and training 2010’ strategy (Figure 1).

In Copenhagen, 31 ministers from the EU Members States, the EEA/EFTA and candidate countries, the European social partners and the European

Figure 1: **Education and training 2010 - European strategies**

2000	2001	2002
<p>LISBON EU COUNCIL</p> <p>Strategic goal for the EU to become by 2010 ‘the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion’.</p>	<p>STOCKHOLM EU COUNCIL</p> <p>Three strategic objectives of ET systems and 13 associated objectives:</p> <ol style="list-style-type: none"> 1. Improving quality and effectiveness of ET systems in the EU 2. Facilitating access of all to ET systems 3. Opening up ET systems to the wider world 	<p>BARCELONA EU COUNCIL</p> <ul style="list-style-type: none"> Working programme for improving ET systems in Europe Strategic framework of a European lifelong learning system Calls for an ‘insight into demand for learning’ approach as the basis of lifelong learning strategy. <p>ET should become a world quality reference.</p>
<p>Lifelong learning process</p> <p>October 2000: Commission's <i>Memorandum on lifelong learning</i> followed by Europe-wide consultation, resulting in the Communication <i>Making a European area of lifelong learning a reality</i>, November 2001: Priorities for action: valuing learning, information, guidance and counselling, investing time and money, bringing together learners and learning opportunities, basic skills, innovative pedagogy.</p>		<p>November 2002: The Copenhagen Declaration calls for enhanced cooperation in vocational education and training.</p>

Commission agreed on the Copenhagen Declaration. It calls for enhanced cooperation in vocational education and training (VET), prioritising the European dimension; transparency, information and guidance; recognition of competences and qualifications; quality assurance and teachers and trainers. The Maastricht Communiqué (December 2004) calls for an assessment of progress towards the Lisbon/Copenhagen goals for VET at national and EU level and sets new priorities.

This synthesis report draws mainly on the Maastricht study ⁽¹⁾ and aims to help policy makers situate the Maastricht Communiqué in context and stimulate debate.

(1) This study was commissioned by the European Commission in early 2004 (Leney et al., 2004) to assess progress in VET. It covered EU Member States, EFTA and candidate countries (including Turkey) and it included a survey of Directors-general for vocational training (DGVET) and country reports.

ET: education and training

2003	2004	Dec. 2004
BRUSSELS EU COUNCIL <ul style="list-style-type: none"> Implementation of a 10-year programme on the objectives for ET systems, ensuring efficient and effective investments in human resources Foster transparency, recognition and quality assurance of qualifications across the EU Put emphasis on basic skills, languages, digital literacy and lifelong learning in ET systems. 	BRUSSELS EDUCATION COUNCIL <p>Resolution on guidance Conclusions on:</p> <ul style="list-style-type: none"> Quality assurance in VET Identification and validation of non-formal and informal learning Decision on Europass. 	MAASTRICHT <p>The Maastricht Communiqué takes stock of progress made on the Lisbon/ Copenhagen strategy and sets new priorities and strategies under the Copenhagen process on Enhanced European Cooperation in VET.</p>
Priorities: <ul style="list-style-type: none"> European dimension in VET Transparency, information, guidance Recognition of competences and qualifications Quality assurance, teachers and trainers. 	May 2003: The Education Council agrees on European benchmarks for the improvement of ET systems until 2010, concerning: <ul style="list-style-type: none"> Reduce early school leavers Increase graduates in mathematics, science and technology Improve basic skills Completion of upper secondary education Decrease low-achieving youth in reading literacy Higher participation in lifelong learning Investment in human resources. 	

The report is in three parts:

- Part A provides a brief overview of the major challenges facing VET in Europe today, including improving the image and attractiveness of VET (A1); adapting to labour market needs and the impact of demographic change (A2); and responding to the needs of low skilled and disadvantaged groups for social cohesion and labour market participation (A3).
- Part B reviews progress achieved by Member States to date and national priorities. Issues include implementing reforms and practices (B1); training expenditure and incentives (B2); economic performance and the contribution of education and training (B3); social cohesion and people at risk (B4); open learning pathways and guidance (B5); involvement of stakeholders and partnerships (B6); innovative pedagogies and learning-conducive environments (B7); and the role of teachers and trainers in assuring quality in VET (B8).
- Part C summarises the contribution, at European level, of the Copenhagen process in achieving the Lisbon goals.

Data and examples from Europe's main competitors are in parts A and B. A few examples of Member State actions are included in part B. A thematic summary of the main measures taken by European countries to promote VET under the Lisbon and Copenhagen processes, further references and more detailed tables and figures are provided in Annex.

Defining VET

VET comprises all more or less organised or structured activities that aim to provide people with the knowledge, skills and competences necessary to perform a job or a set of jobs, whether or not they lead to a formal qualification. VET is independent of venue, age or other characteristics of participants and previous level of qualifications. VET may be job-specific or directed at a broader range of occupations. It may also include elements of general education. The major importance of VET for individuals, enterprises and society is widely acknowledged, and is perceived as a key element of lifelong learning.

VET takes a variety of forms in different countries and also within a given country. It can be organised as prevocational training to prepare young people for transition to a VET programme at upper secondary level. Initial VET normally leads to a certificate at upper secondary level. It can be school-based, enterprise-based, or a combination of both (as in the dual system). Completion of initial VET qualifies for access to a skilled job, and gives access to post-secondary, and sometimes higher education. VET at post-secondary level provides access to higher skilled jobs (e.g. master or technician) and can also open the way to higher education. Continuing vocational training (CVT) takes multiple forms, ranging from short training courses to participation in advanced and longer programmes. CVT can be organised by companies or networks of companies, social partner organisations, and local, regional and state bodies. Participants include employees, unemployed people or those returning to the labour market.

This report aims to provide a selective overview of developments in key aspects of VET ⁽²⁾.

(2) More information on countries can be obtained from Cedefop which has published comprehensive monographs for all European countries.

SECTION A

Context and key challenges


Competitiveness – is Europe catching up?

Estimates are that up to 30 % of workers in future will work directly in producing and diffusing knowledge (Kok, 2004, p. 19). It is evident that industrialised countries are transforming themselves into knowledge-based economies. 'If Europe is to compete in the global knowledge society, it must also invest more in its most precious asset – its people. The productivity and competitiveness of Europe are directly dependent on a well-educated, skilled and adaptable workforce.' (ibid., p. 33)

In its paper on Canada's innovation strategy (Knowledge matters, 2002), the Canadian government emphasises that, by 2004, around 70 % of all new jobs will require some form of post-secondary education, and another 25 % of new jobs a university degree. Only 6 % of new jobs will be held by those who have not finished high school.

Competitiveness is a major Lisbon goal and includes economic and employment performance, social cohesion and sustainable economic growth. Competitiveness 'analyses the facts and policies that shape the ability of a nation to create and maintain an environment that sustains more value creation for its enterprises and more prosperity for its people.' (IMD, 2004, p. 740). To assess competitiveness a number of indicators, including investment in education and training, are required to rank countries. Although subject to criticism, rankings – if based on reliable data and methods – can show a country's position in a comparative context.

How competitive is Europe today? Table 1 provides some indicators based on detailed data from the OECD, the World Bank, the ILO, the UNO and others.

 Some European countries, especially Denmark, Ireland, Luxembourg and Finland are among the top 10 on economic performance, government and business efficiency. Most EU countries, however, are less competitive than Australia, Canada and the US in relation to economic and technological advancement.

The Maastricht study (2004) identifies three clusters of competitive economies:

1. 'core countries' (Germany, France) characterised by high productivity (GDP/working hour), high social spending and an inclusive social partner approach;
2. the 'Nordic group' (Finland, Norway, Sweden and partly Denmark) with the best economic performance such as growth and productivity in Europe, high labour market and education-training participation, high social spending and a pronounced social partner approach;
3. the Anglo-Saxon countries (the UK, the US) with high employment rates and economic performance (but low productivity in the UK), lower social spending and less developed social partnership.

Insufficient data and indicators for VET hamper assessment of progress

It is difficult to assess the contribution of education and training to competitiveness, even harder to calculate the specific impact of VET. Data from national systems differ in their characteristics and are hard to compare, especially over time. Similar constraints are faced by all countries. In the US, for example, the reliability and validity of much of the data on VET is poor (NAVE, 2004). There is a need to improve information and provide a better picture of comparative trends for VET across European countries to help policy makers monitor and evaluate policies.

A1. Image, attractiveness and participation in VET

The attractiveness or image of any education or training route is subjective. Deciding factors include access to further studies, career prospects, earnings and social status. A possible indicator for the image and attractiveness of education and training is enrolment. However, data on age-specific enrolment rates in upper secondary education and training especially in vocational programmes, are not available ⁽³⁾. Figure 2 shows the development of graduation rates from upper secondary level over recent years.

(3) One of the reasons is that enrolment is spread over a broad range of ages years in different countries.

Table 1: **Competitiveness indicators for selected OECD countries**

Countries	Economic performance (2004)	Government efficiency (2004)	Business efficiency								
			Total	Labour productivity (a)		Labour force growth (b) 2003		Total	Population over 65 (c) (2002)	Computers per capita (d) (2003)	
				US \$	RANKING	% CHANGE	RANKING			per 1000	RANKING
BE	20	44	20	40.58	8	0.66	38	18	16.9	535	14
CZ	28	48	50	18.03	36	-0.08	49	34	13.9	236	33
DK	32	5	9	37.06	13	-0.35	54	5	14.8	680	5
DE	4	34	34	34.89	15	-0.33	52	10	17.1	511	17
EE	29	15	31	16.06	42	1.20	26	35	15.5	240	32
EL	45	49	39	29.58	25	-0.07	48	39	19.2	143	40
ES	22	22	38	30.55	23	2.63	9	31	17.1	233	34
FR	13	41	43	42.38	6	0.78	34	16	16.2	440	24
IE	6	13	11	45.10	3	3.51	4	25	11.1	515	16
IT	39	56	54	39.31	10	0.65	39	37	18.3	339	28
LU	3	9	12	53.37	2	2.88	7	21	14.4	639	10
HU	47	43	47	18.03	37	1.06	30	32	15.4	164	38
NL	7	25	15	38.10	12	1.00	32	14	13.6	638	11
AT	21	14	14	36.41	14	1.40	24	17	15.5	501	20
PL	57	58	56	16.33	41	-1.38	58	47	12.5	122	42
PT	42	32	48	20.34	35	0.48	42	36	16.6	224	36
SI	33	47	51	22.83	31	-1.33	57	38	14.4	309	30
SK	46	26	46	17.52	39	0.34	44	42	11.4	195	37
FI	31	4	10	34.22	17	-0.38	55	7	15.4	680	4
SE	25	19	16	30.65	22	0.66	37	4	17.2	706	2
UK	14	29	21	30.93	21	0.19	46	24	15.9	547	13
CH	27	11	25	27.68	27	0.70	35	3	15.4	656	7
IS	15	7	5	31.78	20	0.25	45	8	11.7	684	3
NO	26	17	27	43.56	5	-0.21	51	11	14.9	675	6
AU	19	2	4	34.16	18	1.49	22	13	12.6	650	9
CA	8	6	8	31.99	19	2.16	15	6	12.5	652	8
CN	2	21	35	4.39	57	1.25	25	41	7.3	33	55
KR	49	36	29	16.56	40	0.17	47	27	7.9	391	27
JP	17	37	37	29.88	24	-0.34	53	2	18.5	509	19
US	1	10	1	40.72	7	1.14	27	1	12.5	745	1

Infrastructure							Countries
Internet users (e) (2003)		High-tech exports (f) (2002)		Total expenditure on R&D (g) (2002)		Human development index (h) (2001)	
per 1000	RANKING	%	RANKING	% GDP	RANKING	RANKING	
435	23	10.5	40	2.2	16	6	BE
294	37	14.3	35	1.3	26	35	CZ
645	3	21.7	18	2.4	12	11	DK
442	20	16.6	29	2.5	11	21	DE
399	30	12.0	38	0.8	42	40	EE
241	40	9.9	42	0.6	47	30	EL
307	35	6.9	47	1.0	38	23	ES
361	32	21.2	20	2.2	15	18	FR
410	27	40.6	6	1.2	33	11	IE
408	28	9.0	43	1.1	34	26	IT
440	22	18.9	26	1.7	23	11	LU
247	39	24.8	13	1.0	37	38	HU
565	13	27.7	12	1.9	19	5	NL
508	18	15.3	34	1.9	18	17	AT
218	42	2.8	59	0.6	46	37	PL
555	15	7.0	46	0.9	39	29	PT
410	26	5.2	49	1.2	31	33	SI
230	41	3.2	58	0.6	49	39	SK
589	9	24.2	15	3.4	3	11	FI
648	2	16.4	32	4.3	2	3	SE
508	17	31.4	10	1.9	20	11	UK
582	10	21.0	22	2.6	9	9	CH
659	1	5.5	48	3.1	5	2	IS
629	4	22.3	17	1.6	24	1	NO
601	6	16.5	31	1.6	25	4	AU
594	8	14.3	36	1.8	22	6	CA
61	55	23.3	16	1.2	30	54	CN
605	5	31.5	8	2.5	10	34	KR
566	12	24.5	14	3.1	6	9	JP
597	7	31.8	7	2.7	8	6	US

Shaded areas: top ten

(a) Estimates: GDP (PPP) per person employed per hour, USD

(b) Percentage change

(c) Percentage of total population

(d) Number of computers per 1000 people / Source: Computer Industry Almanac

(e) Number of internet users per 1000 people / Source: Computer Industry Almanac

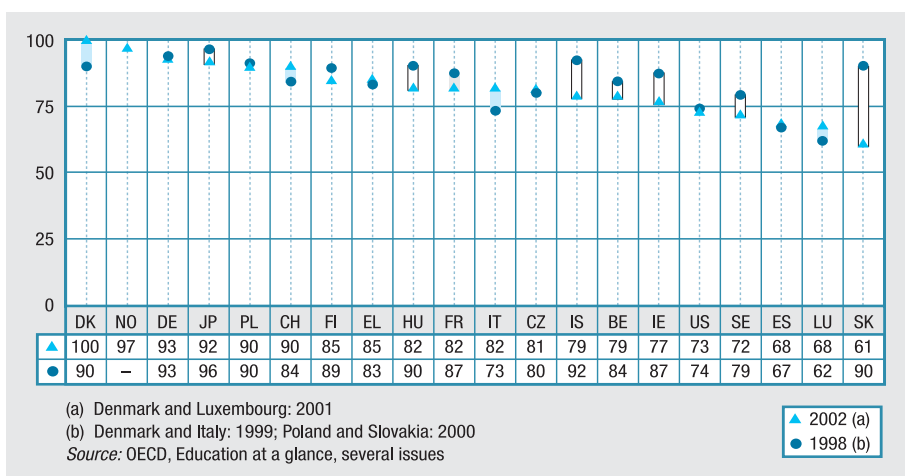
(f) Percentage of manufactured exports

(g) Percentage of GDP

(h) Combines economic - social - educational indicators / Source: Human Development Report

Source: IMD World Competitiveness Yearbook 2004

Figure 2: **Upper secondary graduation rates in selected European countries, Japan and the US; 1998, 2002**



Although VET contributes to individual, companies', economic and societal performance, in some countries it is not as attractive as general education, as reflected by participation rates in upper secondary vocational streams. Most European countries (except Cyprus and Hungary) have high proportions of young males in vocational pathways, while rates for females are lower (Table 2). The proportion of young people in initial VET, compared with general education is increasing in most of the 'old' Member States (except Germany, Italy, Luxembourg), but decreasing in most of the new ones (Figure A1 in Annex). In the US, only about one quarter of students is 'occupational concentrators' ⁽⁴⁾.

! In view of the often precarious labour market situation of women, their participation in VET should be increased, through targeted courses and information campaigns to raise the image of VET, including in traditionally male-dominated occupations which provide clear career perspectives. Countries with decreasing participation in initial VET should take steps to counteract this trend; this applies specifically to the new Member States as well as Germany, Italy and Luxembourg.

The Maastricht study identified a close association between the level of graduation rates in upper secondary vocational streams and lower rates of early school leavers in many countries. Reinforcing vocational streams therefore, can prevent and reduce school dropout. (See also Section B4)

(4) 'Occupational concentrators' are students who participate most intensively in vocational programmes (earning at least 3.0 occupational credits in one programme area). Source: NAVE, 2004.

Table 2: **Pupils in upper secondary education enrolled in vocational stream (%)** ^(a)

	Countries	
	Males	Females
<i>Share in 2002</i>		
70 % and more	CZ, SK, AT, SI, RO, NL, BE, CH	CZ, UK, SK
60 % - 69 %	PL, DE, UK, LU, BG, NO, FR, FI	BE, AT, NL, SI, LU
50 % - 59 %	DK, SE	CH, DE, RO, FI, NO, PL, FR
25 % - 49 %	EE, EL, ES, IS, IT, JP, LT, LV, MT, PT	BG, DK, EL, ES, IS, LV, SE
less than 25 %	CY, HU	PT, IT, JP, LT, EE, MT, HU, CY
<i>Trend 1998-2002</i>		
Increasing	CZ, AT, NL, UK, NO, FI, DK, SE, IS, EL, ES, PT, HU	UK, AT, NL, FI, NO, SE, DK, BG, ES, EL, LV, IS, PT, HU
Decreasing EE	SK, SI, RO, PL, DE, LU, BG, LV, EE, LT, IT	CZ, SK, SI, LU, DE, RO, PL, IT, LT,

(a) Percentage of all pupils in upper secondary education

Source: Eurostat

A2. Labour market and demographic change

Employment growth and creation is insufficient in some European countries. Structural unemployment caused by mismatches in the labour market, is a persistent phenomenon, with a high number of long-term unemployed people and simultaneously unfilled vacancies. Longer-term needs of the labour market indicate an increasing demand for skilled and highly skilled labour driven by the change towards knowledge-intensive services, high-tech manufacturing, globalisation and technological developments.

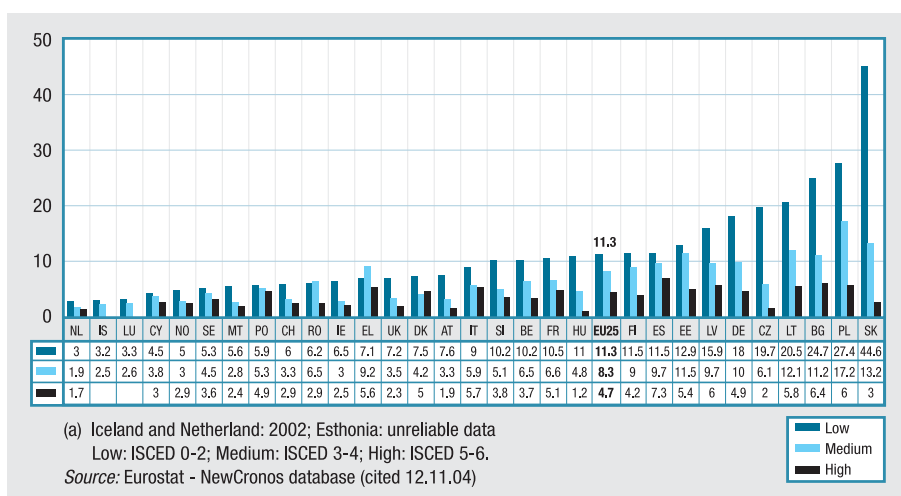
Structural unemployment – a challenge for the European labour market

In 2003, the EU25 unemployment rate was 9.0 %, some 19 million people. Long-term unemployment, is a continuing challenge for most European countries. After falling between 1994 and 2001, long-term unemployment rose to 4 % of the total labour force. Half of the long-term unemployed has been out of work for two years or more.

❗ In addition to the registered unemployed, there are those unregistered but seeking a job and ‘discouraged workers’, who are not actively seeking a job but would accept a suitable offer. Hidden unemployment accounts for around 14 million people in the EU. Combined with the 19 million registered unemployed, around 33 million Europeans are not employed (Eurostat-Labour Force Survey 2003).

An indicator for skill mismatch is the unemployment rate of people with different skill levels (Figure 3). In all EU (and most other OECD) countries, higher skilled people are significantly less affected by unemployment than the lower skilled (⁵). Whereas the unemployment rate for the low skilled was 11.3 %, the rate for the medium skilled was 8.3 % and for the high skilled 4.7 %. These rates are clear indications of a labour market characterised by increasing demand for higher skills and competences.

Figure 3: **Unemployment rates of the total population by level of education, 2003 (a), EU25 (%)**



Reducing structural unemployment and skill mismatch is necessary to foster geographical, occupational and social status mobility. This can be done by reinforcing active labour market policies with a training component, making education and training systems and policies more coherent with employment and economic policies, and by considering the longer-term needs of the labour market and individuals. These appear to be the most important measures to achieve efficient local, regional and national labour markets.

(5) With a few exceptions (see Figure 3).

❗ More targeted vocational education and training, and in particular retraining within active labour market policies, is urgently required to reduce the level of structural and hidden unemployment and to raise employment rates. Integrating the 'inactive' part of the potential labour force into employment is all the more important in view of the ageing of the European workforce over the next decades.

Demographic change – the time bomb is ticking

The average age of the European population will increase from 39 (2000) to around 45 by 2050. Table 3 illustrates the demographic challenge for the EU15 in the next decades ⁽⁶⁾. By 2030, the number of people aged 20-54 will fall by 27.2 million. At the same time, the number of older people of working age (55-64) will increase by 13.5 million. As a consequence, the old-age dependency ratio will increase significantly.

Table 3: **Population scenario for EU15 until 2050**

Age group	2000	2020	2030	2050
<i>Share in total population (%)</i>				
0 - 19	23	20	19	19
20 - 64	61	59	56	53
65 and older	16	21	25	28
<i>Change since 2000 (million persons)</i>				
20 - 54		– 0.6	– 27.2	– 42.6
55 - 64		+ 17.9	+ 13.5	+ 8.0

Source: Eurostat baseline population scenario, revision 1999.

❗ The shrinking and ageing of the European workforce underlines the urgent need to upgrade the skills of young people and increase employment rates, particularly of women. Europe cannot afford to 'waste' its human resources. Efforts must continue to keep older workers in employment longer, to adapt their skills, and make visible the competences they have acquired through non-formal and informal learning.

(6) Eurostat population scenarios for the new Member States are not yet available.

Transnational mobility – still some way to go

Geographic mobility in the EU15 has always been low. Only around 2 % of the EU population work in an EU country other than that of their birth. EU enlargement has raised fears of large sudden immigration. However, the overall volume of inward migration from the new Member States and the candidate countries is expected to be much less than assumed in public debate. Immigration can improve economic performance in receiving countries, but be detrimental to the stock of human capital of the sending countries (brain drain).

EU mobility policies should continue to expand options for short-term educational activity and study mobility through European grant schemes for young people and through financial incentives. The social partners have a key role to play here. A major issue is to achieve negotiated mobility with full recognition of qualifications.

❗ As Europe develops a more open and international labour market, VET can reduce barriers to geographic mobility for workers and learners. In view of the demographic downturn, measures to provide more initial and continuing training should be complemented by immigration policies for people from outside Europe, particularly attracting skilled immigrants. This requires recognition of certificates and competences acquired abroad by formal and non-formal learning, legal support and familiarisation measures. This is a policy priority of 'classical' immigration countries, such as Australia, Canada and the US.

A3. Low skilled people

The vision of a Europe with a highly educated, flexible and adaptable workforce, with a high degree of social inclusion, is far from being realised. Many groups are excluded. They have at least two things in common: a lack of basic skills and competences, and obstacles to accessing education and vocational training.

In 2003, in the EU25 the number of low and unskilled people aged 25-64 years (i.e. those not having completed upper secondary education) was almost 80 million, some 32 % of the working age population. This corresponds roughly to the total population of the EU's largest country, Germany, and illustrates the enormous challenge facing the EU in upskilling its population.

The proportion of low and unskilled people in the EU is considerably higher than in competitor countries such as Canada, Japan, South Korea

and the US (Table 4). These countries and Australia have higher adult educational levels, especially at tertiary level. However, on average, secondary and post-secondary levels, and particularly vocational training, are higher in Europe.


Table 4: **Educational attainment of adults ^(a) in selected OECD countries, 2002-2003 ^(b)**

	Low skilled	Upper/post-secondary	Tertiary
EU 25	32	47	21
Australia	39	30	31
Canada	18	40	43
Japan	16	47	36
South Korea	30	45	26
USA	13	49	38

(a) 25 to 64-year old population; low skilled: ISCED 0-2; upper/ post-secondary education: ISCED 3-4; tertiary education: ISCED 5-6

(b) EU: 2003 (partly estimated); other countries: 2002

Sources: EU: Eurostat-NewCronos database; OECD: Education at a glance, 2004.

 The high proportion of low skilled people in the EU means that we are a long way from becoming the world-leader in high-quality human capital. Our 'competitors' are upskilling their populations which are already among the highest skilled in the world. Europe must not only strive for academic excellence but should also strengthen work-related skills acquired in VET and by non-formal learning.

As upgrading the (formal) qualifications of the population is mainly achieved by increasing the skills of the younger age cohorts, this process will take time.

Low-skilled people most often left school early or dropped out of post-compulsory education and training. Reducing the number of early school leavers remains an important means of upgrading the skills of populations. In 2003, the Council set benchmarks for both groups: to increase completion of upper secondary education for young people, and to reduce the proportion of early school leavers. Progress towards these benchmarks is summarised in Section B4.

SECTION B

Achievements and priorities at national level

National agendas are taking on board approaches and instruments defined in Lisbon and Copenhagen for lifelong learning; cooperation between European countries in VET has increased (Table 5).

Broadly, there is coherence or compatibility between national and European priorities. However, progress towards the Copenhagen recommendations will be made according to varying sets of priorities. European countries will continue to develop reforms most appropriate to their own diverse traditions, challenges and aims.

Table 5: **The relationship between national and EU policies for VET**

	Coherence exists between the EU and national policies for VET	The Copenhagen or Lisbon processes do not directly influence national policies. But they are, nevertheless, broadly compatible
EU15	Belgium-WA; Denmark; Finland; France; Germany; Ireland; Italy; Luxembourg; Netherlands; Portugal; Spain; Sweden; the UK	Austria; Belgium-FI; Greece
EU10	Czech Republic; Estonia; Hungary; Latvia; Lithuania; Slovenia	Cyprus; Malta; Poland; Slovakia
Candidate countries	Bulgaria; Romania	Turkey
EEA	Iceland	Norway; Liechtenstein

Source: Maastricht study, 2004 (DGVt inquiry).

Reforms of education and training in Australia, Canada and the US

Australia has implemented major VET reforms in the last decade, including:

- Introduction of a competence-based approach to training;
- Implementation of the Australian qualification framework;
- Development of the training market with a view to the needs of students and industry;
- Mechanisms to enhance learning pathways;
- Reform of apprenticeship training (New Apprenticeship scheme);
- Introduction of a national framework for quality assurance and nationwide recognition of training providers.

In its innovation strategy, the **Canadian** government has given priority to:

- Building a foundation for lifelong learning for children and youth, including fostering apprenticeship training;
- Strengthening accessibility and excellence in post-secondary education;
- Building a world-class workforce;
- Helping immigrants to achieve their full potential.

A regulatory reform process will begin in 2005, focusing on sustainable funding, partnerships and innovation-related skills, and on an inclusive and skilled workforce (Government of Canada, 2002).

In the **US**, the national goal is for at least 14 years of education to be the norm. The Perkins III Act (1998) sets the following goals:

- Integration of academic and vocational education;
- Linking secondary and post-secondary programmes;
- Collaboration with employers;
- Expanding the use of technology.

The Act called for rigorous academic standards and accountability.

The US 'National assessment of vocational education' (NAVE) is concerned about the diffuse nature of federal priorities which impede efforts to develop clear focused educational interventions. It proposes to set clear priorities: either to put the emphasis on learning academic or occupational skills, or to focus primarily on workforce development with emphasis primarily on the job (in particular for post-secondary vocational education).

B1. Implementation of agreed reforms and practices

Improving transparency and fostering mobility

More transparency of national qualification frameworks or systems in which VET qualifications at different levels are located is important. Various countries (Czech Republic, Estonia, Ireland, Italy, Hungary, Malta, the Netherlands, Poland, Romania, Slovenia, the UK) are developing or implementing such frameworks. These efforts will be linked to the European

Qualifications Framework described in Part C.

A key to improving transparency and fostering mobility in Europe is Europass, a single portfolio of documents reflecting the qualifications and competences of citizens. The new Europass will enter into force in 2005 (see Part C) ⁽⁷⁾. Most countries have implemented Europass training ⁽⁸⁾ and others are at the planning stage (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Romania, Slovakia).

❗ A mixed picture emerges. Despite a steady increase, the uptake of Europass training is modest (ranging from a few hundred in Ireland to just over 5 000 in France). Monitoring and feed-back mechanisms to measure progress and learn lessons for the future direction of the Copenhagen process and measures on mobility and transparency are required.

Mobility in education and training is a major aspect of the design of past and current EU programmes. It will be further strengthened by the new generation of programmes after 2006. Although placement numbers are increasing, more vigorous action is required, including the development of dedicated mobility programmes to organise transnational placements and implement Europass training.

More data is needed on how short-term work-placement mobility can further vocational career paths, how VET systems can support mobility of young students and graduates and on the effects on their employment and employability. Compared with universities, internationalisation strategies are not a strong feature of VET systems.

❗ EU initiatives relating to the Copenhagen process on credit accumulation and transfer, and a common reference level framework are likely to promote mobility (see Part C). Qualification frameworks, credit accumulation and transfer are, however, only at the planning stage in most countries. Transnational mobility and internationalisation of VET need to be an integrated part of VET systems. To achieve a true European Labour market, barriers to transnational mobility have to be removed, and transparency and recognition of qualifications achieved. For the next generation of Europass, Member States and social partners should be mobilised to act immediately.

(7) The existing Europass will be replaced by Europass as a common brand name linked to the European CV, including: Europass mobility (for periods of learning in other countries), Europass Diploma Supplement (for higher education), Europass Language Portfolio and Europass Certificate Supplement (for vocational training). These will constitute the new Europass documents reflecting the qualifications and competences of citizens.

(8) The European CV was downloaded from the Cedefop website around two million times (www.cedefop.eu.int/transparency/cv.asp).


For mobility to become an option for a wider group of VET students, it should comprise at institutional level:

- study visits and placements for students, teachers, social partners, and VET graduates;
- guest teachers from other VET systems;
- courses offered in a language other than the native language and curricula with an international dimension;
- financial incentives for school administrations and disadvantaged groups;
- virtual mobility enabling students to collaborate with VET students on joint projects.

Quality assurance – the key to competitiveness

A Common Quality Assurance Framework (CQAF) for VET, which provides a meta-framework compatible with existing quality assurance systems, was endorsed by the Council in May 2004 (see Part C). Quality assurance in VET is on the political agenda of all European countries. However, few have implemented quality assurance systems (Austria, Belgium-FI, Denmark, Ireland, and Romania). The precise instruments of quality assurance in use remain unclear in many cases and there are different concepts of quality and quality assurance. Most common methods include inspection, systemic evaluation and self-evaluation, examinations and the application of quality standards such as ISO 9001, awards and accreditation procedures.

To maximise the return on their investment, it is in the interest of all actors involved in VET – public and private organisations as well as companies – to adopt a quality assurance approach, with clear training plans, specific goals and measurable success criteria. However, such approaches are not yet commonly implemented and training departments are lagging behind production and marketing departments in adopting a quality assurance approach.

 To develop more coherent and systematic quality assurance in VET, it is important that countries implement the CQAF and reinforce their efforts, including by integrating externally developed mechanisms for quality assurance and by strengthening evaluation and follow-up.

Identification and validation of non-formal and informal learning

The assessment of competences is increasingly important in most European countries. The realisation that knowledge and skills are also developed outside formal education and training is leading almost all European countries to formulate policies to recognise the outcomes of non-formal and

informal learning. The Council Conclusions of May 2004 outline a common set of principles to support this (see Part C).

Despite the innovative character of several assessment approaches, they fulfil the same role as other testing systems, acting as quality control for the learning processes of individuals, learning institutions and educational systems.

Recognition of non-formal and informal learning: stages of development in selected countries

Experimentation and uncertainty: Germany, Italy, Austria and Sweden. These countries are still at an experimental stage (to varying degrees) but accept the need for initiatives in this field.

National systems are emerging: France, the Netherlands, Norway, Portugal, Romania and Spain. These countries are moving towards 'national systems' building on a defined legal and institutional basis.

Permanent systems already exist: Finland, the UK. These are countries where permanent systems have been introduced. Belonging to this category does not mean, however, that further policy development is ruled out.

Source: Bjørnåvold, 2004a.

Canada considers the recognition of prior learning as an essential element of reform. However, in 2002 it was still in the planning phase. A particular focus will be laid on the recognition of foreign credentials (immigrants).

In Australia, recognition of non-formal learning is already partly implemented.

With the exception of Norway and Portugal, relatively few people have acquired a qualification this way.

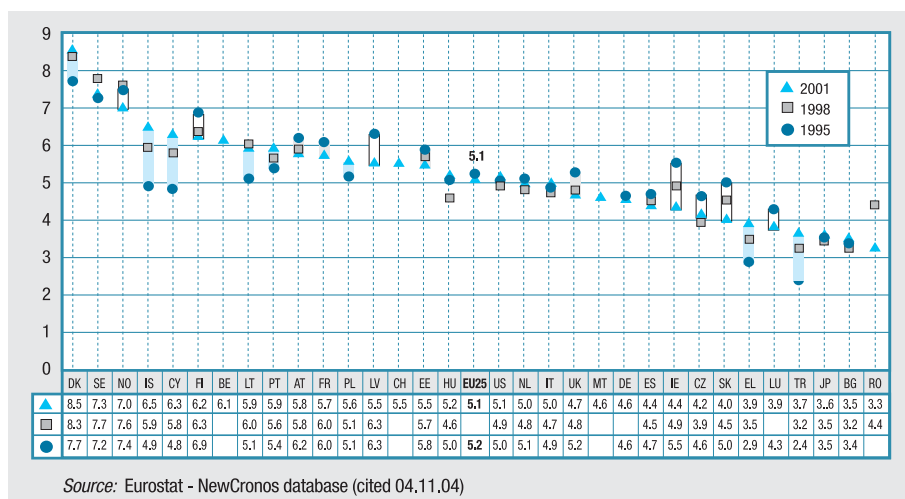
! Various approaches to recognising non-formal learning can be identified in Europe, but all aim to have non-formal and informal learning encompassed by traditional VET systems. Problems and priorities in opening up VET systems to non-formal learning are related to the characteristics of national VET systems. For instance, dual systems (Germany and Austria) appear to be reluctant to embrace this trend as it challenges the explicit initial VET character of the system (Bjørnåvold, 2004b).

B2. Training expenditure and incentives

There is a longstanding debate on who should pay for training, and why. A straightforward solution is that training costs be borne by those who benefit directly: *cui bono*? However, this is complicated as the benefits of education and training are difficult to measure (see also Section B3). Education and training have considerable external effects to the benefit of others and wider economic and social goals.

Between 1995 and 2001 (most recent data) public expenditure on education and training as a percentage of GDP stabilised in most countries (Figure 4) at around 5 %. The EU25 is on an equal footing with the US (5.1 %) and scores considerably higher than Japan (3.6 %).

Figure 4: **Public expenditure on all levels of education and training as percent of GDP, 1995, 1998, 2001**



Public expenditure on primary and secondary education and training institutions – excluding tertiary education – as a percentage of GDP ⁽⁹⁾, remained stable in most countries or increased slightly, with the exception of Spain and Slovakia where it fell (Table 6). In most European countries, total public expenditure is on a par with Australia, Canada, South Korea and the US, and higher than in Japan.

(9) Data are available only from 1999-2001.

Table 6: **Public and private expenditure on education and training institutions (excluding tertiary education) in OECD countries as a percentage of GDP 2001 and change 1995-2001**

Country	Total public expenditure		Total private expenditure			Total public and private expenditure as % of GDP	
	% of GDP	1995=100	% of GDP	1995=100	Of which: expenditure of other private entities (mostly enterprises) as % of total private expenditure (i)		Of which: expenditure for upper and post-secondary education and training
AT	3.8	103	0.1	99	54	3.9	1.4
BE	4.0	m	0.2	m	m	4.2	2.8
CZ	2.8	92	0.2	79	32	3.1	1.2
DK	4.2	126	0.1	114	m	4.3	1.3
FI	3.7	118	n	m	m	3.7	1.3
FR	4.0	112	0.2	104	21	4.2	1.5
DE	2.9	108	0.7	104	91	3.6	1.4
EL	2.4	134	0.2	m	m	2.7	1.5
HU	2.8	109	0.2	88	45	3.1	1.2
IE	2.9	134	0.1	180	m	3.1	0.8
IT	3.6	110	0.1	m	15	3.7	1.4
LU	3.6	m	n	m	m	3.6	m
NL	3.1	130	0.1	102	16	3.3	0.8
PL	4.0	140	m	m	m	4.0	1.2
PT	4.2	137	n	178	a	4.2	1.2
SK	2.6	107	n	187	80	2.7	1.1
ES	3.0	107	0.2	m	m	3.2	m
SE	4.3	124	n	89	a	4.3	1.3
UK	3.4	120	0.5	136	n	3.9	2.6
IS	5.0	m	0.2	m	m	5.2	1.5
NO	4.6	107	n	m	m	4.6	1.2
CH	3.9	107	0.6	m	100	4.5	1.8
TR	2.5	166	m	m	m	2.5	0.7
AU	3.6	139	0.7	152	22	4.3	1.0
CA	3.1	99	0.3	128	54	3.4	m
JP	2.7	105	0.2	107	11	2.9	0.9
KR	3.5	m	1.0	m	13	4.6	1.4
US	3.8	126	0.5	134	n	4.1	1.0
mean (ii)	3.5	119	0.3	124	30	3.8	1.3

Shadowed fields: around or above country mean:

(i) difference to 100: (private) household expenditure

(ii) average for countries where data are available

a=data not applicable; m=data not available; n=magnitude is either negligible or zero

Source: OECD, Education at a glance, 2004 (Tables B2.1c, B2.2, B3.2a). For notes concerning the figures see this publication

Total private expenditure, including that by private households (the US: 0.5 %, South Korea: 1.0 %, Australia: 0.7 %) is much lower in Europe, with the exception of Germany and the UK. If expenditure by enterprises for training is taken, only the Czech Republic, Germany, Hungary, Austria and Slovakia are above average.

Little information is available on expenditure on initial VET at European and international level, and there is an urgent need to rectify this. Employers finance apprenticeship training directly or through collective funds in Denmark, Germany, France and Austria. In the Netherlands, Finland and Sweden the majority of funds for apprenticeship training comes from government. Financing initial VET continues to be largely input-related, despite innovations such as output-based funding or training vouchers.

The most recent comparative data at European level on company expenditure on continuing vocational training (CVT) refer to 1999 (CVTS2) and show that expenditure represents around 1 % of GDP at EU15 level. Spending varies greatly between countries, ranging from 0.3 % in Romania to 3.6 % in the UK. With the exception of Greece, spending on continuing vocational training, as a percentage of labour costs, increased between 1993 (CVTS1, 1993) and 1999. This increase was most pronounced in Denmark, Ireland, Italy, the Netherlands and the UK.

Countries have taken steps to provide incentives for continuing training. There are three main types of measures targeted at individuals: financial incentives encouraging participation in learning; refocusing programmes towards the individual needs of (working) adults and counselling and guidance services for adult learners. Measures encouraging companies to invest in learning tend to be of a financial nature, such as tax incentives and direct subsidies for training activities or obligations for employers to train workers. Only a few countries report the introduction of support and advisory services for companies.

Examples of CVT measures targeted at individuals

- Austria:** tax incentives for employees; a fixed sum to finance educational leave/vouchers provided by regional chambers of labour;
-
- Estonia:** the creation of a counselling system for adults; universities are obliged to develop a system registering previous work and study experiences;
-
- France:** individual training right for each employee which can be saved up to a maximum of 6 years.
-

Examples of CVT measures targeted at companies

- Bulgaria:** a financial incentive scheme for employers to maintain/enhance the vocational qualification of employees;
-
- Hungary:** subsidies for training employees for the purpose of a higher level of working;
-
- Romania:** to stimulate more continuing training provision, up to 50 % of the employers' cost for training can be covered by the unemployment fund under certain conditions;
-
- Spain:** a new CVT funding model making it easier for SMEs to be involved in training; simplifying and speeding up administration procedures; cofunding systems.
-

Source: Maastricht study, 2004 (country reports).

Most countries are concerned about inefficiencies in VET, and several are planning or have implemented, measures to enhance efficiency. Approaches include:

- reform of management;
- involving social partners in developing VET (e.g. to support the improvement of training quality or to enhance responsiveness to labour market needs);
- stimulation of private investment by companies and individuals through incentives, e.g. tax relief. This is intended both to increase the budget for education and training and make users consider their needs more carefully;
- funding arrangements with obligatory or voluntary adherence and levies, based on collective agreement or law;
- sharing of facilities, cooperation or merger of schools, creation of 'training clusters'.

❗ Although skills and competences of the workforce are important to company performance, expenditure on training is often regarded as a cost rather than as an investment. Increased levels of expenditure are necessary if VET is to play its full part in achieving the Lisbon goals.

Governments, companies, the social partners and individuals must all accept their responsibilities for raising the levels and efficiency of investment in human capital. European and national budgets should reflect the priorities of the Lisbon strategy, including education and training, to promote economic competitiveness. (Kok, 2004, p. 33)

B3. Economic performance – the contribution of education and training

Human capital, generated by education, training, experience and non-formal learning, has significant positive impacts on economic development. In addition to material benefits such as fostering sustainable economic growth, productivity and earnings, there are non-material ones such as greater social cohesion, reduction of crime, better health and parenting. However, many are not fully aware of these benefits.

Human capital – a lever for economic growth

Investments in education and training, and acquisition of skills are identified by numerous research studies ⁽¹⁰⁾ as key determinants of economic prosperity. Wilson (2004) summarises research on the impact of skills and qualification on growth ⁽¹¹⁾: ‘Overall, these growth models demonstrate that higher educational investments have had a significant impact on levels of national income growth. Broadly, the weight of evidence suggests that a one percent increase in school enrolment rates has led to an increase in GDP per capita growth of between one and three percent. An additional year of secondary education, which increases the stock of human capital [...] has led to a more than one percent increase in economic growth each year.’

A recent study (Coulombe et al., 2004) based on IALS data concludes that a rise of 1 % in literacy is associated with a 2.5 % rise in labour productivity and a 1.5 % increase of GDP per capita.

(10) These examples are taken from Cedefop’s third research report (Descy and Tessaring, 2005) which presents a detailed discussion of research on the impacts and benefits of education and training.

(11) The percentages indicated by Wilson refer to percentage points of the growth rates.

❗ These findings suggest economic growth will not be fostered significantly if investment is limited to elite groups. Raising general literacy levels and basic skills yields large economic gains. Investing in programmes targeted on those with low literacy skills is worthwhile, not only on equity grounds but also from an economic point of view. Vocational training has an important role to play in acquiring basic skills.

Enterprise performance and training investment

Investment in vocational training – both initial and continuing – generates substantial gains for firms (Hansson and Wagner, 2004), in terms of productivity, profitability, market share and stock market value, and competitiveness. This evidence is found for various countries including France, Ireland, the Netherlands, Sweden, the UK, and the US. Increasingly firms are financing all types of training, general as well as specific.

However, provision of training is closely linked to enterprise size. Although SMEs outside agriculture employ around two thirds of all workers in the EU, training investments by SMEs are generally far below those of larger firms. Training networks and partnerships at local and regional level, distance learning and tax incentives can help improve training investments by SMEs. Training for entrepreneurship can also reduce high failure rates of business set-ups and contribute to job creation (see Section B7).

Benefits of education and training for individuals

Research results on the benefits of education and training for individuals suggest that returns on investment in human capital in most countries are higher than for investments in physical capital. Investing in human capital 'is an attractive way for the average person to build up wealth.' (OECD, 2003, p. 160) Individual rates of return for upper secondary and higher education and training range between 10 and 15 % in most countries. Apart from these monetary returns, skilled people participate more in the labour market and are at less risk of unemployment. Education, training and skills are also associated with better quality of life, career and social status.

❗ The benefits of education and training are strong incentives for people to acquire higher skills and qualifications and for companies and governments to increase investments in education and training. Teachers, trainers, those engaged in guidance and counselling and the social partners should help to raise the awareness of individuals and companies of these benefits.

B4. Social cohesion and people at risk

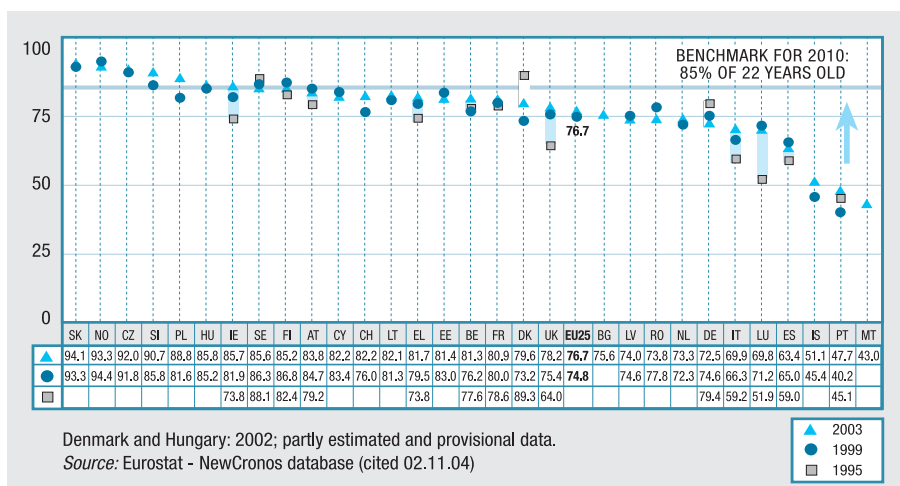
Low skilled young people

Almost one third of the EU25 population has not completed upper secondary education and training. Most Member States have much higher rates of low-skilled people than the US (13 %). Only the Czech Republic, Estonia, Lithuania and Slovakia have rates of low skilled on a par with the US. Denmark, Germany, Sweden and the UK, have proportions below 20 %. Low performing countries, with proportions above 50 %, include Spain, Italy, Malta and Portugal (see Table A1 in Annex).

In 2003, the Council set the benchmark that, by 2010, the proportion of 22 years old with at least upper secondary education and training should not be less than 85 % on average across the EU. For statistical reasons the age group '20-24 years' is used here to monitor progress.


Figure 5 shows that in 2003 around 77 % of people aged 20-24 in EU25 attained an educational level at upper secondary or above. Two groups of countries can be distinguished: those that have reached the benchmark of 85 % ⁽¹²⁾ – the Czech Republic, Finland, Hungary, Ireland, Norway, Poland, Slovenia, Slovakia and Sweden – and those that are far below the benchmark (less than 70 %), Spain, Italy, Luxembourg, Malta, Portugal (and, outside of the EU, also Iceland).

Figure 5: **Population aged 20-24 with at least upper secondary education and training (ISCED 3-6), 1995, 1999, 2003 (%)**



(12) The original benchmark was set for 22 years old, see remark above.

Between 1999-2003, educational attainment rates fell in a number of countries ⁽¹³⁾ including Germany (from 74.6 to 72.5 %) and Romania (from 77.8 to 73.8 %). The quality of education and training is poor in some of the new Member States and they face particular challenges modernising their VET systems. However, the benchmark could be reached by 2010, if countries do not relax their efforts.

 Countries with decreasing and with below average attainment rates must review and reinforce their efforts to provide high-quality vocational education and training for younger generations and implement measures to encourage them to complete at least upper secondary education and training.

As the country examples show (see Annex 1), there are a number of features regarding initiatives for the low skilled that inform policy development, including:

- emphasis on core skills, such as literacy and numeracy and not just work-specific skills;
- partnership models and a strong focus on dissemination to signal that it is a problem for many and a joint responsibility to tackle and to establish a climate of trust;
- more detailed analysis of the group of early school leavers and low skilled people, in order to develop targeted policies;
- use of varied forms of incentives;
- a strong guidance component.

Early school leavers – not only a European phenomenon

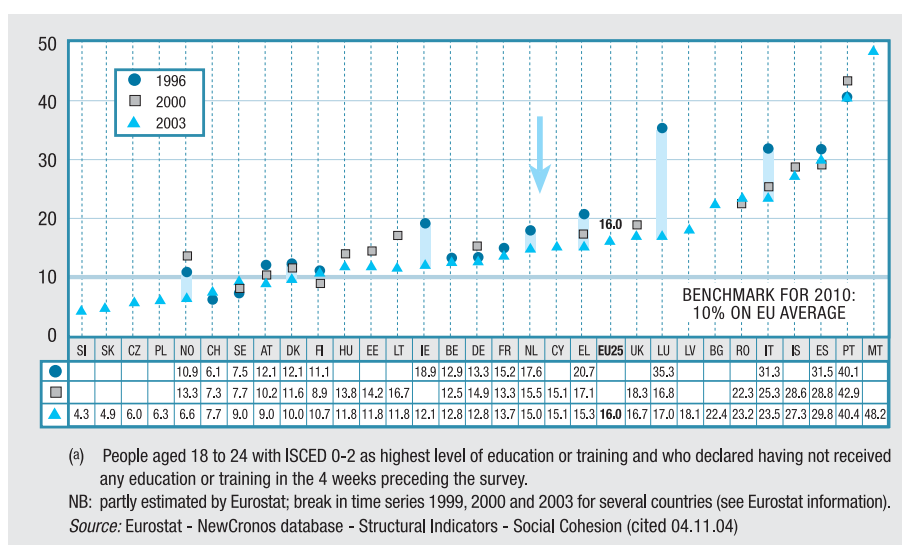
Low-skilled people are mainly those who left school early or dropped out of post-compulsory education and training. Reducing the number of early school leavers is an important approach to upgrade the skills of populations, increase their employment rates, and promote social inclusion. There is a clear association between school dropout and the provision of VET. Most European countries with high levels of VET participation have low levels of early school leavers. However, some countries have increasing rates of the young not completing upper secondary education.

In 2003, the Council set the benchmark of reducing the EU average rate of early school leavers to 10 % by 2010. In 2003 this rate was 16 % in EU25 (Figure 6). The benchmark is possible to reach and several countries have done so already (the Czech Republic, Denmark, Austria, Poland, Slovenia,

(13) However, a comparison over time is hampered because several countries changed definitions and data collection methods since 1999, leading to a break in time series.

Slovakia, Sweden). However, Spain, Italy, Malta, Portugal (and, outside of the EU, Bulgaria, Iceland and Romania) have rates more than double the benchmark. Most countries have reduced the share of early school leavers considerably, especially Estonia, Greece, Ireland, Italy, Latvia, Luxembourg and Norway. However, in Belgium, Spain, France, Luxembourg, Finland, Sweden and (outside of the EU) Romania, dropout rates have increased.

Figure 6: **Early school leavers ^(a) in Europe, 1996, 2000, 2003 (%)**



The relatively high proportion of dropouts does not occur just in Europe. One in eight young Canadians does not complete high school (Canadian Government, 2002a). In the US, the official dropout rate in 2001 was around 11 %, although the percentage of students who fail to obtain a high school diploma is estimated to be much higher, more than 20 % (NAVE, 2004).

! Most European countries have policies to reduce the number of early school leavers (European Commission, 2004c). Measures range from increased cooperation between schools, companies and regions (Germany and the Netherlands), to more adapted pedagogy and increased personalised guidance of pupils, as in France, Luxembourg and Austria. However, those countries with a high share of early school leavers need to substantially increase their efforts. And those countries where the share has been increasing over the past years need to take steps to reverse this trend. As shown in Section A1, strengthening vocational streams can help prevent and reduce school dropout.

Other disadvantaged groups – need for targeted measures

Education and training can help prevent and tackle social exclusion. In addition to school dropouts and people with poor levels of basic skills, groups at risk of exclusion include women (in areas of low female employment, and labour-market returners), the long-term unemployed, migrants, ethnic minorities and people left behind by industrial reorganisation, older workers and young people facing problems in their transition to work. Targeted and integrated measures should be provided for these groups, particularly at local and regional levels. In the EU25, 8.6 million women of working age are not in paid employment, although they want to work. Together with the 9.8 million unemployed women, the scale of the untapped female labour supply is considerable ⁽¹⁴⁾. The differences in labour market participation and unemployment rates between women and men are huge (Table 7). However, as for men, prospects for women with high educational levels are much better than for those with upper secondary or lower levels.

Table 7: **Employment and unemployment rates by sex and educational attainment, EU25, 2003 (%)**

	Educational attainment of population aged 15-64			
	Low (ISCED 0-2)	Medium (ISCED 3-4)	High (ISCED 5-6)	Total
<i>Employment rates</i>				
Women	24.3	55.8	74.5	43.4
Men	45.1	68.0	78.4	59.9
<i>Unemployment rates</i>				
Women	14.1	10.4	5.6	9.9
Men	11.0	8.9	4.4	8.4

Source: Eurostat - NewCronos database (cited 12.11.04).

The unemployment rate of non-EU nationals in 2002 was twice that of EU nationals. The Kok report (2003) cites inappropriate or low levels of skills as well as cultural and language barriers as the main cause.

Recognition of skills and competences acquired abroad by formal and non-formal learning (a major feature of Canada's VET strategy), targeted integration measures including guidance, language courses and provision of education and training – preferably at the workplace – are some of the measures already taken. However, given the scale of demographic changes,

(14) Report of the High Level Group on the future of social policy in an enlarged European Union, 2004.

they must be considerably reinforced and made more responsive to labour market, individual and societal needs.

People left behind by industrial restructuring are often helped by measures financed by the ESF or ERDF. Poland has established initiatives in the coal-mining sector to improve occupational mobility, job creation, retraining, guidance and counselling, and support job creation through SME development. Similar measures also apply to the long-term unemployed whose skills are outdated or no longer needed in the labour market. A range of measures to prevent and reduce long-term unemployment has been taken as part of the European Employment Strategy.

Numerous initiatives provide training opportunities for older workers, but there is little evidence of constructive strategies in national lifelong learning plans. In addition to policies withdrawing early retirement schemes and raising the retirement age, initiatives should focus on adapting the labour market to enable older workers to remain in work. Since 1998 Finland has implemented a comprehensive strategy to foster employability of older workers and adaptation of the work environment.

The Maastricht study (2004) identifies four types of initiatives:

1. *Labour market and employment related measures.* Active labour market policies with a training element, human resources policies, earnings and pensions: Austria, Belgium, the Czech Republic, Denmark, Germany, Liechtenstein, Greece, and the UK (planned);
2. *Provision of training for older employees.* Recognition of their non-formal and informal learning, qualification programmes, second chance schools, enterprise training, involvement of social partners: Belgium, Estonia, Greece, France, Ireland, the Netherlands, Austria, Finland;
3. *Provision of wider lifelong learning to stay active.* Internet access, computer literacy, adult education, active ageing initiatives, distance and e-learning: Austria, the Czech Republic, Estonia, Italy, Latvia, Liechtenstein and Sweden;
4. *Provision of training or lifelong learning for non-employed people.* Qualification measures, return to work for women, New Deal for 50 plus: Ireland, Austria, the UK.



Targeted measures are needed to raise the motivation and capability of disadvantaged groups to participate in initial and continuing education and training, to recognise their skills and competences, and to integrate or keep them within the labour market and society. Education and training are important for social cohesion. However, their influence on the major characteristics of social cohesion – political, social and cultural participation, etc. – tends to be indirect through reducing poverty and raising awareness of societal goals. A prerequisite is, that the values important for social

cohesion and citizenship form an integral part of education and training curricula.

B5. Learning pathways and guidance in a framework of lifelong learning

VET has to cater for a variety of participant groups. Increasingly, it has to serve new target groups such as older workers, women returning to the labour market, long-term unemployed, and immigrants. These groups differ substantially from the traditional clientele of VET in terms of educational background, experience, ambitions and preferences. Flexibility in pathways and delivery is essential to serving these different 'clients'. Flexibility in learning pathways contributes to raising the attractiveness, effectiveness and efficiency of VET, and to making lifelong learning a reality.

Open learning and individual pathways

The most far-reaching form of flexibilisation is tailor-made individualised pathways, where students shape the pace and content of their own curriculum; often this is paired with modularisation.

A number of European countries are trying to achieve this goal ⁽¹⁵⁾, including 'open learning approaches' in school-based learning environments. The Danish VET reform, for example, established open learning cultures in some vocational colleges. Students were supported in defining individual learning pathways through the use of occupational learning management systems and changes in the role of teachers. However, information is lacking on the design and outcomes of open learning environments, which could be useful for mutual learning across European countries and regions.



Although open learning environments offer potential for students' self-directed learning, some doubts persist. Open learning arrangements tend to be too demanding for students who perform poorly or lack motivation and they tend to withdraw from the learning situation. The traditional role of teachers may also be challenged and some teachers are resistant to a redefinition of their professional identity.

In combination with open learning environments and appropriate redefinitions of teachers' roles, self-directed or project learning offers new opportunities for students. The Irish 'Leaving certificate vocational programme' (LCVP) requires students to take three activity-driven link modules (enterprise education, preparation for work and work experience).

(15) See the Maastricht study for most country examples that follow.

Mini-company activities are supported, through which students plan, develop and manage a virtual or micro enterprise on their own. Similar approaches are found in Danish, German and Austrian VET schools.

Attractiveness and flexibility of VET

In European countries, increasing flexibility is provided through several – often combined – actions, including: veined pathways, new pedagogy in terms of teaching and learning, and in curricula adjusted to regional and individual needs. These measures also aim to raise the attractiveness of VET and include: modularisation; implementation of national qualification frameworks; establishing competence-based programmes; and credit accumulation and transfer.

VET comprises various components and forms (e.g. pre-vocational training, initial school- or work-based VET, post-secondary VET, short training courses or labour market training for the unemployed); some forms may be more attractive than others. This partly explains the varying degrees of participation in the different countries.



In some countries, in particular the new Member States, people can obtain both a vocational qualification and a general diploma for entry into tertiary education. Similar options exist in Finland, France (BacPro), the Netherlands, Norway, Sweden, and the UK. To increase its attractiveness and status, countries should systematically ensure that VET provides access to tertiary education.

Transition from VET to higher education could be facilitated by the inclusion of vocational education elements in higher education as in Belgium, Latvia, Austria and Finland.

Examples from the US and Australia

In the US, after a decade of federal promotion to integrate academic and vocational education (see introduction to Part B), there is only slight evidence of improvement. Although increasing numbers of states include academic content in vocational curriculum guidelines, the guidelines tend to support basic skills, not higher-level academic competences, and are not necessarily linked to academic standards (NAVE 2004).

In Australia, VET topics are increasingly made available within the school curriculum and students can combine general education with vocational training. Some vocational courses can be used as credits in progressive educational routes. Initiatives include:

- New Apprenticeship, based on the British model of master-apprentices. It foresees a combination of work and structured training which leads to nationally recognised qualifications;
- National Training Framework, including requirements, auditing, and standards and processes

for courses;

- Australian Qualification Framework: a national and consistent set of qualifications is issued for all post-compulsory education, from secondary school certificates to doctoral degrees.
- The development of learning pathways that break down the boundaries between educational sectors is under way. Mechanisms include: recognition of prior learning based on 'training packages', credit transfer arrangements, articulated pathways.

Imparting broad vocational skills in curricula and learning can also increase flexibility, making occupational and workplace mobility easier and supporting adaptation to changing job requirements. Belgium-Flanders, Denmark, Germany, Hungary, the Netherlands, Austria, Slovakia and the UK have reduced the number of different qualifications or training occupations in VET (see also Section B7).

Making lifelong learning a reality – the benchmark

Lifelong learning is at the top of the European agenda. According to the Eurobarometer on lifelong learning (2003), almost 90 % of European citizens agreed that it is important for social and economic reasons (Chisholm et al., 2004). In 2003, the Council set the benchmark of raising the participation of the EU working age population in lifelong learning to 12.5 % by 2010. Because of data constraints, the indicator for this is defined as participation in education and training over the four weeks prior to the European labour force survey.

This benchmark is not out of reach if countries reinforce their efforts. In 2003, at EU25 level, participation in lifelong learning stood at 9 % (Figure 7). A number of European countries (Denmark, Finland, Iceland, the Netherlands, Norway, Slovenia, Sweden, Switzerland and the UK) have surpassed this threshold. Some countries below the benchmark have made considerable progress ⁽¹⁶⁾. Only in Italy and Austria has participation dropped.

Examples of specific measures to increase lifelong learning participation include: tax initiatives for employees and vouchers (Austria); counselling for adults (Estonia); financial incentives for employers (Bulgaria, Hungary, Spain for SMEs). The UK and Austria have the Investors in people initiative, a recognised standard that firms achieve when putting into practice effective processes for human resource development and training.

Concerning continuing vocational training, most recent data refer to the second European Continuing vocational training survey (CVTS2) carried out

(16) However, comparison over time is hampered by a break in time series for several countries.

in 1999. Figure 8 shows that participation has increased considerably compared with 1993 in most countries where data are available. With the exception of the Czech Republic and Slovenia, it is mainly the new Member States and Greece, Spain, Italy and Portugal which have rather low participation rates.

Figure 7: **Participation of the European population aged 25 to 64 in lifelong learning, 1996, 2000, 2003 (%)**

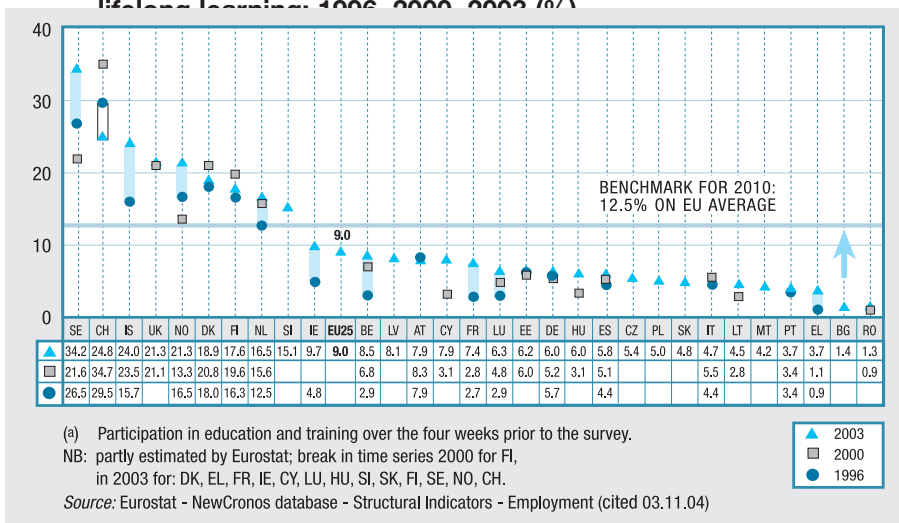
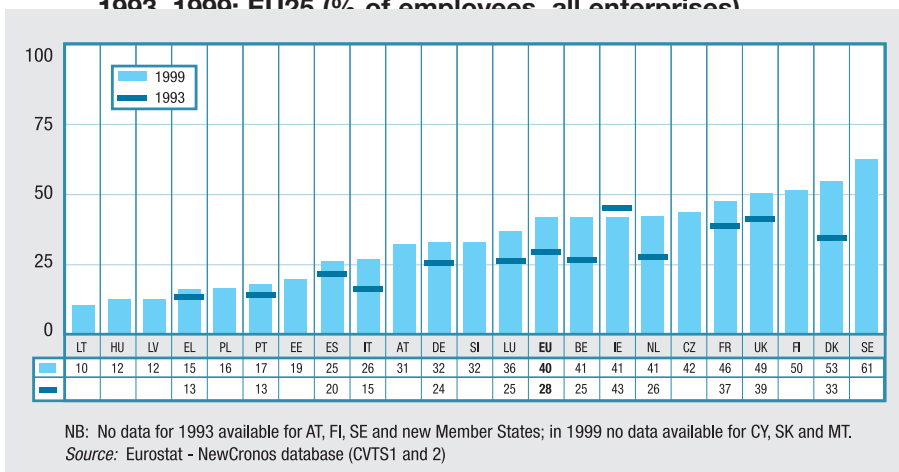


Figure 8: **Participation in continuing vocational training courses; 1993, 1999: EU25 (% of employees, all enterprises)**




Examples from Australia and Canada

In Australia, the federal and state governments have cooperated to design a comprehensive web-based career exploration and information service, the National Career Information System (www.myfuture.edu.au). The system contains information on education and training opportunities and on occupations, including regional information on labour-market demand and on wages and salaries as well as opportunities for users to assess their interests and capabilities and match these to potential occupations.

In Canada, the Blueprint for Life and Work Design is a national framework that maps out the life and work competences individuals need to build their lives and careers. It helps individuals to discover the skills, knowledge and attitudes required to design and manage life, work and career. Eleven competences are grouped into three broad areas: personal management, learning and work exploration, and life/work. https://www.emploisetc.ca/blueprint/drilldown.jsp?category_id=1100&root_id=1080&call_id=127&lang=e

In Quebec schools are being encouraged to develop the concept of the guidance-oriented school. This is linked to wider competence-oriented school reforms. Personal and career planning is defined as one of five broad areas of learning throughout schooling. The aim is to provide support for students' identity development in primary school and guidance in career planning throughout secondary school. To implement this concept, the number of qualified guidance specialists is being increased and the active involvement of all stakeholders is being promoted.

 Member States need to broaden access, especially for those in vocational streams, employees in SMEs and older workers. The potential of the workplace as a setting for guidance provision should be developed and, in line with the commitment made in the *Framework of actions for the lifelong development of competencies and qualifications*, the social partners should make information, support and guidance a priority. More attention also needs to be given to: the development of learning and career management skills; the improvement of quality assurance; and the strengthening of structures for policy and systems development at national, regional and sectoral levels. The follow-up of the Council Resolution on lifelong guidance (2004) and the tools developed by the European Commission's expert group on lifelong guidance will support and facilitate Member States' and social partners' efforts and help promote more occupational mobility (see Part C).

B6. Involvement of stakeholders and partnerships

Partnerships and networks – indispensable to making lifelong learning a reality

The *Framework of actions for the lifelong development of competencies and qualifications* of the European social partners (ETUC et al., 2002) has moved lifelong learning up the agenda at European sectoral level and stimulated many new initiatives. Examples include open learning arrangements, human resource development, cooperation in development plans at local and regional level, work councils and information campaigns. In many countries, particularly new Member States and candidate countries, a closer collaboration with social partners and sector bodies is needed.

Many companies, especially SMEs, cannot provide sufficient learning from their own resources. In some cases, a common platform of work performance cooperation has been established, based on shared knowledge and competences. Workplace partnerships are an innovative way of linking companies. For example, Japanese companies, organise partnerships along supply chain networks, and include temporary personnel exchanges between companies and suppliers. The German and British automotive sectors have learning networks supporting workers across multiple companies and organisations.

The Copenhagen process enhances collaboration and coordination at European sectoral level, building on the accumulated effect of the many sectoral projects under the Leonardo da Vinci programme.

Examples of cooperation include:

- Czech Republic: direct links between educational institutions and social partners in regions;
- France: cooperation between schools and industry aiming at local economic development;
- Germany: initiative to implement coaching for learners in companies;
- Lithuania: change of status of vocational schools into self-governing institutions to cooperate with industry, social partners and other public institutions is under consideration;
- The Netherlands: proposal for cooperation between social partners and national/regional authorities, reduction in the number of sector councils.

The social partners have launched many initiatives for low-skilled workers especially on the accreditation of prior learning and older people.

! A more comprehensive measure is to establish a common European qualification reference framework (see Part C) within which sectoral efforts should focus on ensuring transparency and inter-sector mobility. With such a framework, sector initiatives will make a significant contribution to the Europeanisation of VET. The framework has the potential to become a common template, connecting national systems and enabling horizontal and vertical cross-sector initiatives to be compatible. The mapping initiative led by Cedefop on sector initiatives is an important first step. It is currently too early to assess how efficiently it will promote stronger dialogue and coordination between sectoral initiatives and national systems.

Identification and anticipation of skill needs

As firms and sectors compete on innovation and as globalisation creates turbulence in traditional markets, new skill and competence requirements emerge. They have to be identified and considered in reforms of initial and continuing training curricula.

! Cedefop supports the exchange of innovative approaches to identify and anticipate skill needs in Europe. It set up the Skillsnet network and organises regular events to promote transfer into policy and practice (www.trainingvillage.gr/etv/Projects_Networks/Skillsnet). The involvement of all stakeholders – researchers, policy makers, social partners, training organisations, etc. – for policy transfer is an explicit objective of this network.

Examples of countries that have a future perspective in their policy include ⁽¹⁸⁾:

- In the mid 1990s Germany established a network on 'Early identification of skills needs' involving the participation of many organisations and exploring new skills emerging in different sectors and occupations (www.frequenz.net);
- France: an agreement between the social partners requires that each sector, that has not already done so, should take the necessary steps to establish 'Prospective observatories' on professions and qualifications;
- Finland: has developed a foresight methodology on a nationwide basis, including an inter-governmental working group with 11 ministries and working groups that produce alternative forecasts and scenarios. (<http://www.oph.fi/english/page.asp?path=447;490;6750>);

(18) Further examples and publications from European and non-European countries may be found in the Skillsnet website (see above).

- In 2000 the UK set up UK Skillsbase in response to proposals in the second report of the National Skills Task Force (www.dfes.gov.uk/skillsstrategy/);
- Austria has launched the 'Qualification barometer', a public-private initiative that provides information on anticipated qualification trends (<http://www.ams.or.at/neu/2339>);
- Belgium (Flanders) is planning to collect wider socio-economic data in collaboration with regional social economic committees as a supplement to the collection of labour market data already in place;
- Ireland has adopted a futures approach through the expert group on 'Future skills needs' (www.skillsireland.ie);
- Norway implemented the 'Learning conditions monitor' in 2003. It addresses the issue of skills supply and demand in the context of lifelong learning, and how large-scale measuring can take account of skills acquired outside a formal learning context (www.fafo.no).

B7. Innovative pedagogies and learning-conducive environments

Workforce skills are being redesigned to emphasise flexible and broad occupational competences such as problem-solving, coping effectively with change and communicating with peers and clients. This is reflected in new goals and content for VET teaching and learning.

Key competences: openers to a knowledge-based society

The Maastricht study identifies the development of broad occupational competences through workplace learning as the key dimension of VET innovation. Transferable or key competences are part of VET curricula in many countries and the context in which learning takes place influences greatly the learning outcome.

Innovative European projects have developed curricula including the competences needed in particular industries or sectors across national boundaries. Competence-based education and training was introduced in the Netherlands, and the Global Village in Denmark developed a curricular approach combining different types of skills and knowledge needed in the international knowledge-based motor-industry.

Training for entrepreneurship – a key competence

Entrepreneurship is a key competence enabling people to develop attitudes and competences as a basis for creativity, initiative and responsibility, and independence. Increasingly, governments are implementing entrepreneur-

ship teaching in mainstream schooling, but there is still a long way to go before this is common practice.

Specific entrepreneurship education and training is also a priority for starting up and running a business. Numerous initiatives and programmes exist in European countries, mostly in higher education. However, in initial VET, there is no real focus on self-employment or on setting up a business. The curriculum prepares students and apprentices to become employees, since the main task is seen as being to train skilled workers.

❗ CVT offers more business start-up training and advice, often through the private sector. Measures are most effective when focused on particular sectors, markets and groups. This element of VET has developed slowly in the EU15, even in those countries where recognised VET progression pathways beyond upper secondary level are not widely available. CVT for craft SMEs in Germany provides a well-established progression route including training for entrepreneurship.

ICT skills and e-learning – innovative tools for knowledge transfer

The importance of ICT literacy and e-learning is reflected in Leonardo da Vinci, Socrates, the e-Learning Action Plan and in other European initiatives. It is a feature of almost all national innovation strategies on teaching and learning. Countries vary in the extent of ICT learning and approaches to the ICT curriculum, with some opting for general ICT literacy, others for ICT integrated into work processes. Countries with a strong vocational orientation have a combined approach. Germany and Austria have introduced vocational education pathways for ICT occupations integrating formal and non-formal learning.

In initial VET, e-literacy is an important component of national VET systems, as well as of employee skill portfolios. Apprenticeship training tends to relate enterprise skill strategies to opportunities for ICT in workplaces. Various countries have inaugurated ICT action plans to include ICT content in the different occupational fields, such as the Czech Republic's 'Outline of State information policy in education', Denmark's 'ICT action plan', and Turkey's 'Preliminary national development plan'.

❗ Member States should progressively ensure that, by 2010, ICT in vocational learning is embedded in work and business processes, rather than mainly involving simulation activities or distance learning.

❗ Increased efforts are required to expand training opportunities and the take-up of continuing vocational training and learning at the workplace, which is a leading edge for adult learning. Special attention needs to be paid to supporting training in SMEs and to facilitating access and motivating non-traditional learners (e.g. those with low skills, older workers, migrants). Countries where participation has fallen need to review their policies and practices to reverse the downward trend.

Information, guidance, counselling – imperatives for a European labour market

The more diverse and flexible learning systems are, the greater individuals' needs for guidance to enable them to take informed decisions about career and learning opportunities and manage their career paths. Some countries have implemented information campaigns and other awareness-raising activities. Measures to develop and reinforce guidance include: the creation of counselling and guidance systems (the Czech Republic and Slovakia, Lithuania), improvement of counselling and vocational guidance (Greece), expansion of guidance and counselling provision (Ireland), the deepening of career guidance activities to provide individual counselling to all involved in selecting initial VET options (Liechtenstein), and establishing regional partnerships for educational and vocational guidance (Norway).

Research by the OECD, Cedefop, the ETF and the World Bank ⁽¹⁷⁾ shows that a reform of policies and practices is required for guidance provision in Europe to meet the demands of a knowledge-based economy. To date, most provision is focused on secondary school students and the unemployed and concerns short-term educational or labour market decisions. Provision for those in vocational streams and in tertiary education and training is relatively underdeveloped and virtually non-existent for SME employees and older workers.

In a lifelong learning context, all individuals need to understand the occupational implications of educational decisions and the pathways leading to occupational destinations. This requires close cooperation between education and labour authorities and other stakeholders involved in guidance. International competitors are ahead of most European countries in providing coordinated systematic approaches to guidance information and developing learning and career management skills through a more competence/outcomes based approach to guidance.

(17) The career guidance policy reviews have been carried out in 37 countries.

See http://www.trainingvillage.gr/etv/Projects_Networks/Guidance/Career_Guidance_survey;
http://www.oecd.org/document/35/0,2340,en_2649_34511_1940323_1_1_1_37455,00.html.

Use of new technology and media – catalyst for changes in teaching and learning

New technologies and media allow for greater flexibility in teaching and learning. They push back the boundaries of time and location and enable more focus on individual learners. They have led to innovations in teaching and learning.

Many European and national initiatives have been launched to stimulate ICT-supported learning. Large companies are beginning to benefit from these developments to train and up-skill their staff, but only a small percentage of SMEs.

! ICT supported learning offers great potential for innovation in teaching and learning, in initial VET and continuing vocational training. To tap this potential fully, Member States need to address the role and support of teachers and trainers, develop new models to create, use and reuse content, develop pedagogical methods and promote greater uptake by SMEs.

Learning organisations and partnerships

The ‘learning organisation’ describes the need for companies and staff to engage in a continuous process of learning as a source of performance improvement and competitive advantage.

The development of the learning organisation is closely linked to the realisation that effective VET teaching and learning is achieved through learning partnerships. Workplace partnerships are an innovative way to link companies and develop regional innovation centres, including vocational schools and higher education.

The GOLO project in Germany is an SME workplace learning partnership. By rotating apprentices between different companies, learning is enriched and opportunities expanded. This gives apprentices the range of experience to develop a comprehensive occupational profile.

The ‘Chance Border region’ network was set up in 2003 to explore cross border VET design between countries adjacent to the new *Länder* in Germany. Seventeen partners from nine countries are developing cross-border qualification profiles in numerous sectors.

! Teamwork, learning partnerships and the widespread use of peer group teaching and learning, contribute to the quality of learning-conducive work. A number of European countries are working towards this goal.

❗ Given the future needs for highly skilled labour, the skill levels of active workforce must increase dramatically. This is a priority in realising the Lisbon goals. The world of work can provide many, but not all, curricula and learning opportunities for developing competences and preparing workers for the future. Formal education and training is still needed.

B8. The role of teachers and trainers in assuring quality in VET

There have been few attempts at European level to tackle the specific challenges of the education and training of vocational teachers and trainers. Special attention is warranted in view of the direct and indirect influence of vocational teachers in system quality and skill development. Cedefop's network for training of teachers and trainers (www.trainingvillage.gr/etv/Projects_Networks/TTNet) provides a platform for exchange and cooperation in this field.

In the US, the NAVE report (2004) is concerned about the competences and lack of opportunities for continuing training among vocational teachers. They are less likely than academic teachers to have bachelors' degrees and many do not feel they have received sufficient professional development. NAVE concludes that upgrading the teachers workforce is essential and that substantial investments in new recruitment and in-service training approaches are required.

A key challenge is that while vocational teachers and trainers are essential to supporting skill development in the workforce, their status is low. The salaries and image of vocational teachers tend to be quite low, especially in some Mediterranean and new Member States. VET teaching, in schools and colleges, is an ageing profession, and many are not inclined to undertake continuing training or adapt to new technologies or pedagogic concepts.

Teacher shortages exist in many countries. In Germany and Austria, there are shortages of teachers of specific subjects, especially those in high demand in the external labour market.

❗ Training has diversified in the workplace and the profile of VET teachers and trainers has grown more varied. Teachers and trainers within companies are extending their roles from instruction to learning facilitators and innovators and are increasingly involved in additional tasks, such as human resource development, guidance and coaching, and assessment of competences.

Many countries have introduced new progression routes and recruitment regulations for teachers and trainers. Regulating entry and educational requirements for teachers and trainers in VET is changing. In traditional work-based systems, such as in Denmark, Germany or Austria, regulations for in-company trainers make some pedagogical training a requirement. In Luxembourg and Hungary, similar requirements also exist for workplace trainers. Usually, training is integrated into the upper level training of the respective craft or trade (e.g. *Meister* qualification).

With the new law on VET, Italy has introduced new requirements for trainers involved in apprenticeships. Finland is currently running a major training programme for those who are involved in learning processes at work. For both Italy and Finland, requirements are also reported in the case of regional and labour market training, where the trainer's qualification is one criterion for allocating public training subsidies.

Other countries have implemented special school development or overarching reform plans in which teacher training is an integral component.

Given the fundamental importance of VET teachers and trainers for the further development of Europe towards the Lisbon goal, improving the situation and status of VET professionals must be high on the political agenda. Strong cooperation among European higher education institutes involved in teacher training may help to raise standards.

❗ A coherent teacher policy reflecting the Lisbon and Copenhagen challenges is not yet visible. Teachers and trainers should receive far more support to fulfil their role as innovators and facilitators. This is essential to improving the quality of, and innovation in, teaching and learning.

A balance is needed between further professionalisation of teachers and more flexibility in teacher and trainer recruitment policies and practices. This reflects the tension between the need for quality teachers and the need to adapt to demographic and economic problems affecting education and training systems in the future.

SECTION C

The contribution of the Copenhagen process to achieving the Lisbon goals

For VET to be active in developing lifelong learning policies and supplying the highly skilled workforce necessary to achieve the Lisbon strategic goals by 2010, the Copenhagen Declaration (2002) identifies four priorities for enhanced European cooperation in VET across Europe:

- strengthening the European dimension;
- improving transparency, information and guidance systems;
- recognising competences and qualifications;
- promoting quality assurance.

In the two years since the Copenhagen process was initiated, substantial progress has been made.

- (a) The Ploteus portal on European learning opportunities was launched in 2003, providing access for citizens to information about education and training courses and systems, grants, exchange programmes, jobs and living conditions across Europe.
- (b) The new Europass, single framework for the transparency of qualifications and competences, will be adopted by Council and Parliament in January 2005 and launched under the Luxembourg presidency in early 2005.
- (c) Work on lifelong guidance has revealed large gaps between policy goals and the capacity of national career guidance systems. The Council Resolution of May 2004 identifies clear priorities and the *Career guidance handbook for policy makers* provides common principles and other tools to improve services at national, local and company level.
- (d) Validation of non-formal and informal learning is on the agenda of almost all European countries. The May 2004 Council conclusions provide common principles to guide these developments. However, the Council accepts the needs of enterprises and the issue of quality assurance are not adequately covered by the principles which require further development.

- (e) A European credit system for vocational education and training (ECVET), to allow trainees to build upon their achievements when moving from one national VET system to another, is under development. The technical working group on credit transfer in VET has developed proposals on the principles and rules of a European credit system for VET, to ensure its effective implementation in mobility exchange initiatives.
- (f) A sectoral qualifications strategy is being developed. The Leonardo da Vinci II programme provides an important framework for new sectoral initiatives across national borders in Europe. There is a risk that sectoral initiatives (local or EU funded) have only a modest impact, as they are not carried out in a defined political context and tend to have a 'project' character without sufficient plans for a more structured uptake. This is compounded by a reluctance of employers and employee organisations in several European countries to be involved in training issues.
- (g) Related to the sectoral strategy, early identification of future skills needs is a priority. Innovative approaches are needed, given the difficulties in predicting future skills. Otherwise, there is a danger of passing on redundant or irrelevant skills. Cedefop's Skillsnet network provides a platform for European cooperation and exchange on new approaches and findings (see Section B6).
- (h) A Common Quality Assurance Framework was endorsed by the Council in May 2004. The framework helps to develop, improve, monitor and evaluate national systems and practices, and provides a common reference system. Quality assurance is on the political agenda of all European countries. Many have just started planning, others have implemented quality assurance systems (see Section B1). Extending quality assurance for training providers outside government influence is an issue to be addressed, especially for those located outside national boundaries.

Attention to the learning needs of teachers and trainers within all forms of VET is a priority under the Copenhagen Declaration to promote quality assurance. EU programmes can encourage and assist such action, but more priority needs to be given to this issue at national level.

In addition to VET teachers and trainers, the training needs of people at risk and the ageing workforce are among the eight national priorities of the Education Council Conclusions adopted on 15 November 2004. The Conclusions which provide the basis for the Maastricht Communiqué also refer to the need to continue the Copenhagen process and implement its results more systematically at national, regional and local levels.

The focus of future action at European level will be to consolidate the work begun on developing common tools and frameworks and the development of a European Qualifications Framework. This will provide a common reference to facilitate the recognition and transferability of VET, general and higher education qualifications, based on competences and learning outcomes. It will improve permeability in education and training systems, provide a reference for validating informally acquired competences and support effective functioning of the European, national and sectoral labour markets.

! The Copenhagen process, although focusing on VET, has done much to further lifelong learning. Many of the tools developed are applicable beyond VET and contribute to making a European area of lifelong learning a reality. The lifelong guidance principles and handbook, the common principles for validation of non-formal and informal learning, form part of the required building blocks.

ANNEX 1

Selective thematic summary of DGVT responses ⁽¹⁹⁾

(a) **Implementation of measures related to the Copenhagen Priorities**

Responses to the DGVT questionnaire and the country reports show that European countries have implemented and are planning many measures addressing the four priorities for VET of the Copenhagen Declaration, as outlined below.

- Recognition of competences and qualifications has received most attention to date. Two thirds of European countries (Austria, Belgium-Fr, Denmark, Estonia, France, Germany, Hungary, Ireland, Italy, Lithuania, Luxembourg, the Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, the UK) have taken steps to recognise informal and non-formal learning. Most others (Belgium-FI, Bulgaria, Czech Republic, Finland, Greece, Iceland, Latvia, Liechtenstein, Malta, Poland, Romania, Slovakia) are at the planning stage. There are wide variations in the scope and coverage of approaches. Most have a summative function and give credits in an educational pathway, aiming to improve both the system's efficiency and increase participation in lifelong learning. Some countries (e.g. Estonia, Spain, Ireland, Malta and Slovenia) are developing a credit transfer system, often related to a national qualifications framework. Others (e.g. Czech Republic, Denmark, Liechtenstein, the Netherlands and Poland) are implementing actions related to Europass. Denmark is developing a legal framework to ensure individual recognition of qualifications and certificates acquired in another country.
- Quality assurance is the priority receiving the second highest amount of attention. Some countries (e.g. Belgium-FI, Ireland and Austria) have quality assurance systems for VET. Many countries are applying new systems of quality development and assurance. The methods vary between standard quality management procedures such as ISO or EFQM and approaches targeted to the needs of schools, such as

(19) The survey among the DGVTs on measures, challenges and future strategies was part of the 'Maastricht study' (2004). The questionnaire and more detailed results may be found there.

the QIS (*Qualität in Schulen*) in Austria. Self-evaluation is emphasised in some quality assurance processes for institutional VET, for example in Denmark and the Netherlands.

- To improve transparency, information and guidance, many countries have raised awareness of VET provision and its links to other pathways to promote its attractiveness. Several countries (e.g. the Czech Republic, France, Greece, Liechtenstein, Lithuania, Norway, Slovakia) have improved VET information, advice, guidance and counselling. Fragmented information is a problem. To navigate the increasingly complex systems of provision, individuals need an integrated approach connecting learning and career information with labour market data, making clear which options open up and which are closed when embarking on a particular track. Norway is establishing regional partnerships for educational and vocational guidance. Poland has a multidimensional career information system.
- Internationalisation strategies are beginning to be introduced to VET systems to develop the European dimension and promote mobility. Placements abroad are still limited and, with a few exceptions (e.g. Denmark, Germany, the Netherlands and the UK), systems lack specific provision to organise transnational study and work placements. Finland provides internationalised apprenticeship training with a focus on the metal, electrical and telecommunications sectors. The initiative aims to attract and motivate talented young employees by offering them opportunities to follow pathways leading to international professional qualifications. It also develops practical guidelines for companies to facilitate and encourage their involvement in international mobility.

(b) **Training incentives, investments, expenditure**

European countries are using a range of funding strategies that depend on governments and partnerships with social partners, the private sector, and involve individuals. Most countries have incentives to encourage individuals and/or firms to take part in continuing VET. Measures include the introduction or expansion of educational leave (e.g. Austria, Belgium, Luxembourg, Norway), financial support or tax allowances to individuals (e.g. Austria, Cyprus, Germany, Hungary, Italy, Liechtenstein, Luxembourg, Malta, Poland, Portugal, Slovakia, Sweden), financial support, including tax incentives to firms (Austria, Bulgaria, Cyprus, Greece, Hungary, Ireland, Italy, Malta, Portugal, Romania, Spain). In countries such as France, Italy and the Netherlands there are

multi-sectoral funds financed by a percentage of the total wage bill of firms and managed by joint bodies to promote and fund actions and training plans. In some countries employers also have a mandatory responsibility to facilitate the acquisition of a qualification for unskilled employees (e.g. Czech Republic) or ensure access of employees to training programmes based on training plans agreed with trade unions (e.g. Romania).

(c) **VET to support economic development and respond to demographic changes**

Several countries are shifting towards more competence based VET curricula (e.g. Belgium, Estonia, France, Greece, Malta, the Netherlands, Poland, Portugal, Romania). Many have created VET programmes in higher education and/or introduced access to higher education via VET (e.g. Austria, Bulgaria, Cyprus, Czech Republic, Estonia, Finland, France, Greece, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain). Some countries include entrepreneurship training in the vocational school curriculum and/or in the secondary school curriculum or national framework (e.g. Austria, Bulgaria, Finland, Hungary, Latvia, Lithuania, Luxembourg, Norway, Poland, Spain, the UK). These measures help develop the skills needed in working life and bring VET closer to the world of work.

As regards skill forecasting mechanisms, some countries (e.g. Austria, Belgium, Finland, France, Germany, Ireland, Norway, the UK) have taken steps to incorporate a stronger future perspective into their methodologies integrating trends that influence change such as sector convergence, technology developments and local/global specialisation. To complement labour market policies enabling older people to continue to work, some countries have expanded access to training and lifelong learning for older workers (e.g. Austria, Czech Republic, Estonia, Finland, France, Italy, Ireland, Latvia, Liechtenstein, the Netherlands, Sweden). Some have initiatives focused in particular on the provision of training or lifelong learning for older unemployed people (e.g. Belgium, Czech Republic, Ireland, Austria, the UK).

(d) **Social cohesion and VET for vulnerable groups**

The vast majority of European countries has expanded and/or deepened actions to reduce early school leaving. Measures include second chance education and training (e.g. Germany, Greece, Ireland, Luxembourg, Austria, Poland, Romania), alternative learning pathways, including a

stronger practical VET focus (e.g. Austria, Denmark, Estonia, Finland, France, Germany, Latvia, Norway, Spain, Sweden, Turkey) and enhanced guidance and counselling (e.g. Czech Republic, the Netherlands, Slovakia). A majority has introduced more student-centred learning and tailor-made provision. Portugal, which has a particularly acute problem of early school leaving, has developed a national plan of prevention. The Netherlands has introduced regional information and coordination centres to detect drop-outs and provide counselling and redirection to education or special work-based programmes. In Ireland, clusters of schools and other actors develop plans and provision to combat early school leaving. In Bulgaria and Lithuania legislative initiatives emphasise the role of parents in preventing drop-out. In Slovakia the social benefits system provides incentives for remaining in education and in Lithuania support (including food, temporary housing, learning materials) is provided to pupils from disadvantaged groups.

All countries have measures for the unemployed and adults with no or low-level qualifications, including support for literacy, numeracy, ICT, non-formal training, accreditation of prior learning and advice and guidance. Other target groups addressed by most countries include migrants (e.g. via literacy and language programmes), people with disabilities (e.g. via personalised support, improved integration legislation and tax incentives), and women returners (e.g. via measures to build confidence, combat occupational discrimination and gender stereotypes).

(e) **Open learning pathways and guidance**

All countries have sought to raise the attractiveness and flexibility of initial VET. Most mention modularisation (Austria, Belgium, Czech Republic, France, Germany, Hungary, Iceland, Luxembourg, Malta, Poland, Portugal, Slovenia, Sweden) establishing national qualification systems/frameworks (Czech Republic, Ireland, Lithuania, Malta, the Netherlands, Slovenia, the UK), establishing competence based programmes (Bulgaria, Czech Republic, Estonia, Hungary, Italy, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia) and increasing access to higher education (Austria, Finland, Germany, Liechtenstein, Portugal, Spain, Sweden). Some are trying to improve the quality of VET programmes (e.g. Estonia, Greece, Hungary, Malta, Romania), whilst others are focusing more on the diversification of programmes (e.g. Bulgaria, Poland, Portugal) and pathways (e.g. France). Several have integrated vocational subjects into general programmes and vice versa

(e.g. Belgium, Czech Republic, Ireland, Norway, Austria, Portugal, Slovakia, Sweden, the UK). Some have strengthened information, advice and guidance activities (e.g. Belgium, Czech Republic, Greece, France, Ireland, Liechtenstein, Lithuania, Slovakia).

As regards CVT, efforts are being made to improve coherence and transparency through qualifications frameworks (e.g. Denmark, Ireland), to promote quality assurance (e.g. Czech Republic, Malta) and reinforce information, advice and guidance (e.g. Belgium, Spain, Austria). Some countries are improving the flexibility and responsiveness of systems and stimulate demand through the creation or adaptation of regional CVT centres (e.g. Czech Republic, Romania, Spain, Sweden). In Belgium they are developing and testing a methodology to detect demand for lifelong learning. Some countries (e.g. France) have reformed training for the unemployed into a more flexible programme for a wider target group, including workers whose jobs are likely to be lost or restructured and older workers. In Germany training for the unemployed has shifted from supply oriented funding to demand oriented funding.

(f) Involvement of stakeholders/partnerships

Measures have been undertaken in nearly all countries to strengthen the involvement of social partners and sectors/branches of industry in VET. Enterprises are increasingly involved in providing work/training placements for students and teachers/trainers. Cooperation with the social partners has been consolidated and systematised to promote a closer match between VET supply and labour market needs. Social partners are involved in the development of policies, programmes procedures and certification at various levels, including through centralised tripartite councils (e.g. Estonia, Latvia), regional partnerships/networks (e.g. Czech Republic, Denmark, Germany, Estonia, Slovenia, Slovakia), at all levels (e.g. Greece, Spain, Hungary), at local level via school/industry partnerships (e.g. Austria, Belgium, France, Italy, Malta, the Netherlands, Portugal, Romania, Sweden, Turkey), via initiatives at sector or branch level (Bulgaria, Ireland). Iceland has created 14 occupational councils with social partners to develop curricula. The UK has a National and Sector Skills Council to encourage employers to take ownership of skills issues and develop sector strategies to address specific productivity issues and associated skills needs. Bulgaria has established a national enrolment plan for sector ministries and social partners bringing planning of enrolment into line with labour market needs.

(g) **Innovative pedagogies and learning-conducive environments**

New goals and content for VET teaching and learning have been developed to reflect changes in the skills needed in a knowledge-based economy. Countries emphasise the development of broad occupational competences and/or transferable key competences using contextualised learning settings, especially in the workplace (e.g. Austria, Belgium, Denmark, Estonia, France, Germany, Malta, the Netherlands, Poland, Portugal, Romania).

Most countries have introduced ICT or e-literacy into the VET curriculum. Some have implemented ICT action plans (e.g. Czech Republic, Denmark, Turkey) to promote specific ICT content in different occupational fields. Others have introduced VET pathways for ICT occupations integrating formal and non-formal learning (e.g. Germany, Austria). Generally the focus is on how to use ICT rather than using it to model and transform an activity. Some countries have introduced open learning approaches in school or college-based learning environments to promote learning cultures through individualised and group-directed learning (e.g. Denmark). Learning partnerships or networks of enterprises, schools, colleges and universities have been created in some countries to develop regional innovation centres and increase the supply of skills and competences for organisations and individuals (e.g. Germany).

(h) **Teachers and trainers**

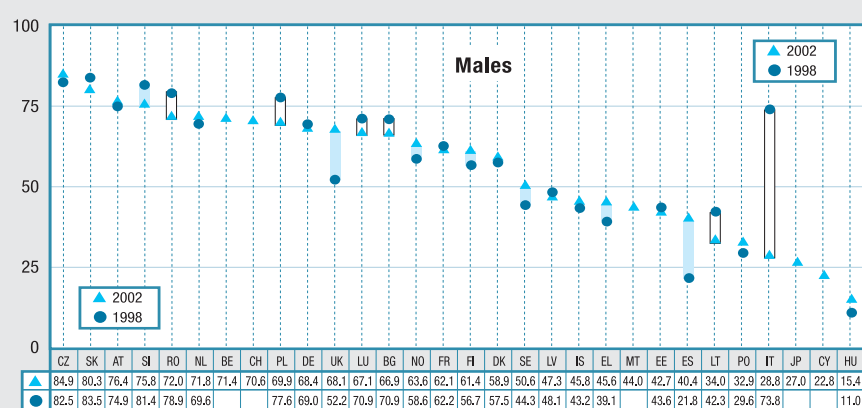
Some countries have reformed their teaching profiles and teacher/training progression routes (e.g. Belgium, Czech Republic, Denmark, Ireland, Lithuania, the Netherlands, Poland, Romania). Almost all have strengthened continuing education and training for VET teachers, including through periods of immersion in the workplace (e.g. France). Some countries are building coherent research and training programmes to reflect the integration of subject matter and pedagogy in VET. For example in Germany a network of German University Institutes for training vocational teachers and trainers has looked at occupational clusters focusing on core problems and developmental tasks. Several countries have introduced mandatory requirements for teacher continuing training (e.g. Austria, Finland, Hungary, Ireland, Latvia, the Netherlands, Romania). Some (e.g. Estonia and the UK) are moving towards the further professionalisation of teachers and pursuing ambitious goals to improve teacher quality, whilst others (e.g. Germany) are more oriented towards allowing greater flexibility in teacher and

trainer recruitment policies and practices. Efforts to make teaching/training a more attractive profession are also evident in many countries (e.g. Bulgaria, Sweden). In the Czech Republic, a goal has been set to increase teachers' wages from 20% below the national average to 37% above. Some countries report measures to expand the pool of teachers/trainers. For example Sweden has introduced special teacher training for teachers lacking qualifications.

ANNEX 2

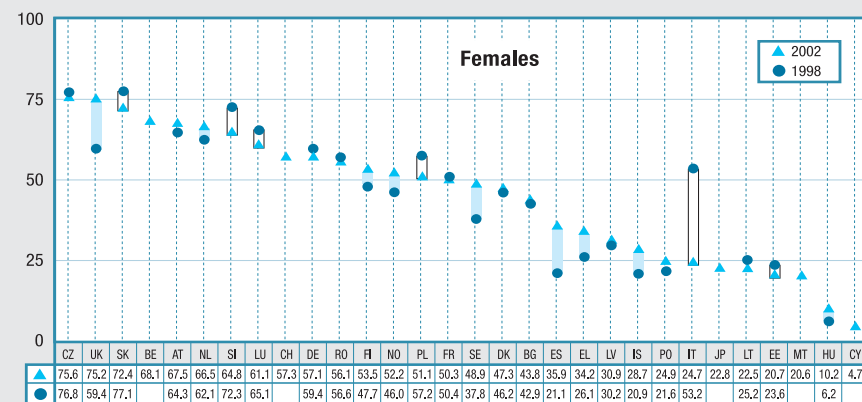
Tables and figures

Figure A1: **Pupils in upper secondary education enrolled in vocational stream, 1998, 2002 (%)**



Ireland: no data; BE: includes social advancement courses; NL: private institutions excluded;
UK: includes ISCED 4 enrolments. In vocational education, courses are generally collected on a 'whole-year basis'.
Countries sorted by enrolment in 2002.

Source: Eurostat - NewCronos database (cited 06.11.04)



Ireland: no data; BE: includes social advancement courses; NL: private institutions excluded;
UK: includes ISCED 4 enrolments. In vocational education, courses are generally collected on a 'whole-year basis'.
Countries sorted by enrolment in 2002.

Source: Eurostat - NewCronos database (cited 06.11.04)

Table A1: **Population aged 25-64 years by highest level of education attained; 2003^(a) (%)**

Country	Total	Low (ISCED 0-2)	Medium (ISCED 3-4)	High (ISCED 5-6)
CZ	100.0	11.6	76.5	11.9
EE	100.0	11.8	57.7	30.4
SK	100.0	13.4	75.0	11.6
LT	100.0	13.9	62.8	23.2
DE	100.0	16.5	59.5	24.0
UK	100.0	17.5	51.9	30.7
LV	100.0	17.6	64.2	18.2
PL	100.0	17.9	68.2	13.9
SE	100.0	18.0	54.8	27.2
DK	100.0	18.1	50.1	31.8
SI	100.0	21.5	60.7	17.8
AT	100.0	21.7	63.1	15.2
FI	100.0	24.5	42.7	32.8
HU	100.0	26.0	58.8	15.2
LU	100.0	30.2	54.8	14.9
NL	100.0	32.4	42.7	24.9
CY	100.0	34.0	36.5	29.5
FR	100.0	35.2	41.3	23.5
IE	100.0	38.3	35.2	26.5
BE	100.0	38.6	33.2	28.2
EL	100.0	45.9	36.0	18.1
IT	100.0	53.1	36.1	10.8
ES	100.0	57.3	17.7	25.0
PT	100.0	77.8	11.7	10.5
MT	100.0	79.5	11.4	9.0
EU15	100.0	34.4	43.1	22.5
EU25	100.0	31.6	47.3	21.2
EU25 (1 000)	245 518	77 874	115 420	52 224
NO	100.0	13.5	55.2	31.4
CH	100.0	13.5	59.6	26.9
BG	100.0	29.0	49.9	21.1
RO	100.0	29.7	60.4	9.8
IS	100.0	35.0	39.3	25.7
AU	100.0	39.0	30.0	31.0
CA	100.0	18.0	40.0	43.0
JP	100.0	16.0	47.0	36.0
KR	100.0	30.0	45.0	26.0
US	100.0	13.0	49.0	38.0

^(a) NL, IS, AU, CA, JP, KR, US: 2002.

European countries sorted by low level of education – Slight differences by rounding numbers.

Source: Eurostat - NewCronos database (cited 2.11.04); non-European countries: OECD, Education at a glance, 2004.

ISO country codes

EU

Austria	AT
Belgium	BE
Czech Republic	CZ
Cyprus	CY
Denmark	DK
Estonia	EE
Finland	FI
France	FR
Germany	DE
Greece	EL
Hungary	HU
Ireland	IE
Italy	IT
Lithuania	LT
Latvia	LV
Luxembourg	LU
Malta	MT
Netherlands	NL
Poland	PL
Portugal	PT
Slovakia	SK
Slovenia	SI
Spain	ES
Sweden	SE
United Kingdom	UK

ACCs

Bulgaria	BG
Romania	RO
Turkey	TR

EFTA

Iceland	IS
Liechtenstein	LI
Norway	NO
Switzerland	CH

Non-European countries

Australia	AU
Canada	CA
China (PR)	CN
Japan	JP
South Korea	KR
United States	US

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Cedefop (European Centre for the Development of Vocational Training)

Cedefop synthesis of the Maastricht Study

Vocational education and training – key to the future

Lisbon-Copenhagen-Maastricht:
mobilising for 2010

Manfred Tessaring

Jennifer Wannan

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Vocational education and training – key to the future

Lisbon-Copenhagen-Maastricht: mobilising for 2010

This report puts together the main findings of a study (Maastricht study, Leney et al. 2004) examining developments in VET and progress towards the Lisbon and Copenhagen goals in 31 European countries.

The report considers key challenges facing VET and looks at efforts made at national and European levels. It compares and contrasts the state of VET in Europe with that of competitor countries, such as Australia, Canada and the US.

The report puts forward conclusions and recommendations for future action to improve the contribution of VET to meeting the Lisbon goal. This is for the EU to become the most dynamic and competitive knowledge-based economy in the world, delivering sustainable growth, generating more and better jobs and creating more social cohesion.

The report is intended to inform reflection and act as a stimulus for debate. It includes examples of practice and data on key indicators to enable policy-makers to benchmark their own systems in relation to others.

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