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European high level meeting on Skills
Anticipation in Adult Learning
EU Skills Anticipation Mapping Paper

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 Daniella Colicchio

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Introduction

The overall objective of EMSAAL is to promote the exchange of knowledge; the discussion of challenges; and the exchange of good practice and lessons learnt in the context of anticipating skills needs for the adaptation of effective and relevant adult learning and training. This paper is an overview of the Skills Anticipation mechanisms used at present in each EU country and is intended to stimulate and inform further discussion on the topic and by extension explore links to adult learning specifically. No new information is presented in this paper. It is a collection of publically available information.

Country Profiles

Austria

Categorised by CEDEFOP typology, Austria has *coordinated holistic system* of skills anticipation mechanisms defined by: well-developed systems based on medium and or short term macro level forecasts; sectoral studies; regular surveys among employers; regular regional surveys; and an efficient system of dissemination of results to policy and practice.

Since 2002, Austria has been using a forecasting tool known as the 'AMS-Skills Barometer (AMS-GB)'. This online tool summarises statements on current and foreseeable labour market trends and makes the information available to a broad public via the internet. The results are published annually in printed form. The Skills Barometer is a product of the Austrian Public Employment Service. Other decision making bodies in Austria include the Ministry of Education, Arts and Culture, Federal Ministry for Science and Research, Federal Ministry of Economics and Labour (apprentice service).

Links to skills anticipation in adult learning specifically are not clearly defined. However, the European Quality Assurance Reference Framework for Vocational Education and Training (EQARF) is currently working on developing a quality framework model for adult education in Austria. This is intended to form the basis not only of a mutual appreciation of efforts of educational institutions and countries but also an overall strategy for promoting quality in the Austrian adult learning sector.

For more information

<http://www.ams.at/english.html>

<http://www.wba.or.at/>

Belgium

There is limited information on Skills Anticipation in Belgium due to the split of multiple communities. The most concrete project is in the Flemish Belgium community, which has begun exploring the feasibility of developing a monitoring system for Flanders, based on the combination

of a quantitative model of labour market changes and a qualitative method for skills forecasting. This is a pilot project. The same community via the Flemish Qualification Structure (FQS) is active in creating a framework that will link and facilitate communication between stakeholders in education (students and providers) and in the labour market (social partners) about qualifications and competencies to help bridge the education and labour market spheres.

Side note...

The relatively high emphasis on formal education and training in both Austria and Belgium is accompanied by below average participation in continuing education and training. According to Labour Force Survey indicators both countries experience clear gender differences in adult participation in education and training, which are in contrast to the European average: On average in Europe participation is higher in the female population but in both Austria and Belgium participation of the male population is higher, with the gap wider in Austria.

Bulgaria

Limited information on skills anticipation in Bulgaria is publically available. The country is now going through a period of economic restructuring and the results of this will determine their mechanism for skills anticipation and its links, if any, to adult learning.

Cyprus

Cyprus has a long established system of providing 10 year employment forecasts in economic sectors and occupations every 2-3 years. The most recent was completed in 2010 and covers the period from 2010-2020, including effects of the current economic crisis. Cyprus, together with social partners produces an annual study that identifies skills needs and provides annual estimates for the number of people required for specific occupations by district. On the basis of these estimates proposals are made for the implementation of initial training programmes.

Cyprus is categorised by CEDEFOP as having a *coordinated non-holistic system* developed around quantitative forecasting, with some qualitative surveys conducted in parallel.

The Human Resource Development Authority (HRDA) undertook an innovative study that looks at identifying the skills needed to provide employment forecasts for green jobs in the economy for the 2010-2013 period. This further strengthens existing research on the anticipation of skill needs.

There is little evidence to suggest that skills anticipation research has been extended to adult learning specifically.

Czech Republic

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Employers in the Czech Republic are involved in VET developments by means of National Council for Qualifications and Sectoral Councils. 20 Sectoral Councils have been established with activities including: monitoring the labour market in relevant sector; identifying changes in the sector affecting employers and labour force needs; supporting VET and the development of the sectors' professional competencies; promoting curricula innovation for qualifications in the sector; cooperating with schools and training institutions.

Initially the Czech Republic used a system similar to the Dutch method but did not use formal and regular macroeconomic model. Researchers instead use the Hermin Model, designed to analyse the convergence and structural changes during integration of new countries into the EU. CEDEFOP characterises the Czech Republic as *building a coordinated holistic system* i.e. having a system that is mostly based on medium-term macro-level quantitative forecasting, incorporating the qualitative elements of different projections. There are visible efforts to develop a more systematic, complementary and holistic approach.

Notable innovations in the Czech Republic in skills anticipation of late include the launching of 'Forecasting the Skills Needs of the Labour Market' which aims to develop a system of continuing labour market forecasting. In addition the Czech Republic is looking at creating tighter links between its education and labour market systems by reporting that the national qualifications framework is intended to make educational provision more reflective of labour market needs.

Side note...

Higher education institutions in the Czech Republic are recommended to create study programmes-courses that take employers requirements into account. They are also advised to involve professionals from the relevant fields in teaching and creating study programmes.

Details on the 'Forecasting the Skill Needs of the Labour Market' initiative can be found here:
<http://www.budoucnostprofesi.cz/en/index.html>

For more information

<http://www.nuov.cz/ae>

<http://www.nuov.cz/nsk2>

<http://www.budoucnostprofesi.cz/cs/aktualne/2.html>

Denmark

CEDEFOP has categorised Denmark as having a decentralised system of skills anticipation mechanisms. The Danish system is based on the involvement of social partners in funding and in direct research collaboration developed mostly at trade and local levels. Systematic anticipation of skills needs at the national level is not very pronounced.

Estonia

Initially forged from the Irish model, Estonia has started actively developing a system of anticipation of skill needs during the last decade. CEDEFOP refers to it as *building a coordinated holistic system* i.e. having a system that is mostly based on medium-term macro-level quantitative forecasting, incorporating the qualitative elements of different projections. Although there is no developed system yet, several efforts are being made to establish a more systematic approach.

Sectoral studies focusing on demand for skills in specific industries and aggregate medium to long term employment forecasts have been released over time however both have been heavily criticised for their lack of detail.

The Ministry of Economics and Communication commissioned a study on the future needs of the knowledge-based labour market. The study, carried out by the University of Tartu presented three different models of economic development with specific recommendations for the Ministry of Education and Research. In addition, during 2008-2009, the Estonian Development Fund carried out several forecasting projects relating to the different sectors of the economy including industry, ICT, the financial sector, logistics, the creative industries and the health and education sectors, each project related to education and training. In a separate initiative the Network of specialists for curriculum development was established in 2009 with the aim to shift the current system to a learning outcomes based approach to higher education.

Finland

The Finish system is well developed. Quantitative forecasting is a major building block of the system, although some qualitative elements are in-built in the forecast and qualitative surveys and focus groups are conducted in parallel. Therefore, Finland is seen by CEDEFOP to have a *coordinated non-holistic system*. Partnership, cooperation and information sharing are key elements of the system, so much so that an electronic information bank has been developed. The Finnish National Board of Education (NBE) have created the Online Information Service on Skills Needs (ENTSI), which provide numerical forecasts including job openings in different professional groups and training needs in different levels and sectors of education.

Examples of systems implemented by Finland include the VAATAGE and VOSE. VAATAGE, produced by the Government Institute for Economic Research is a dynamic, applied equilibrium model of the Finnish Economy, used to forecast changes in the economy up to the year 2025. The forecast is based on historical simulation of the development of the Finnish economy from the mid-1990s on and it identifies some key challenges for the labour market and the wider economy. VOSE, the Finnish National Project, saw the creation of a forecasting model that will enable skills needs to be predicted for all levels of education and all occupation incorporating: methods of forecasting; planning processes; the setting up of networks of key organisations/personnel; and establishing a system of communication.

The Finnish Ministry of Education and Culture established 34 tripartite National Education and Training Committees to follow, evaluate, anticipate and analyse the development of skills needed in the labour market and: make suggestions for the qualitative and quantitative development of VET; survey the core curricula and qualifications requirement; provide statements on issues in their sector. At the regional level, 19 regional councils are responsible for medium and long term forecasts of educational needs. In Finland on the basis of forecasting studies, the development plan 'Education and Research 2007-2012' sets entry targets for educational provision. With regard to initial education and training, the targets were set separately for different fields of education.

Targets for **adult education and training** were grouped by the type of education with an outline for field-specific targets for qualification-orientated adult education and training. When adopting the development plan, the Finnish government decided that an intermediate evaluation would be conducted halfway through and the targets would be adjusted if necessary. According to the updated forecast, no changes to the targets set in the original plan are necessary. However, in some fields the intake of students has not met the targets set by the Ministry of Education and is not high enough to meet demand. These fields include social services and health; medicine; engineering, metal and energy technology; and sanitation.

Side note...

Recent results from the VATTAGE showed that 'the **ageing** of the Finnish population will entail a marked increase in the GDP share of health care and social service provision that affects the industry structure of the whole economy. Because of the increased demand for labour in these sectors, productivity growth especially in the service industries is likely to be affected by labour shortages' (Ahokas, Honkatulia & Marttila 2010, p. 2).

For more information

http://ec.europa.eu/education/lifelong-learning-policy/doc1134_en.htm

France

CEDEFOP puts France in the category of having a coordinated holistic system. France has a well and long established system of anticipation of skills needs based on macro-level medium-term forecasts, sector perspective studies, regional surveys and employers skills surveys. France develop (semi-) qualitative surveys involving different actors to produce 'shared diagnosis'. Their ability to bring users and producers of information closer together is notable.

One key example is the 'Trades in 2015' project which is the result of work carried out in the framework of the skills and forecasting group by the Centre d'Analyse Strategique (CAS) and the Ministry of Employment and Social Cohesion's Directorate of Research and Statistics Activity (DARES). The report examines in detail a number of professional fields from: agricultural trades to personal assistant services; the perspective of both labour demand and labour supply. In particular, it takes a close look at trades supplying assistance and care to the ill and elderly and clarifies the economic and social stakes involved in the development and professionalization of these jobs.

Other key actors include the Regional observatories of employment and training (OREFs) and Office for Information and Economic forecasting (BIPE).

For more information

<http://www.interef.com/>

<http://www.interef.com/ateliers/observatoires/presentation.htm>

Germany

Based on the common sharing of research activities and networking experiences (E.g. the network of early identification of new skills (FreQeNz)) the German skills anticipation system is well developed. CEDEFOP categorises it as a coordinated holistic system due to the system including qualitative research into sectors, branches, occupations, econometric forecasting (macro level) and qualification standards development research.

In 2010 Germany implemented the Regional Labour Market Monitor to increase transparency in the movements and trends in the German Labour market. It also identifies local employment opportunities and threats in the labour market.

Other key actors include the Federal Institute for Vocational Training (BIBB), Social Science Centre (WZB), Interactive Advertising Bureau Europe (IAB) and Ministry of Education and Research (BMBF).

Side note...

To address some of the problems which stem from informally acquired learning, the Federal Ministry of Education and Research (BMBF) launched the 'ProfilPass' in 2006 which aids in recording and certificating informal learning outcomes. It is now being used across Germany as a means of providing evidence of acquired skills and helps to improve individual's educational prospects while raising awareness of informal learning. The 'ProfilPass' is used by people who find themselves in a transition or reorientation phase such as those returning to the workplace or wanting to set up their own business. It is also used by migrants looking for a way of coping more effectively in the German labour market.

For more information

<http://www.bildungsspiegel.de/component/content/article/90-service/sitemap/180>

http://www.arbeitsagentur.de/nn_172038/Dienststellen/RDRPS/Kaiserslautern/AA/04Presse/2009/63-2009-Regionaler-Arbeitsmarktmonitor.html

Greece

CEFEFOP identifies Greece as having a decentralised system of skills anticipation mechanisms. The system has recently started developing and is based on local partnerships, alumni surveys and other transition to work research with some econometric forecasting and other quantitative and qualitative surveys under development. The Greek social partners are represented in the Tripartite Advisory Committees (TSEs) that have been established by the Organisation of Vocational Education and Training (OEEK) to monitor labour market needs at regional and local level and make proposals to the administrative board for the introduction of new specialisations according to regional labour market needs.

As a result of the economic crisis, skills forecasting and matching of available skills to labour force needs have become a priority. In particular, sectors such as construction and tourism have been severely affected and as a result experiencing more targeted vocational training. Particular attention is being paid to **upgrading the skills of older workers** in order to keep them economically active.

For more information

<http://www.gsae.edu.gr>

<http://www.opengov.gr/ypepth/?p=43>

<http://www.oEEK.gr/>

Hungary

Currently the only regularly conducted skill needs anticipation mechanism in Hungary is the preparation of the short term labour market prognoses by the Public Employment Service (AFSZ). Most other research is commissioned and financed by various state agencies and have typically focused on forecasting future developments/trends of demand and supply of existing (formal) qualifications. This has often been combined with a survey of employers' satisfaction with the skills and competencies of fresh VET graduates.

Hungary has a *decentralised system* according to CEDEFOP and while there is no system of skill needs yet, several efforts to build continuous monitoring of skill needs into the VET system are present. Research is being done sporadically. Hungary recently launched a project focusing on improving forecasting of labour market needs. In addition to static results and future trends, the objective is to develop a dynamic forecasting model which could in the future inform education and employment policy decisions at the regional level.

For more information

<http://www.oh.gov.hu/szakkapzes/szakiskolai-osztondij>

<http://www.kepzesevolucioja.hu/index.php/palyakovetes>

http://www.nfu.hu/new_hungary_development_plan

Ireland

Ireland has a comparatively well-developed system based on a combination of sector studies, general labour market and employment trend analyses and medium to long term employment demand forecasting by occupational categories. Ireland has a *coordinated non-holistic system*. At present the Economic and Social Research Institute is considered a key contributor to the research of future skills needs. The Expert Group on Future Skills Needs (EGFSN), which advises the government of various labour market issues, recently produced several sector reports including 'Future Skills needs of the Wholesale and Retail Sector' (EGFSN, 2012) and 'Future Skills Requirements of the Food and Beverage Sector' (EGFSN, 2009).

For more information

<http://www.skillsireland.ie/>

Italy

Italy is in the process of *building a coordinated holistic system* based on: sector and regional studies; hiring surveys; and short-medium-term econometric forecasting by sector and occupation. The country is now attempting to build a more systematic approach towards permanent skills monitoring and is creating a linked internet platform for data dissemination.

The Italian National system of permanent observation of training and occupational needs is built on a collection of project outcomes and available information on skills anticipation. The system developed by ISFOL under assignment of the Ministry of Labour and Social Security within the European Social Fund, is designed to provide a flow of information on training needs emerging from the economy and the labour market and arranges data from different sources. The main challenge will be harmonising the national initiative with those taking place at the local level.

For more information

<http://www.istat.it/it/>

<http://www.isfol.it/>

Latvia

The Latvian Ministry of Welfare initiated a project with the intention of developing a system for the identification and monitoring of skills needs. The purpose of the system is to analyse skills needs; forecast labour market developments; provide information about trends; as well as planning education and training provision. Latvia has a *decentralised system*.

Examples of projects run by key actors include:

Actor	Tools	Method
State Employment Agency	Surveys of employers	Short term estimates by occupational group and geographical regions
University of Latvia	Economy wide long term forecasts	15 economic sectors, 120 professions, 37 aggregated groups of professions, level of education and age
Ministry of Economic Affairs and Communications	Medium term labour force supply and demand forecasts	N/A

Side note...

The University of Latvia study 2007 estimates showed shortages in 99 out of 120 professions in 2013.

For more information

<http://izm.izm.gov.lv/aktualitates/informacija-medijiem-5761.html>

<http://izm.izm.gov.lv/ESF/prof-izgl-pievilciba.html>

<http://www.mk.gov.lv/lv/mk/tap/?pid=40173173>

<http://www.darbatirgus.gov.lv/index.php>

<http://www.vestnesis.lv/?menu=doc&id=212500>

Lithuania

Lithuania does not have a formalised systematic system of skills anticipation and therefore has been categorised by CEDEFOP as having a *decentralised system*. They traditionally follow the Swedish forecasting and Irish sectoral study approach led by observatories.

The Lithuanian Labour Exchange has created short term estimates of the labour market demand by identifying employment prospects for detailed occupational groups and economic sectors in 10 geographical regions based on the registered job openings and a survey of 4000 enterprises however, despite considerable efforts the reliability of the forecasts has been limited. The fragmentation of results have been said to have led to models being criticised due to the mismatch with the effects of the 08-09 crisis.

Luxembourg

Limited information on skills anticipation in Luxembourg is publically available.

Malta

Limited information on skills anticipation in Malta is publically available.

Netherlands

The Netherlands has a *coordinated holistic system* characterised by a well-developed and long-established system of multi-source funding and strong involvement of social partners, quantitative and qualitative information, all producing detailed results which directly serve decision making and advises individuals. The national forecasts are published as labour market indicators and they are adjusted to user needs. Key actors include: Research Centre for Education and Labour Market (ROA) – Regional and sectoral level; bipartite and tripartite bodies - deal with initial and continuing VT, expertise on skills and labour market needs; Association of centres of Expertise on Vocational Education; Training and the Labour Market (COLO); National Employment Service (CWI); Council for work and income (RWI).

The Research Centre for Education and the Labour Market (ROA) of Maastricht University has developed a forecasting model for the labour-market situation of different types of education on the Dutch labour market. ROA compiles forecasts of changes in the labour market in the medium-term (for a period of five years) to give those making choices on further studies the best possible information on the state of the labour market. This project focuses in particular on the match between education and occupation, the substitution processes in the labour market, and the labour-market perspectives of more than 100 education programmes and occupations.

For more information

<http://www.roa.unimaas.nl>

Poland

Poland is in the process of *building a coordinated holistic system*. Their systems at the moment are based on medium term macro level quantitative forecasting and while there are efforts to develop a more systematic system they appear to be heavily reliant on EU policy and guidance.

For more information

<http://pokl.koweziu.edu.pl/index.php>

Portugal

The *decentralised system* is based on sectoral analyses linked to the development of professional profiles and qualification standards.

Romania

Limited information on skills anticipation in Romania is publically available. It appears sectoral committees that monitor the evolution of the labour market and report on changes and future needs of the sector in question are responsible for the evaluation of skills needs in their area.

Slovakia

There is no developed system of skill needs anticipation yet. Slovakia has a *decentralised system*: Awareness of the need of an appropriate system has been established and while it is planning to develop the system there are indications of lack of available expertise. There is however promising development at sector and regional levels.

Slovenia

There is no developed system of skills anticipation yet. Slovenia is currently categorised as having a *decentralised system*. Skill needs analysis is performed in the framework of development of occupational standards, including sectoral analyses. The promising systematic development of anticipation of skill needs takes place in the Podravje region with suggestions and attempts to disseminate the good practice to other territories.

Side note...

Literacy courses have been developed for adults who have completed less than 10 years of schooling. The aim is to support adults who have decided to re-join formal learning in order to develop key skills. Participants in literacy courses acquire new knowledge, improve their writing and communication skills, numeracy and social skills and learn about the importance of becoming active citizens.

Spain

CEDEFOP categorises Spain as having a *decentralised system*. The Anticipation of skill needs is done through work on the development and updating of vocational qualifications, sector studies, permanent observatory of occupations and the network of observatories of the labour market.

Anticipation of skills and training needs in the framework of the Tripartite Foundation for Training and employment, also linked to the employment administration, is performed through the

programme of Complementary Training Actions. This programme is also financed through the vocational training tax paid by workers and entrepreneurs, and through European Social Fund subsidies.

Spain is currently developing a national qualifications framework for **lifelong learning** (MECU), based on learning outcomes. Development started in January 2009 and the framework was adopted in 2011.

In Spain, **adult education** for people without any qualifications, or for those who have left the school system, is based on competencies. During 2010-2011, a platform for distance vocational training was launched targeting citizens over the age of 18, especially workers and people with family responsibilities. This platform was created within the framework of Programmes of Territorial Cooperation with the aim of making vocational training more accessible. An online vocational training website as well as teaching materials for distance training on 100 vocational training programmes was created for this purpose.

Side note...

New curricula not only include professional and technical competencies, but also personal and social competencies.

Between 2008-2010 15% more students in Spain who had successfully completed compulsory education decided to continue their learning by enrolling in vocational training program instead of going directly into the labour market (Ministerio de Education/Secretaria General Tecnica, 2010).

For more information

<http://www.education.es/fponline.html>

Sweden

Sweden has a *coordinated holistic system* which is very well developed with: several complementary long, medium and short term forecasts; system of sectoral studies; regular questionnaire skills surveys among employers; and regular regional surveys on employment (past and planned).

For more information

<http://www.yhmyndigheten.se/english>

United Kingdom

A National skills taskforce was established in 1998 to define a framework for the identification of skills shortages and provide policy advice on the priority areas that resources need to be allocated.

In 2004 the UK government commissioned Lord Leitch to undertake an independent review of the UN's long term skills needs, in particular examining the optimum skills mix to maximise economic growth and productivity, considering trajectories of skill levels the UK might pursue. The review recognises the responsibility for achieving ambitions must be shared between government, employers and individuals. The UK enjoys a very well developed *coordinated holistic system* based on three pillars:

1. Well-coordinated sectoral and regional research into skill needs identification through the national Sector Skills Development Agency and a network of Sector Skills Councils;
2. Medium to long-term sophisticated forecasting which provides the necessary level of detail at sectoral and regional levels as well as implications for qualifications;
3. Regular employer skill surveys at national and regional levels.

Sector Skills councils are independent, employer led organisations established to enable employers to exert influence on the UK's education and skills systems to ensure they meet employers' needs. Operating on a four nation basis the Skills Councils need to be sensitive not only to the different skills strategies in each country but also to the variations in the education/qualifications systems across the UK. There are currently 23 Sector Councils covering over 80% of the economy.

In England a national skills audit (National Strategic Skills Audit for England) has been commissioned by the UK government, with the purpose of assessing current and future skills needs to aid in meeting the challenging skills needs of the economy and labour market more effectively. England is also currently implementing an annual performance assessment framework for the post-16 learning sector (the Framework for Excellence). This assessment tool includes an indicator which rates a learning provider on the volume of their learners who progress to positive destinations; Positive destinations are defined as progression to further learning (at the same or higher level). Destinations information is collected through data matching techniques and through telephone surveys. The department plans to publish these results annually on a publically available website together with the supporting data and other performance indicators. The results will inform customer choice, commissioning decisions and government policy. The first results were published in December 2010.

For more information

<http://www.dcsf.gov.uk/rsgateway/>

<http://www.sscalliance.org/>

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European Union Skills Anticipation Mapping

Summary and Conclusions

Research shows that the effective and established skills anticipation mechanisms have been underrated by many EU countries. The EU crisis has been an instigator for change and now innovative research and development has been undertaken to establish and/or improve existing mechanisms for skills anticipation in almost all EU countries. While this is promising, there is limited evidence of the connection between extending skills anticipation mechanisms to the adult cohort. Adult active participation in the labour market and 'up skilling' is not only beneficial to the individual (who is able to remain an active contributor to the economy and perhaps in recent tough economic times may be forced to re-enter or remain in the labour market for longer than intended) but also businesses (who require the skills of older workers) and the government (minimises the dependency burden on public services). Commendable work is taking place to establish mechanisms of skills anticipation in adult learning in some countries, and with adult learning being touted as a contributor to lifting the EU out of the economic crisis, it is expected that other EU countries prioritise this initiative in the future.

CEDEFOPs Skills Anticipation Mechanism Typology Classifications

CEDEFOP Classification	Definition	Countries
Decentralised System	Developed mostly as trade, sector or local levels. Systematic anticipation of skills needs at national level is not very pronounced. The skill needs analysis performed in the framework of development of occupational standards, sectoral and regional analysis.	Denmark, Greece, Spain, Latvia, Lithuania, Hungary, Portugal, Slovenia, Slovakia
Coordinated non-holistic system	Well-developed system around quantitative forecasting, which is a major building block of the system, although some qualitative elements are incorporated into the forecast and qualitative surveys are conducted in parallel.	Ireland, Cyprus, Finland
Building a coordinated holistic system:	Mostly based on medium-term macro-level quantitative forecasting which incorporates some qualitative elements of sectoral and/or other trend projections. Several efforts at national, regional and sector levels aim at a more systematic, complementary and holistic approach. These countries attempt permanent skill needs monitoring with eventual dissemination through an online information platform.	Czech Republic, Estonia, Italy, Poland
Coordinated holistic system:	Countries with very well-developed and long-established systems based on medium and/or short-term macro level forecasts, system of sectoral studies, regular questionnaire skills surveys among employers, regular regional surveys on employment, and with an efficient system of dissemination and application of findings to policy and practice.	Germany, France, Netherlands, Austria, Sweden, UK

*CEDEFOP endorses these typologies but urges caution when used.