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).

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The European Centre for the Development of Vocational Training (Cedefop) is the European Union’s reference centre for vocational education and training. We provide information on and analyses of vocational education and training systems, policies, research and practice.

Cedefop was established in 1975 by Council Regulation (EEC) No 3377/75.

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Joachim James Calleja, Director
Micheline Scheys, Chair of the Governing Board
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The year under review has been marked by a number of events that will inevitably have an impact on the immediate future of Cedefop and European vocational education and training (VET). The celebration of Cedefop’s 40th anniversary, the Riga conclusions and the renewed ET 2020, the internal reorganisation of the Centre and our planning for the new cycle 2017-20 have given us a new lease of life and more vigour to work harder for VET.

The theme ‘old routes for new routes’ was at the heart of the 40th anniversary celebrations. The aim was to inspire continuation of work to modernise VET by highlighting the considerable achievements of European cooperation in VET to date and the new directions ministers in charge of education and training gave in Riga, as well as the renewed ET 2020 which unfolded a dual role of VET for excellence and inclusion.

The anniversary activities also highlighted differences and similarities between 1975, when Cedefop was set up, and today. The Cold War, the Soviet Union and the Berlin Wall, all a part of life in the 1970s, have gone. A European Economic Community of nine Member States has become a European Union (EU) of 28. Cedefop has also moved from what, in 1975, was West Berlin, to Thessaloniki in 1995.

But there are striking similarities between 1975 and today. Cedefop was created during an unemployment crisis that was damaging the job and career prospects of young people and the low-skilled. Technology was changing work as robots began to replace people on the production line. How to meet the new demands of a changing labour market and align training provision with labour market needs is a question that has stayed with us for the past 40 years. Today, challenges come in the form of unemployment, unutilised skills or the lack of them, new migrants seeking security on European soil, and a new role for social partners who seek to support the State and private sectors in creating new forms of learning as well as new jobs. In doing so, the roots of learning by doing are being converted into work-based learning and in the classical...
form of apprenticeships. As a result of the European alliance for apprenticeships, we are witnessing a concerted drive towards a better link between the world of education and training and that of employment. More skills imply better and more attractive VET.

The continuing relevance of the skills question today was addressed by Cedefop’s European skills and jobs (ESJ) survey which investigated skill mismatch. Covering around 50,000 people in all EU Member States, the results were published in 2015. The survey was unique in being the first to look at the dynamics of skill mismatch over time. It raised important questions about how skills are developed throughout working life and how they are used, as discussed at Cedefop’s conference, *Maximising skills for jobs and jobs for skills: the power of partnerships*, in December 2015.

The debate stimulated by the conference, on the skills needed for the future and how VET can deliver them, goes on. But to find solutions, we need good data and, in 2015, Cedefop published its latest skill supply and demand forecasts. These showed how economic growth rates and demography may influence employment levels and job opportunities across the EU between now and 2025. To inform and stimulate further discussion on skills, in 2015, Cedefop and the European Commission’s Directorate-General (DG) for Employment launched the EU Skills Panorama, a dynamic, interactive web platform giving access to data on trends in skills and jobs across Europe. This is one example of increased support systems to Member States and social partners.

In response to labour market demands, Cedefop will continue to forge new direct working relationships with Member States to support VET reform. In June 2015, in Riga, the European Commission, EU Member States and social partners agreed a new European VET policy framework for 2015-20. Cedefop’s report, *Stronger VET for better lives*, published in 2015, based on information from ReferNet (Cedefop’s European network for VET) helped shape debate on the new VET policy priorities; like those in the 2010 Bruges communiqué, they focus on implementing reforms and common European tools and principles. Implementation has been given added impetus in 2015 by the influx of refugees and asylum seekers into the EU. Ready access to education and training or the labour market is essential to their integration. The *European guidelines on validation* which Cedefop and the Commission published online towards the end of 2015 is an excellent tool Member States can use to promote a more inclusive society in which all workers will be in a position to contribute to their sustainability and that of the economy in which they live.

There are encouraging signs of progress for VET. In 2015, Cedefop highlighted the major influence of the European qualifications framework (EQF) (which enables all types of national qualifications to be compared with each other and those of other countries) and its associated national qualifications frameworks (NQFs). Increasingly countries see NQFs as a tool to reform not only qualifications, but also education and training more widely. The combined use of the NQFs and validation tools can increase employability, reduce tensions between the jobless and their host country, and provide employers with more accurate profiles of the skills and competences acquired from formal, informal and non-formal learning.

I am pleased to note that Cedefop’s anniversary year chronicled its development from an organisation that described, informed and disseminated VET information to one that analyses, advises and shares VET policies and ideas. However, the emphasis on implementation has placed new demands on Cedefop to provide more country-specific information and more opportunities for policy exchanges and policy learning with Member States and social partners.

A new organisational structure, introduced in early 2015, is enabling Cedefop to combine its research, analyses and policy advice functions to strengthen its role as a knowledge broker and provide more country-based evidence to support policy learning and implementation in Member States.

For example, in 2015, Cedefop and the European Commission produced a handbook on quality assurance and organised a seminar for national VET providers. As the success of European tools and principles depends on consistent use of learning outcomes, Cedefop held a policy learning forum for national stakeholders on writing and applying learning outcomes. In supporting the European alliance for apprenticeships, Cedefop has encouraged creation of bilateral and multilateral partnerships to encourage small and medium-sized enterprises (SMEs) to provide more apprenticeships. Cedefop also reviewed national apprenticeship arrangements in Lithuania and Malta. Further reviews are underway for Greece, Italy and Slovenia. A conference on apprenticeships
in autumn 2015 flagged several ways for European and country-based cooperation to attract more learners, workers and employers to apprenticeship programmes. As well as providing pan-European skill supply and demand forecasts in 2015, Cedefop produced forecasts for each Member State, which showed that European averages can mask major differences between countries and so change policy priorities. Cedefop’s information and communication remained integral to its activities and closely aligned with the European VET policy agenda. The magazine *Skillset and match*, published three times a year, showcased Cedefop’s work and European VET developments for a wide audience. In 2015, Cedefop’s work continued to be widely used by EU institutions and other international bodies, such as the Organisation for Economic Cooperation and Development (OECD). The anniversary publications illustrated a vibrant VET sector which is changing its nature and its role to contribute more significantly to the economies of Member States.

As always, Cedefop carefully monitored its resources in 2015. Audits confirmed that Cedefop’s procedures are regular and its internal control systems work well. Despite budget restrictions since 2009, demands have grown and we have taken on new tasks. In 2015, for example, Cedefop undertook a feasibility study on the EU VET mobility scoreboard. During 2015, Cedefop reviewed its workload to streamline its activities and prioritise further. These changes will be reflected in future work programmes and notably in a new programming document for 2017-20, which will be agreed in 2016.

The key role that Cedefop will play in the near future will be to support VET implementation. This primarily implies VET systems that can open more doors for learners and workers at all levels of qualifications; that recognise skills and engage more people in lifelong education. This is the key role that Cedefop must continue to build upon in its future programming document. We need to support countries to think European but to act locally.

The new cycle 2017-20 has been shaped during 2015. Inspired by the Riga conclusions and the ET 2020, the leadership of our Chair, Ms Micheline Scheys, and the Bureau and the Governing Board members, we have designed a new roadmap that will help us all shape, value and inform VET in ways which will enable more people to be employable and more quality jobs be created.

This is our ambition. We need to adapt to change by acting as leaders, by being culturally responsive to diverse VET systems and by being interpersonally sensitive to human crisis. There is a Chinese proverb which says that ‘when the winds of change blow, some people build walls, others build windmills’. No efforts will be spared by Cedefop to continue building windmills of VET that continue to propel reform and attractiveness to learning and working for European citizens.

I thank Cedefop’s staff for their unfailing commitment and dedication, as well as members of Cedefop’s Governing Board for their guidance and support. Thanks also go to the European Commission and the DG for Employment. The first full year of DG Employment being Cedefop’s parent DG has been busy but fruitful.

A look back over the past 40 years showed what can be achieved through cooperation and partnership that is based on shared goals, commitment and determination. Looking back over the past year shows that, although times may change, working together and meeting people’s needs remains as important as ever.

Joachim James Calleja
Director
OLD ROOTS NEW ROUTES

Forli cloth birthdays are not always welcome. The hair is often greyer and thinner, while the middle tends to be thicker. By 40, one must have some experience and perspective of what is important in life. But many are often too busy to enjoy it.

Cedefop turned 40 on 10 February 2015; it is more experienced, bolder than ever, but uncomfortably slimmer than it was a few years ago. Cedefop, with Eurofound, is the oldest European agency. Agencies make a difference. Their presence in Member States demonstrates that the European Union is not only Brussels.

For 40 years Cedefop has played a pivotal role in strengthening European cooperation in vocational education and training (VET). Cedefop has seen many changes, not least transposition of a European Economic Community of nine Member States into a European Union of 28. But challenges of the 21st century for work and growth require new approaches to learning for work. VET needs to adapt, but implementing change can be slow and difficult, and enthusiasm can be lost.

2015 AT A GLANCE
# Performance

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<td>Occupation rate of the establishment plan (including ongoing procedures)</td>
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<td>Budget implementation rate</td>
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<tr>
<td>Average payment time for invoices</td>
<td>16.28 days</td>
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</tbody>
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## References

Citations in academic literature in 2014-15:

- Powering Adults
- Skill Supply and Demand
- Lifelong Guidance and Learning Outcomes

## Contributions

- Interagency cooperation workshop on skills
- 14th OECD indicators of education systems (INES)
- Labour market, economic and social outcomes of learning (LSO)
- International symposium on career development and public policy
- National conferences on qualification frameworks
- DG Employment high level conference
- 24th European Forum of Technical and Vocational Education and Training (EfVET) annual conference

## Downloads of Cedefop Publications

609,000

## Key EU Policy User

- European Commission: 41%
- The European Parliament: 25%
- EU Agents: 19%

## External Participants at Cedefop Events

1,795

## Average Payment Time for Invoices

16.28 days

## Budget Implementation Rate

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2015 was a year to celebrate for Cedefop: 40 years of work for VET in Europe; 20 years since its move to Greece; and 10 years since the launch of Europass (1), the most tangible service that Cedefop has offered so far to European citizens in cooperation with the European Commission (2).

2015 was also the Agency’s first full year under the remit of the DG for Employment, Social Affairs, and Inclusion. This shift clearly signalled increased attention to VET on the overall EU policy agenda and its endeavour to help stimulate job creation and get people (back) into work. It also entailed reinforced demand for support from Cedefop, as the agency at the interface between education and training and employment.

At the same time, the policy framework guiding Cedefop’s work was evolving, as ministers responsible for VET endorsed a new set of priorities for the period 2015-20 (Riga conclusions). Together with the renewed agenda for adult learning, these VET ‘deliverables’ became an essential part of the reviewed education and training 2020 framework.

Targeted assistance and more opportunities for peer review and policy learning are ways and means outlined in the Riga conclusions to help Member States and social partners achieve commonly agreed objectives and deliverables. A more stringent follow-up of countries’ progress on their way to recovery within the economic governance also requires more country-based evidence. Cedefop’s 2015 work reflected this shift in emphasis. The Agency provided more country-specific information and analyses and expanded its services to individual Member States. Increased opportunities for policy learning and a move towards more hands-on approaches formed a common thread across Cedefop’s different strands of work.

Putting policies into practice requires getting all actors on board. A broader set of tools and events aimed to meet the needs of this wider range of actors, beyond policy-makers and social partners. One way to assist those who make change happen, are handbooks and guidelines.

Setting up national arrangements to validate skills and competences that people have acquired outside formal education is an agreed objective for

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2 The European Commission has entrusted Cedefop with hosting and maintaining the Europass website. Cedefop has also contributed substantially to developing several Europass documents.
Member States by 2018 (1). This requirement has gained momentum with the increasing mismatch challenge and the need to improve the labour market perspectives of those who are not in education, employment or training (NEETs), low-skilled adults and newly arrived migrants. With the revised validation guidelines (2), Cedefop and the European Commission aim to assist the different national, regional and sectoral actors involved in this endeavour. Immediate feedback since their publication at the end of 2015 signalled that this type of support is highly appreciated.

If VET is to become more attractive, as a route that leads to excellence and is socially inclusive, ensuring its quality is a prerequisite. A handbook (5) and an event focused on this key internal factor for VET to succeed. Methods and tools presented in the handbook aim to support initial and continuing VET providers. The event enabled policy-makers, social partners, experts and VET providers to reflect jointly on how to ensure the ‘quality of learning delivery’, as boundaries between types and levels are blurring and learners require more varied and flexible training offers. These were also examples of how Cedefop contributed to implementing the agreed quality assurance framework and the related Bruges and Riga objectives and deliverables.

With the policy learning forum on learning outcomes, Cedefop advanced a step further on this new path. Moving from theory to practice, the event aimed to assist those who apply and describe learning outcomes. This meant inviting those who actually do the work as well as implying learning prior to, during and after the event. Thorough preparation, not only for Cedefop’s team but also the participants, enabled guided and concrete reflection on key issues tailored to their needs. Evidence and lessons learned will be reflected in a handbook and the follow-up forum in 2016. ‘Prepare – hands-on – follow-up’ for both sides will become an increasing feature of Cedefop’s events as the Agency will be reaching out more to its different stakeholders, including practitioners.

As supporting adult and young people’s

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**HOW DO WE DEFINE AND DESCRIBE LEARNING OUTCOMES?**

**CEDEFOP’S FIRST POLICY LEARNING FORUM: A ‘HANDS-ON APPROACH’**

Simple, short, measurable, authentic, realistic and fit for purpose: these are key features of well-defined and described learning outcomes, the participants of Cedefop’s first policy learning forum agreed. But there is no single way to achieve this aim.

Using learning outcomes to describe qualifications is seen as a way to improve the communication between education and training and the labour market, but not just that. Initial vocational education and training (IVET) qualifications, standards and curricula that describe what learners are expected to know, understand and should be able to do, aim to:

(a) help employers understand which skills and competences a qualification holder may bring to the job;
(b) clarify for teachers and trainers what learners need to achieve and what they or other examiners will need to assess;
(c) make learners (and parents) more aware of what they should achieve.

These three main aims are already challenging. Cedefop’s first policy learning forum, therefore, explored the way learning outcomes approaches are used in IVET throughout Europe. Substantial experience is currently being generated nationally and at sectoral level: designing NQFs has also triggered revision of qualifications, standards and curricula. To ensure that the event would be really ‘hands-on’, Cedefop selected experts directly involved in this work, including national experts and administrators, in public administration, qualification agencies and from social partners. Prior to the event, Cedefop also carried out a survey to understand different national approaches and
employability remained one of the top objectives of the EU agenda, Cedefop’s knowledge broker role received particular emphasis in 2015. As in 2014, Cedefop again offered a platform to actors from across Europe interested in teaming up bilaterally or multilaterally to develop joint apprenticeship initiatives. The 2015 event focused on initiatives encouraging small and medium-sized enterprises (SMEs) to engage in training. The motto ‘prepare – hands on – follow up’ also applied to this event. Information on initiatives and proposals Cedefop collected prior to the conference formed the basis for sharing experience and hands-on activities. With this event, Cedefop provided the grounds for potential follow-up by participants.

To help promote apprenticeships and other forms of work-based learning, Cedefop contributed extensively to the expert working group set up by the European Commission. This included input and advice to the group’s work on guiding principles for such approaches, informing debates at high level policy meetings and providing easily accessible information on developments in apprenticeships. The Agency was also invited to join the interagency group on work-based learning. Led by Unesco, this group also includes the ILO, the OECD, the European Commission and the European Training Foundation (ETF). The increase in demand for Cedefop’s expertise on apprenticeships and work-based learning more generally was also reflected in the download of publications. The results of Cedefop’s new initiative, to support individual countries in their work to set up, expand or revise their apprenticeship schemes met with particular interest. The apprenticeships thematic review of Malta was downloaded most frequently. After Lithuania and Malta, review work started on apprenticeship schemes in Greece, Italy and Slovenia.

As is evident from the above, Cedefop’s knowledge broker role took different forms, and came in different ‘packages’ combining expertise from within and across its different strands of work. In all cases, however, it was underpinned by the Agency’s long-standing expertise in research and policy analyses. Investigation of the economic and social costs of high shares of low-skilled adults, for instance, came at a time when EU-level discourse saw a need to rebalance policy and pay more attention to equality and inclusion. Low-skilled adults generally face weaker labour market conditions and their prospects have deteriorated further during the recession. The results of the study, to be published in 2016, underline this need for change, as the macroeconomic impact of (low) skills for society as
a whole is simply too high.

Being at the leading edge of developments is what has made the Agency a driving force and a reference centre for VET developments in the past 40 years. Already its work to help improve the transparency of qualifications or its initiative to develop European-wide skills forecasts had proved the Agency’s capacity for foresight. With its ample research on skill mismatch, which bore fruit in 2015, Cedefop was once again at the forefront. During the crisis, concerns that skill mismatch prevail in European labour markets have become stronger. Policy discourse tends to associate skill mismatch with a workforce that is ill-prepared for labour market needs, seeing education and training as the sole cause of the problem.

But the Agency’s first ESJ survey and further analyses provided evidence for a more differentiated view. Different types of mismatch, their root causes and ways to address these challenges were discussed at a high-level conference. They also demonstrated how employers can make better use of their staff’s potential and contribute to developing the skills Europe needs. This issue was at the focus of potential and contribute to developing the skills employers can make better use of their staff’s potential and contribute to developing the skills base Europe needs. This issue was at the focus of an event Cedefop organised jointly with the European Foundation for the Improvement of Living and Working Conditions (Eurofound), the other agency founded in 1975, at their ‘birthplace’, the European Economic and Social Committee.

Drawing on the findings of the skills and jobs survey and its other research on skills, Cedefop contributed to a workshop of the European Parliament’s Employment and Social Affairs Committee (1) and a range of EU policy documents. These included the Commission’s thematic fiche Skills for the labour market for the European semester (2) and the chapters on ‘Preventing and fighting long-term unemployment’ and ‘Supporting skills development and matching in the EU’ in its report Employment and social developments in Europe 2015 (3). The comparative work on skills was complemented by country-by-country brief analyses of forecasting trends in skill supply and demand up to 2025. These analyses were enriched by a national expert’s comments to inform policy. The Skills Panorama (4) relaunch in December 2015 exemplified how research results may be used to inform both policy-makers and practitioners. It demonstrates how labour market intelligence can be made available and accessible to inform decisions and advice related to education and training. Entrusted with redesign and maintenance of the Skills Panorama by the European Commission, Cedefop aimed at creating a portal that will also be useful to non-expert users; as feedback so far indicates, this was a move in the right direction.

This example illustrates how Cedefop’s long-standing research and policy analyses built the foundation for its new services. The Agency’s extensive activities in analysing NQFs also bear witness to this development. Cedefop’s fifth annual report and analysis on European NQF developments was published in July. Throughout recent years, demand for Cedefop support in this field has remained high, in EU level working groups, joint activities with Unesco and the ETF, and the most recent work by the European Commission to analyse in what way the frameworks of Australia, Hong Kong and New Zealand could be compared to the EQF. Cedefop also provided more country-specific analyses and was asked to support individual countries, such as Greece and Cyprus, in their work to establish NQFs. The reflections at the Cedefop event in late autumn on how globalisation influences VET built on its ample analyses of national and international qualifications and qualifications frameworks.

The work on validating non-formally and informally acquired qualifications illustrates how expertise gained in different activities can be complementary. Experience from analysis of countries’ validation arrangements informed the most recent review of the guidelines which, in turn, will feed into the next validation inventory. Hence, while carrying out research and policy analysis and acting as knowledge broker are distinctive activities with their specific purposes, they should be seen as communicating vessels.


One of Cedefop’s most traditional activities has been to help countries understand how other VET systems in Europe work and how they develop. This information is also a prerequisite to being able to understand countries’ progress in developing their VET. The increasing take up of such information in the education and training monitor and within the reports on countries’ progress towards economic recovery (European semester) confirm this. So do the proposals in EU policy documents suggesting that Cedefop could expand its information on continuing vocational education and training (CVET). Given that Europe’s CVET landscape is notably heterogeneous, two reports were specifically dedicated to analysing challenges and opportunities for VET.

The impact of globalisation on VET: challenges and opportunities
26 and 27 November 2015 Thessaloniki

If the rate of change on the outside exceeds the rate of change on the inside, the end is near” (10) – this is how keynote speaker Patrice Guézou, from France’s Chamber of Commerce and Industry described the challenge VET is facing in a globalised world. Globalisation and rapid technological developments, such as digitalisation, transform occupations, create new ones and make skills quickly outdated or obsolete. VET must give learners and workers the chance to develop skills they can transfer from one job to another and from one sector to another. Any skills they have that enable them to remain employable need to be valued/recognised. To make this happen, VET needs to stay at least abreast with, if not ahead of developments.

These developments have also led to new forms of VET and qualifications, as well as new players changing the way skills are delivered, acquired and assessed. Many countries see the need to integrate a global dimension in their programmes and qualifications and/or use international and sectoral standards to shape them. The conference debate focused on the following questions:

(a) how can international knowledge, skills and competence requirements broaden national qualifications and influence VET content?
(b) what added value do international qualifications bring to employers, national authorities, workers and learners?
(c) how can we ensure continuous feedback loops to review national standards and respond to global requirements? What are the conditions for successful cooperation between actors at different levels?

More than 100 experts from over 30 countries agreed that focusing on learning outcomes could help actors within and across sectors collaborate more effectively. They discussed how labour market intelligence can help renew VET standards and whether developing core sectoral occupational profiles could strengthen the European dimension. As new qualifications, types of VET and providers, such as international sectoral bodies or multinational companies, are appearing, quality assurance is essential to trust in these sectoral and international solutions. National authorities must set the relevant conditions. With these reflections, the conference also supported European countries’ commitment in June 2015 to address the impact of globalisation. In their preamble to a new set of priorities for VET, ministers had declared they ‘were’ ‘determined to further contribute to the international competitiveness of the labour force developed by the European VET systems and to improved recognition of VET qualifications in Europe and global context’ (11).

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(10) Jack Welch, CEO of General Electric.
developments and practices in this field. To reflect on the challenges and opportunities that vocationally oriented education and training in Europe faces today, however, more in-depth analyses are required. Initial work to investigate how the role of VET is changing in Europe started in spring 2015. It will draw on the expertise that Cedefop has acquired in the course of the years through its VET reports and analyses.

As the pilot study on developing a mobility scoreboard showed, policy analyses can serve several purposes. The scoreboard will help inform national policies to promote VET mobility but also illustrate progress and common challenges in reaching the relevant European benchmark. Informing VET policies has been at the core of Cedefop’s activities within the so-called Copenhagen process, countries’ joint work on VET. Its analysis on how countries have progressed in achieving the deliverables agreed in 2010 contributed to defining the new set for the period up to 2020. While this analysis still focused more on the comparative aspect, monitoring the new ‘Riga deliverables’ will require more information on the progress individual countries are making. To prepare for this exercise, Cedefop reviewed its approach to monitoring and discussed its plans with the directors general and the European advisory committee for VET.

The renewed mandate to follow up progress and contribute to improving statistical data for VET is further recognition for Cedefop’s work; so is demand for contributions to the European alliance for apprenticeships or to high-level meetings. Take-up of its findings in EU policy documents reflected the themes that featured high on the policy agenda. Cedefop’s work on skills was again cited, with increasing interest in addressing the mismatch issue. The European Parliament’s document on labour market shortages, for instance, referred to Cedefop’s related work as the ‘most important policy paper in the EU’. The high share of citations that relate to ‘empowering adults and young people’ and, more generally, the Agency’s medium-term priority ‘careers and transitions’, mirrored the policy focus on apprenticeships. This included efforts to encourage enterprises to engage in training and young people to choose VET by demonstrating VET’s benefits. Recourse to the validation guidelines of 2009 signalled the timeliness of their revision. Citations in academic literature confirmed that Cedefop’s previous research and analyses are still relevant. They mirror the current trend to revisit approaches and definitions of learning outcomes and competences. Demand from high-level working groups for the Agency’s expertise on the European tools that make qualifications easier to compare and people’s skills better visible remained strong.

As in the past, the European Commission was the main user of Cedefop’s work, followed by the European Parliament. Also the two agencies Cedefop collaborates with regularly to ensure complementarity and added value, Eurofound and the ETF, frequently referred to Cedefop findings in their work. Among international organisations citing Cedefop’s work, OECD was most frequent. Work on skills analyses is the most frequently cited and also an area for cooperation.

Short publications that support Cedefop’s knowledge broker role have proved very popular: briefing notes and the Agency’s new magazine Skillset and match. Increased and targeted activities in press work, social media, publications and events, also in cooperation with DG Employment, Social Affairs and Inclusion helped improve the efficiency of Cedefop’s social media communication. Uptake by the press of Cedefop findings demonstrates this. It is not surprising that Cedefop’s work attracted particular interest in southern-Europe countries where youth unemployment is highest.

Most of Cedefop’s communication activities focused on anniversary-related publications and events. This included inviting a large audience to reflect on the Agency’s developments and achievements in its 40 years and take an outlook to future VET policy development. The motto ‘Old roots for new routes’ also guided the Agency’s communication activities. A wide range of audio visuals, from web-streamed events to interviews with renowned researchers, experts and policymakers, as well as video animations to explain Presidencies’ VET systems in a nutshell, contributed substantially to improving the Agency’s outreach. Increasing that outreach to social partners, practitioners and those who benefit from VET, young and adult European citizens is an ambitious target that needs to be firmly anchored in Cedefop’s research and policy analyses strands.
Two thirds of the European workforce are recruited by SMEs while less than a third of them offer apprenticeships. SMEs are less likely to engage in training apprentices than larger companies. The challenges they face are known, but ways to overcome them may be less so.

To discover such opportunities and create partnerships to support SMEs in this endeavour, more than 180 experts attended the second European apprenticeship conference organised by Cedefop in cooperation with the European Commission. It addressed a wide range of actors helping SMEs to increase their apprenticeship offers.

Participants shared success stories, for instance how SMEs take the lead and set apprenticeship programmes. National practices by industry, social partners, public authorities and other organisations supporting SMEs were presented, from regulatory framework to financial and non-financial support, and from attractiveness and guidance to quality of provision.

Conference participants also had the chance to identify ideas for cross-country initiatives, find suitable partners, and understand how they may obtain financial support to turn their ideas into reality. Main funding opportunities presented at the event included a specifically targeted ‘Erasmus+’ call for proposals, the European social fund, and the European Investment Bank’s youth employment programme.

Ideas ranged from a European network for promoting apprenticeships to training in-company trainers and from offering tasters to would-be apprentices to organising campaigns to engage small businesses. At the end of the conference participants voted for the best ideas.

Discussants agreed that simple and catchy messages that communicate the value of apprenticeship, preferably by SME ambassadors, could convince more SMEs to get on board. They would need to demonstrate that training helps the business grow proving that young people are not a cost, but an investment.

However, this also requires changing the perceptions of the targets. Young people – and their parents – need to understand how apprenticeship benefits them. Parents should take pride in their son/daughter becoming/being an apprentice.

SOLVING SKILL MISMATCH EQUATIONS

The most common understanding of skill mismatch is one of employers unable to fill vacancies despite high unemployment. However, skill mismatch is more pervasive. It does not only concern those looking for a job, it affects most of the workforce and can hamper both economic productivity and individual potential.

To understand better the incidence and forms of skill mismatch, as well as potential solutions, Cedefop started to research the issue in 2010. Since then, it has undertaken several studies and analyses, debated with the most prominent experts in the field, and carried out the first ESJ survey. In 2015, the Agency released the outcomes of this thorough and comprehensive analysis in the form of several publications, web articles, seminars and a high-level conference. Findings and evidence collected by Cedefop make a critical contribution to research and policy on skill mismatch in the EU.

Cedefop’s first ESJ (12) survey reveals that skill mismatch affects most of the workforce, not only those looking for a job. The survey is the first to look at skill mismatch over time, taking account of changes to people’s skills and their job tasks. The findings caution that the prolonged economic downturn is threatening the long-term potential of the EU’s human resources. A greater share of recent job finders has entered into jobs that need lower qualifications and skills than their own. The unemployed also run greater risk of misplacement into jobs of lower skill intensity. Further, more than one in five EU employees have not developed skills since they started a job, as over one third of EU jobs are characterised by poor task complexity and lack of continued learning.

Closer stakeholder collaboration and policy action is needed in the EU to generate not only more skills but also, crucially, better jobs for better-matched skills. The survey findings have important implications for several EU policies. They provide robust quantitative data to support the EU’s agenda to promote work-based learning and continuing vocational training. They also support improving active labour market policies by integrating European tools, such as skills validation. The findings finally have implications for the social partnership and dialogue on how skills are developed and used at the workplace.

Further to the survey, and to address concerns of policy-makers and employers about skill shortages in Europe, Cedefop undertook an analysis of Skill shortages and gaps in European enterprises. Published in October, the report shows that most vacancy bottlenecks arise because of factors other than skill deficits, including job offers of poor quality. Nevertheless, to tackle current and dynamic skill gaps in European enterprises, the incentives to both individuals and organisations to support skill development and skill matching need to be closely aligned. Individuals need to have a positive attitude to learning and possess an appropriate set of core competences and motivations that will enable them to be flexible and adaptable in response to economic and organisational shocks. But organisations also have a critical role to play in avoiding the cost of skill gaps. This can be achieved by fostering a learning climate in the workplace, enabling better balance between work and life responsibilities, cooperating with education and training institutions, and participating in curriculum design.

Complementing the efforts to understand better the incidence and impact of skill mismatch in Europe, Cedefop has been in search of effective policy interventions. The research paper Tackling unemployment by addressing skill mismatch presents the first comprehensive study that maps actual skill mismatch policies and practices in the EU.

(12) Launched in 2014, Cedefop’s survey asked 49,000 adult employees (aged 24 to 65) across all 28 Member States how their skills and qualifications match the needs of their jobs.
EU. The lessons support policy learning and can help Member States shape policies with a stronger focus on matching, paving the way for policy agendas that put skill matching centre stage by:
(a) refocusing active labour market policies on skill matching;
(b) using preventing policies targeting youth in education and training and those in employment;
(c) developing comprehensive skill matching strategies.

Raising awareness of Cedefop’s key findings on skill mismatch was achieved using information literature, press releases ("), web articles, seminars and intervention at conferences, and a video presenting individual stories of people affected by skill mismatch. Supporting the aim to inform policies


25% Highly qualified young adult employees who are overqualified for their job
42% Employees with few opportunities to find a job matching their skills and qualifications
53% Employees whose tasks have become significantly more varied since they started their job
22% Employees whose skills have not developed since they started their job

40% Employees completing education and training involving some work-based learning
62% Employees in professional, scientific or technical services completed studies with no work-based learning
33% Employees need only basic ICT skills or no ICT skills at all to do their job
27% Employees in 'dead-end' jobs with skills higher than needed to do their job and limited potential to grow
that can stimulate skills demand through innovation and better jobs and effectively match the skills of young and adult workers, as stated in the revised priorities for VET agreed in Riga in June 2015, Cedefop presented its new ESJ survey and discussed results from its overall research agenda on skill mismatch at the conference Maximising skills for jobs and jobs for skills (*) on 7 and 8 December.

The conference aimed at stimulating discussion and identifying key policy priorities, challenges, and applicable solutions to the problem of skill mismatch, with particular emphasis on the role of public-private partnerships and supportive public policies. Experts in skills and skill mismatch, along with representatives of governments, social partners, education and training, and the labour market, engaged in a series of discussions structured around two key thematic pillars:
(a) future challenges for VET: impact of technology and workplace change on skill needs;
(b) fostering partnerships in the workplace: rising to the challenge of skill mismatch.

OLD ROOTS FOR NEW ROUTES: 40 YEARS OF VET IN EUROPE

40 years’ contribution to VET in Europe and 20 years in Greece: time to reflect on how Cedefop has evolved to become Europe’s reference point at the interface between education and training and the labour market; time to reflect about new routes to help implement VET policies and tools to benefit citizens; and time to celebrate.

Celebrations started with an internal event on 10 February attended by Thessaloniki’s Mayor Yiannis Boutaris; this was the date when the Council of the then European Communities had decided to establish an agency for VET. The opening of the exhibition Old roots for new routes, created by Cedefop staff, on 11 June and a conference on 12 June marked 40th anniversary events held on the occasion of its annual Governing Board meeting. High-level Commission representatives, Governing Board members, local stakeholders and present and former staff were invited.

In line with the motto ‘Old roots for new routes’, the anniversary conference looked at how VET has developed into its present role, and discussed its future orientations up to 2020. The European Commission Director General for Employment, Social Affairs and Inclusion, Michel Servoz opened the event. Delegates representing Cedefop’s key stakeholders, policy-makers and social partners reflected on how the Agency can develop its support for modernising education and training systems and help design European policies. The Agency’s central role as a bridge between the worlds of work and of education and training was the focus of the discussion. This went hand-in-hand with reflections on how Cedefop will interact with its key stakeholders in the future, strengthening its support not only to the European Commission but also to EU Member States and social partners.

The main challenge Cedefop faces, as European Parliament President Martin Schulz underlined in a video message, is to ‘elevate vocational training back to the level of respect it enjoyed many decades ago, while […] addressing today’s realities, especially the need for a very adaptable workforce’. Or, to help ensure ‘VET should become a first choice and not a second option for young people’, as Commissioner Thyssen put it.
Celebrations for Cedefop’s anniversary concluded with an event in Brussels, jointly held with Eurofound and the EESC. More than 200 participants explored work organisation and skill development practices that benefit employers as well as employees.

Findings from Eurofound’s third European company survey and Cedefop’s first ESJ survey informed the debate. ESJ is the first survey to look at mismatch over time, taking account of changes to people’s skills and their job tasks. It investigated the match between adult workers’ skills and jobs in the EU-28 in spring 2014.

The seminar on 19 November 2015 was an opportunity to present both agencies’ recent findings and initiatives on work organisation and workplace learning to a wide audience of policy-makers, academics, practitioners and representatives from national authorities, European and international institutions, enterprises and trade unions. The two longest-established EU agencies, both created in the same year, demonstrated how their complementary work can support the EU agenda.

Training reinforces rather than levels labour market inequalities, confirmed OECD’s Mark Keese in his introductory remarks. Work organisation plays a key role in access to training and in the use of skills. Eurofound’s analysis looked into the combination of, and relationship between, different workplace practices, company performance and employee well-being in the workplace. The challenge is to create a work organisation and work arrangements that are conducive to learning.

Cedefop’s ESJ suggests that 26% of EU adult workers have significant skill deficits. Higher skill deficits correlate with lower productivity. A total of 22% have not developed their skills in their jobs. Those who did combined formal training with informal learning, the way that most EU workers develop their skills on the job. Work complexity not only reinforces skill development and but also reduces the degree to which employee skills remain underutilised. But too many jobs in the EU have low work complexity and skill needs. CVET and work complexity need to evolve together to retain skill matching. Skill demand needs to be stimulated through work innovation to prevent rising skill underutilisation. This also entails aiding enterprises to design better-quality jobs.

The event on 19 November 2015 not only marked the 40-year anniversary of Cedefop and Eurofound, it also recognised the EESC’s support in the making of the two agencies and its strong tripartite role in EU policy-making. All news items, videos and publications related to Cedefop’s 40th anniversary are available at: http://www.cedefop.europa.eu/en/tags/40-years-cedefop [accessed 28.3.2016].
In 2015, Cedefop carried out many interviews and published them online. Around half of the 39 video interviews and thematic video clips were related to the Agency’s 40th anniversary. All, including video messages by Martin Schulz, President of the European Parliament, and Marianne Thyssen, EU Commissioner for Employment, Social Affairs, Skills and Labour Mobility, are available online at Cedefop’s web portal (\(^{15}\)) (see page 21, Old roots for new roots: 40 years of VET in Europe). The others covered a wide range of topics and interviewees related to Cedefop events and its research.

**VIDEO INTERVIEWS AND THEMATIC VIDEO CLIPS**

Cedefop’s new route towards increasing support to Member States and social partners requires that it becomes a reference point for practitioners, learners and workers. Besides providing information for policy-makers, VET experts and researchers, the web portal will be a user-friendly access point for end-users.

An initial step has been made. A new series of animated videos on VET systems, launched in 2015, explains Presidency countries’ VET systems in less than three minutes. These short and easy to understand videos are based on Cedefop’s *Spotlights on VET* (\(^{16}\)), jointly produced with ReferNet, that explain countries’ VET in a nutshell.

**VIDEO ANIMATIONS**

VET in Luxembourg (\(^{17}\)), VET in Latvia (\(^{18}\)) and VET in Italy (\(^{19}\))


CEDEFOP

Cedefop is one of the EU’s decentralised agencies. Founded (20) in 1975 and based in Greece since 1995, Cedefop supports development of European VET policies and contributes to their implementation. The Agency is helping the European Commission, EU Member States and the social partners to develop the right European VET policies.

Cedefop’s activities are guided by its strategic objective and medium-term priorities. Cedefop’s strategic objective is to contribute to designing and implementing policies for attractive VET that promotes excellence and social inclusion, and to strengthening European cooperation in developing, implementing and analysing European VET policy. The strategic objective is supported by three medium-term priorities (21):
(a) supporting modernisation of VET systems;
(b) careers and transitions: CVET, adult and work-based learning;
(c) analysing skills and competence needs to inform VET provision.

The medium-term priorities steer the activities of Cedefop’s annual work programmes and ensure continuity of its work, allowing the necessary flexibility to respond to changing needs.

CEDEFOP GOVERNANCE

GOVERNING BOARD

Cedefop is governed by a board made up of three members from each Member State representing the government, employers’ and employees’ organisations; and three members representing the European Commission.

Member State representatives are appointed by the Council for three years (renewable); the Commission’s representatives are appointed by the Commission.

The Governing Board convenes once a year.

BUREAU

To operate and be more closely involved in the monitoring of the Agency’s activities, with a view to reinforcing supervision of administrative and budgetary management, the Governing Board establishes a smaller-sized Bureau. The Bureau usually meets five times per year. The Governing Board may decide to enlarge the Bureau for meetings with strategic issues for future Governing Board decisions.


(21) 2012-14 extended to 2016.
## RESULTS ACHIEVED

### 2.1. SUPPORTING MODERNISATION OF VET SYSTEMS

#### 2.1.1. ACTIVITY: POLICY ANALYSIS AND REPORTING

Setting EU priorities has had an impact, inspiring VET reforms in more than two thirds of the countries: so concluded Cedefop’s report *Stronger VET for better lives* (22) published in March. It highlighted achievements and areas for improvement in a set of actions that countries had agreed to put in place by 2014. This report informed the decision on new ‘deliverables’ for the period 2015-20 and was accompanied by a briefing.

### PERFORMANCE

**74 REFERENCES**

In EU policy documents

For example:
- joint report of the Council and the Commission on implementation of the strategic framework for European cooperation in education and training (ET 2020);
- Joint Research Centre report on education and youth labour market outcomes: the added value of VET;
- European Trade Union Institute (ETUI) report on VET and the recent recession: supporting young people in a time of crisis.

**22 ACTIVE CONTRIBUTIONS**

To EU senior stakeholder meetings that support policy implementation

For example:
- contribution to the work on the Riga conclusions; presentation of revised monitoring approach for the new deliverables to Directors General of Vocational Education and Training (DGVT) and advisory committee on vocational training (ACVT).

**34 WRITTEN CONTRIBUTIONS**

To policy documents of EU (32) and international organisations (2)

For example:
- contribution to the document of the 14th OECD INES LSO meeting on proposals to improve and develop indicators on vocational work-study programmes and qualifications.

**57,000 DOWNLOADS OF CEDFOP PUBLICATIONS**

**TOP THREE PUBLICATIONS:**
- Briefing note: stronger VET for better lives;
- VET in Greece.
note (\textsuperscript{23}) for policy-makers. Cedefop also helped prepare the 
\textit{Riga conclusions} (\textsuperscript{27}) outlining the new priorities that ministers responsible for VET agreed in June 2015. The Agency revised its \textit{monitoring approach} to suit the new requirements and reflect lessons learned in the previous period, and presented its plans to the ACVT and DGVTs.

Progress in encouraging partnerships for creativity and innovation appeared to have been slower than in other deliverables but is moving up the EU policy agenda. Cedefop asked ReferNet to draft articles presenting examples of measures that promote innovation skills in VET or help to innovate their VET.

These articles formed the basis for the briefing note \textit{Innovation and training; partners in change} (\textsuperscript{23}) which was disseminated at the Luxembourg DGVT meeting.

Initial steps were taken to enrich Cedefop’s knowledge base on \textit{key competences}, one of the ‘deliverables’ that has been reinforced for the period 2015-20. Articles by ReferNet explaining how such competences are integrated in upper secondary VET will complement the information and help identify areas for in-depth analyses.

To inform the DGVT debates, Cedefop drafted background papers for most of the workshop themes of the spring and autumn meetings. These covered skills for employability; work-based learning and apprenticeships from the stakeholder perspective; CVET in a lifelong learning perspective; work-based learning/apprenticeships and second chance education for adults; quality assurance in VET with a focus on pedagogy and feedback on outcomes; and VET policies for migrants (joint paper with the ETF). The background papers (\textsuperscript{27}) drew on Cedefop’s policy analyses and relevant strands of work.

On request, Cedefop supported DG Employment in its work to prepare information related to VET and adult learning for the education and training monitor country fiches, drawing on data available through ReferNet. This input by Cedefop was also used as background information for the Commission’s work on the European semester.

As in previous years, cooperating with its national ReferNet partners, Cedefop published ‘\textit{short descriptions}’ (\textsuperscript{27}) and ‘\textit{spotlights}’ (\textsuperscript{28}) to help make the Presidency countries’ VET better known and understand the challenges it faces. These publications were disseminated at the Latvian and Luxembourg Presidency events.

A special ‘spotlight’ edition (\textsuperscript{28}) was prepared for Cedefop’s anniversary, offering a brief overview of VET systems in the EU-28 as well as Iceland and Norway.

By the end of the year, following extensive feedback to ReferNet, most of the \textit{VET in Europe country reports} explaining VET systems in the EU-28, Iceland and Norway had been published online. Updates of these reports are published regularly.

Input from ReferNet partners also informed other strands of Cedefop work, such as that on

\begin{itemize}
  \item[(27)] The background papers Cedefop drafted for the DGVT meeting under the EU Latvian and Luxembourg Presidencies are: 
    \begin{itemize}
      \item[(a)] Work-based learning and apprenticeships: challenges and proposed solutions from various stakeholders’ perspectives;
      \item[(b)] CVET in the lifelong learning perspective: implementing flexible and permeable pathways for improved CVET access and quality;
      \item[(c)] Skills for employability through enhanced strategic partnerships in IVET provision;
      \item[(d)] Adult learning with a focus on work-based learning, apprenticeships and second chance education;
      \item[(e)] Quality assurance in VET: feedback loops and learner-centred approach in vocational pedagogies;
      \item[(f)] VET policies for migrants.
    \end{itemize}
\end{itemize}
apprenticeships (see articles published in spring 2015 (**)). Regional meetings were held in spring and a working group meeting focused on improving the quality of outputs. In addition to peer reviews, piloted in previous years, this included work on terminology and exchange of information and experience on current work themes for ReferNet partners. This work was steered by Cedefop.

In June, Cedefop published a call for proposals to renew its ReferNet partnership agreement with national VET institutions for the period 2016-19. A total of 25 partnerships were concluded following the first procedure. A second call at the end of the year was launched to allow for having all potential partners on board. The kick-off to the new four-year period took place on 18 to 20 January 2016 during the ReferNet plenary meeting. Joint reflection on EU VET terminology and peer learning activities will strengthen partnership among national members and with Cedefop.

Substantial work on a mobility scoreboard for IVET started in 2015. This new project, entrusted to Cedefop by the Commission, is developed in response to the 2011 Council recommendation Youth on the move: promoting the learning mobility of young people (**), which sets learning mobility as a priority for Member States. The recommendation calls for the need to develop a methodological framework (referred to as ‘mobility scoreboard’) to monitor Member States’ progress in promoting learning mobility. The scoreboard complements the work carried out by Eurydice (mobility scoreboard for higher education), Eurostat (developing learning mobility statistics) and the Commission (Erasmus+).

The aim of the mobility scoreboard is to analyse the conditions that IVET learners face when they undertake international learning mobility. It should assist countries in identifying gaps in mechanisms and structures that aid IVET mobility and help develop solutions to address these gaps. In 2015, Cedefop launched a feasibility study to design a methodology to analyse the mechanisms and structures that support IVET mobility in the Member


States. Work was supported by an external expert group set up by the European Commission and covered four of the 10 key areas outlined in the recommendation (35). Conclusions from this exercise indicate that collecting required data and developing an IVET mobility scoreboard is feasible. A second phase for development of the scoreboard is starting in 2016.

The 2014 update of the country statistical overviews (33) was published in April to help policy-makers better understand and assess VET developments in each EU country using recent evidence from the European statistical system. The report illustrates progress on 33 indicators selected for their policy relevance and importance in achieving the Europe 2020 objectives. These inform on access, attractiveness and flexibility of initial and continuing VET; on skill developments and labour market relevance of education and training; and on transitions from education and training to employment. The indicators take 2010 as the baseline year and present statistical overviews in all EU Member States, the former Yugoslav Republic of Macedonia, Iceland, Norway, Switzerland and Turkey.

Three statistical highlights (34) providing insights into Cedefop’s European skills survey results were also published.

The publication Job-related adult learning and continuing vocational training in Europe: a statistical picture (35) selects, presents and analyses data from the latest waves of the adult education survey and the continuing vocational training survey. These are essential resources to complement and better understand the labour force survey indicator on participation in lifelong learning. The report provides insights into job-related and employer-sponsored learning and training. Types, forms, purposes, content, employer support and financing of adult learning, as well as obstacles and barriers, are analysed. Data from this study have also informed the briefing note Encouraging adult learning, published in August (36).

The research paper Unequal access to job-related learning: evidence from the adult education survey (37) was based on statistical modelling of adult education survey microdata. The report provides detailed and robust insights into inequalities in access to adult training at individual and country level based on key factors of policy interest, including labour market status, educational attainment, gender, age, occupational group, and employer size and sector.

To reflect on the challenges and opportunities facing vocationally oriented education and training in Europe today, Cedefop initiated a three-year study on the changing role of VET in Europe. The study focuses on:

(a) the changing definition of VET;
(b) external drivers influencing VET developments;
(c) pressure on upper secondary VET;
(d) VET from a lifelong learning perspective;
(e) the role of VET at higher education levels;
(f) scenarios outlining alternative development paths for European VET in the 21st century.

In a workshop organised by Cedefop in June (38), experts and researchers from several countries, inside and outside Europe, confirmed the relevance of this activity. Discussions illustrated how VET is expanding into higher education and influences new requirements that tend to put more emphasis on a combination of transversal and occupation-specific skills and competences.

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(35) (a) Information and guidance; (b) institutional and administrative obstacles; (c) recognition of learning outcomes; (d) partnerships and funding.
RESULTS ACHIEVED

Initial vocational education and training in Europe:

Upper secondary students enrolled in vocational programmes (% of all upper secondary students), 2006 and 2012.
2.1.2. ACTIVITY: COMMON EUROPEAN TOOLS, QUALIFICATIONS AND LEARNING OUTCOMES

Cedefop supports the European Commission, Member States, social partners and other stakeholders in developing and implementing the commonly agreed European tools and principles (Education and training 2020 framework for cooperation in education and training; VET communiqués since 2002 with the Bruges communiqué in 2010 and the Riga conclusions in 2015; and relevant Council recommendations and resolutions). The aim of this work is to make qualifications more transparent, ease mobility of learners and workers and promote lifelong learning. Cedefop’s analytical and conceptual work provides a strong evidence base for all who help shape VET policies. Its analyses show that development and implementation of the tools has stimulated (reforms of) VET and lifelong learning policies at all levels, strengthening dialogue and interaction between education and training and labour market stakeholders.

Cedefop’s fifth annual report and analysis on European NQF developments (40), published in July, and the briefing note Qualifications frameworks in Europe – Coming of age, finalised in December, confirm that qualifications frameworks are a key tool in making qualifications more transparent and easier to compare, nationally and internationally. The analysis shows that frameworks increasingly trigger reforms and are used to support changes in education and training. Although uneven across countries and sectors, NQFs have strengthened the use of learning outcomes approaches. They have also helped bring together stakeholders from different sectors of education, training and employment to renew and develop new qualifications, for example at EQF level 5.

Complementing the above report, Cedefop’s anniversary edition on NQF developments (40) provides an overview of European NQFs and their qualifications and celebrates the Agency’s long-term work in this area.

Cedefop also supported continuing work to link national qualification levels to the EQF by drafting comments for the (draft and final) national referencing reports of Cyprus, Estonia (updated), FYROM, Greece, Hungary, Malta (updated), Romania and Switzerland. Cedefop’s analysis shows that countries are putting considerable effort into preparing reliable reports and meeting the requirements of the 10 referencing criteria. However, there are several challenges: how to document sufficiently the inclusion in, and placing of, qualifications to NQF levels; how to present clearly the scope of their NQF and referencing report (which qualifications are included/not included); how to link better descriptors, learning outcomes, placing of qualifications and quality assurance.

The second edition of the Global inventory of regional and national qualifications frameworks (41) drawn up jointly with Unesco headquarters, Unesco Institute for Lifelong Learning (UIL) and the ETF, was published in May. It shows that in 2014, more than 150 countries and territories were developing qualifications frameworks. Regional qualifications frameworks (like the EQF) are also increasingly becoming operational across the world. The findings were presented at the 5th Asia-Europe education ministers’ meeting in Riga, Latvia, in April.

Increasingly, the EQF is considered an important international reference point for countries developing national or regional qualifications frameworks and international cooperation. To contribute to this process, Cedefop actively cooperated with Australia, Hong Kong and New Zealand in drafting technical comparability reports between their frameworks and the EQF and preparing papers identifying risks and benefits of aligning these frameworks to the EQF. The technical reports were endorsed by the EQF advisory group in December 2015 and provide


33

RESULTS ACHIEVED

**WRITTEN CONTRIBUTIONS**

- 24 references in EU policy documents of EU (21) and international organisations (3)

- 64 active contributions to EU senior stakeholder meetings that support policy implementation

- 58,000 downloads of Cedefop publications

- 24 million visits to the Europass website

**TOP THREE PUBLICATIONS:**

- Analysis and overview of NQF developments in European countries: 2012 annual report
- Briefing note: Qualifications frameworks: expanding influence, persisting obstacles
- Briefing note: The validation challenge: how close is Europe to recognising all learning

**REFERENCES IN EU POLICY DOCUMENTS**

- For example:
  - Cedefop work on validation was cited in the opinion of the European Economic and Social Committee on validation of skills and qualifications acquired through non-formal and informal learning;
  - the European Commission staff working document on the results of the open method of coordination in the youth field with a special focus on the second cycle (2013-15).

**ACTIVE CONTRIBUTIONS**

- For example:
  - Cedefop’s contribution to senior stakeholder meetings on common European tools qualifications and learning outcomes had the highest demand (37%);
  - EQF advisory group and its subgroup on international sectoral qualifications;
  - European credit system for vocational education and training (ECVET) users and steering groups and forum;
  - European quality assurance in vocational education and training (EQAVET) steering committee, thematic groups and forum;
  - European skills, competences, qualifications and occupations (ESCO) board, maintenance committee and cross-sectoral reference group.

**WRITTEN CONTRIBUTIONS**

- For example:
  - technical alignment reports of the EQF to the qualification frameworks of Australia, Hong Kong and New Zealand;
  - written contribution to the national VET strategy of Slovenia;
  - articles in the EQAVET and ECVET magazines.

**TOP THREE PUBLICATIONS:**

- Analysis and overview of NQF developments in European countries: 2012 annual report
- Briefing note: Qualifications frameworks: expanding influence, persisting obstacles
- Briefing note: The validation challenge: how close is Europe to recognising all learning.

**AVAILABLE IN 27 LANGUAGES**

- 24 million visits in 2015 (10% increase compared to 2014)
- 126 million visits since its launch in 2005
- 18 million CVS completed online in 2015 (44% increase compared to 2014)
- 65 million CVS completed online since launch
important lessons for future cooperation.

The Cedefop conference *Globalisation of VET: opportunities and challenges* (42) took place on 26 and 27 November 2015 and gathered more than 100 experts and stakeholders from over 30 countries and more than 20 European federations, associations and international companies. Participants discussed the opportunities that labour market intelligence can offer to education and training systems in responding to the pressure that the pace of global changes puts on national systems to update and renew their VET standards, qualification requirements, programmes and curricula. In a globalised labour market, where new players (international sectoral bodies, multinational companies) provide training and award qualifications, national authorities must cooperate with sectoral actors and social partners to set the right conditions for quality assurance. On the eve of the conference, Cedefop released the briefing note *Global labour market, global VET* (43).

To complement the European inventory on validation, and in cooperation with the European Commission and the Member States, in 2015 Cedefop revised the *European guidelines on validation of non-formal and informal learning* (44). The inventory provides an overview of validation arrangements in European countries with the ambition to clarify the conditions for implementation, highlighting the critical choices to be made by stakeholders at different stages of the process. The guidelines are written for individuals and institutions responsible for the initiation, development, implementation and operation of validation arrangements. While acknowledging that any solution must be fit for purpose and that arrangements need to be designed according to the particular context in which they operate, the guidelines aim at assisting stakeholders by clarifying the different options and possible steps when establishing and operating validation arrangements in Europe. The guidelines were presented to the Council Education Committee and well received.

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To help implement the ECVET recommendation, Cedefop continued its analytical support to the ECVET users’ group and the working group on assessing units of learning outcomes. It also contributed to the Dublin peer learning activity on assessing and validating units of learning outcomes and presented outcomes of its study on assuring the quality of certification in IVET. The discussions highlighted that:

(a) the unit-based approach is expanding, going beyond formal IVET to non-formal and informal settings and CVET;
(b) learners have more opportunities to use their learning outcomes (in units) when they are assessed and validated; the use of assessed units, however, is limited;
(c) validated units of learning outcomes can be used as credits towards different (partial) qualifications;
(d) though most countries do not indicate many constraints in using units, there is a need to support providers in organising and quality assuring assessment and validation, as well as to build trust among stakeholders and ensure financial arrangements.

Building on information provided by social partners, national and regional authorities and experts on credit systems in VET, Cedefop conducted data collection for a 2015 monitoring survey on national developments. Preliminary findings indicate that most countries have moved towards increased compatibility of their credit systems in VET with ECVET principles. Around a third of the countries have their systems already compatible, others are developing new compatible systems or continue testing ECVET technical components; only a few have implementation on hold. The trend is similar for IVET and CVET. The survey also looked at the activities to promote ECVET to various stakeholders: with most popular activity being information and dissemination, ECVET is more promoted in the context of transnational mobility than lifelong learning (recognition and mobility within countries). Findings will be released in 2016.

Cedefop took part in the annual ECVET forum (5 November 2015) dedicated to flexible qualifications for a changing labour market. Participants, representing the ECVET community, national authorities and the world of work, discussed how ECVET principles can be applied in different contexts to strengthen the development and use of skills. In addition to the demand for more
flexible approaches to training, emphasis was placed on active dialogue with, and participation of, the labour market in the design and content of qualifications. The issue of better communicating ECVET in the future was also discussed.

To contribute to the ECVET debate, Cedefop published in November the outcomes of its study *The role of modularisation and unitisation in vocational education and training* (**45**). The study highlights that modularisation and unitation practices vary greatly across countries in use of modules and units. It points to an expansion in modularisation and unitisation practices over time, primarily driven by a demand for greater flexibility and responsiveness to the labour market needs. However, student needs and involvement should increasingly be taken into account. Credit-based and provider-centred funding may act as a barrier to progression in modular and unitted qualifications.

In 2015, the Europass website registered 24 million visits, and 18 million CVs were generated online. In January, Europass celebrated its 10th anniversary. Since its launch in 2005, more than 126 million visits have been recorded, and 65 million CVs created online in 27 languages. A CV template adapted to the needs of visually impaired people was released in English, French and Greek and a digital competence self-assessment tool integrated into the CV online editor. In consultation with the Commission, a campaign was launched in January to promote interoperability with Europass: around 200 employment services were contacted and about 15 organisations are considering or have started implementing interoperability with the Europass portal. A second campaign was prepared (December) to encourage EU institutions and bodies to use – and interoperate with – Europass. In December, interoperability with EURES was completed and users of the Europass CV online editor can now post it directly to EURES.

In February, Cedefop published a *Handbook for VET providers* (**46**). By providing practical examples from 20 initial, continuing or sector-based vocational training providers with successful and mature arrangements in place, the handbook guides VET providers to a quality journey, based on the plan-do-check-act/review (PDCA) cycle. It aims to assist them in establishing internal quality management and developing a quality culture.

Reflecting its increased focus on supporting learning providers and teaching staff more directly, Cedefop invited social partners, quality experts and EQAVET members to a workshop on *Learning providers and the quality of learning delivery* (**47**). The workshop discussed learning providers’ needs and priorities in relation to flexibility and the role quality is playing. Quality assurance is the means to manage the necessary changes at system and institutional levels, as well as in classrooms, real and/or virtual.

Quality assurance of certification in IVET (**48**) identifies several arrangements that European countries have put in place to ensure trust in qualifications. The study points to:

(a) a need to develop a common understanding of learning-outcomes-based standards in certification;

(b) the importance of involving labour market stakeholders to increase trust;

(c) possible ways to complement the EQAVET framework to strengthen quality assurance of certification in IVET.

The study findings were discussed at a


Cedefop workshop *Quality assurance of certification in IVET* (49) which brought together policy-makers and practitioners from 22 European countries. Discussions pointed to the need to develop holistic quality assurance approaches that consider results of certification processes and better combine input-, process- and outcomes-based approaches.

To show which technical and conceptual conditions would be necessary to simplify and better focus the European tools and principles, Cedefop supported the Commission, Member States and social partners in their efforts to reduce barriers to progression in learning and work and to enable citizens to use their learning and work experiences better. An important part of this work focused on developing a common European format for presentation of learning-outcomes-based qualifications (such as in databases). Building on the conclusions of Cedefop’s 2014 study on the writing of learning outcomes, a simple structure that could be applied across countries is proposed. Inspired by the Europass certificate supplement format, this work can contribute to linking EQF, ESCO and Europass better and so improving transparency of qualifications.

In 2015, Cedefop reinforced its research and analytical work on learning outcomes and also provided cooperation platforms and ‘hands-on’ tools for stakeholders working in this field. While several studies have analysed different aspects of the learning outcomes challenge, Cedefop started developing a handbook on learning outcomes. Building on evidence and material gathered in recent years, and closely linked to the work of the EQF advisory group, the handbook will make conceptual issues and ways of defining and writing learning outcomes easily accessible to policy-makers and practitioners. The handbook will be released in 2016.

Cedefop’s first *Policy learning forum (PLF) on the definition and writing of learning outcomes for VET qualifications* (50) took place on 24 and 25 September 2015 in Thessaloniki. It brought together participants from 25 European countries directly involved in defining and writing of learning outcomes for VET qualifications. The PLF explored how learning outcomes approaches are applied in IVET throughout Europe. Participants were involved in dialogue and exchange of experiences and discussed several national approaches as a basis for identifying challenges and opportunities in defining and writing learning outcomes. Specific issues raised included how to find the right balance between specificity and flexibility, how to take into account interests and needs of different stakeholders, and how to define learning outcomes to be fit for purpose in a broader perspective of lifelong learning.

A series of complementary studies that provided evidence on how the shift to learning outcomes is taking place across European education and training systems and practices reinforced and complemented the above work. First, findings from the *comparative study on the use of learning outcomes* in 33 European countries show that the learning outcomes principle has been broadly accepted among national policymakers. How it is used, however, varies between countries, education and training sectors and institutions.

Second, the study *Vocational pedagogies and benefits for learners: practices and challenges in Europe* (51) concludes that learner-centred teaching and learning methods and achievement, progression, motivation and likelihood of dropout correlate. Vocational pedagogy may, therefore, need to be better integrated in IVET policies and quality assurance. Learning environments and professional development of teachers and trainers provide student benefit. Collaboration with peers and stakeholders could help them contribute effectively to the design and delivery of curricula and learner-centred methods. The study provided new empirical evidence on the benefits of learner-centred vocational pedagogies for learners and the extent to which such approaches are used in Europe. It examines existing challenges and barriers to applying such pedagogies successfully in IVET in 15 Member States, with recommendations to help overcome the obstacles identified.

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RESULTS ACHIEVED
2.2. CAREER AND TRANSITIONS: CVET, ADULT AND WORK-BASED LEARNING

2.2.1. ACTIVITY: EMPOWERING ADULTS AND YOUNG PEOPLE

The two pilot thematic country reviews on apprenticeships in Lithuania (52) and Malta (53) were successfully finalised and the outcomes published. Findings were discussed and validated with a large group of stakeholders in both countries. The results of the review on apprenticeships in Malta were presented at an event organised by the

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<td><strong>84</strong> REFERENCES IN EU POLICY DOCUMENTS</td>
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<td><strong>18</strong> WRITTEN CONTRIBUTIONS TO POLICY DOCUMENTS OF EU (17) AND INTERNATIONAL ORGANISATIONS (1)</td>
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For example:
- Cedefop work on early leaving and VET was cited in the European Parliament study on education and training of women;
- Cedefop work on apprenticeship was quoted in the European Commission staff working documents assessing the progress of EU countries in addressing country-specific recommendations.

For example:
- ET 2020 working groups on VET (focused on apprenticeships) and adult learning and thematic working group on trainers in VET;
- direct contribution to the European alliance for apprenticeships; focus on development and implementation in countries undergoing reform (Greece, Italy, Lithuania, Malta and Slovenia).

For example:
- papers for the DGVT meetings on adult learning, work-based learning and apprenticeships;
- the EU working group on school policy report on policy messages to tackling early school leaving.

TOP THREE PUBLICATIONS:
- Apprenticeship review: Malta;
- briefing note: Encouraging adult learning;
- briefing note: Developing apprenticeships.

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Ministry of Education and Employment in Valetta on 2 October. The Maltese Education and Employment Minister Evarist Bartolo confirmed commitment to reforming the apprenticeship system in Malta also taking into account the suggestions of the review. According to the report, one of the first steps is to set governance structures to ensure cooperation and equal partnerships between the VET and employment/labour market systems. The review also suggests that governance structures should enable quick reaction to changes in the employment world. An additional action is to clarify the place of apprenticeship in education and training: currently, school-based VET and apprenticeship in Malta exist in parallel in the same occupational fields, leading to the same qualification, but with different duration.

While interest in VET is increasing, some obstacles prevent apprenticeship from taking off in Lithuania, a country seeking an apprenticeship model that would best suit its traditions and context. The review focused on four priority areas of analysis set by the national steering group: governance structures; participation of and support to companies; cooperation among learning venues; and quality assurance. The review showed that the regulatory framework for apprenticeship within the VET system is quite enabling, while a number of implementation challenges need to be overcome through systematic approaches and better communication (for example, creating a one-stop shop to support companies and students). The review suggested four types of action: clarifying the vision; building up on the enablers; information and communication; and fine-tuning as progress is made.

Building on the positive experience in Lithuania and Malta, Cedefop initiated cooperation with three additional countries on their way to reforming their apprenticeships and that asked for Cedefop’s support: Greece, Italy, and Slovenia. On 25 and 26 May, the country reviews steering groups met in Thessaloniki for a technical workshop Thematic country reviews on apprenticeships – steering, expanding, learning (54) to discuss apprenticeship schemes in their countries. All participants agreed on the importance of structural reforms to make apprenticeships a valuable formal learning pathway, linked to NQFs that ease the transition of young people into the labour market. The importance of cooperation between different national stakeholders and the role of Cedefop as facilitator and knowledge broker at European and national levels was widely acknowledged.

The Slovenia review was launched at an event hosted by the Ministry of Education, Science and Sport in Ljubljana on 16 June. Key VET stakeholders discussed the challenges of re-establishing apprenticeship in the country and shaped their expectations from the review. On 19 October in Ljubljana the review’s steering group validated the initial analysis conducted by Cedefop. According to national stakeholders, the review would help Slovenia reassess lessons learned from the past and also bring know-how from other countries that have effective apprenticeship systems in place.

Cedefop’s review on apprenticeships for Italy was launched at an event hosted by the Ministry of Employment in Rome on 6 July. According to national stakeholders, by helping understand the Italian system’s strengths and weaknesses and the challenges faced, the review would particularly support quality apprenticeships for 15 to 25 year-olds. Apprenticeship provision would naturally integrate, in a ‘dual system’, learning at school and learning at work. At a validation meeting on 14 December in Rome, the steering group discussed the changes brought by the new legal act (55) to the apprenticeship type 1 (56), as well as the next steps.

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(55) Article 43 Leg. Decree 81/2015.

(56) Apprenticeship for vocational qualification and diploma, upper secondary education diploma and high technical specialisation certificate.
and the areas of intervention for the review.

At the Ministry of Education in Athens on 13 July, Cedefop discussed with Greek authorities and social partners the common work on the thematic country review on apprenticeship in Greece. At the launch event on 14 December, a wide range of national stakeholders debated main policy challenges for apprenticeships in Greece.

As part of Cedefop’s support to the European alliance for apprenticeships, Cedefop’s second European apprenticeship conference Engaging SMEs in apprenticeships (*) was held in Thessaloniki on 9 and 10 November. The conference addressed a wide range of stakeholders with a role in supporting SMEs in increasing their apprenticeship offer. During the event, participants had the opportunity to network, explore ideas on how to assist SMEs in providing apprenticeships, and find partnership for cross-country cooperation projects.

On the eve of the conference, and building on Cedefop’s input to the ET 2020 working group on VET, Cedefop prepared a briefing note: Making apprenticeships work for small and medium enterprises. What does it take to strengthen their commitment? (**). In the margins of the conference, Cedefop, with the participation of the European Commission and other European stakeholders, organised a round table discussion on the role of apprenticeships and work placements to help adult asylum seekers and/or refugees integrate faster in the labour market. Outcomes from the discussion set the basis for reinforced focus on labour market integration of migrants, which Cedefop will pursue as of 2016. This work will mobilise expertise from a number of Cedefop’s projects and will benefit from the conclusions of Cedefop’s 2014 study on guidance for the labour market integration of migrants.

For the DGVT meeting under the Latvian presidency (20 and 21 April 2015 in Riga), Cedefop prepared and disseminated a flyer on policy developments on apprenticeships in Latvia, Lithuania and Malta (**). A similar flyer was prepared for the DGVT meeting under the Luxemburgish Presidency, where apprenticeships in the three new countries under review (Greece, Italy and Slovenia) and in Luxembour...
Commission's brochure *The European alliance for apprenticeships: good for youth, good for business* which was launched at the high-level event organised in Riga on 22 June to mark two years of the European alliance for apprenticeships and to give it new impetus.

As part of its more direct support to stakeholders, Cedefop organised a *training course on financing skill development* in cooperation with the ILO, the ETF and the French Agency for Development (AFD). The event took place on 9 to 13 March at the ILO premises in Turin and gathered around 50 experts from across the world. It provided an opportunity for knowledge sharing and mutual learning about systems and mechanisms of financing training and the necessary conditions to provide appropriate funding for skill development. Cedefop led the training sessions on training funds and loans, and presented its policy handbook *Access to and participation in continuous vocational education and training (CVET) in Europe* (61).

In 2015, Cedefop finalised its study *Governance and financing of apprenticeships* which investigated the conditions for developing high-quality and sustainable apprenticeships in Spain, Italy, Latvia, Portugal and Sweden. The study identified ‘favourable’ governance structures and financing arrangements for effective and sustainable implementation of apprenticeship (a normative model, i.e. what ought to be done according to an ideal standard). Representatives from governments, employers, employees, training providers and independent experts together engaged in assessing current VET/apprenticeship governance structures and financing arrangements in their countries and developing policy options for advancing apprenticeships. Two rounds of workshops were organised in each of the countries, gathering more than 150 participants. One major finding is that there is a gap between the existing structures and the ‘normative/ideal’ model; and this particularly refers to the degree of coordination and cost-sharing among different actors. Analysis suggests that introducing apprenticeship according to the normative/ideal model might not be likely in a medium term. The project results will be published in early 2016 and widely disseminated.

Cedefop’s research on the *role of VET in addressing early leaving from education and training* concluded its second year. While VET programmes in some countries see a significant share of early leaving, analysis of young people’s pathways shows that VET can contribute to lowering early leaving from education and training. VET can either act as a safety net, by accommodating large number of learners that would otherwise drop out of education, or by its potential to bring early leavers back into education and training. Cedefop’s findings show that most of those who were early leavers and return to education and training and obtain a qualification do so through VET. The analysis brings new evidence on the factors that could influence early leaving, specifically from VET: macro (contextual) factors and systemic and school level characteristics of VET national systems, such as the presence of work-based learning. The findings were discussed at a validation workshop in Brussels in October with key stakeholders from more than 15 countries, as well as representatives from the OECD and the European Commission. The study’s key findings were reflected in the briefing note *VET prevents and counteracts early leaving from the education system* (64) and in a video which illustrates the experiences of different early leavers and how VET has helped them return to education and training and find a work placement (65).

Cedefop’s *stocktaking exercise of adult learning* (64) highlights four major areas for future CVET policies to strengthen CVET’s role in adult/work-based learning. First, CVET guidance can be improved through better documenting the rates of return on investment in CVET, and increasing the competences of guidance counsellors. Second, in-company validation of CVET could be better supported by promoting standardised methods for competence assessment

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and making use of properly adapted payback clauses. Third, there is room for improvement through developing quality frameworks and indicators for accreditation of trainers, guidance and validation in CVET. Finally, the analysis highlights unmet needs that remain to be covered for better monitoring CVET policies, in terms of statistical indicators on participation of the unemployed and inactive in formal and non-formal CVET, as well as participation in work-based CVET.

The study *Work-based learning approaches in CVET in Europe: policies and practices* (65) points to several key actions. First, statistical data on work-based learning in CVET need to be improved to support evidence-based policy-making. Second, policy-makers should implement a work-based CVET-conducive policy framework. Third, work-based learning should be established as an integral part of policies, laws and financial instruments targeted at CVET; it must be critically checked whether existing structures actually hinder or foster work-based CVET. Fourth, as CVET is delivered by a wide range of institutions, and is intrinsically linked to the labour market and sector characteristics, collaboration, active commitment and shared responsibilities have to be promoted. Awareness and knowledge of work-based CVET benefits and methods must also be improved. Methodological guidelines, toolboxes and other material, along with good practice examples, could increase the quantity and quality of work-based CVET. Finally, adequate training and professional development of trainers on the specifics of work-based learning is crucial.

In 2015, Cedefop’s work also focused on reviewing and analysing issues surrounding measurement of **economic and social costs of low-skilling** to individuals and societies. Preliminary results include an analysis of the characteristics and determinants of the phenomenon, its consequences, as well as a baseline scenario for future low-skilled workforce supply and demand. Cedefop’s analyses show that the low-skilled population is heterogeneous, comprising different subgroups with different characteristics and needs. Successful policy interventions require identification of those subgroups and more targeted measures to address their determinants and characteristics. Results also highlight that low skills tend to be associated with negative dimensions in terms of individual earnings, health, macroeconomic growth, and cost to social welfare. All these dimensions have a cost for individuals but also for societies as a whole. While Cedefop’s estimates of economic and social costs of low-skilling do not include some relevant dimensions (lower crime and homelessness as well as stronger civic engagement and further intangible and intergenerational outcomes), they still depict an alarming scenario and call for immediate policy actions. Initial results were presented at the DG Employment thematic event hosted under the mutual learning programme (66) umbrella *Upskilling unemployed adults* (Brussels, 25 June) and were discussed more in-depth and validated at a technical workshop held in Brussels on 2 October.

Building on evidence and expertise from the above activities, Cedefop provided continuous advice and support to the European Commission’s ET 2020 working group on adult learning and also joined the interagency group on work-based learning, led by Unesco.

The Riga conclusions place initial and continuing professional development of VET teachers and trainers high on the EU policy agenda. To support this priority, Cedefop initiated an update of the knowledge base on qualifications and professional development of VET teachers in the Member States, collecting ReferNet articles on Member State approaches to requirements and support to VET teachers in school-based settings and to apprentice tutors in enterprises. The articles will be made available in 2016.

The studies carried out within the project *Careers and transitions* underline the strategic

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importance of **guidance** in providing support to workers during their career and labour market transitions. Evidence is that lifelong guidance improves success of learning activities at all stages and is among the most effective labour market provisions for ensuring long-term career outcomes. A well-coordinated lifelong guidance system generates coherence of education, training and employability support, and, most important, clarifies available options for citizens. The results from the analyses contributed to the briefing note *Career guidance in unstable times* (*67*).

### 2.3. **ANALYSING SKILLS AND COMPETENCE NEEDS TO INFORM VET PROVISION**

#### 2.3.1. **ACTIVITY: SKILLS ANALYSIS**

Cedefop’s new **skill supply and demand forecasts up to 2025** (*68*) point to major differences in trends across Member States. Forecast data indicate that in Italy, the Netherlands and Slovakia employment is likely to be back to pre-crisis levels by 2020. The projected trend in other countries, such as the Czech Republic, Greece, Spain and Portugal, indicates that they might still not be back to pre-crisis levels of employment by 2025. This contrasts with those Member States, e.g. Germany, France, Austria, Sweden and the UK, where there are already more jobs now than before the crisis began in 2008.

Cedefop also forecasts that, in the EU as a whole, between now and 2025 business and other services will drive employment growth in most countries. But this is not the case in all countries. In Spain, Cyprus, Poland and Romania, for example, most job growth is forecast for the distribution and transport sector. Similarly, despite manufacturing jobs declining in the EU overall, small increases are foreseen for Ireland, Cyprus, Latvia, Poland, Finland and Slovakia. The type of job opportunities will also vary considerably across countries up to 2025. Cedefop forecasts that around a third of jobs on offer in Denmark and Poland will be for high-level professional jobs in science, engineering, healthcare, business and education. In Malta and Austria around a fifth of job opportunities are forecast to be for service and sales workers, while in Romania almost one vacancy in two will be for skilled agriculture and fisheries workers.

The new forecast data are available on the Cedefop website via a new visualisation interface. The key results were summarised in the briefing note *Europe’s uneven return to job growth* (*69*) and, for the first time, Cedefop also published online **28 country forecasts**, presenting a forecast for each country enriched by a national expert’s comment (*70*).

The technical workshop *Preparation of the 2016 mid-term forecast of skill supply and demand* (*71*) took place on 5 and 6 November, involving national experts in the forecasting process, drawing on their knowledge and expertise and obtaining country-specific insights. The workshop discussed and validated preliminary results of the new forecasts, methodological developments in the forecast model and indicators.

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as well as alternative scenarios of skill supply aimed at assessing the impact of activation and migration policies.

Green skills and innovation for inclusive growth\(^\text{(*)}\) presents the results from the second ‘green skills’ forum organised by Cedefop and the OECD local economic and employment development (LEED) in 2014. The report focuses on identifying obstacles and challenges to the development of skills, education and training policies suitable to address the transition to greener and job-rich growth. It also considers strategies, initiatives and policy approaches tackling key skills issues for green growth, and compares methods and tools used in monitoring and evaluating developments in labour markets. The report indicates how research can help better targeting of policy-making and skills strategies. It finally identifies gaps in knowledge and provides guidance for future research and collaboration for transition to a low-carbon economy.

To flag critical labour market changes and skill needs across countries and sectors in Europe, Cedefop has been assessing the feasibility of producing short-term projections. In this con-

The validation and expert workshop dedicated to the feasibility study for real-time labour market information (30 November to 1 December 2015) was dedicated to validating the working prototype of a system gathering labour market information on skill requirements from online vacancies. The validation by leading experts in the field and key stakeholders helped shaping Cedefop’s future research and further development of the tool for scraping vacancies.

Skills are a key driver of labour market success, competitiveness and social inclusion for individuals, enterprises and societies. High-level skills are not only a prerequisite for employment, higher wages, productivity, innovation and continued economic growth; they also empower individuals to be active and productive. Skills, however, need to keep up with rapid technological progress, organisational change in the workplace and labour market change. At the same time, there is growing concern with so-called gaps between the skills provided by education and training, the needs of the current and future labour markets, and the extent to which such skill mismatches are a cause of high youth unemployment. There is also growing evidence that the skills of EU employees are underused in workplaces that do not fully harness people’s potential. To examine these critical issues for individuals and EU competitiveness, Cedefop undertook in 2014 its first ESJ survey and carried out additional secondary analyses of available data, as well as reviews of policies in EU Member States. In 2015, findings of this analysis were published, debated and disseminated.

Cedefop’s first ESJ survey reveals that skill mismatch affects most of the workforce, not only those looking for a job. The survey asked 49,000 adult employees (aged 24 to 65) across all 28 Member States how their skills and qualifications match the needs of their jobs. It is the first survey to look at skill mismatch over time, taking account of changes to people’s skills and their job tasks. The survey also distinguished between qualification level and skills needed for the job, because jobs requiring a particular qualification level may not have the same level of skill intensity. Similarly, individuals with the right qualifications for a job may still not have the skills needed. The survey findings


Text, a second international workshop (*) took place in February to discuss preliminary results as well as expected future outputs and their relevance for policy-making. One session was targeted at a more specialised audience of experts from the European Commission, European national banks, universities and research centres, discussing the validity of the modelling approach chosen and data series generated. The validity and interest of the projection methods and data were confirmed but further work is necessary to generate consistent results in a format that can be directly used by policy-makers.

The expert meeting organised in April on the information technology (IT) and green sectors to assess occupational skills profiles (*) provided an opportunity to discuss the new occupational skill profiles developed as part of Cedefop’s forecasts, and to continue their evaluation and validation. The key objective was to assess their added value in support of the existing skills and labour market information at European level and to identify areas for improvement. The assessment was done through deeper insight into the results for IT and green sectors. Due to Cedefop’s responsibility for the Skills Panorama, and its involvement in ESCO, the results will be geared to supporting these activities.

To support the inter-service group on skills of the Commission, Cedefop participated in a meeting in which various European Commission directorates presented their sectoral skills analyses. Following the meeting, and building on its own methodological expertise in sectoral studies, Cedefop prepared a framework providing guidelines to European Commission services on how to approach sectoral skills analysis and with a view to presenting the results of the various European Commission studies in the Skills Panorama. This framework could set the basis for a toolbox to analyse and anticipate trends in sectors.


have important implications for several EU policies. They provide robust quantitative data to support the EU's agenda to promote work-based learning and continuing vocational training and support improving active labour market policies by integrating European tools, such as skills validation. The findings also have implications for social partnership and dialogue on how skills are developed and used at the workplace.

The reference paper Skills, qualifications and jobs in the EU: The making of a perfect match? (75) answers questions on skill mismatch based on results of Cedefop’s ESJ survey. The findings caution that the prolonged economic downturn is threatening the long-term potential of the EU's human resources. A greater share of recent job finders has entered into jobs that typically need lower qualifications and skills than their own. The unemployed also run a greater risk of misplacement into jobs of lower skill intensity. More than one in five EU employees have not developed skills since they started a job, as over one third of EU jobs are characterised by poor task complexity and lack of continued learning. Closer stakeholder collaboration and policy action is needed in the EU to generate not only more skills but also, crucially, better jobs for better-matched skills.

There is a strong concern in Europe that a large number of vacancies remain unfilled despite high unemployment, thus pointing to skill shortages. But Skill shortages and gaps in European enterprises: striking a balance between VET and the labour market (76), published in October, shows that most vacancy bottlenecks arise because of factors other than skill deficits, including job offers of poor quality. To tackle current and dynamic skill gaps in European enterprises, the incentives to both individuals and organisations to support skill development and skill matching need to be closely aligned. Individuals need to have a positive attitude to learning and possess an appropriate set of core competences and motivations that will enable them to be flexible and adaptable in response to economic and organisational shocks. But organisations also have a critical role to play in avoiding the cost of skill gaps. This can, for example, be achieved by fostering a learning climate in the workplace, enabling better balance between work and life responsibilities, cooperating with education and training institutions, and participating in curriculum design.

The research paper Tackling unemployment by addressing skill mismatch (77) – published in November – reviews recent policies and practices for tackling unemployment by addressing skill mismatch in the EU-28 Member States. It examines skill mismatch policy instruments aimed at reducing unemployment as well as measures to prevent it. While much research and analysis on mismatch exists elsewhere, Cedefop's research paper represents the first comprehensive study that maps actual skill mismatch policies and practices in the EU. In-depth case studies help identify promising features of policy practices. The lessons support policy learning and help Member States shape policies with a stronger focus on matching, paving the way for policy agendas that put skill matching centre stage.


Key findings of the EU skills survey and Cedefop research on skill mismatch were disseminated throughout the autumn using a leaflet, press releases (*) and a video that raises awareness of the pervasiveness of skill mismatch and the way it directly affects individuals and employers (†). The evidence and findings gathered by Cedefop on skill mismatch were also debated in three events in autumn 2015:

(a) the expert workshop exploiting the results of the ESJ survey was held in Thessaloniki on 29 and 30 October 2015, in cooperation with the Institute for the Study of Labor (IZA), (‡) and brought together researchers working on skills and skill mismatch. Topics discussed included: skill shortages and the impact of skill mismatches for enterprises; job search, job quality and skill/educational mismatch; labour market mobility and skill mismatch; and impact of the business cycle and of economic recessions on skill mismatch;

(b) to inform policies that can stimulate skills demand through innovation and better jobs and effectively match the skills of young and adult workers, as stated in the revised priorities for VET agreed in Riga in June 2015 (**), Cedefop presented its new ESJ survey and discussed results from its overall research agenda on skill mismatch at the conference Maximising skills for jobs and jobs for skills (††) on 7 and 8 December. The conference aimed at stimulating discussion and identifying key policy priorities, challenges, and applicable solutions to the problem of skill mismatch, with particular emphasis on the role of public-private partnerships and supportive public policies. Experts in skills and skill mismatch, along with representatives of governments, social partners, education and training, and the labour market engaged in a series of discussions structured around two key thematic pillars:

(i) future challenges for VET: impact of technology and workplace change on skill needs;

(ii) fostering partnerships in the workplace: rising to the challenge of skill mismatch;

(c) at the joint Cedefop-Eurofound anniversary event hosted by the EESC on 19 November 2015, Cedefop presented key highlights stressing the relationship between skill mismatch and work organisation. The presentation highlighted that even though 4 in 10 EU employers typically claim to have difficulty finding the right skills, the Cedefop ESJ survey shows that the skills of a substantial portion of the EU workforce are either underutilised or unexploited. For instance, 27% of EU adult workers are in dead-end jobs, where they believe that their skills are higher than needed to do their jobs and there is not much potential to develop their skills in their current employment. The presentation emphasised that most skill development of EU adults takes place informally in their job, such as by peer learning and learning by doing. The extent of skill development is higher among those workers whose jobs entail a greater level of task complexity. Complex jobs are associated with higher wage/higher quality work in the EU. Therefore, although the provision of non-formal adult training courses is important for the attainment of EU lifelong learning goals, innovative work organisation and good-quality jobs should be a critical component of collected comprehensive policy initiatives that seek to tackle skill mismatch.

To make key findings of Cedefop’s research on skill mismatch readily available and maximise outreach, web articles were also produced. Three appeared in 2015 and more will follow in 2016. The article Skill shortages in the EU (†††) shows that genuine skill shortages tend to be significant only in specific sectors and occupations and to affect


(**) Riga conclusions.


dynamic enterprises, while many firms face recruitment difficulties due to job offers of poor quality. In this article, Cedefop stresses that mitigating skill shortages is a joint responsibility of private and public actors since ‘countries with more responsive education and training systems have seen fewer companies faced with recruitment bottlenecks in the last decade’.

Safeguarding education investments: mitigating overqualification in the EU (*) underlines that 29% of the EU adult population suffers from qualification mismatches, mostly as overqualification. This is a waste of public resources and a taint on the value of further education.

Skills utilisation = skills formation (**) argues that increasing skills utilisation and formation at the workplace creates added value and helps increase competitiveness. It should, therefore, be at the core of EU policies aimed at promoting economic growth through investment in skills.

First results of the study on the role of labour market information (LMI) in career guidance point to innovative quality practices in support of young people. The study highlights issues to be addressed, including the low integration of information activities with education/training curricula and uneven engagement of employers across countries in the production and use of LMI. On this basis, a new study on the development of information and communications technology (ICT) and LMI in guidance services was launched to support transferability of practices and competence development of practitioners and managers in using ICT and LMI in lifelong guidance.

Cedefop continued active collaboration with the European lifelong guidance policy network (ELGPN). It provided feedback on the final version of the quality assurance and evidence base framework developed by the network. Cedefop actively participated in the seventh symposium of the International Centre for Career Development and Public Policy (ICCDPP) in June 2015, disseminating its research on guidance system development priorities in the EU.

Since early 2014, Cedefop has focused on developing a new dynamic and interactive Skills Panorama website (**). The site is the reference portal for information on skills, job prospects and the labour market in Europe, supporting informed decision-making by policy-makers and policy experts. The new portal was launched by way of an online streaming event on 1 December 2015, which gathered more than 600 participants from across the world. The Skills Panorama web portal contains new qualitative and quantitative data and information, particularly – but not only – from Cedefop’s work on skills analysis, and uses advanced visualisation and filtering techniques.

To aid accessibility to data and information on skill needs for non-expert users, and to go beyond available EU data, the Skills Panorama also pro-

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vides concise factual and relevant information on trends in occupations, sectors and skills across EU Member States (‘analytical highlights’) as well as country highlights (*) . The site also provides access to a wealth of useful resources at both international and national levels.

To evaluate the performance of EU Member States’ skills systems, Cedefop is developing a skills monitoring index. This draws on international data sources and integrates indicators on the state and quality of skill development, the extent of skills utilisation, to present a multidimensional picture of outcomes of skills systems in EU countries. The validation workshop (**) held in June brought together Cedefop experts, researchers and country experts to validate the final version of the index. The workshop introduced the concept and approach for developing the index, discussed the challenges encountered and sought feedback for improvement from the expert community.

Cedefop, the ETF and the ILO have together promoted methods for skills anticipation and matching, part of which was the preparation of six guides on methods and approaches to be used to anticipate skill needs. The guides, one of which was published in 2015 (**), take a very practical stance and are aimed at national/regional authorities, sector organisations and public employment services. Five out of the six guides of the compendium Guides to anticipating and matching skills and jobs are to be released in 2016.

At the International seminar on qualified labour force as a driver of competitiveness organised jointly by the Lower Chamber of the Czech Parliament and the European Commission representation in the Czech Republic to discuss good practices in anticipating labour market needs and promoting work-based education, Cedefop presented an overview of the results of the review of skills anticipation systems across the EU based on the joint Cedefop-OECD questionnaire (**). Cedefop stressed the importance of partnership and stakeholder cooperation as well as the necessity to combine various methods to achieve robust and reliable results on skill needs in the labour market.

Cedefop’s Head of Department for Skills and Labour Market is a member of the Global Agenda Council (GAC) of the World Economic Forum (WEF) on the future of jobs (**). GACs convene relevant leaders from academia, government, business and other fields to capture the best knowledge on each key issue and integrate it into global collaboration and decision-making processes. Cedefop’s work on skills analysis, including its expertise in developing employer surveys and analysing employer-based data, is particularly relevant to the agenda of the GAC on the future of jobs; this is directly linked to the global challenge initiative on employment, skills and human capital, providing Cedefop with a great opportunity to showcase its work and engage with the global community of experts.

(**) Developed in collaboration between Cedefop and the OECD, the questionnaire was addressed in 2014 to four stakeholder representatives in each OECD and EU country: Ministry of Education, Ministry of Employment, employers’ organisation, employees’ organisation. The questionnaire focuses on existing skills anticipation tools and exercises in the country and how the results are used to shape policy and practices. The information collected by Cedefop and the OECD for the EU will be further refined by Cedefop in 2016 using complementary sources and further data collection before publication in 2017. http://www.weforum.org/community/global-agenda-councils [accessed 30.3.2016].
3.1. ACTIVITY: EXTERNAL COMMUNICATION

Throughout 2015, work focused on Cedefop 40th anniversary activities. A reception for local stakeholders and staff was organised at Cedefop’s premises on 10 February, marking 40 years from the Founding Regulation which established the Agency. In a video message, European Commissioner for Employment, Social Affairs, Skills and Labour Mobility Marianne Thyssen,
stressed that ‘Cedefop remains as relevant today as it was 40 years ago. No organisation understands better how Europe’s vocational education and training systems are struggling to meet 21st century expectations’.

Friends and stakeholders, Commission representatives, Governing Board members, and present and former staff were invited to a celebratory event on 11 June at Thessaloniki’s Concert Hall. Speakers included the Director-General of DG Employment, Social Affairs and Inclusion Michel Servoz, Greek Alternate Minister for Administrative Reform, George Katrougalos, Thessaloniki Mayor Yiannis Boutaris and Member of Commissioner Thyssen’s Cabinet Julie Fionda. European Parliament President Martin Schulz addressed the audience via a video message (*)

One of the highlights of the evening was the inauguration of Cedefop’s 40th anniversary exhibition by Director-General Michel Servoz. The exhibition charts the political and social circumstances which led to Cedefop’s establishment in 1975, and the events that have shaped its work over the past four decades – first in Berlin and then in Thessaloniki. Through images, texts and artefacts, the exhibition illustrates Cedefop’s eventful history and the main themes of its work, including VET research, policy analysis and support for mobility.

To celebrate its double jubilee – 40 years of existence, 20 years in Greece –, Cedefop held on 12 June a high-level conference under its anniversary motto ‘old roots for new routes’. Participants looked at how VET has developed into its present role and discussed its future orientations up to 2020. Cedefop’s role at the interface between education and training and the labour market was also up for discussion: how the Agency will contribute to modernising education and training systems and designing European policies, and how

it will interact with its key stakeholders: the European Commission, EU Member States and social partners.

In October 1993, the European Council decided the relocation of Cedefop from Berlin to Thessaloniki. Almost two years later, on 1 September 1995, the Agency opened its doors in Thessaloniki. Cedefop commemorated this important milestone in its news and public relation activities. An anniversary banner and posters were displayed at the Thessaloniki Town Hall and Thessaloniki airport respectively.

Work organisation and workplace learning: creating a win-win environment was the theme of the conference which marked the 40-year anniversary of Cedefop and Eurofound – the two longest-established EU Agencies – and recognised the EESC’s support in setting up the agencies, as well as its strong tripartite role in EU policy-making. The two agencies held this joint event to present recent findings and initiatives on work organisation and workplace learning, including the results of Eurofound’s third European company survey and Cedefop’s ESJ survey. The event – including anniversary exhibitions of both agencies – brought together about 200 representatives from national authorities, European institutions, enterprises, trade unions, civil society and academia to explore and debate work organisation and skill development practices that benefit both employers and employees.

Cedefop’s 40th anniversary exhibition was staged again at the EESC in Brussels. Video-interviews (99) with key speakers of the event were made available online: these included Nicolas Schmit, Minister for Labour, Employment and Social and Solidarity Economy, Luxembourg; Gonçalo Lobo Xavier, Vice-President, European Economic and Social Committee; Detlef Eckert, Director Skills, DG Employment, Social Affairs and Inclusion; and Leila Kurki, Finnish Confederation of Professionals.

Cedefop developed for 2015 a dedicated 40th anniversary corporate identity (100) (101) for its website, conference material, documents,

19 November 2015: joint anniversary event of Cedefop and Eurofound at the EESC in Brussels (*)

1 September 2015: Cedefop – 20 years in Thessaloniki (*)


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publications and audio visual products. The 40th anniversary events were showcased in 20 high-quality videos (102). Throughout the year, several publications highlighted Cedefop’s 40-year work and achievements: Cedefop in brief (103); Promoting learning for work (104), an illustrated guide presenting the Agency's structure, current activities, networks and 40-year history; Spotlight on VET – Anniversary edition (105), highlighting Cedefop’s work on reporting on and analysis of VET, a core activity throughout its 40-year history; National qualifications framework developments in Europe – Anniversary edition (106), an overview of European NQFs, celebrating Cedefop’s long-term work in the field; and Old roots for new routes (107), a brief history of Cedefop and European VET policy, based on the Agency’s 40th anniversary exhibition.

Skillset and match magazine – Special edition (108) was dedicated to the anniversary. It featured messages from leading European actors, including European Parliament President Martin Schulz and other high profile stakeholders, former and current staff, articles on Cedefop’s history and work, a VET timeline, infographics, picture galleries and press clippings. A series of video clips and video interviews was produced. Website headlines, press releases, live posting on social media and interviews and articles in the European media were also part of the campaign. A video competition was launched through Facebook asking people to describe their VET experience. The winner and runner-up were invited to the June celebrations.

In 2015, Cedefop published nine briefing notes, 29 press releases, three issues of Skillset and match and 10 issues of its electronic newsletter; it produced 36 video interviews, thematic video clips and three thematic video animations. Further, 544 Cedefop-related press stories and two broadcast interviews were published in international media. Close collaboration with DG Employment, Social Affairs and Inclusion in press relations, social

media, publications and events started in 2015 and will be continued more systematically in the coming years. Joint communication efforts allowed Cedefop to extend the outreach of its social media communication. By the end of 2015, 7,280 individuals followed Cedefop on Facebook and 3,840 on Twitter, compared to 5,786 Facebook and 2,799 Twitter followers in 2014, an increase of about 26% and 37% respectively.

Subscribers to Cedefop’s electronic newsletter have kept rising: 5,895 in 2015 compared to 5,700 in 2014. Published in nine languages, the briefing notes achieved 89,000 downloads in 2015, an increase of 10% compared to the same period last year. In 2015 Cedefop organised 72 meetings and conferences, attended by 1,795 participants.

In October Cedefop started a new initiative in support of its relationship with international media. Selected journalists who cover VET issues were invited to a media seminar in Thessaloniki. The outcome was a number of print, online and broadcast contributions, picking up topics presented by Cedefop’s staff, including interviews by the Greek SKAI Radio, SKAI TV, and the Spanish newspaper El Pais. In 2016 the initiative will be continued in collaboration with the European Commission. To reinforce its outreach in the EU Member States Cedefop will present its work at a joint international media event in Brussels.

3.2. ACTIVITY: DOCUMENTATION AND INFORMATION

The library introduced the Research Support Centre to provide selected scientific information and access to relevant electronic resources mainly to Cedefop’s operational departments. This centre responds to the information needs of the Agency’s core business. It offers a discovery tool, which enables staff to search simultaneously all subscribed electronic sources and other open access databases. Most of the acquired information is available in electronic format. Cedefop’s VET-Bib bibliographic database, the Agency’s central knowledge tool, was successfully migrated to a cloud-based solution.

A major achievement in archives and records management was the selection and provision of content for all 40th years’ anniversary events. The overall objective of Cedefop’s archives service, to preserve the memory of the Agency, describe and classify all relevant records, has been fully achieved.

3.3. ACTIVITY: CONTENT MANAGEMENT

Cedefop’s publication service made a substantial contribution to the corporate design concept and the production of all types of communication and public relation products in the context of Cedefop’s 40th anniversary celebrations. All 40th anniversary products were designed and produced in high quality and on schedule.

Editing and translation helped getting Cedefop’s message clearly across to a wide and multilingual audience: 3,396 pages went for English editing; 458 pages were translated, mainly from English to Spanish, German, Greek, French, Italian, Polish and Portuguese, plus Latvian during the first semester (the language of the Presidency country).

E-book continued to be a standard online publication format. There was a focus on development of innovative ways of data visualisation for print and online publications. In this context Cedefop also started a new audiovisual product which was very well received by Cedefop stakeholders and online users. Three thematic video animations – VET in Luxembourg (http://www.cedefop.europa.eu/en/publications-and-resources/videos/vocational-education-and-training-luxembourg [accessed 30.3.2016]), VET in Latvia (http://www.cedefop.europa.eu/en/publications-and-resources/videos/vocational-education-and-training-latvia [accessed 30.3.2016]), and VET in Italy (http://www.cedefop.europa.eu/en/publications-and-resources/videos/vocational-education-and-training-italy [accessed 30.3.2016]) – were conceptualised and published online. This new communication product has successfully overcome its pilot phase and will be continued.

Cedefop’s web portal now runs on a new and more efficient cloud-based platform. Audiovisual and multilingual content was effectively integrated and ‘country-specific’ pages constantly enriched. A
A wide range of new online publication formats were developed and made available on Cedefop’s web portal: PDF series of country/year-specific publications; HTML pages, exportable in PDF format; online data visualisation projects; and online textual databases.
Joint activities of Cedefop and the ETF in 2015 were based on their cooperation framework for the period 2014-17. The collaboration of the two agencies has a longstanding tradition. Since its outset in 1997 – while pursuing their distinctive missions and remits – the two agencies have aimed to create synergies in areas that are relevant to the partner countries of both. This has led to more efficiency, economies of scale and increased service levels. The current framework aims at more structured cooperation in thematic areas, projects and activities of common concern to the Commission and to each agency’s stakeholders and institutional functions.

In 2015, ETF director Madlen Serban presented her visions for VET as one of the keynote speakers at Cedefop’s 40th anniversary conference (see page 21). Cedefop and ETF experts were involved in events and projects of mutual interest organised by both agencies. Cedefop’s director James Calleja contributed to the ETF’s Torino process conference Moving skills forward. Inspired by Member States’ joint work on VET (Copenhagen process), the Torino process aims at building an evidence base to inform VET policies and human capital development and discuss progress and implementation. Cedefop’s report Stronger VET for better lives published in early 2015 bears witness to the agencies’ cooperation in VET policy reporting. As candidate countries participate in the Copenhagen process, it also informs on their progress in the jointly agreed priority areas. Following the decision on new ‘deliverables’ in Riga in June 2015, Cedefop, in cooperation with the ETF, worked on a revised monitoring approach which was presented to the ACVT and DGVTs. Cedefop also contributed to an event that the ETF organised to identify candidate countries’ priorities in the follow-up to the Riga conclusions. To inform the debate of the DGVT at their meeting in Luxembourg, Cedefop and the ETF drafted a joint paper on VET policies for migrants.

Two joint thematic meetings were convened in 2015 to ensure knowledge-sharing and
complementarity in activities. The February meeting in Turin focused on:
(a) validation of non-formal and informal learning;
(b) the next stage of development of the European transparency tools;
(c) policy learning in supporting countries in their endeavour to set up or modernise apprenticeship systems/schemes.

The second seminar in Thessaloniki discussed:
(a) the Torino process;
(b) quality assurance in VET in ETF partner countries; and
(c) the ETF’s performance management framework.

Together with the UIL, Cedefop and the ETF increased their efforts in taking forward the international dialogue on qualifications frameworks. As a follow-up to their first global NQF inventory published in 2013, updated NQF country chapters and new thematic chapters were drafted. These discuss key trends emerging from qualifications framework reforms and development. Findings from this 2015 global inventory of regional and NQFs were presented in Riga in a preparatory Asia-Europe meeting of senior officials, ahead of the fifth Asia-Europe meeting of education ministers.

Cedefop, the ETF and the ILO have been engaged since 2013 in a joint endeavour to promote learning about skills anticipation and matching. Part of this effort was the preparation of six guides on methods and approaches to be used to anticipate skill needs. Collaborating with the ILO, the ETF and the French Agency for Development, Cedefop organised a workshop/training course on financing skill development. This took place from 9 to 13 March at the ILO premises in Turin (116).

Joining an OECD initiative, Cedefop, the ILO and the ETF collected questionnaires on activities carried out to anticipate and analyse skill needs in the EU and other countries and understand how the results are used to shape education, employment and migration policies. Based on the information collected, Cedefop is preparing an EU-wide analysis, which will be published in 2016.

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draw on each agency’s strengths and be more cost-effective. Further insights into the views of employers on training, learning, skill needs and skill mismatch, would enrich the survey and help Cedefop inform adult learning and continuing vocational training policies. This initiative will be taken further in 2016 pending endorsement by the agencies’ governing boards.

Joint discussions on their draft work programmes helped identify areas that merit taking the collaboration a step further to strengthen their support to the EU agenda and benefit their own activities. In addition to their traditional exchange of information, they decided to hold yearly knowledge-sharing seminars. The pilot event in 2016 will focus on NEETs and the economic and social consequences of low-skilled adults in Europe. Drawing on their respective expertise on early leaving from education and training and NEETs, both agencies also contributed to a workshop organised by the ETF on keeping young people in education, training or employment. Cedefop and Eurofound experts participated in events of mutual interest organised by both agencies, such as the Eurofound expert meeting on improving working conditions of occupations with multiple disadvantages in March or the Cedefop/IZA workshop on skills and skill mismatch in October.

Cedefop’s newly appointed liaison officer in Brussels and Eurofound’s Brussels-based team reinforced exchange of experience and collaboration between the two agencies in areas related to networking with institutions and stakeholders and measuring agency performance. Together with other agencies, Cedefop contributed to the peer review of Eurofound’s performance measurement system. The agencies also shared findings of their reports and referred to each other’s work in their publications.

2015 also marked the first year that both agencies shared the same partner DG in the European Commission. This should have required a revision of their collaboration agreement but work to revise the agencies’ founding regulations and to define their priorities for the period up to 2020 had already started so they agreed to adjust their collaboration agreement once these processes have been completed.

As chair of EU Agencies Network for Scientific Advice in 2015, Eurofound invited Cedefop to join this network. Set up in 2013, it provides scientific and technical advice to EU Member States and other relevant EU policy-makers. Cooperation and information sharing among its members also benefit the agencies’ own work. In November Cedefop decided to join EU-ANSA.

4.3. COOPERATION WITH THE EU AGENCIES’ PERFORMANCE DEVELOPMENT NETWORK

The work of the EU agencies performance development network (PDN) feeds directly to the common approach of EU decentralised agencies for more balanced governance, improved efficiency and coherence between them. It develops templates, guidelines, and toolkits as a follow-up to the European Commission’s roadmap.

In 2015 Cedefop actively contributed to a number of PDN activities such as the working group on ‘Activity-based budgeting, costing and management’, cooperating with other EU agencies to collect good practices and developing a toolkit for activity-based management in EU agencies.

The exchange of ideas and practices with other EU agencies on topics of common interest has been beneficial to Cedefop, especially in relation to the development of the programming document 2017-20 and the work to develop key performance indicators for the Director.
Cedefop’s administration and internal services continued to support operations effectively and efficiently and contributed significantly to the implementation of the Agency’s reorganisation which entered into force on 16 March 2015.

All basic services were delivered on target:
(a) 98% occupation rate of the establishment plan including ongoing procedures (\textsuperscript{117}). Seven new staff members took up duties in 2015, including three new heads of department;
(b) 98.55% budget implementation rate (\textsuperscript{118});
(c) over 99.52% availability of core ICT systems and services;
(d) 98.25% implementation of procurement planning;
(e) average payment time for invoices 16.28 days, well below the target of 28 days.

Operations were conducted in compliance with applicable rules and regulations, transparently and to a high level of professional and ethical standards. The feedback received from all audits confirms that Cedefop’s internal control system and administration are working well. In 2015, a risk-based review of the sensitivity of posts was introduced as a compulsory feature of the annual objective-setting process. This review increases staff awareness and provides additional assurance on the robustness of internal controls.

Cedefop’s commitment to continuous administration improvements is reflected in:
(a) further optimisation of administrative processes (revamping of translation workflows, traineeship application upgrade, human resources (HR) data streamlining, paperless commitments, e-tendering in collaboration with DG DIGIT, automatically generated reporting on expenditure under framework contracts);
(b) upgrades and tailoring of core ICT systems and services, including enhanced ICT business continuity and access to cloud services. Following a workshop on ICT security organised by ENISA, Cedefop will participate in the 2016 cyber Europe security exercise (\textsuperscript{119}).

The Agency also pursues continuous development and efficiency gains through active participation in interagency cooperation and peer learning. This includes participation in networks related to administration, procurement, accountancy, IT, learning and development, greening and environmental management, health and safety, as well as ad hoc inter-agency working groups. These fora provide for exchange on strategic challenges, latest developments, and new and best practices. This type of cooperation has proved crucial for agencies and yields both intangible and tangible benefits, such as the 2015 inter-agencies call for tender for cloud broker model.

Cedefop’s administration directly supported the achievement of Cedefop’s mission and objectives through:
(a) Selection of highly qualified staff and continuous professional development
Selection and development of highly qualified and diverse staff is crucial to the achievement of Cedefop’s mission and objectives. This is reflected in Cedefop’s commitment to equal opportunities in recruitment and employment. On 31/12/2015 the overall gender balance at Cedefop was 61% female to 39% male. Women are well represented at all grades.

\textsuperscript{117} Two posts were vacant with respect to the 2015 establishment plan of 96 posts, but none compared to the 2016 establishment plan, which is reduced to 94 posts.

\textsuperscript{118} Refers to execution of the European Commission contribution, own miscellaneous revenue, 2015 budgetary contributions of associated States Norway and Iceland and second instalment of the European Commission DG Employment contribution related to the delegation agreement VS/2013/0554.

Cedefop also aims to ensure a geographical balance.

The learning and development strategy 2015-16 was adopted in February 2015. Key pillars of the strategy are professional development of experts, organisational development, transversal skills, compliance for regularity and transparency. Specific learning and development activities focused on facilitation and staff communication skills, and transversal skills such as time management and mind mapping. Project management training (PM2) resulted in official Commission certification of six staff members.

The review of traineeships standardised requirements across departments and led to the development of an alumni network, which will be formally launched in January 2016.
(b) **Staff wellbeing: improving conditions of employment**

Work on comprehensive health and safety risk assessment progressed significantly and a draft policy was developed. These will help raise risk awareness and related responsibilities of management and staff.

Following awareness-raising on causes and effects of work-related stress, resilience trainings were offered to all staff to equip them with practical tools to anticipate and handle stress. HR actively supported staff in dealing with practical issues related to the crisis in Greece (such as salary aspects and bank accounts).

In the absence of a European school in Thessaloniki, the Director adopted a decision in March to finance the International Baccalaureate (IB) which provides children of staff with an internationally recognised pathway to higher education. Reflections also started on increasing financial support for schooling of Cedefop staff to offset some effects of successive weighting factor reductions.

(c) **Green initiatives**

Green initiatives support staff wellbeing and generate substantial savings while reducing Cedefop’s environmental footprint.

The green project group appointed in December 2013 developed an environmental policy and action plan with environmental performance targets, followed by a feasibility study on sustainable energy. The study investigates future options for low carbon dioxide and improved, alternative energy security and supply for Cedefop. The first report on the Cedefop energy management system was finalised in December 2015. It demonstrates progress across all Cedefop’s environmental key performance indicators and estimates related energy savings for 2015 over the past five years.

More specifically, installation of motion detectors in the building and optimisation of use of conference rooms and chillers has led to a steady reduction in electricity consumption (estimated - 26% compared to 2014).

Between 2011 and 2014, paper consumption decreased by 79%. With a further fall of 26% in 2015 (compared to 2014) the reduction surpassed the target by almost 75%. Reasons include staff familiarisation with and use of electronic tools and paper awareness campaigns organised in the first semester of 2015. This reduction is also supported by a general transition to electronic workflows.

Heating oil consumption has continuously decreased since 2011 with the exception of 2014, when significant repair works left parts of the building exposed during winter. By the end of 2015, total heating oil consumption had decreased by 35% compared to 2014 and by almost 44% compared to 2011.

Cedefop also achieved a 2.5% reduction in CO$_2$ emissions compared to 2014. Due to increasing use of collaboration and video conferencing tools, the number of business trips has also decreased, which impacts positively on staff members’ environmental footprint.

Finally, in 2015, all internal and external works on Cedefop’s building were completed. The building’s sliding activity will continue to be monitored.

Cedefop is audited by the European Court of Auditors (ECA) and the Agency’s internal auditor is the Internal Audit Service (IAS) of the European Commission. The Agency informs the European Parliament annually on the results of the audits.

The European Court of Auditors’ opinion on the annual accounts 2014 (120) confirms that Cedefop’s accounts are reliable and that the underlying actions were, taken as a whole, legal and regular without reservation or qualification. The ECA’s report confirms that Cedefop’s internal control system is working well. The auditors carried out their first visit on the 2015 accounts in December. This mission did not lead to any preliminary findings and the draft report is pending.

The IAS performed an audit on ‘Procurement, including fraud prevention and legal advice in Cedefop’. The audit confirmed that Cedefop’s internal control system provides reasonable assurance regarding the achievement of the business objectives established for procurement, including the provision of legal advice and fraud prevention measures. Substantial progress has been made in the follow-up of the agreed action plan.

Cedefop carries out ex-post evaluations (121) for completed projects/activities that entailed a total budget expenditure of above EUR 500 000. For 2015, this concerned the study visits programme.

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(120) The final report contains no specific comments and acknowledges that Cedefop has followed up on all comments from previous years.

(121) As provided for by Article 29(5) of the financial rules and Article 9(3) of the implementing rules.
Electricity consumption (kwh) 2011-15

- 2011: 1,045,200
- 2012: 1,081,200 (due to drilling)
- 2013: 1,016,400
- 2014: 1,004,999
- 2015: 982,145 (forecast)

Target 2015: 953,894 (-2.29%)

Paper consumption (packets) 2011-15

- 2011: 3,000
- 2012: 1,600
- 2013: 700
- 2014: 675
- 2015: 500 (forecast)

Target 2015: 574 (-26%)

Heating oil consumption (lt) 2011-15

- 2011: 47,001
- 2012: 45,515
- 2013: 38,502
- 2014: 40,769 (due to building repair)
- 2015: 26,494 (forecast)

Target 2015: 38,731 lt (-35%)

CO₂ (ton) emissions 2014-15

- 2014: 1,164.58
- 2015: forecast 1,135.38 (-2.5%)
Outcomes from the ex-post evaluation working party, appointed by the Director in June 2015, are expected in 2016. Ex-ante evaluations (\(^{122}\)) were carried out for procurement procedures above EUR 200 000. A report reviewing progress and lessons learned in the first year of application was drafted in September 2015.

On the 2014 discharge procedure, the European Parliament adopted the texts during its plenary meeting on 29 April 2015. The report for Cedefop was positive in several aspects, including budget and financial management, procurement and recruitment procedures, internal controls and audits. It also emphasised that Cedefop’s work is highly relevant to the EU VET and skills policy agenda.

To mark the high priority Cedefop attaches to ethics, integrity and internal control, and as part of awareness-raising activities that Cedefop regularly provides to staff on these issues, a mandatory information session for all staff was held on 8 June 2015. The session focused on the Agency’s anti-fraud strategy, the principle of the prevention and management of conflict of interests, the guidelines on reporting irregularities (‘whistleblowing’), ‘red flags’\(^{123}\) related to procurement procedures, as well as criteria and procedures for authorising outside activities of staff members. A survey was carried out among staff as follow-up to the information session to identify future issues for training sessions directly targeted to the needs of staff members in their daily work.

An internal working group (WG) reviewed Cedefop’s performance measurement system, focusing on the cost efficiency of existing indicators, the relationship between indicators and intended use, their validity and reliability, as well as their interpretations and use by the different target groups. The WG drafted recommendations to review the performance measurement framework, to reduce and better focus the indicators, review the data collection process, and improve communication and information to staff, management and external stakeholders. Recommendations were adopted by the Directorate in the first quarter of 2015 and some proposed changes implemented in 2015.

\(^{122}\) As provided for by Article 45 of Cedefop financial rules.

\(^{123}\) ‘Red flags’ are typical scenarios that could give an indication of potentially irregular or fraudulent behaviour to increase staff members’ alertness to the detection of such potentially illegal behaviour.
ANNEXES

I. ORGANISATION CHART
SITUATION AT 31 DECEMBER 2015

- Governing Board/Bureau
  - Micheline Scheys, Chair

- Director’s Office
  - Joachim James Calleja, Director
  - Mara Brugia, Deputy Director

- Staff Committee

- Legal Advice
  - Miriam Fuchs

- DEPARTMENT
  - Learning and Employability
    - Antonio Ranieri, Head of Department
  - Skills and Labour market
    - Pascaline Descy, Head of Department
  - VET Systems and Institutions
    - Loukas Zahilas, Head of Department
  - Communication
    - Gerd-Oskar Bausewein, Head of Department
  - Resources and Support
    - Ralph Martens, Head of Department
## II. SELECTED PERFORMANCE INDICATORS – 1 January to 31 December 2015

### OUTCOME INDICATORS

<table>
<thead>
<tr>
<th>Evidence to inform policies and their implementation</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Policy documents citing Cedefop work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>by EU institutions</td>
<td>173</td>
<td>97</td>
<td>107</td>
</tr>
<tr>
<td>by international organisations</td>
<td>43</td>
<td>31</td>
<td>56</td>
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<tr>
<td>Policy documents which Cedefop has helped prepare</td>
<td></td>
<td></td>
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<tr>
<td>of EU institutions</td>
<td>55</td>
<td>127</td>
<td>114</td>
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<tr>
<td>of international organisations</td>
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<tr>
<td>Participation in Presidency events and meetings</td>
<td>166</td>
<td>164</td>
<td>172</td>
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<tr>
<td>of senior stakeholders or which support policy</td>
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<td><strong>New knowledge and insights generated (</strong>)**</td>
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<td>Downloads of publications/working papers/other</td>
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<td>Publication downloads</td>
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<td>Citations of Cedefop publications/studies in the literature</td>
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<td>Participation in conferences and events</td>
<td>88</td>
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<tr>
<td>Quality of events organised by Cedefop (participants rated event as very good or good)</td>
<td>94%</td>
<td>92%</td>
<td>95%</td>
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<tr>
<td><strong>Raised awareness among stakeholders</strong></td>
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<td>Website traffic</td>
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<td>Visits</td>
<td>413 000</td>
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<td>393 000</td>
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<td>Page views</td>
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<td>Media coverage, take-up of articles and press releases</td>
<td>500</td>
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<td>Europass outcomes among citizens</td>
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<td><strong>PROCESS INDICATORS</strong></td>
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<td>Efficient and effective support services</td>
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<td>Internal support services: resources</td>
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<td>Percentage of establishment plan filled</td>
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<td>% of budget executed</td>
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<td>Timeliness of payments (number of days to make payments)</td>
<td>11</td>
<td>12.5</td>
<td>16.28</td>
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(****) For comparability purposes, past figures may have been revised to follow a new improved methodology.
ReferNet, Cedefop’s reference network on VET, was set up in 2002 to meet the growing demand for comparative information on national VET systems and policies in the EU Member States, Iceland and Norway.

Each ReferNet member is a key national institution involved in VET-related issues, well placed to collect first-hand information from different stakeholders on the role of VET, its governance and structure.

ReferNet’s work informs Cedefop projects and provides much of the necessary input for Cedefop’s monitoring and reporting on countries’ progress in implementing common priorities for VET agreed under the Copenhagen process. It also informs the Commission’s work in the context of the ‘European semester’.

ReferNet’s annual work plans include:

(a) reporting on national policy measures and actions which countries have agreed to carry out. This input informs detailed country fiches and cross-country overviews of developments and helps build the evidence base for Cedefop’s review of progress in implementing the common priorities for VET agreed under the Copenhagen process;

(b) *VET in Europe* country reports which describe the key features of countries’ VET systems in their socioeconomic contexts. They are validated at national level and peer-reviewed before being published online on Cedefop’s website and in hard copy for EU Presidency countries;

(c) Spotlight on VET flyers, which summarise key features, challenges and developments of national VET systems and are meant for readers who need a concise introduction. They are published online for all countries and in hard copy in several languages for EU Presidency countries;

(d) thematic information on issues featuring high on the VET agenda of the EU Presidencies (such as early leaving from VET, apprenticeships, innovation, VET teachers and trainers, key competences). This information complements the general context provided in country reports and spotlights for policy analysis;

(e) maintaining and updating national ReferNet websites, which helps raising the visibility of Cedefop, its products and, more generally, VET issues in the Member States, Norway and Iceland. In this way, ReferNet partners act as multipliers and dissemination channels in their countries.

ReferNet activities are jointly financed by Cedefop and Member States on an annual basis under a four-year framework partnership agreement. By end 2015, two calls for proposals had been launched to select partners for the period 2016-19.
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<tr>
<th>Country</th>
<th>Organization</th>
<th>Website</th>
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<tr>
<td>Austria</td>
<td>ibw – Institut für Bildungsforschung der Wirtschaft</td>
<td><a href="http://www.refernet.at">www.refernet.at</a></td>
</tr>
<tr>
<td>Belgium</td>
<td>IBFFP – Institut Bruxellois Francophone pour la Formation Professionnelle</td>
<td><a href="http://www.refernet.be">www.refernet.be</a></td>
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<tr>
<td></td>
<td>(Bruxelles formation)</td>
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<tr>
<td>Bulgaria</td>
<td>NAVET – Национална агенция за профессионално образование и обучение</td>
<td><a href="http://www.refernet.bg">www.refernet.bg</a></td>
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<tr>
<td>Croatia</td>
<td>AVETAE – Agencija za strukovno obrazovanje i obrazovanje odraslih</td>
<td><a href="http://www.refernet.hr">www.refernet.hr</a></td>
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<td>Cyprus</td>
<td>ΑνΑΔ – Αρχή Ανάπτυξης Ανθρώπιν Ηνωμένης Δυναμικού της Κύπρου</td>
<td><a href="http://www.refernet.org.cy">www.refernet.org.cy</a></td>
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<tr>
<td>Czech Republic</td>
<td>NÚV – Národní ústav pro vzdělávání</td>
<td><a href="http://www.refernet.cz">www.refernet.cz</a></td>
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<td>NVF – Národní vzdělávací fond</td>
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<td>Estonia</td>
<td>INNOVE – Sihtasutus INNOVE</td>
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<td>Finland</td>
<td>OPH – Opetushallitus/Utbildningsstyrelsen</td>
<td><a href="http://www.oph.fi/tietopalvelut/kansainvalinen_koulutusti">www.oph.fi/tietopalvelut/kansainvalinen_koulutusti</a> eto/cedefop/refernet</td>
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<tr>
<td>France</td>
<td>Centre Info – Centre pour le développement de l’information sur la formation permanente</td>
<td><a href="http://www.centre-info.fr/refernet">www.centre-info.fr/refernet</a></td>
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<td>Germany</td>
<td>BIBB – Bundesinstitut für Berufsbildung</td>
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<td>Greece</td>
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<td>Country</td>
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<td>HUNGARY</td>
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<td>ICELAND</td>
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<td>ITALY</td>
<td>ISFOL – Istituto per lo sviluppo della formazione professionale dei lavoratori</td>
<td><a href="http://www.isfol.it/isfol-europa/reti/refernet">www.isfol.it/isfol-europa/reti/refernet</a></td>
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<tr>
<td>LATVIA</td>
<td>AIC – Akadēmiskās informācijas centrs</td>
<td><a href="http://www.aic.lv/refernet">www.aic.lv/refernet</a></td>
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<td>LITHUANIA</td>
<td>KPMPC – Kvalifikacijų ir profesinio mokymo plėtros centras</td>
<td><a href="http://www.kpmpc.lt/refernet">www.kpmpc.lt/refernet</a></td>
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<td>LUXEMBOURG</td>
<td>INFPCC – Institut national pour le développement de la formation professionnelle continue</td>
<td><a href="http://www.refernet.lu">www.refernet.lu</a></td>
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<td>MALTA</td>
<td>NCFHE – Kummissjoni Nazzjonali ġhal Edukazzjoni Avanzata u Oghla</td>
<td><a href="http://www.refernet.org.mt">www.refernet.org.mt</a></td>
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<td>NETHERLANDS</td>
<td>ECBO – Expertisecentrum Beroepsonderwijs</td>
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<td>NORWAY</td>
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<td>POLAND</td>
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<td>ROMANIA</td>
<td>CNDIPT – Centrul naţional de dezvoltare a învăţământului profesional şi tehnic</td>
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<td>SLOVAKIA</td>
<td>SNO – Slovenské národné observatórium odborného vzdelávania a prípravy – Štátny inštitút odborného vzdelávania</td>
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<td>SLOVENIA</td>
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<td>SPAIN</td>
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