editorial

The early identification of skill and competence needs is growing in importance. In a rapidly changing environment, policy-makers and practitioners must be able to identify and respond promptly to new and changing skill and competence requirements. Such decisions depend on reliable information provided by research, which therefore takes on a central role in shaping future-oriented education and training.

Lack of information on future skill needs in Europe has been a longstanding concern. The need to anticipate skill and occupational needs is mentioned in the Maastricht communiqué, in the European Council's integrated guidelines for employment and is a priority in the social partners' framework of actions for the lifelong development of competences and qualifications. Further, European integration and EU enlargement makes the provision and availability of information on trends in developing skills and competences more important. Relevant findings could support both developing a European knowledge-based society and achieving various objectives set in European employment and lifelong learning strategies.

Skillsnet – the international network on early identification of skill needs run by the European Centre for the Development of Vocational Training (Cedefop) - provides the information platform for a virtual community of researchers, policy-makers, practitioners and social partners worldwide. It is a forum for exchanging information and experience as well as for cooperation in identifying, anticipating and monitoring changing and newly emerging skills at various levels (national, regional, sectoral and occupational) and for different target groups.

This is the first issue of the Skillsnet newsletter which will be published regularly in hard copy and will also be available on the Skillsnet website. The Skillsnet newsletters will give you information on initiatives, activities, events, publications and new developments in early identification of skill needs. Your ideas and contributions are welcome!

Skillsnet coordination team

about **skills**net

Cedefop's international network on early identification of skill needs

Why network?

The network was created by Cedefop in early 2004. Skillsnet brings together highly qualified researchers and other stakeholders from across the world to present and discuss outcomes and methods of research and analysis on new and changing skill needs as well as medium to longer-term prospects of skills available on the labour market. The network provides a forum for generating new activities and projects on the early identification of skill needs through a multidisciplinary cross-country perspective. The outcomes of research are discussed with policy-makers, practitioners, training organisations, employment services, social partners and others working on identifying skill needs for their transfer into education and training policy and practice.

How can we identify new and changing skills early enough to meet future needs?

Early identification of skill needs concerns perspective-research and analysis at national, regional, local, sectoral and occupational levels. It also analyses the skill needs of specific target groups, such as the low skilled, those at risk, the disabled, minorities, and others. Approaches include enterprise and labour force surveys at different levels, forecasting techniques, case studies, analyses of job advertisements, expert inquiries, scenarios, and observatories on skill developments. Similarities across territories, sectors and occupations help to identify common European or international trends in skill requirements. Examples are tourism, logistics and new technologies (e.g. biotechnology, fuel cells, etc.). Priority is given to holistic approaches and innovative solutions in research and analysis that cater for the time gap between the actual change in demand and the policy and implementation response. Transferring findings into policy and implementing reforms are important and involve all actors - policy-makers, social partners, training organisations and researchers - to ensure the acceptance and legitimacy of reforms.

Skillsnet activities

While many countries, both European and non-European, have varying levels of experience in anticipating skills, approaches to analysis differ considerably. Information on activities and results is sometimes difficult to obtain - not least because of language problems. As a first step, Cedefop, with the German partners of the 'FreQueNz-Network', organised an international conference in Berlin in 2002 (more on page 2) which provided a comprehensive review of several related initiatives in European countries. In 2003, a second conference was held in Thessaloniki (more on page 2), which gathered policy-makers, researchers and practitioners from 24 countries. Activities in several countries and their political implications were discussed and establishment of a network was unanimously agreed.

Other network activities include thematic workshops, organised in close cooperation with network members, common projects, and regular conferences organised by Cedefop and partner institutions. Network members also share their methodological approaches and findings via the electronic platform, which is moderated by the Cedefop team. This forum is also used for generating common projects, calls for cooperation and disseminating research results.

in this issue

First step in intensifying international cooperation in early identification of skill needs

Conference on early recognition of skill needs in Europe (Berlin, 2002)

What form could sustainable skills take and how do education and training systems need to be structured, to master new challenges and achieve the ambitious goals set by the Lisbon European Council in 2000?

To explore these questions, the German Federal Ministry of Education and Research (BMBF) and Cedefop jointly organised a two-day conference in May 2002 involving experts from various European countries. The conference, which was held at the Wissenschaftszentrum in Berlin (Social Science Research Centre Berlin), focused on the early identification of skill needs and intensifying international cooperation in this area.

Key aspects, presentations of results and other conference objectives were discussed for creating a single European education and labour market. Emphasis was on research aimed at early identification of skill needs. In a world of work experiencing turbulent times, political and business players have to respond ever faster to change. They depend on reliable information. Early identification of skill needs helps training systems become more future oriented and prevent or lessen future skill mismatches on the labour market.

As the conference showed, what is needed, first of all, is an exchange of good practices and the available methods. The conference also laid the foundations for future joint procedures and for developing a European network.

The conference proceedings were published in both English and German. They can be ordered or downloaded from the Skillsnet website.

Increasing transparency and sharing expertise in early identification of skill needs

Conference on early identification of skill needs in Europe (Thessaloniki, 2003)

The international conference 'Early identification of skill needs' organised during the Greek Presidency in May 2003 in Thessaloniki brought together policy-makers, social partners, practitioners and researchers from 24 countries of Europe and beyond as follow-up to the Berlin conference of May 2002.

Participants exchanged experiences and examples of good practice in identifying, anticipating and monitoring changing and newly emerging national, sectoral and regional skill needs. Examples of skill need identification for specific target groups were also discussed. The aim of the conference was to promote cooperation among countries and to transfer results into policy and practice.

The conference also helped establish an international network for exchange of information and knowledge. Participants unanimously expressed their support for creating an information platform and underlined the necessity for joint actions in research, analysis and policy, sharing expertise and experience throughout the European Union and beyond. Cedefop responded to demand by launching the Skillsnet network.

The conference proceedings are available on the Skillsnet website or in hard-copy in English, German and French.

Conference on systems, institutional frameworks and processes for early identification of skill needs (Dublin, 2004)

Early identification of skill needs involves different approaches in research and analysis performed by several institutions at various levels. The conference in Dublin looked at strengths and weaknesses of diverse systemic, institutional, political and other contextual arrangements of early identification of skill needs across countries. The conference was organised jointly by Cedefop (Skillsnet), the Irish expert group on future skill needs and the Irish Training and Employment Authority (FAS). It was attended by over 100 participants from EU Member States, candidate countries and the US.

Focus was on national systems of early identification of skill needs. It included discussion on the process of decision-making for undertaking research into early identification of skill needs, the interest groups represented in the process and how research priorities are identified. The skill needs identification cycle also includes the disseminating and applying its results into policy and practice. Each phase is often performed and funded under the responsibility of different institutions. Implementing research results into policy and practice remains the most challenging task in the cycle. The most efficient systems integrate the dissemination and implementation phases by, for instance, linking them to counselling and guidance. In such cases, information flows continually with research undertaken and results transferred regularly. The conference also showed the strength of systems that combine and complement results of research performed at different levels: national, regional, local, sectoral, company, occupation, etc. Country representatives also explained how they ensure the quality and relevance of research, and which systems they establish to check on the robustness and reliability of research results over time.

Older Member States mostly have a well-developed system of forecasting skill needs at macroeconomic level. These are often complemented by information coming from research in sectors and regions. New Member States and acceding countries are still establishing their systems, using the experience of other European countries. Some focus more on sectoral approaches, others on forecasting at macroeconomic level or surveys among employers.

The conference provided a useful forum for exchanging good practice in developing systems and identified the information gap in identifying skill needs and potential mismatches at European level. Work carried out by the European Commission (e.g. developing vacancy statistics) and the OECD (e.g. international assessment of adult competences) generates information on skill needs in Europe. Participants from several European countries showed interest in a joint occupational/skill forecasting project. It was proposed that interested countries should be invited to join such a project to be initiated and coordinated by Cedefop .

The conference proceedings will be soon available in hard-copy and on the Skillsnet website.

The latest trends and skill needs in tourism from an international perspective

Workshop – Trends and related skill needs in the tourism sector (Halle, 2004)

Tourism is important for the European economy. It accounts for 5 % of direct employment, produces close to 5 % of European GDP and has a tremendous multiplying effect over other economic sectors, enjoying forecast stable growth for the future. Tourism has one of the highest labour mobility rates across Europe, becoming a truly European economic sector and a labour market with a truly European dimension. Therefore discussing new occupations and future skill needs for the sector in Europe has particular significance.

The international workshop Trends and skill needs in the tourism sector which took place in April 2004, in Halle, Germany was jointly organised by several institutions and networks. Cedefop took the initiative in preparing the workshop, discussing content with Cedefop partner institutions in the newly created international network. The organising partner in Germany was the research network FreQueNz, supported by the Federal Ministry of Education and Research (BMBF) and coordinated by the Fraunhofer Institute for Industrial Engineering (Fraunhofer IAO) and the Institute of Structural Policies and Economic Development (isw) – a member of FreQueNz.

The workshop highlighted the latest trends and skill needs in the hotel, catering and tourism sector from an international perspective. Speakers and participants from 13 countries (Europe, North America and Africa) took part during the last two days of EU 15, just before the accession of 10 new Member States to the European Union. The discussion touched on many important issues for the new Member States and those hoping to become members in the future. Developments in Europe were compared with changes taking place in North America, showing many similarities and, in some cases, helping to identify possible future trends and useful solutions for Europe.

The workshop was the first of several sectoral events planned by Skillsnet. The workshop publication proceedings are available on the Skillsnet website.

Skillsnet has also published a sector flash on tourism which summarises the main trends and skill needs.

Skillsnet sector flash

Skillsnet has started to publish 'sector flashes' which will appear after each sector workshop. They will summarise on two pages the main trends in the sector and related skill needs, and report on the outcomes of the linked Skillsnet workshop. The first issue is on tourism and is available on the Skillsnet website in the section 'Publications and working papers'.

Work small think big: nanotechnology. Which skills for the future?

Workshop – Emerging technologies: new skill needs in the field of nanotechnology (Stuttgart, 2005)

The fast development of nanotechnology is often defined as a fundamental revolution in technology compared to discovery of antibiotics, television, nuclear weapons, or computer technologies. Nanotechnology refers to a wide range of scientific or technological activities that study and work with phenomena or properties of the nanometer scale (around 0.1-100nm; one nanometer is one billionth of a meter).

Nanotechnology brings great opportunities not only for science but also for industrial production and eventually for the every day life of individuals. Even modest predictions estimate over 30 % average growth rate per year overtaking bio- and information technologies' growth. Europe holds a significant share of the growth potential. Such growth potential creates new jobs at different occupational levels, not only researchers and scientists with university and post-graduate degrees but also a range of technicians and specialists with secondary, post-secondary and non-university tertiary education. Much feared skill gaps and skill shortages in the nanofield may significantly diminish its growth potential and positive effects.

An international workshop 'Emerging technologies: new skill needs in the field of nanotechnology' attempted to tackle some skill needs issues. The workshop was organised by Cedefop's network on early identification of skill needs 'Skillsnet', jointly with the Fraunhofer Institute for Industrial Engineering (Fraunhofer IAO), the German Federal Ministry of Education and Research (BMBF), and the Institute of Structural Policies and Economic Development (isw) in Stuttgart, Germany in July 2005. Participants and speakers from 13 countries came to discuss and share their knowledge and experience on new skill needs in nanotechnology from the perspective of their backgrounds: research, business, education and training.

The workshop gave a clear message that nanotechnology is still very much under development. As it has a multidisciplinary character, it is difficult to identify future skill needs especially at intermediate level. For specialists and scientists with tertiary education, Europe already has a shortage of specialists, and this shortage is expected to increase in the future. There is a need for monitoring intermediate skill needs and lessons can be learned from the past experience of other new and emerging technologies. As soon as nanotechnology goes into mass production, the shortage of skills in the intermediary level of occupations will become obvious.

Given the interest of network members, Skillsnet intends to continue the debate on new technologies and related skill needs, by organising workshops and supporting analytical activities on early identification of skill needs.

Workshop proceedings will be published in English in 2006. A background study for the workshop which was presented as a key note speech will be also published by Cedefop in English and German in 2006. Both publications will be available on the Skillsnet website or can be ordered from Cedefop.

Would it be possible and useful to forecast skill needs at European level?

Feasibility workshop on European skill needs forecasting (Paphos, 2005)

Lack of information on future skill needs in Europe has been observed for a long time, so Skillsnet organised a workshop on this issue in cooperation with the Human Resource Development Authority (HRDA) in Cyprus and the Research Centre for Education and the Labour Market (ROA) at Maastricht University.

The feasibility workshop explored different approaches, data availability and compatibility of classifications in individual Member States to reach agreement on:
(a) the usefulness and relevance of forecasting skill needs at European level;
(b) a common approach to European skill needs forecasting in methods and data;

how to become a **skills**net member?

Skillsnet welcomes experts, active in research or policy on early identification of skill needs, to join the network. If you are an experienced researcher in skill needs analysis and forecasting or if you are actively engaged in discussions on the transfer of research results on future skill requirements into policy and practice, you are welcome to submit the online application form on the Skillsnet website (www.trainingvillage.gr; Skillsnet is under the section 'Projects and networks').

Skillsnet has around 120 registered members from all over the world and from different target groups. Besides EU Member States, other countries such as Bosnia and Herzegovina, Chile, India, Korea, Lebanon and the Russian Federation are represented. Germany, Greece and the UK have the highest number of members in the network. Most members come from research institutes, however ministries, universities, social partners, businesses, training institutions, consultancies, policy-makers as well as various European and international institutions are also represented.

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(c) a possible interim solution in a pilot project on macroeconomic skills or occupational forecasting;
(d) a longer-term approach, with concrete suggestions for further practical steps and involvement of all interested European countries.

The workshop took the form of a brainstorming session attended by experts in forecasting occupations, skills and/or educational fields from 13 Member States (the Czech Republic, Germany, Estonia, Greece, France, Ireland, Italy, Cyprus, the Netherlands, Austria, Poland, Finland, and the UK) and one acceding country (Romania). A representative from OECD and a senior advisor to the European Commission also participated. All participants agreed to launch a European skill needs forecasting exercise. There was a clear message for Cedefop to continue with this initiative and coordinate further steps along two main paths:

• in the short term to create a simple (initial) pan-European forecasting model (which could be modified and refined later) using data available for all countries, such as the labour force survey data from Eurostat. The E3ME macroeconomic model designed by Cambridge Econometrics could be used for macroeconomic forecasting. Participants agreed that ideally the forecast should include both demand and supply sides to reveal skill mismatches on the European labour market. However, this would require comparable data on labour supply. Therefore, it is necessary to start with the demand side and to try to cover the supply side at a later stage. All possible issues and problems have to be explored, but first the model/

system needs to be developed, based on available methods and data;
• in the longer term to involve all European countries in this exercise and try to harmonise or match sources used at national level. There are considerable differences between countries in goals, user groups, classifications, data sources, modelling, forecasting periods, organisations involved, etc. but there are also many similarities between countries, for example some use similar - or even the same - classifications (e.g. NACE for sectors, and ISCO 88 for occupations), and this could be a big advantage. It might also be possible to create a new core forecasting system for use by all European countries, either as a subsidiary system (in countries with more advanced forecasting methods) or as the main system (in countries where this activity has not yet been well developed).

In addition, thought should also be given to qualitative methods such as scenarios and to sectoral approaches. All 14 country representatives had been asked to prepare a short paper on approaches, classifications and the data used for skill needs forecasting at national level using a questionnaire designed by Cedefop. The papers will be published by Skillsnet/Cedefop in the workshop proceedings at the beginning of 2006.

skillsnet *future plans*

**Early identification of skill needs:
Innovation in agri-food and
forestry-wood chains** [September 2006]

**Follow-up workshop on European
skill needs forecasting** [November 2006]

**New and changing skill needs
in biotechnology** [January 2007]

Skillsnet welcomes entrepreneurs, managers, labour market experts, researchers, and education specialists in the above mentioned sectors to participate at the workshop. More information is available on the Skillsnet website in the section 'Events'.

skillsnet *publications*

Published ...

**Early identification of skill needs
in Europe** (2003)
Schmidt, Schömann, Tessaring (eds)
(Cedefop Reference series; 40)
Available in EN, DE.

Identifying skill needs for the future (2004)
Schmidt, Strietska-Ilina, Tessaring, Dworschak (eds)
(Cedefop Reference series; 52)
Available in EN, FR and DE

Trends and skill needs in tourism (2005)
Strietska-Ilina, Tessaring (eds)
(Cedefop Panorama series; 115)
Available only in EN

Forthcoming ...

• **Identification of skill needs in nanotechnology**

• **Systems, institutional frameworks and processes for early identification of skill needs**

• **European skill needs forecasting: is this feasible?**

• **Emerging technologies: new skill needs in nanotechnology**