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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 337/75.

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FOREWORD

This year was characterised by a passionate performance from Cedefop staff in accomplishing a demanding work programme. I am pleased to report that we not only completed our entire work programme but also added new activities.

In 2017 Cedefop remained at the forefront of ideas on how to improve vocational education and training (VET) in Europe. Our project the *Changing nature and role of VET* provided valuable insights for the debate on the future of European VET, which will be at the centre of European discussion during the Austrian Presidency. Hosting the 2017 European big data hackathon, Cedefop and Eurostat brought together teams from all over Europe to explore ways of using big data to match skill demand and supply. In doing this, Cedefop merged initiatives on the use of big data among experts in the field; it will now feed into Cedefop's project use of big data to identify employers' demands for skills for jobs. Our work on low-skilled and low-qualified adults increased our understanding of how to bring marginalised groups into the labour market and improve their career prospects. This gave Cedefop the opportunity to stress the social dimension of VET and show that inclusion is at the heart of education and training. To build capacity for effective governance of skills anticipation and matching, Cedefop is currently supporting Estonia, Greece and Slovakia, following successful pilot projects in Iceland and Malta.

Cedefop shared its work more widely in 2017, as its policy learning forums helped move from words to action in areas such as learning outcomes, preventing and addressing early school leaving, and governance of skills anticipation and matching. More people downloaded our publications, which continued to be widely cited in policy papers and academic literature. In October 2017, Europass CV downloads since 2005 passed the 100 million mark.

Relations with our stakeholders and the European Commission, Member States and social partners continued to go from strength to strength. We worked with the European Commission on a highly successful *European vocational skills week 2017*. Cedefop jointly organised seminars with EU Presidency countries and worked with individual Member States, including social partners, at their request, on reviewing apprenticeships and work-based learning. Cedefop also joined forces with training providers, supporting the annual EfVET conference, held in Thessaloniki. In 2017 we

established a more structured relationship with the European Economic and Social Committee (EESC). In February 2018 the launch of the first joint policy learning forum will promote the Commission's initiative *Upskilling pathways*. Other country-based activities with the EESC will follow, such as a workshop in Lisbon that brings together businesses and VET schools to narrow the gap between the world of education and that of work.

The positive response by staff members to the challenges of the work programme is the result of a work environment which has, at its core, the value of strong social dialogue and an open door policy.

Cedefop's 2017 staff engagement survey found a total satisfaction average of 72%, the highest of the 20 EU agencies independently surveyed so far. As Director I am pleased to lead a group of such highly motivated professionals doing a job they find challenging and rewarding. But there is always room for improvement. Cedefop has drawn up an action plan with four pillars, each with its own cross-department working group to examine ways to strengthen our working environment. In 2017, Cedefop introduced teleworking to increase flexibility at work and to support a better balance between work and family life. Our initiatives to promote dignity at work increased and staff responded very positively. Cedefop also offers a positive learning environment to several trainees every year.

Cedefop used every available financial resource to promote VET with a budget execution of almost 100% (99.9%), but, as with other agencies, resources are shrinking. In 2013, Cedefop had 100 staff members on its establishment plan. In 2018, this number falls to 91. Managing the same budget implies a cut in real terms. In contrast, the challenges of VET have increased dramatically. Member States seek Cedefop's expertise more frequently, especially to implement European policies. The Commission looks for more evidence-based research from Cedefop and our contribution to the *Skills agenda*, the initiative *Upskilling pathways* and the *European vocational skills week* are practically new tasks in our work programme. More new electronic portals are devised to reach a wider spectrum of stakeholders in real time. In 2017 the toolkit for early leavers was launched and the Skills Panorama and the mobility scoreboard attracted more users.

Identifying more negative priorities in 2017 was difficult but quality demanded a rationalisation of

resources. Rationalisation of our core business inevitably cascaded into our administrative structure. Business as usual is not an option anymore. Efforts to increase administrative efficiency started in early 2017 and will reach full implementation by 2020.

Sharing services with other agencies and the Commission, as proposed by the European Commission, the Council, and the European Parliament, is a means to reduce costs in administration and increase resources for operational departments. Automation and digitalisation will also be increased in transversal activities. Human resources will be redeployed for tasks requiring creativity and expertise in operational departments and particular attention will be given to the professional development of staff.

Tough times, such as now, when resources are scarce and Brexit looms on the horizon, require difficult decisions. Through guidance from our Governing Board and its Bureau, Cedefop will continue to navigate its core business towards its objectives of providing the European Commission, Member States and social partners with analyses and research to support evidenced-based development and implementation of European VET policies. The future will always look challenging but the foundations for the success of Cedefop and European VET have been solidly laid down for the coming years by truly loyal and committed managers and staff who put into practice European values of cooperation.

Joachim James Calleja
Director

CEDEFOP

Cedefop is one of the oldest EU's decentralised agencies. Founded ⁽¹⁾ 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 and implement the right European VET policies.

In line with the vision and values set for the Agency, for 2017-20, three strategic areas of operation have been defined:

(a) shaping VET: foster the renewal and modernisation of VET systems and institutions in response to rapidly changing policy needs and priorities; support the development and use of European tools and principles promoting lifelong and life-wide learning;

(b) valuing VET: support the development and implementation of VET policies and programmes helping all citizens to achieve competences and skills required for work, employability, entrepreneurship, and lifelong learning in a constantly changing labour market;

(c) informing VET: inform the design of VET and employment policies that ensure the availability of a qualified workforce and its continuous, as well as effective, skilling; promote jobs that value, develop and make the best possible use of people's skills throughout their working lives.

Cedefop's multiannual objectives – providing evidence and new knowledge; monitoring and analysing policies; acting as a knowledge broker for countries and stakeholders – reflect the core functions of the Agency. Combined with the thematic strategic areas of operation, they define the type and scope of the work the Agency delivers. The multiannual objectives steer the activities of Cedefop's annual work programmes and ensure continuity of its work, allowing the necessary flexibility to respond to changing needs.

⁽¹⁾ Council of the European Union (1975). Council Regulation of 10 February 1975 establishing the European Centre for the Development of Vocational Training (Cedefop) EEC No 337/75. *Official Journal of the European Communities*, L 39, 13.2.1975 as last amended by Council Regulation EC No 2051/2004. http://www.cedefop.europa.eu/EN/Files/Consolidated_version_Founding_Regulation_EN_01975R0337-20041221-en.pdf





Cedefop Governing Board

CEDEFOP GOVERNANCE

GOVERNING BOARD

Cedefop is governed by a Board made up of three members from each Member State representing the Government, employer and employee organisations; and three members representing the European Commission.

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

The Governing Board convenes once a year.

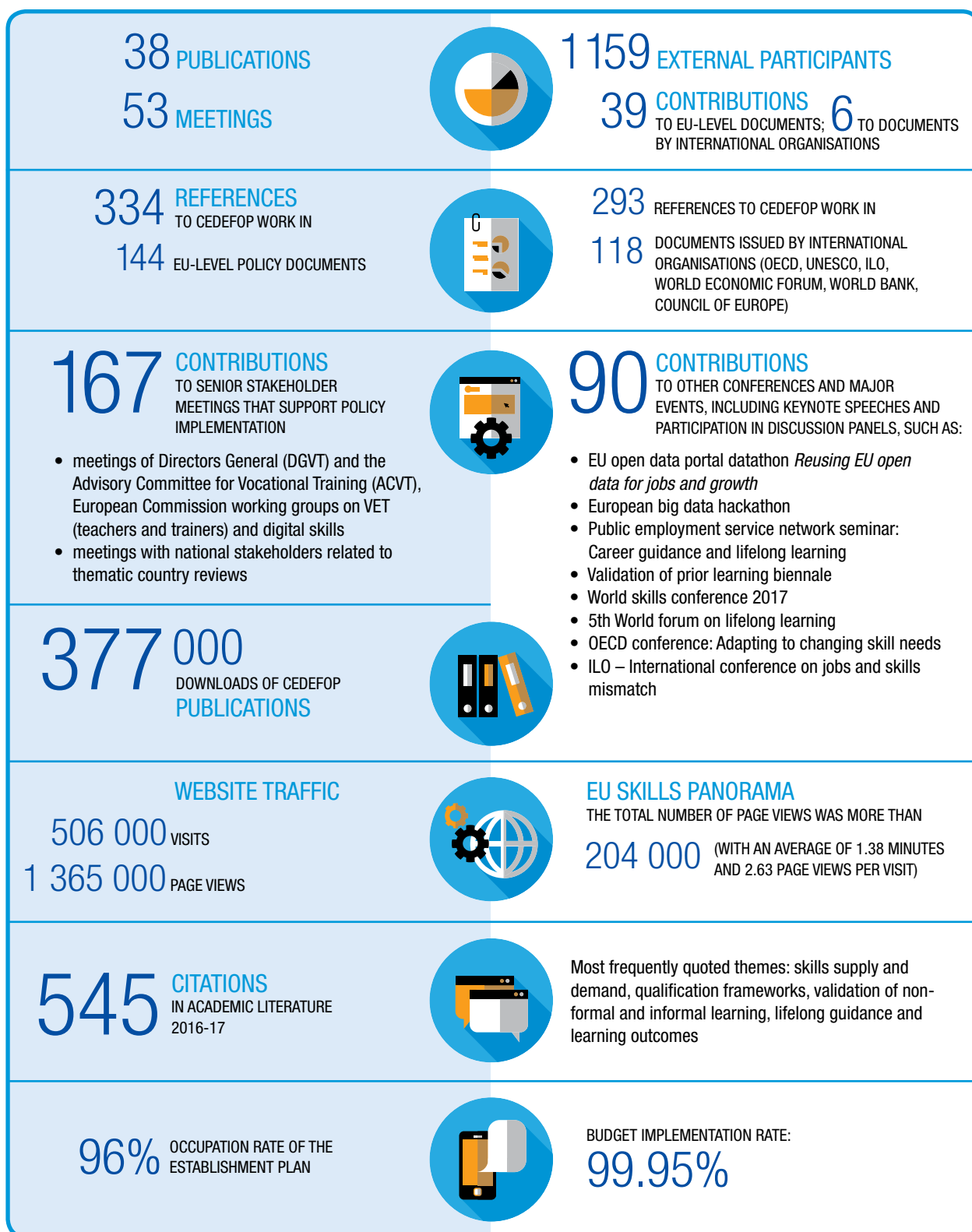
BUREAU

To operate and be more closely involved in monitoring the Agency's activities, aiming to reinforce supervision of administrative and budgetary management, the Governing Board establishes a smaller-sized Bureau. The Bureau usually meets three to four times per year. The Governing Board may decide to enlarge the Bureau to discuss strategic issues informing future Governing Board decisions.

2017

AT A GLANCE

PERFORMANCE



In 2017, the EU turned 60 – a reason to celebrate, also for VET. It is in the Treaty of Rome (Article 128) ⁽²⁾ where the commitment to a common European vocational training policy has its roots. The European Social Fund, also created at the time, helped retrain unemployed people, if only to a limited extent.

60 years after the Treaty of Rome, VET has moved centre stage. It is seen as a powerful lever to help raise citizens' skill levels and boost economic growth. As Cedefop's interim progress review has shown, the European Social Fund is widely used to help finance countries' work in jointly agreed priority areas for VET (Riga conclusions, 2015 ⁽³⁾). The forthcoming review also confirms their continued focus on apprenticeships and other schemes that include learning in companies, a trend that has been reinforced by European policy initiatives.

Most notable in 2017, was the proposed Council recommendation on a European framework for quality and effective apprenticeships ⁽⁴⁾. The recommended criteria include elements of the analytical framework that Cedefop designed for its apprenticeship country reviews. This framework was also used for a report by the Commission monitoring learning commitment within the construction sector.

Besides using the findings of Cedefop's work extensively, Commission documents also referred to and recognised its contributions to the European alliance for apprenticeships (EAfA) ⁽⁵⁾. Some references pointed to benefits that countries gain from the Agency's apprenticeship reviews. Cedefop contributed to the proposed Council recommendation, the staff working document and the EAfA report. Use of its findings and acknowledgments in European Commission and

European Parliament documents clearly signals the relevance and quality of the Agency's work on work-based learning. Its expertise in this field also contributed to the work of the inter-agency working group, a forum for collaboration between the European Commission, the European Training Foundation (ETF), the OECD, the ILO, UNESCO and Cedefop.

'By bringing different countries together, Cedefop helped us invent our own apprenticeship system' stated Lithuania's Vice Minister for Social Security and Labour at Cedefop's policy learning forum in September. Gathering representatives of the countries participating in Cedefop's apprenticeship reviews (Section 2.2), this forum contributed to the European vocational skills week.

The objective of this week, which the Commission organised for the second time in 2017, is to put VET in the limelight. 'In a smart working world, vocational education and training is a smart choice. The perception that VET is the 'poor neighbour' of a university education is mistaken. It is not a poor neighbour, it's an equal!' Commissioner Thyssen ⁽⁶⁾ emphasised.

Understanding people's views and their reasons is no less important than facts or statistics when we want to shape European initiatives to support national VET policies. Cedefop examined citizens' opinions on VET's attractiveness and effectiveness in all Member States. Focusing on VET at upper secondary level, the survey also looked at VET learner and graduate perceptions. The results released in 2017 are partly contradictory: while VET's role in the economy and society is generally considered positive, it is still seen as a path for low performers by many. Negative public discourse in many countries tends to reinforce these misconceptions. Lack of information and guidance contribute to VET's image as second choice education, survey findings suggest. Failing to understand its role in lifelong learning also leads to underrating its value.

This demonstrates the crucial role that information and guidance play at transition stages throughout people's lives. Lifelong guidance contributes to reaching the Europe 2020 education and employment benchmarks. It is a major pillar of validating non-formal and informal learning, youth guarantees, the renewed adult learning

⁽²⁾ The Treaty of Rome, 25 March 1957. http://ec.europa.eu/archives/emu_history/documents/treaties/rometreaty2.pdf [accessed 1.4.2018].

⁽³⁾ http://ec.europa.eu/dgs/education_culture/repository/education/policy/vocational-policy/doc/2015-riga-conclusions_en.pdf [accessed 1.4.2018].

⁽⁴⁾ (a) European Commission (2017). *Proposal for a Council recommendation on a European framework for quality and effective apprenticeships*. COM/2017/0563 final. <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2017%3A563%3AFIN>

(b) European Commission (2017). *Staff working document accompanying the Proposal for a Council recommendation on a European framework for quality and effective apprenticeships*. SWD/2017/0322 final. <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=SWD:2017:322:FIN> [accessed 1.4.2018].

⁽⁵⁾ <http://ec.europa.eu/social/main.jsp?catId=1147>

⁽⁶⁾ <http://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=9002&furtherNews=yes>

agenda, and the recommended measures for the long-term unemployed and upskilling pathways ⁽⁷⁾. And it is essential to achieving one of the agreed priorities in the Riga conclusions: access to VET and qualifications for all.

⁽⁷⁾ Council of the European Union (2016). Council recommendation on the integration of the long-term unemployed into the labour market. Brussels, 15 February 2016. <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016H0220%2801%29> [accessed on 1.4.2018].

The 2017 Agency work on lifelong guidance was marked by its contributions to the first European guidance week, held during the Estonian EU Presidency. The first meeting of Cedefop's new **CareersNet** featured among the opening events of the week. A conference jointly organised by Estonia and Cedefop focused on the changing role of lifelong guidance in the digital age. Cedefop piloted and tested its upcoming tools to support their use: a handbook that looks at how innovative practices may be adapted to other (national)

LIFELONG GUIDANCE IN THE DIGITAL AGE

This conference was the centrepiece of the European career guidance week. It was jointly organised by the EU Presidency, Estonia's Lifelong Guidance Foundation Innove, and Cedefop. One of the sessions moderated by Cedefop discussed how:

- (a) to increase access to guidance for some of the weaker groups of users, such as the long-term unemployed, the low-qualified and educationally disengaged;
- (b) increasing social demands require adaptation and tailoring of services, such as outreach;
- (c) cooperation with other stakeholders may generate more flexible responses and how EU initiatives can support work on national priorities.

Guidance practitioners are like builders. They support individuals in 'building' their future by identifying talents and aspirations and advise on possible education and career pathways. But today's rapid changes mean that they have to build on 'unstable soil'. Sound labour market analysis and skills intelligence can help create a foundation on which to build career guidance. The conference included a presentation of the EU Skills Panorama, powered by Cedefop, and the Agency's tools to integrate labour market intelligence into guidance.

Participants concluded that lifelong guidance needs to take into account the future of work and prepare citizens for scenarios of employment, underemployment or no employment in a segmented labour market. This requires repositioning guidance at national and EU levels. ICT in guidance and e-governance provide an opportunity to offer better access and more coherent services to all citizens.

They called on the European Commission to take the lead in such repositioning across policy fields and in developing an implementation strategy.

The conference brought together 200 experts in career services from 35 countries in Tallinn. Over 40 experts, researchers, hands-on specialists and policy-makers participated in the discussions.

Cedefop's CareersNet

The European guidance week also saw the launch of Cedefop's CareersNet, its new network for research and cooperation in lifelong guidance and career development. This network was set up to help collect comparable, reliable and up-to-date information and evidence in this area of many different actors. EU Member State experts had a chance to exchange best practice in career guidance and suggest new ideas for cooperation.

Following a call for experts, Cedefop had selected one per country as a reference point. These are encouraged to promote expanding their national groups and networks. While experts participate as individuals, support by responsible national authorities and networks would help ensure access to reliable and up-to-date information.

CareersNet provides insights into career development activities embedded in distinct policy fields, such as education and training generally, VET, adult learning, youth, validation of skills and labour market policy.

Information and analyses are meant to help identify gaps and potential solutions, as well as snapshots of national guidance systems. Cross-national thematic analyses will be made available through a regularly updated web portal. Thematic comparative research will also look into key themes for system development, like ICT or gamification.

contexts; an online dynamic platform which includes definitions, examples, methods, national sources and ways to integrate labour market intelligence; training modules to help managers and guidance staff understand what using ICT tools and labour market intelligence implies and how they could use them best in their services.

Cedefop's work on tools to integrate labour market intelligence is just one example of how different strands of the Agency's work complement and reinforce one another. The EU Skills Panorama

managed by Cedefop on behalf of the European Commission provides a single entry point for labour market and skills intelligence. Its primary target groups have been policy-makers and experts; this goal has been achieved, as the user survey showed. In 2017, work commenced on redesigning the platform to serve users with different profiles, such as employment services and guidance staff. Feedback from the latter confirmed that it can provide valuable support to counsellors in their work to help people make informed education and career choices.

The aim is to inform and help develop tools, and support peer and bench learning to aid countries' policy and capacity development.

The focus on policy analyses makes CareersNet complementary to Euroguidance, which provides short overviews of national systems and initiatives, i.e. quick, clear information for occasional users. It was originally set up to promote the European

dimension in guidance and competences to support learner mobility.

Collaboration with CareersNet is expected to help increase the quality of Cedefop's research in lifelong guidance and widen its contribution to informing developments in other policy fields, such as validation, integration of migrants, and adult learning.



SKILLS PANORAMA

Inspiring your choices on skills and jobs in Europe



The Skills Panorama is a unique online platform that offers a single entry point to information on labour markets and skill needs in the EU. It aims to inform decisions on education, training and employment. The European Commission entrusted Cedefop with its development and management because of its expertise and extensive research and analysis on labour market and skill needs. Innovativeness lies at the core of the platform.

Quantitative and qualitative data and information on skills and the labour market, if meaningfully synthesised and analysed, help support decisions. Blending different types of information allows for a more holistic approach and deeper understanding of driving forces and possible impact on employment and skills.

Policy-makers are the primary target group but the site also attracts researchers as well as employment and guidance counsellors. As the most recent user survey suggests, these first two groups together make up around 60% of the site's visitors. With its focus on trends in the labour market, jobs and skills, the Skills Panorama can also interest a wider public.

The platform combines and synthesises a wealth of sources. Indicators and data are presented in over 2 000 'dashboards' showing trends in occupations, sectors and countries in the EU. They help make useful comparisons or identify anticipated changes. Some dashboards focus on policy themes that are high on the EU agenda, such as skills shortages and high unemployment.

It also offers intelligence not available elsewhere: skill opportunities and challenges for 30 occupation groups, and a list of occupations at high risk of mismatch in each of the 28 EU Member States.

To meet different user needs, along with quantitative data and visualisations in dashboards, the Skills Panorama offers high-quality information in a variety of formats (analytical highlights; blog articles by skills and labour market experts; useful resources, news and events).

These include results from Cedefop work, such as forecasts and insights from the European skills and jobs survey. Blogs in 2017, for instance, discussed self-employment in the gig economy,

the skills employers want, and those required in future key occupations. Drawing also on other strands of the Agency's work, one reflected on the potential of skills, qualifications and VET in integrating refugees.

User needs drive the Skills Panorama development and design. The site evolves constantly, improving user experience and offering unique analyses and products, such as the European skills index. In the future it will also host the results of Cedefop's big data analysis from online vacancies.

What makes the Skills Panorama highly innovative is the way it blends data, articles and short briefs in an interactive, user-friendly and visually engaging website. This makes information on labour markets and trends in jobs and skills more accessible.

Three in four users find what they are looking for: the number of returning visitors increased by more than 45% in 2017 compared to 2016. 92% of respondents to the Skills Panorama user poll were satisfied or very satisfied with the information they found. Skills Panorama also inspires similar services in Member States and outside the EU.

HAVING ACCESS TO INFORMATION AND DATA SOURCE IS PART OF OUR SMART CULTURE. IN OUR FREQUENT SEARCH FOR INTERNATIONAL LABOUR MARKET INFORMATION, SKILLS PANORAMA TURNS OUT TO BE A USEFUL TOOL.

Kyra Veldkamp
VDAB-EURES, Belgium



Skills Panorama was identified as best practice in the European public sector awards 2017

Skills Panorama awarded best practice certificate

In 2017, Cedefop's Skills Panorama received a best practice certificate within the European public sector award (EPSA) competition. It featured among 34 cases out of 150 from 18 European countries and EU institutions/agencies. The EPSA 2017 rewarded innovative solutions that show how the public sector is responding effectively to major challenges and is performing efficiently. Cedefop's team received the certificate at a ceremony in Maastricht's Town Hall on 20 November.

The Skills Panorama was assessed as outstanding, innovative and highly relevant, meeting the core needs of its target groups. It was considered exemplary and transferable to other levels and public administration sectors ⁽⁸⁾.

⁽⁸⁾ Based on the EPSA assessment sheet which Cedefop received.

It is seen as 'an active contribution to promoting economic growth at European and national level [...] addressing the social exclusion that can arise from unemployment and underpinning free movement of people as one of the four key freedoms of the EU Internal Market. [...] It] also promotes trust in the competence and integrity of public administrations to address key societal challenges, in particular by enhancing confidence in the belief of citizens that EU interventions can bring added value' ⁽⁹⁾.

⁽⁹⁾ European Institute of Public Administration (2017). *An innovative public sector in 2017. New solutions to complex challenges*. Maastricht: EPSA. https://epsa2017.eu/files/repository/20171123095828_EPSA2017_Publication_web.pdf [accessed 31.1.18].

Labour market and skills intelligence is also crucial for VET's responsiveness to new economic and technological demands and other trends influencing the labour market. The economic and social situation of recent years and the challenges that lie ahead have reinforced work on data collection tools and mechanisms. However, using these data to inform qualifications and VET programmes is still an area for improvement. Countries' common priorities for VET and the European Commission's skills agenda stress the need for reinforced feedback loops. This

calls for effective skills governance systems but multidimensional, multilayered and multi-stakeholder processes are often hampered by lack of coordination.

As several countries were seeking assistance in this endeavour, Cedefop launched an initiative to support them. Country reviews in 2017 focused on governance of skills anticipation and matching systems in Bulgaria, Greece and Slovakia. Cedefop also supported Greece in its work on a skills diagnosis system.



ASSISTING EU COUNTRIES IN SKILLS MATCHING

In 2017, Cedefop started its EU country support programme to strengthen the governance of skills anticipation and matching in Bulgaria, Greece and Slovakia.

At the request of the countries, and in close cooperation with national stakeholder committees, Cedefop provides methodological guidance and helps countries identify specific challenges and bottlenecks, and stimulates reflection on potential policy solutions for effective skills governance.

Matching a country's investment in education and training better to dynamic and rapidly changing skill needs, requires a well-developed skills anticipation and matching infrastructure. However, relying on more and better tools is not enough. What is needed is an integrative approach to skills governance among key stakeholders, which can foster and sustain a virtuous feedback

loop between labour market and education and training actors.

Skills governance refers to the process of putting in place institutional structures, operational processes, and dissemination channels that aid stakeholder interaction and policy reaction based on reliable labour market information. Transfer to policy-making is often hindered by overlapping remits of different ministries and other bodies, unclear roles and responsibilities and/or lack of trust among social partners. The real 'game changer' is to ensure that institutional arrangements, processes and actors' involvement are well coordinated.

The support that Cedefop provides aims at improving a country's instruments and seeks to foster effective dissemination and use of results in education and training, employment and active labour market policies. As labour market and skills intelligence methods and systems vary widely across EU countries, Cedefop has designed a comprehensive analytical framework that identifies

Cedefop's work on skills continued to feature prominently in EU level policy documents and reports. Findings from its work on skills anticipation and mismatch, increasingly accessed through the EU Skills Panorama, accounted for around 60% of the citations and references to Cedefop work. In documents and reports of international organisations, 45% relate to skills anticipation and matching.

The Skills Panorama exemplified the growing use of research and analyses Cedefop made available online. Visits to the Skills Panorama

website in 2017 increased by 56% compared to the previous year. Data visualisation and multiple entry points to country specific information, alongside targeted promotion activities, increased the number of visitors to the Agency's website by 22% compared to 2016. Information on national qualifications frameworks released in February, and also made accessible through the maps in the country data section, electronic newsletters, video clips and interviews, helped increase web visits.

Cedefop's Brussels-based seminar during the Estonian Presidency and a working dinner with

prerequisites and key elements of well-functioning skills governance systems ⁽¹⁰⁾.

Collaborating closely with the national steering committees, Cedefop refines and customises the framework to address national priorities and challenges. It also deploys additional tools and methods to collect in-depth information and aid policy consensus among national stakeholders. On this basis, Cedefop has offered a tailor-made review to each Member State.

Skills governance review findings presented in Athens

A meeting in November familiarised a wide range of stakeholders with Cedefop's skills governance reviews and the first findings of the work on Greece. Representatives of different ministries, the Bank of Greece, social partners, universities and other public and private actors attended the Athens meeting, jointly organised by the Greek Ministry of Labour, Social Affairs and Welfare and Cedefop.

Demonstrating the benefits of carrying out skills anticipation activities and using their outcomes to

inform policy-making in Greece and the EU was a major purpose of this event.

Cedefop presented its analytical framework stressing that it is national stakeholders who are in the driving seat: they set their priorities and take ownership of the findings. Cedefop provides support by collecting in-depth evidence from a wide network of stakeholders. It seeks to spot roadblocks and consequently provide the grounds for stakeholders to reach consensus and agree on a roadmap of potential policy actions. The purpose of the exercise is not identifying exact numbers of professions in demand, Cedefop stressed, but to set the right foundations for a skills anticipation and matching system that ensures responsive feedback between VET and the labour market.

A representative of the Ministry of Labour stressed the commitment of the Greek authorities to the skills governance review. Its findings are seen as a significant input to making best use of the results of a newly developed labour market diagnostic mechanism that the Greek authorities also showcased at the event.



⁽¹⁰⁾ <http://www.cedefop.europa.eu/en/events-and-projects/projects/assisting-eu-countries-skills-matching>

Members of the European Parliament demonstrated the value added of bringing the Agency's different strands of work together. The first discussed whether the VET system is prepared for the future of work, drawing on Cedefop's skills analyses and its comprehensive study on the changing nature and role of VET. Initial findings, analysing developments in the past 20 years to develop future scenarios for VET, informed discussions of Directors General (DGV) and the Advisory Committee for Vocational Training (ACVT). Outcomes of the study will inform discussions on European cooperation in VET beyond 2020.

Discussions with Members of the European Parliament in November reflected on digitalisation and skills policies for workers in the online economy. Cedefop contributed at international level with its work on digitalisation and the future of work to the World Economic Forum's spring 2017 dialogue series on the jobs of the future and to the June workshop on the fourth industrial revolution.

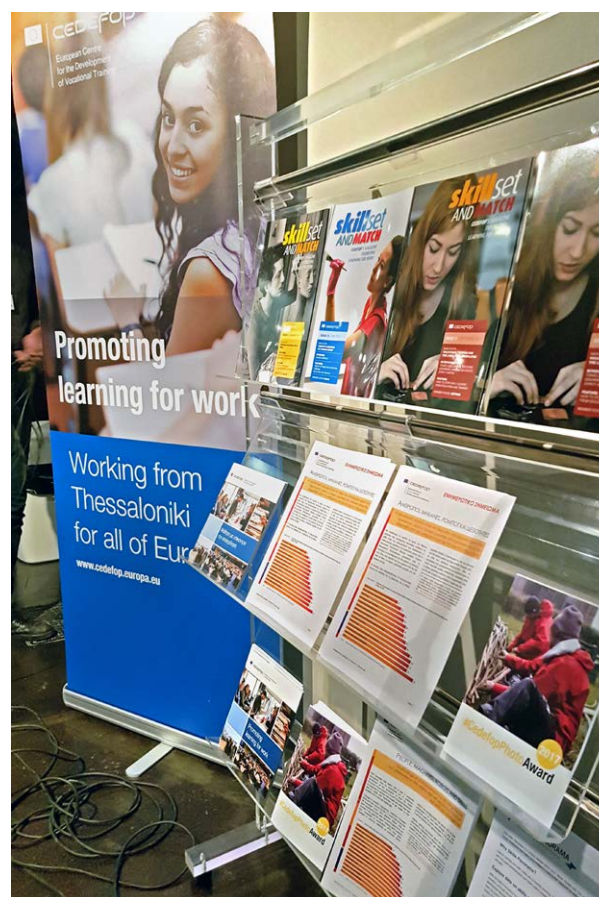
Reflections on jobs of the future and the future of VET also draw more attention to key competences and the need to ensure that people have a basis from which they can develop their skills and adapt to new needs, changing work environments and processes. With its position paper on key competences in VET, Cedefop contributed to the consultations and discussions of the key competence revision planned for 2018.

Everyone has the right to quality and inclusive education, training and life-long learning, to maintain and acquire skills that enable them to participate fully in society and manage transitions in the labour market successfully; this is a core principle of the European Pillar of Social Rights that the Council, the European Parliament and the European Commission proclaimed in November 2017.

The Council recommendation on *Upskilling pathways* is considered a major initiative in support of this principle. Addressing and preventing low skills, a key theme in the follow-up of the recommendation, was at the core of the debate at the spring seminar that Cedefop jointly organised with the Maltese Presidency in Brussels. Cedefop's study on the economic and social costs of low-skilled adults in the EU, and its work on guidance and validation of non-formally and informally acquired skills, informed the debate. The Agency's toolkit to help prevent and remedy early leaving from education and training, made available on its

website in 2017, also contributes to VET's inclusive dimension.

The *Upskilling pathways* recommendation aims to ensure that European citizens get a chance to acquire qualifications at EQF levels 3 or 4. This also draws attention to countries' progress on implementing the recommendation on a European qualifications framework on the eve of its 10th anniversary. Its objective – to act as a translation device of qualifications across national borders – has given rise to developing national qualifications frameworks (NQFs) as a basis. Hence, Cedefop's peer learning conference discussing whether these frameworks have a policy impact and benefit learners and citizens was opportune. The conference was organised jointly with the European Commission and Ireland's Quality and Qualifications authority. It provided a platform for policy-makers and researchers from within and outside Europe to exchange views and experiences, particularly on the challenge of measuring the impact of NQFs.





DO NATIONAL QUALIFICATIONS FRAMEWORKS MAKE A DIFFERENCE?

HOW TO MEASURE AND EVALUATE THEIR IMPACT

‘National qualifications frameworks (NQFs) make a difference to policies and practices but more research is needed to measure their impact’; this was one of the conclusions of the peer learning conference organised by Cedefop, the European Commission and Quality and Qualifications Ireland (QQI) in Thessaloniki on 9 and 10 November. Some 100 participants from 30 countries within and outside Europe and international institutions attended the event, bringing together policy-makers, stakeholders and researchers.

NQF developments in Europe and worldwide have been rapid. Before 2005, qualifications frameworks in Europe were in place only in France, Ireland, and the UK. By 2017, all 39 countries taking part in implementing the European qualifications framework (EQF) had introduced NQFs. As they are put in place all over the EU – and around the globe – a question repeatedly asked is: do these frameworks make a difference in policies, and do they help learners and citizens?

Departing from this question, the conference aimed to:

- (a) stimulate open and critical reflection on the current and future role of NQFs among policy-makers, stakeholders and researchers;
- (b) strengthen exchange of experiences on the challenges countries face when establishing and applying NQFs and measuring their impact to support evidence-based policy-making.

Country cases and experiences showcased comprehensive learning-outcomes-based NQFs as adding value in several policy areas: they have influenced cross-sectoral cooperation; have brought together stakeholders; and have acted as a bridge among policies. NQFs have not only benefitted VET but also contributed to better equivalence between VET and other types of qualifications. Higher VET (EQF levels 5 to 8) has become especially more visible and the learning outcomes approach has been strengthened across education and training. The work on NQFs has also reinforced that on validation/recognition of prior learning. Reaching and increasing awareness among end-users – citizens, learners, students and employers – remain major challenges.

The conference concluded that more research and evidence is needed to understand the contribution and impact of NQFs to wider objectives of lifelong learning, employability and worker and learner mobility. Better evidence supports policy development and allows stakeholders to revisit NQF policies. An overview of existing NQF studies and evaluations should be drafted, building on Cedefop’s knowledge base. This would aid creating an independent research programme on NQFs, and connecting such research to ‘neighbouring areas’ to capture the context in which NQFs operate ⁽¹¹⁾.

⁽¹¹⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/peer-learning-conference/agenda-and-conference-documents>

The peer learning conference also demonstrated that, despite long-standing cooperation at European level, using the same terms does not necessarily guarantee that all actors share a common language. Discussions are still shaped by different concepts that the various countries, researchers, policy-makers and other experts associate with terms like qualifications, competences or skills. EU-level and international policy documents and reports also reflect this need for common understanding of terms. Take-up of Cedefop definitions signals that the Agency is considered an authoritative source in this area.

Work on NQFs and the increasing need to validate skills and competences acquired outside

formal education and training has drawn more attention to the outcomes of what people learn. Those who have the task of defining and describing learning outcomes for curricula, standards and qualification levels are faced with a range of challenges. Learning outcomes statements need to serve these different purposes and do not necessarily capture all aspects that may need including. Countries' concepts and traditions also influence them. Cedefop published a handbook to help overcome these challenges and use the learning outcomes approach more effectively. It draws on the rich debate at a policy forum held in 2016.

HOW TO DEFINE AND WRITE LEARNING OUTCOMES

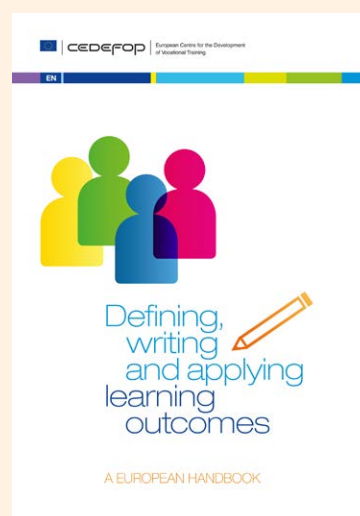
Cedefop's European handbook *Defining, writing and applying learning outcomes* ⁽¹²⁾ targets people and institutions involved in these tasks. It provides a reference point for more systematic exchange of experiences and cooperation at European level. Learning outcomes cannot stand alone. Their potential can only be realised when they are used in practice. Defining and writing must be followed by implementation, through teaching, learning and assessment.

Learning outcomes have to be 'fit for purpose'. The levels of detail/granularity and generality/specificity have to reflect this. The handbook outlines the different purposes for which learning outcomes are used and underpins them with examples: this is what creates its added value. Learning outcomes descriptors used by an NQF differ significantly from those used in a qualification profile/standard, a programme description, a curriculum or an assessment standard.

Using learning outcomes effectively, the handbook asserts, requires understanding the strengths and weaknesses of the approach. For this reason, it discusses the challenges people encounter when working with learning outcomes. It also reviews the criticism commonly raised on the use of the approach, as not all aspects of learning can be captured through learning outcomes statements.

Using learning outcomes is both a perspective and a mode of thinking: the focus is on the learner rather than the teacher. Their definition and description needs to allow for local adaptation and interpretation by teachers and learners. The handbook, therefore, presents the basic principles and 'rules of thumb' supporting the definition and writing of learning outcomes.

An overview of, and a direct link to, guidance and research material are also included. This makes it possible for stakeholders to go in depth into issues relevant to their institutional or national priorities. The ambition of the handbook is to become a living document that is regularly updated.



⁽¹²⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/4156>

KEY PERFORMANCE FINDINGS

Top users of Cedefop work were the European Commission (more than 50% of the documents), the European Parliament, the European Economic and Social Committee and the European Training Foundation. Several of the Commission documents and a paper by the European Institute for Gender Equality that used Cedefop findings were submitted to the Council. 50% of the references drew on Cedefop's work to inform VET by offering labour market intelligence: its skills supply and demand data and analyses, its work on skills mismatch, and the information made available through the EU Skills Panorama.

Several documents by the European Commission, the European Economic and Social Committee, and the European Parliament acknowledged Cedefop's work and support to EU level initiatives and/or its benefits. Others included proposals and intentions to cooperate with Cedefop.

The OECD was responsible for nearly two thirds of the documents and reports by international organisations citing or referring to Cedefop findings. The ILO and UNESCO followed suit. More than a third of the references relating to skills anticipation and matching confirm the relevance of Cedefop's work in this field. Several related to promoting access to, and attractiveness of, VET, monitoring implementation of national VET policies, and supporting the development and use of European tools and principles.

In its staff working document accompanying the proposal for a Council recommendation on

a European framework for quality and effective apprenticeships, the European Commission stated that it will monitor its implementation with ACVT and Cedefop support.

While Cedefop reduced the number of its publications to less than 40, it prepared more country-specific information and provided interactive content on various themes. Besides the EU Skills Panorama, Cedefop made available a toolkit for VET to help prevent and remedy early leaving from education and training; it also updated and complemented the information available in the mobility scoreboard.

It is interesting that the most frequently cited Cedefop publications in academic literature are not its most recent. Two 2015 publications made the top 10: *Skills, qualifications and jobs in the EU: the making of a perfect match?* based on its European skills and jobs survey and published in 2015; and the revised *European guidelines for validating non-formal and informal learning* released in the same year, although, in several cases, the 2009 version was still referred to. Cedefop's *European journal of vocational training*, discontinued in 2009, is still top of the list. Similarly, the top 10 publications that users downloaded from the Agency's website included several that predate 2010, showing that Cedefop's research and analyses do not only serve short-term policy goals. Downloads of the publications released in 2017 confirmed the popularity of the Agency's briefing notes and were more related to the current policy agenda. The high interest in the statistical data for VET policies and Cedefop's research on investing in skills and the handbook of learning outcomes, are noteworthy.



RESULTS ACHIEVED

2.1. OPERATIONAL ACTIVITY: SHAPING VET BY MODERNISING VET SYSTEMS AND INSTITUTIONS AND BY SUPPORTING THE USE OF EU TOOLS AND PRINCIPLES

PERFORMANCE

89 REFERENCES
IN EU POLICY DOCUMENTS



For example:

- *Commission staff working document accompanying the proposal for a Council recommendation on a European framework for quality and effective apprenticeships* (submitted to the Council)
- *Teachers and trainers in work-based learning/ apprenticeships: final report* (European Commission, DG Employment)
- *Monitoring of the learning commitment in the campaign on the construction sector* (European Commission, DG Growth)
- *Getting organised for better qualifications: a toolkit* (European Training Foundation)

57 ACTIVE
CONTRIBUTIONS
TO SENIOR STAKEHOLDER
MEETINGS THAT SUPPORT POLICY
IMPLEMENTATION



For example:

- meetings of the advisory committee on vocational training (ACVT) and of Directors General for VET (DGVET)
- EQF advisory group and ESCO
- ET 2020 working group on digital skills and competences
- UEAPME conference on higher VET international level
- 6th ASEM education ministers' meeting

17 WRITTEN
CONTRIBUTIONS
TO POLICY DOCUMENTS OF
EU (16) AND INTERNATIONAL
ORGANISATIONS (1)



For example:

- revision of the key competence framework
- joint papers with the Commission for the EQF advisory group
- contributions to the comments on the reports by Cyprus, Finland, Slovakia and Turkey relating their NQFs to the EQF
- background papers for the meetings of the DGVET and ACVT on the changing nature and role of VET

9 000
DOWNLOADS OF CEDEFOP
PUBLICATIONS



TOP THREE PUBLICATIONS:

- *Vocational education and training in Malta* (2 439)
- *Defining, writing and applying learning outcomes* (1 485)
- Briefing note *Looking back to look ahead* (1 183)

To reinforce its knowledge base on **key competences** in upper secondary VET and provide new evidence, Cedefop shaped the concept of a study that will start in early 2018. The study will build on information collected from Cedefop's ReferNet, its European network of expertise on VET ⁽¹³⁾. This information served as a basis for informing ACVT discussions and also fed into Cedefop's position paper on the review of the key competence framework which is expected to be adopted during the Austrian Presidency of the EU. In this study, language and digital competences are selected for analysis. Languages refer to literacy in the mother tongue and foreign languages, reflecting Europe's multicultural and multilingual reality. Digital competences refer to information and data literacy, communication and collaboration, digital content creation, safety and problem-solving.

In line with Cedefop's multiannual objective to monitor policy trends and analyse developments, the Agency prepared an **interim report** on countries' progress towards the 2015-20 priorities (deliverables) agreed in the Riga conclusions within European cooperation on VET. The approach and work on the report have been coordinated with the ETF, Cedefop's partner in this exercise. This included joint papers and presentations informing ACVT and DGVT meetings on the approach and findings, as well as joint sections in the synthesis report. Initial findings were integrated in a Commission paper on implementing the recommendation on upskilling pathways that the DGVT discussed at their spring meeting. For the EU-28+, the interim report drew mainly on information provided by Cedefop's ReferNet, as well as on other Cedefop and EU sources. The report comprises two parts: country chapters presenting developments in individual Member States, Norway and Iceland ⁽¹⁴⁾; and a synthesis of trends across countries. The country chapters started being published online in autumn, while the final version of the synthesis report and the briefing note accompanying it will be completed in early 2018, taking into account feedback from the ACVT.

As in previous years, **short descriptions** ⁽¹⁵⁾ and **Spotlights** ⁽¹⁶⁾ on VET in the Presidency countries (Malta and Estonia) were published online and made available in hard copy to the DGVT and participants at VET-related conferences. Video animations based on the Spotlights were published on Cedefop's website ⁽¹⁷⁾. Taking into account human resources constraints, work was reprioritised to focus on reporting on the Riga deliverables. Substantial work was completed on 18 Spotlights; 10 were published in 2017 and eight more will be made available in early 2018. Work on nearly all 2016 *VET in Europe* reports, offering more comprehensive system information, was completed and the updated reports published online ⁽¹⁸⁾. Brief information on recent developments (ReferNet news) complemented the information on VET policies and systems.



ReferNet is the main source of information for building an evidence base for Cedefop's review of progress towards the 2015-20 deliverables agreed in the Riga conclusions within European cooperation on VET. Cedefop organised the 15th annual plenary ReferNet meeting ⁽¹⁹⁾ in Thessaloniki from 29 to 30 November and welcomed the 30 partners under the 2016-19 framework partnership agreement, and the

⁽¹³⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/country-reports/key-competences-in-vet>

⁽¹⁴⁾ Including candidate countries provided by the ETF.

⁽¹⁵⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/4151>; <http://www.cedefop.europa.eu/en/publications-and-resources/publications/4155>

⁽¹⁶⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/8106>; <http://www.cedefop.europa.eu/en/publications-and-resources/publications/8114>

⁽¹⁷⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/videos/vocational-education-and-training-malta>; <http://www.cedefop.europa.eu/en/publications-and-resources/videos/vocational-education-and-training-estonia>

⁽¹⁸⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/country-reports/vet-in-europe-country-reports>

⁽¹⁹⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/refernet-annual-plenary-meeting-2017>



national representatives for ReferNet. The agenda included information sessions on the latest EU VET policy developments and the future of VET; preparing the network's 2018 work plan; the outcomes of the *ex-post* evaluation of ReferNet; and experience-sharing on specific issues such as quality criteria for reports and editing. Two partnership forums were organised: the first in Helsinki ⁽²⁰⁾ (11 and 12 May) in cooperation with the Finnish National Agency for Education, and the second in Riga ⁽²¹⁾ (17 and 18 May) in cooperation with the Academic Information Centre, ReferNet Latvia. A workshop on digital marketing ⁽²²⁾ was organised on Cedefop premises on 14 February as a follow-up to initiatives aiming at raising the visibility of Cedefop/ReferNet publications. The workshop discussed the evaluation of the national ReferNet websites and the visibility and accessibility of Cedefop/ReferNet products in the national context, as well as exploring new digital marketing strategies.

Thematic coverage of the **mobility scoreboard** was finalised. The scoreboard had been set up in 2015, following the 2011 Council recommendation *Youth on the move*. Offering country fiches, country scorecards, maps, indicators, and overview tables, the scoreboard supports monitoring of Member States' progress in implementing the recommendation. In 2017, the tools to monitor the areas of portability, disadvantaged learners and multipliers were finalised. The complete version of the online scoreboard (10 thematic areas;

29 countries; 14 indicators) was published in mid-September.

Combining different research methodologies and six work assignments, the **Changing nature and role of VET** project (2015-18) aims to provide in-depth insights into the overall standing and role of vocational education and training in Europe today. Preliminary results have been shared with key VET stakeholders in Europe, notably the ACVT (April and December), the Directors General for Vocational Training (May), and VET providers (June). The first two research papers were published in 2017. Two additional research papers, one on the responsiveness of European VET systems to external change and one on the importance of initial VET in Europe, will be published in spring 2018. Further papers will be published throughout 2018.



The first research paper on **conceptions of VET** outlines a conceptual model for better understanding the (changing) character of VET, combining systemic, epistemological and socioeconomic perspectives. It particularly reviews scholarly attempts to define or explain VET and presents an analytical model supporting the overall project. The second research paper, on **results**

⁽²⁰⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/2017-refernet-partnership-forum-helsinki>

⁽²¹⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/2017-refernet-partnership-forum-riga>

⁽²²⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/making-refernet-products-more-visible-digital-marketing-workshop>

of a survey among European VET experts, attempts to test empirically the perspectives and learning approaches examined in the first paper. It explores how the definition and conceptualisation of VET has changed in the 30 countries covered by the project over the past two decades. These two papers provide interesting insights into the longer-term developments of VET in Europe and the challenges and opportunities arising. A briefing note summarising these findings was published in September 2017 ⁽²³⁾.

Findings were also discussed at Cedefop's workshop '**VET in the 21st century – New pressures and changing expectations**' ⁽²⁴⁾ organised in Thessaloniki on 16 and 17 February. They were disseminated at several events, including the December Brussels-based seminar with the Estonian Presidency '**Is the vocational education and training system prepared for the future of work?**' ⁽²⁵⁾ and the joint UNESCO/UNEVOC-Cedefop workshop '**Enhancing the attractiveness of TVET**' ⁽²⁶⁾ in July. The project is attracting much attention from VET stakeholders across Europe. The decision to publish research papers as soon as results become available helps boost this interest. The European Commission is referring to the findings of this project as directly feeding into the debate on the future of VET and EU-level cooperation in this field beyond 2020.



The study on the **opportunities of globalisation for the review and renewal of VET** was completed. It examined how national VET systems and qualifications respond to changing labour market requirements in Europe and across the world, and the way European and international initiatives in skills and qualifications inform VET revision and renewal in different countries. The study identified how European countries and international bodies at the forefront of global developments shape international standards on skills and qualifications, and the way they interact with countries that want to modernise their VET systems to increase their global competitiveness. The research focused on 15 European countries and five economic sectors highly exposed to globalisation: road transport and logistics; hospitality; automotive manufacturing; information and communication technology; and health-care (paramedics).

Throughout the year, Cedefop continued to support the political and institutional processes underpinning implementation and **further development of the EQF**. Cedefop provided substantial input to the drafting of the staff working document and the revised EQF recommendation, which was adopted in May 2017 ⁽²⁷⁾. The recommendation provides the legal basis for deepening EQF implementation and for transparent and coherent EQF referencing. It also provides the mandate for exploring the development and application of criteria and procedures to enable comparison of third countries' national and regional qualifications frameworks with the EQF. The long-term priority of this recommendation is to strengthen transparency and comparability of European qualifications, reducing barriers to lifelong learning and mobility of learners and workers. Cedefop provided substantial input to the EQF work programme 2018-19, including seven fiches focusing on key areas for supporting implementation of the recommendation: (a) referencing reports; (b) EQF levels and guidance for communicating; (c) updating the referencing report; (d) qualifications and learning outcomes; (e) levelling qualifications; (f) international qualifications; and (g) third countries' national and regional qualifications frameworks. Each fiche discussed the importance of the area,

⁽²³⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/9123>

⁽²⁴⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/vet-21st-century-new-pressure-and-changing-expectations>

⁽²⁵⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/vocational-education-and-training-system-prepared-future-work>

⁽²⁶⁾ <http://www.cedefop.europa.eu/en/news-and-press/news/vet-researchers-meet-practitioners>

⁽²⁷⁾ <https://publications.europa.eu/en/publication-detail/-/publication/ceed970-518f-11e7-a5ca-01aa75ed71a1/language-en>

achievements to date, and issues and next steps for 2018-19.

Cedefop provided substantial conceptual input to the **EQF advisory group meetings** in February, March, June, October, and December, and to the EQF referencing process (providing comments to the referencing reports of Cyprus, Finland, Slovakia and Turkey). It also contributed to the work on horizontal comparison of levelled qualifications, and actively supported the peer learning activity on this issue (Warsaw, 18 and 19 May).

Cedefop analysed national qualifications framework (NQF) developments in 39 countries participating in the EQF implementation during 2015-16. The sixth report since Cedefop started its **regular monitoring of national qualifications framework development**, shows that political commitment to the implementation of NQFs remains high. This is demonstrated by: the growing number of fully operational frameworks; the almost completed referencing of NQFs to the EQF; and the increasing visibility of national qualifications frameworks (and their levels) in qualifications documents and/or databases. NQFs primarily add value by promoting the learning outcomes perspective and by adopting a comprehensive approach seeking to cover all levels and types of qualifications. In spite of positive developments, NQF labour market use is still limited in most European countries. Many employers are still not aware of their existence and do not make use of them. Few NQFs reach individual citizens, learners, and students. European countries have built the 'back office' but given too little attention to the 'front office'. This is an important priority for the coming years.

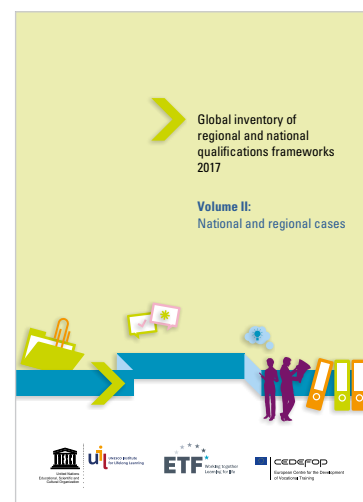
Increased effort was also made to take forward international dialogue on qualifications frameworks, in close collaboration with the ETF, UNESCO-HQ and UNESCO (UIL). Cedefop coordinated the third **edition of national and global qualifications frameworks inventory**, published in 2017 ⁽²⁸⁾. The publication analyses national qualifications

frameworks in 100 countries in all five continents. It covers seven regional qualifications frameworks, including the European qualifications framework. The country chapters are supported by eight thematic chapters of transversal analysis: purposes and impact of NQFs; qualifications frameworks as catalysts for lifelong learning and recognition of non-formal learning; qualifications frameworks promoting international and global communication and cooperation and comparability of qualifications.

Outcomes reveal that more than 150 countries worldwide are now developing and implementing qualifications frameworks. The number of frameworks has not grown much from the last edition of the global inventory in 2015. However, the years between 2015 and 2017 show a trend towards strengthened **regional cooperation between NQFs**. This is not only the case in Europe, related to the revision of the EQF recommendation; it is also observed in Asia related to the now operational Association of Southern Asian Nations (ASEAN) reference framework and the (renewed) SADC cooperation in the Southern African context. Research and evidence on use, contribution and impact of NQFs is growing as they are increasingly embedded into national policies and practices. Global cooperation is also growing at technical expert level, for example through work on world reference levels, led by UNESCO. The findings of the global inventory were presented at the 6th Asia-Europe education ministers' meeting in Seoul, South Korea, in November. Cedefop's work on EQF/NQFs was also presented in the UNESCO TVET International Congress in Tangshan, China, in July 2017.

⁽²⁸⁾ (a) Cedefop; ETF; UNESCO; UNESCO Institute for lifelong learning (2017). *Global inventory of regional and national qualifications frameworks 2017 – Volume I: thematic chapters*. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/2221>

(b) Cedefop; ETF; UNESCO; UNESCO Institute for lifelong learning (2017). *Global inventory of regional and national qualifications frameworks 2017 – Volume II: national and regional cases*. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/2222>





In July, Cedefop celebrated the **hundred millionth CV created online** through the Europass portal. This figure rewards Cedefop's commitment to the conceptual development of Europass, its efficient management of the Europass portal and its close cooperation with the Commission.

Throughout the year Cedefop provided technical and conceptual support to the Commission in shaping the **new Europass** by providing extensive feedback to the deliverables from the Commission's external contractor working on the business analysis for the future Europass platform. Cedefop also delivered other inputs: ensured the evolutive maintenance of the current Europass portal (interoperability with Monster, a leader global job portal (January)); produced a promotional infographic for the 100 million CVs generated online (November); introduced a new interoperability portal (June); developed a new statistical tool to produce tailored reports (October); redesigned the CV editor; and enabled the selective import of the cover letter/CV/European skills passport in the editor (November). Cedefop also supported national Europass centres and end-users.

Cedefop continued its cooperation with the European Commission and Member States in supporting implementation of the **ECVET** recommendation, providing analytical support to the ECVET user group. It also supported the **EQAVET** annual meeting and the steering committee.

Following last year's agreement between the European Associations of VET providers, Cedefop, and the European Commission, the **Community of VET practitioners** for promoting quality in learning delivery was set up; the Community is a joint

endeavour by the VET associations participating in the European Platform, and Cedefop, in cooperation with DG EMPL. The Community's agreed work programme 2017-20 includes three themes with three dedicated sub-groups: learning providers and the challenge of technology-enhanced learning; learning providers and EU mobility; learning providers and migration. The first meetings of the sub-groups took place in May 2017. The sub-groups work through information sharing and expert cooperation with the aim of formulating practical guidelines on how best to support VET providers in meeting these challenges.

Over recent years, Cedefop has carried out several studies ⁽²⁹⁾ mapping and analysing the use of learning outcomes for different purposes, supporting policy developments at EU, national and sectoral levels. It also organised several events ⁽³⁰⁾ fostering exchange of experiences and comparison of practices. In 2017, these efforts were strengthened by the development of a *European handbook on learning outcomes* providing direct support to policy-makers, including social partners, and stakeholders.

The study *The use of learning outcomes to support dialogue between education and training and the labour market* was finalised in April and will be published in early 2018. It compared 10 VET qualifications in 10 countries and used the learning outcomes approach to identify similarities and differences between countries. The need for review and renewal of qualifications is also analysed using the learning outcomes approach as a starting point. Cedefop cooperated with the ETF and UNESCO to extend the comparison to countries outside Europe, covering a total of 26 countries. The study shows how learning outcomes and competence requirements have been defined in different countries. It also offers a unique insight into national ambitions, demonstrating both similarities and differences in requirements and priorities. The study also investigates the 'feedback-loop' between the world of education and training and that of work, seeking to identify how this can be improved and strengthened. It makes clear that VET qualifications need to change continuously and rapidly, and draws attention to the challenge of balancing national and international needs.

⁽²⁹⁾ <http://www.cedefop.europa.eu/en/events-and-projects/projects/learning-outcomes/publications>

⁽³⁰⁾ <http://www.cedefop.europa.eu/en/events-and-projects/projects/learning-outcomes/events>

2.2. OPERATIONAL ACTIVITY: VALUING VET TO EMPOWER PEOPLE TO ACHIEVE COMPETENCES AND SKILLS FOR WORK AND LIFE

PERFORMANCE

93 REFERENCES
IN EU POLICY DOCUMENTS



For example:

- *Commission proposal for a Council recommendation on a European framework for quality and effective apprenticeships and accompanying staff working document* (submitted to the Council)
- *European alliance for apprenticeships: assessment of progress and planning the future: final report* (European Commission, DG Employment)
- *Skills development and employment: apprenticeships, internships and volunteering* (European Parliament study)
- *Teachers and trainers in work-based learning/apprenticeships: final report* (European Commission, DG Employment)

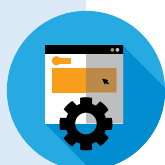
59 ACTIVE
CONTRIBUTIONS
TO SENIOR STAKEHOLDER
MEETINGS THAT SUPPORT
POLICY IMPLEMENTATION



For example:

- EU level:
 - ET 2020 working group on adult learning and VET (focused on teachers and trainers)
 - European alliance for apprenticeship (EAfA)
 - Permanent committee on mobility, migration and inclusion of the European Economic and Social Committee
 - European guidance week
- International level:
 - Inter-agency working group on work-based learning
- Direct support to Member States:
 - meetings in Greece, Croatia, Italy, and Slovenia to review their apprenticeships

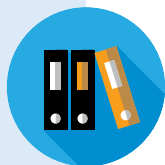
23 WRITTEN
CONTRIBUTIONS
TO POLICY DOCUMENTS OF
EU (20) AND INTERNATIONAL
ORGANISATIONS (3)



For example:

- *Commission proposal for a Council recommendation on a European framework for quality and effective apprenticeships and the accompanying staff working document*
- joint papers with the Commission for the EQF advisory group related to validation of non-formal and informal learning
- input to European Commission documents on professional development of teachers and trainers in work-based learning for the October DGVT meeting
- communiqué of the EU Presidency conference on lifelong guidance and career development
- input to the European Investment Bank's publication *Skills in Europe*
- International level:
 - input to the inter-agency working group's leaflet *Investing in work-based learning*
 - input to the recommendations of the Council of Europe dialogue with Roma and Traveller civil society

7 000
DOWNLOADS OF CEDEFOP
PUBLICATIONS



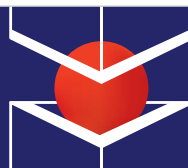
TOP THREE PUBLICATIONS:

- Briefing note *Vocational education and training: bridging refugee and employer needs* (1 627)
- *European inventory on validation of non-formal and informal learning – 2016 update* (1 457)
- *Investing in skills pays off* (1 373)

POLICY LEARNING FORUM

VET as a solution
to leaving education early

16 and 17 May 2017
Thessaloniki, Greece



CEDEFOP
European Centre for the Development
of Vocational Training

In 2017, the second round of the thematic country reviews (TCRs) on apprenticeships involving Greece, Italy and Slovenia was concluded. Together with the countries of the first round (Lithuania and Malta), this completed the TCRs in five countries. The third round was initiated involving Croatia and Cyprus, while a pilot exercise of a lighter version of the TCR, the so-called flash TCRs on apprenticeships, was initiated in Sweden and Belgium-French Community. The findings of the five completed TCRs show that countries share similar challenges, which broadly fall under four areas of Cedefop's analytical framework on apprenticeships: (a) place in the education and training system, (b) governance, (c) training content and learning outcomes, and (d) participation of, and support to, companies. The common challenges were discussed with the representatives of all TCR and flash TCR countries at the policy learning forum on apprenticeships on 7 and 8 September in Thessaloniki. Participants confirmed their interest in developing their apprenticeship schemes further and the need to reinforce the evidence and methodological tools related to cost-benefit analysis of apprenticeships.

The study *Apprenticeships: a cross-national overview* mapped the main apprenticeship schemes, well-established and underpinned by a legal basis at the point of data collection, in the EU Member States, Iceland and Norway. These schemes were analysed by function and main defining features (such as contract, alternance). Preliminary findings confirm that apprenticeships are fundamentally different in their strategic function, with implications in the way they are defined and placed in the overall education and training system. Apprenticeships generally serve two main functions: as a VET model for occupational expertise and as a mode of learning. The study's main outputs, an online database and a synthesis report, will be available in 2018. The study is the first EU-level study that aims at depicting the presence and distribution of apprenticeships across the EU, Iceland and Norway. Most important, it aims at shedding light on what accounts for the fundamental differences

that hamper a common and shared understanding of the concept of apprenticeship. As a result, the study is also attracting attention at the political level, including from members of the European Parliament.



Complementing the 2016 publication ⁽³¹⁾ of the research paper *Leaving education early: putting vocational education and training centre stage*, 15 country reports were published in 2017 ⁽³²⁾. They provide information on the national monitoring systems and rates of early leavers from education and training (ELET), the national and regional strategies to tackle ELET, and recent policy initiatives. To support policy-making, drawing on the successful practices analysed, the reports identify several factors that contribute positively to the effectiveness of VET in reducing ELET, and factors that may hamper the success of policies in different national contexts.

The policy learning forum 'VET as a solution to leaving education early' ⁽³³⁾ took place on 16 and

⁽³¹⁾ <http://www.cedefop.europa.eu/en/news-and-press/news/leaving-education-early-putting-vocational-education-and-training-centre-stage>

⁽³²⁾ <http://www.cedefop.europa.eu/en/events-and-projects/projects/early-leaving-education-and-training/country-reports>

⁽³³⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/policy-learning-forum-vet-solution-leaving-education-early>



17 May in Thessaloniki. The 100 participants ⁽³⁴⁾ learned from the new evidence provided by Cedefop and benefited from a poster exhibition of 26 good practices ⁽³⁵⁾ that triggered knowledge sharing. At the forum, Cedefop launched a web **VET toolkit for tackling early leaving** ⁽³⁶⁾ which provides guidance, good practices and tools to support VET policy-makers and providers to:

- (a) identify learners at risk of early leaving or who have already left education ⁽³⁷⁾;
- (b) intervene to keep learners in or bring them back to the system ⁽³⁸⁾;
- (c) evaluate measures implemented ⁽³⁹⁾.

The toolkit includes a self-reflection tool for policy-makers and two evaluation plans developed by Cedefop (one for policy-makers and one for VET providers) to help monitor and evaluate the performance of policies and practices. To support policy-makers and VET providers, a *VET toolkit for tackling early leaving* leaflet ⁽⁴⁰⁾ was published in six languages.



The project outcomes supported several initiatives and policy developments at local ⁽⁴¹⁾, national ⁽⁴²⁾ and European levels ⁽⁴³⁾.

The study **Investing in skills pays off: the economic and social costs of low-skilled adults in the EU** was published ⁽⁴⁴⁾. It provides a comprehensive and robust evidence-base on low-skilled adults in the EU, analysing trends in low skills among adults as well as characteristics, determinants and risks of being low-skilled. The study provides an estimation of the individual and social value, in monetary terms, of a faster increase in the general level of skills in Member States compared to the current trend. Fully appreciating the benefits of updating the skills of individuals

⁽³⁴⁾ National, regional and local policy-makers, institutional level actors and social partners from different countries, as well as representatives from European and international organisations involved in the design and implementation of measures to tackle early leaving from education and training (ELET).

⁽³⁵⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/policy-learning-forum-vet-solution-leaving-education-early/posters>

⁽³⁶⁾ <http://www.cedefop.europa.eu/TEL-toolkit>

⁽³⁷⁾ <http://www.cedefop.europa.eu/en/toolkits/vet-toolkit-tackling-early-leaving/identify>

⁽³⁸⁾ <http://www.cedefop.europa.eu/en/toolkits/vet-toolkit-tackling-early-leaving/intervene>

⁽³⁹⁾ <http://www.cedefop.europa.eu/en/toolkits/vet-toolkit-tackling-early-leaving/evaluate>

⁽⁴⁰⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/8110>

⁽⁴¹⁾ <https://www.dcy.gov.ie/viewdoc.asp?DocID=4440> [accessed 12.1.2018].

⁽⁴²⁾ Such as the Spanish research project *Success and dropout pathways in VET in Spain* (EDU2013-42854-R).

⁽⁴³⁾ Collaboration with the Council of Europe on migrant and refugee early leavers and contributing to Erasmus+ projects (CroCooS and TITA).

⁽⁴⁴⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/5560>

through adult and lifelong learning is essential to strengthening the rationale for public intervention in this area, and to designing and implementing effective policies tailored to this particular target group. The study's outcomes were the basis of the third Cedefop Brussels-based seminar ⁽⁴⁵⁾, dedicated to addressing and preventing low skills, held in June in cooperation with the Maltese Presidency of the EU. The aim of the seminar was to share evidence about the origins, costs and impacts of low skills for societies and individuals, and to stimulate debate about policy strategies to prevent and address them. Discussions took into account economic and demographic diversity as well as the distinct administrative structures and cultures of the Member States. Drawing on evidence gathered in this Cedefop study and continuing research on guidance, validation and training, seminar participants discussed the possibility of designing integrated and comprehensive policy responses.

The first phase of the study **Apprenticeships for adults** was concluded. The desk research into existing academic research, national policies, initiatives and apprenticeship opportunities for adults shows that evidence on this topic is limited but that there seem to be few opportunities for apprenticeships exclusively addressed to adults. The study includes more in-depth research in 10 selected countries where apprenticeship for adults is more developed.

The first phase of the research **Financing of apprenticeships/dual VET in the EU** was completed. It resulted in (a) an overview of major costs related to on-the-job training in existing apprenticeship schemes in the EU-28 and the source of their funding; and (b) a mapping of the main joint funding instruments, such as grants, tax incentives and training funds. The second phase, launched in May, explores the characteristics of financing company and school-based parts of apprenticeship schemes, focusing on selected cost categories where data are available across the board and on shared funding instruments most commonly used across the EU-28; it collects data on their scope, characteristics, results, strengths and weaknesses. The draft final report and the accompanying database combine

descriptive information on schemes and joint funding instruments, comparative information on such instruments used across 31 schemes, and analytical work including approaches for a typology of financing arrangements. Cedefop presented the key findings to national experts from 11 EU Member States in a dedicated validation workshop, the outcomes of which will inform the final report (expected in 2018).

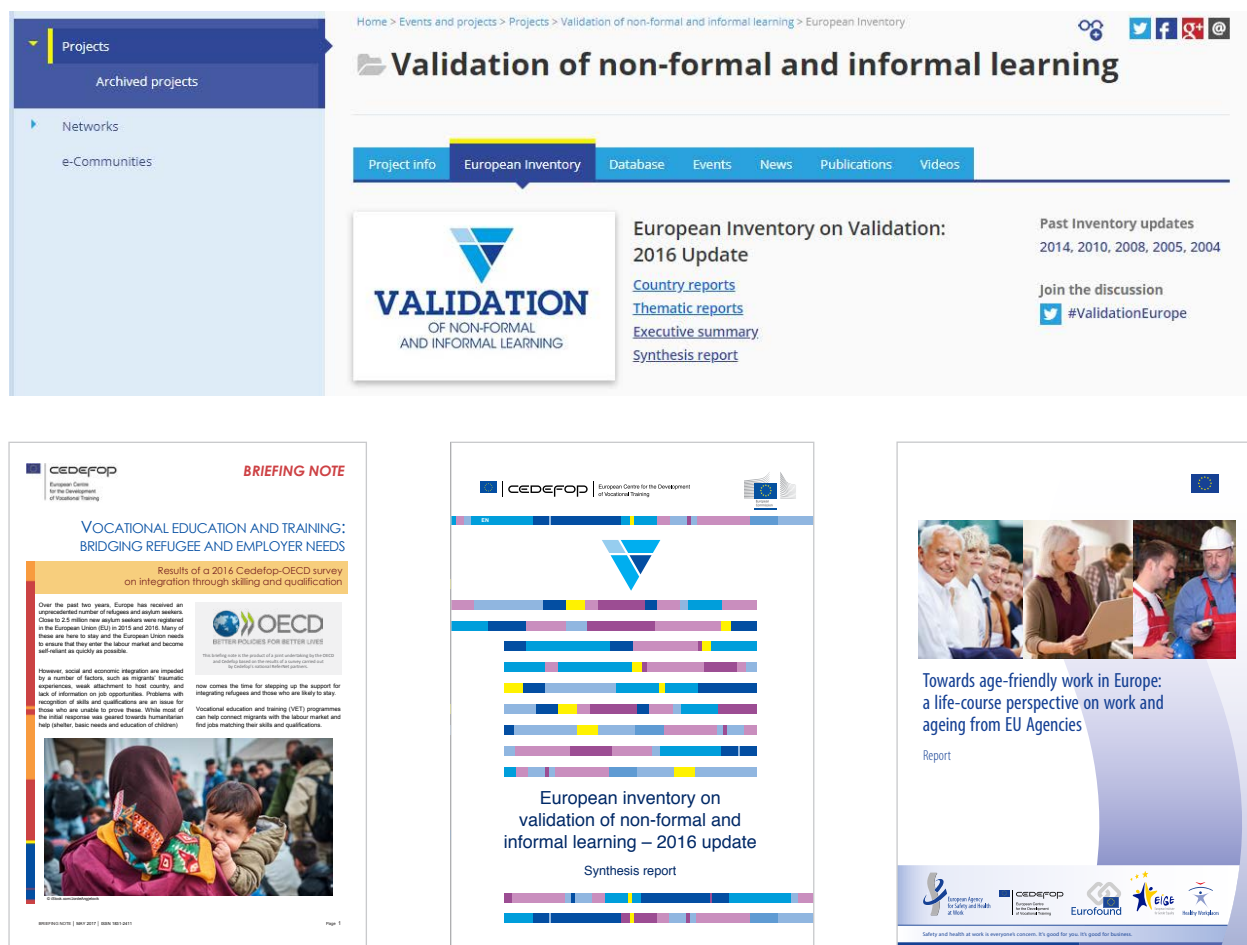
The first report of the **Opinion survey on VET** was published in 2017. The survey provides unprecedented data on Europeans' opinions on awareness, attractiveness and effectiveness of VET in Europe. It shows that VET has a positive image in Europe, especially in relation to its capacity to provide job opportunities and prepare people for the world of work, meeting employers' needs. However, when compared to general education, most respondents still continue to see VET as a second choice for second-rate students. Lack of information seems to play a major role in this perception bias. ReferNet partners provided articles using country level data from the survey in November-December 2017. The articles are being reviewed by Cedefop and will be published on Cedefop's website in 2018. Drawing on survey results, Cedefop also contributed to the European Investment Bank publication *Skills in Europe*.

Throughout 2017, Cedefop continued to provide support to the **ET 2020 working group on VET**. This group focuses on professional development of VET teachers and (in-company) trainers ⁽⁴⁶⁾, as well as on good practices for VET teachers and trainers in dealing with early leavers from education and training. Cedefop also actively participated in the steering group of the Commission's study *Teachers and trainers in WBL/apprenticeships* ⁽⁴⁷⁾. The ReferNet national thematic perspectives *Supporting teachers and trainers for successful reforms and quality of VET* were used as a starting point for shaping the Commission's study. Cedefop also contributed to preparing the peer review of the October DGVT on teacher and trainer professional development in apprenticeship and work-based learning.

⁽⁴⁵⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/3rd-edefop-brussels-seminar-addressing-and-preventing-low-skills>

⁽⁴⁶⁾ Professional development of VET teachers and (in-company) trainers is the thematic focus of the ET 2020 working group on VET for 2016-18. <http://ec.europa.eu/social/BlobServlet?docId=17990&langId=en> [accessed 12.1.2018].

⁽⁴⁷⁾ <http://ec.europa.eu/social/BlobServlet?docId=17990&langId=en> [accessed 12.1.2018].



Throughout 2017, Cedefop continued to provide support to the **ET 2020 working group on adult learning** ⁽⁴⁸⁾ focusing on policies and practices to promote and support workplace learning for low-skilled adults and those with medium skills in need of upskilling.

Cedefop jointly organised in September the **European guidance week** in cooperation with the Estonian Presidency. During the Presidency conference on lifelong guidance, three workshops on the development of LMI and ICT in career guidance were staged by Cedefop, piloting tools to support the work of policy-makers, practitioners and managers. The tools, to be made available in 2018, include a toolkit, a handbook on transferability of practices, and training. The event was also the occasion of the launch of the new Cedefop network for research and cooperation in lifelong guidance and career development (CareersNet). CareersNet was created to collect comparable and reliable information and evidence,

on a European scale, in lifelong guidance and career development, with a view to informing relevant Cedefop tools and supporting countries in policy development through identification of gaps and possible solutions.

National reports on outreach and guidance practices across the EU were completed by ReferNet representatives and reviewed. They reflect national efforts to extend upskilling opportunities to less privileged groups and individuals, particularly the NEETs and the long-term unemployed.

In June 2017, in cooperation with the OECD, Cedefop published the briefing note **Vocational education and training: bridging refugee and employer needs** ⁽⁴⁹⁾. This covered upskilling, reskilling and employing adult refugees/migrants, based on the results of a survey implemented via ReferNet. The briefing note highlights VET-related integration mechanisms which have been stepped up, innovations, and gaps in provision which can be addressed by improved transnational cooperation.

⁽⁴⁸⁾ https://ec.europa.eu/education/policy/strategic-framework/expert-groups/adult-learning_en [accessed 12.1.2018].

⁽⁴⁹⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/9120>



In 2017, the synthesis report of the *European inventory of validation of non-formal and informal learning–2016 update* ⁽⁵⁰⁾ was published. It complements the 36 country reports and the four thematic reports already published in 2016.

The inventory shows that Member States are gradually placing validation of non-formal and informal learning higher up on their policy agendas. All countries studied offer individuals the opportunity to have their knowledge, skills and competences validated or are developing arrangements to do so. However, this is not common practice across all sectors within countries. There is still considerable diversity and fragmentation of practices but progress has been made, for instance in creating or identifying national coordination institutions. Cedefop worked closely with the European Commission in preparing the next inventory update and provided input to the Commission's study on skills audits across Member States.

In the framework of the active cross-agency collaboration, the study ***Towards age-friendly work in Europe: a life-course perspective on work and ageing from EU Agencies*** ⁽⁵¹⁾ was published. It reviews the different challenges associated with the ageing workforce and considers innovative solutions. Each agency contributed from the perspective of its core domain of expertise: Cedefop explored how VET can be used to support active ageing at work; EU-OSHA presented policy examples of integrated approaches to occupational safety and health for an ageing workforce; Eurofound examined working conditions for workers of all ages, related work sustainability outcomes and how the right policies can support longer working lives; and EIGE provided a gender perspective on the ageing workforce and discussed the different challenges that men and women face.

⁽⁵⁰⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/4153>

⁽⁵¹⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/2220>

2.3. OPERATIONAL ACTIVITY: INFORMING VET BY OFFERING LABOUR MARKET INTELLIGENCE AND SKILL NEEDS ANALYSIS

PERFORMANCE

133 REFERENCES
IN EU POLICY DOCUMENTS



For example:

- *Commission staff working document and report on employment and social developments in Europe 2017*
- *ICT for work: digital skills in the workplace* (European Commission, DG Communications Networks, Content & Technology)

- *Education and training monitor* (European Commission, DG Education and Culture)
- European Institute for Gender Equality: *Gender segregation in education, training and the labour market: review of the implementation of the Beijing platform for action in the EU Member States* (submitted to COREPER and the Council)
- *Business cooperating with vocational education and training providers for quality skills and attractive futures* (European Commission, DG Employment)
- European Parliament report and resolution on a new skills agenda for Europe

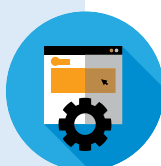
34 ACTIVE
CONTRIBUTIONS
TO SENIOR STAKEHOLDER
MEETINGS THAT SUPPORT
POLICY IMPLEMENTATION



For example:

- EU level:
 - ESCO conference
 - Indicators Group of the Employment and Social Affairs Council
 - European Economic and Social Committee conference on green skills
 - labour market statistics working group
 - European social partner seminar on employee training
- Direct support to Member States:
 - Meetings in Bulgaria, Greece and Slovakia on the governance of skills anticipation and matching systems

5 WRITTEN
CONTRIBUTIONS
TO POLICY DOCUMENTS OF
EU (3) AND INTERNATIONAL
ORGANISATIONS (2)



For example:

- joint paper with Eurostat Data4Policy – *Skills and Jobs – online vacancy data*
- contribution to a Eurostat paper on the feasibility of improving labour force survey data in relation to work-based learning
- input to World Economic Forum's Spring 2017 dialogue series: *New deal for learning; Jobs of the future*

9 000
DOWNLOADS OF CEDEFOP
PUBLICATIONS



TOP THREE PUBLICATIONS:

- *On the way to 2020: data for vocational education and training policies* (4 807)
- Briefing note *People, machines, robots and skills* (2 066)
- Briefing note *Skills anticipation: looking to the future* (1 477)

78 000
VISITS
TO THE EU SKILLS
PANORAMA WEBSITE



THE TOTAL NUMBER OF PAGE VIEWS WAS OVER

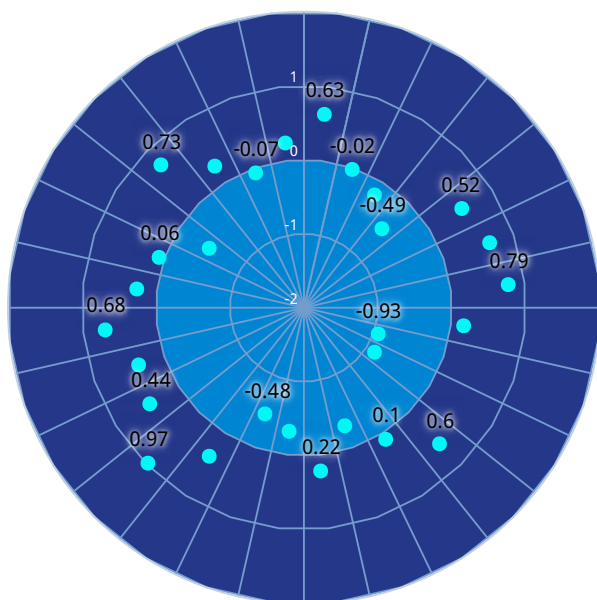
204 000

The sections of quantitative data and indicators (dashboards) and analytical highlights are the most visited

SKILLS PANORAMA

Inspiring your choices on skills and jobs in Europe

In 2017, new data and analysis offered in the **Skills Panorama** included a collection of 28 analytical highlights on **skills anticipation in EU countries**, released in April. The articles depict the methods and tools used by EU countries to produce labour market and skills intelligence (LMSI) and how this information and data are disseminated to key stakeholders and used for policy-making⁽⁵²⁾. To draw attention to innovative data and information, nine blog articles were published. Their topics are: *Cedefop's European skills index; Assessing and matching skill needs in EU countries; Underskilling in the EU; The use of big data skills needed by employers; Skills required in future key occupations; Cedefop's skills governance framework for supporting EU countries; New forms of self-employment – Gig economy; The role of skills in complementary pathways for refugees and Four essential skills questions we helped to answer in 2017*⁽⁵³⁾.



After its launch in autumn 2016, Cedefop's **European skills index: making skills work** immediately became the most visited section of the Skills Panorama, demonstrating the value of this new composite indicator in measuring and comparing the performance of the skills formation and matching systems in EU Member States⁽⁵⁴⁾. To refine and fine-tune some methodological aspects of the index and debate how to broaden its reach to a wider audience, in May Cedefop organised a workshop with methodology and policy experts⁽⁵⁵⁾. Participants agreed on a strategy to refine and promote the index further. Work has already started in this direction, to lead to the release of an upgraded index in 2018.

The **Skills Panorama satisfaction survey**, available on the platform from June 2016 to the end of 2017 (over 2 000 responses collected), reveals very positive feedback by the users of the site. The survey shows that users find what they are looking for (71%) and are satisfied or very satisfied with the information found on the site (92%). It also confirms that the website is visited mostly by policy-makers, policy experts, policy analysts and researchers (its primary target group). Other frequent groups of users are guidance advisors and counsellors.

The Skills Panorama was among the 34 projects short-listed out of 150 applications submitted to the European public sector award 2017 (EPSA 2017) and was awarded a **Best practice certificate**⁽⁵⁶⁾.



⁽⁵²⁾ [http://skillspanorama.cedefop.europa.eu/en/analytical-highlights?f\[0\]=field_collection%3A765](http://skillspanorama.cedefop.europa.eu/en/analytical-highlights?f[0]=field_collection%3A765)

⁽⁵³⁾ <http://skillspanorama.cedefop.europa.eu/en/blog>

⁽⁵⁴⁾ <http://skillspanorama.cedefop.europa.eu/en/indicators/making-skills-work-index3>

⁽⁵⁵⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/making-skills-work-index-experts-workshop-0>

⁽⁵⁶⁾ https://epsa2017.eu/files/EPSA2017_Best_Practices_EU_and_national.pdf [accessed 12.1.2018].

To produce **more and better data on skills supply and demand**, Cedefop continued to pursue several activities.

Skills forecasting activities focused primarily on setting up a sound base for the production of the next forecast release in 2018. Assumptions on future trends were reviewed, taking into consideration the current uncertainties of the EU economy. The new set of results will provide projections of skill needs up to 2030. Eurofound and Cedefop collaborated to integrate Eurofound's job tasks approach into the forecasting analysis. Eurofound has also adopted Cedefop's skill needs forecasting framework for producing alternative scenarios on the **future of manufacturing**, a project sponsored by DG GROW and the European Parliament.

Cedefop took the first steps towards developing a **pan-European tool for understanding skill demand by employers using online vacancies and big data analysis techniques**. In 2017, Cedefop focused on groundwork aimed at understanding the state of development and shape of the online labour market in each of the EU Member States: How is the online vacancy market organised? What share of all vacancies is published online? Who publishes vacancies online (size of companies and sectors)? Which occupations are advertised online? What is the richness of the data in vacancies in terms of skills? A workshop took place in September, in which experts debated the preliminary results of their country review ⁽⁵⁷⁾. The information obtained by this ‘landscaping exercise’ will help analyse and understand the data that will be retrieved from online vacancy scraping and identify the best websites for data collection in each EU country. Using this process, over 530 sources were selected for the whole EU and ESCO v1 was integrated into the system to enable multilingual classifications of job titles and skills into occupations. Cedefop organised a series of visits in the USA, the UK and the Netherlands to meet with key producers and users of online vacancy data and deepen the Agency’s understanding of the potential and limitations of the data, possible big data applications, and combinations with conventional statistical data.

This cutting edge project attracted the attention of the European Commission. First, DG EMPL and

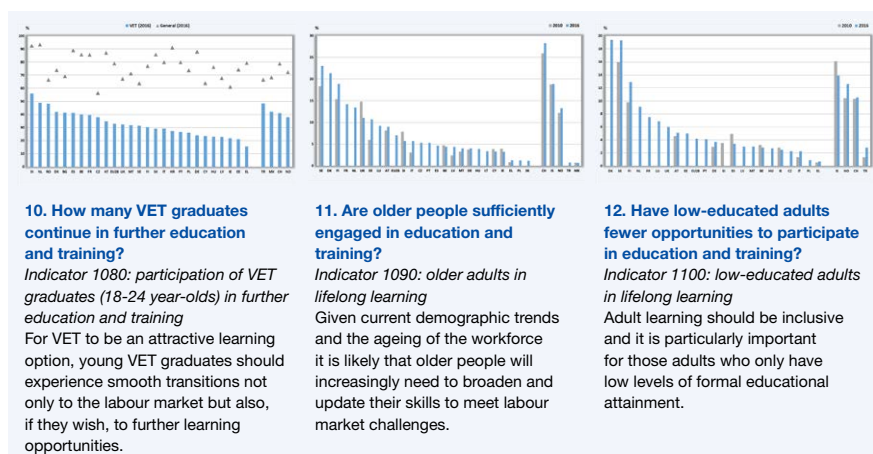
Commissioner Thyssen's Cabinet asked Cedefop to anticipate to 2018 (instead of 2020 as originally planned) the delivery of a first set of data covering seven countries ⁽⁵⁸⁾; in early 2017 all activities of the project were rescheduled to achieve this deadline. Second, an agreement was signed with Eurostat aiming to link Cedefop's project to activities of the Eurostat's big data task force. Even though the primary aim of Cedefop's work is to gather and analyse data on skill demand by employers using vacancies, rather than to deliver a system able to produce vacancy statistics, Cedefop and Eurostat agree that Cedefop's system could lay the foundation for EU-wide online vacancy scraping that could become part of the EU statistical system (ESS) and contribute to the production of vacancy statistics. The agreement foresees structured collaboration between Cedefop and Eurostat and the involvement of ESSnet members to develop a multilingual system for online vacancy analysis that meets the quality standards of the ESS. Meetings of the ESSnet members involved in online vacancy analysis took place in March and September. Cedefop attended both events.



Cedefop collaborated with Eurostat to offer its prototype data from online vacancy scraping in five countries to the 22 teams that competed for the European big data hackathon. Inspired by the outcomes of the hackathon, Eurostat and Cedefop decided to capitalise on the ideas and solutions generated and to boost their further development. A follow-up event was organised in September to support the development of solutions that integrate various data sets, big data techniques

⁽⁵⁷⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/online-recruitment-eu-countries-diffusion-and-use>

⁽⁵⁸⁾ CZ, DE, FR, IE, IT, FR and the UK.



and powerful visualisations to offer policy-relevant evidence on skills mismatch in Europe ⁽⁵⁹⁾.

Systematic cooperation between Cedefop and Eurostat also continued in **education, training and labour market statistics**. The aim here is to improve VET, lifelong learning and skills data and statistics, and their use for policy. There were several key achievements in 2017. The reconstruction of time series for VET data allowed reliable comparison of key data over time and against policy-relevant baselines. The reconstruction is available for countries which have voluntarily joined the exercise; it was published by Eurostat in December 2017. Proposals for having better and more frequent data on the educational background of individuals in the EU labour force survey (LFS) include capturing work-based learning as part of the highest level of qualifications and fields of study. The proposals were endorsed by Eurostat, and their operational definitions are being discussed with countries. They will support better investigation of incidence and outcomes of initial education and training, including work-based learning. DG EAC and Cedefop's proposal, that the 2022 ad hoc module of the LFS focus on job skills was endorsed, and work has started. The work of the technical group on statistics for skills and human capital, to which Cedefop contributed alongside the Commission and Eurostat, resulted in the publication of Eurostat experimental statistics on skills as a first step towards the establishment of a framework of ESS-based skills-related statistics.

The 2017 country statistical overviews were published early in the year ⁽⁶⁰⁾. In this report, Cedefop selected 36 indicators to quantify key aspects of VET and lifelong learning. Selection was based on policy relevance and their importance in achieving the Europe 2020 objectives.

Understanding the **incidence and drivers of skills mismatch in the EU and designing better targeted and more effective policy solutions** is also a core priority for Cedefop. In this context, Cedefop not only pursues its own research but also offers capacity-building support to national stakeholders. Outcomes and progress in this respect in 2017 include the following.

Cedefop initiated three new **country reviews, focused on the governance of skills anticipation and matching systems of Greece, Bulgaria and Slovakia**. In all three countries kick-off meetings took place with newly formed national steering committees, and a dedicated scoping exercise was carried out, which gathered inputs from the committees. Cedefop then offered a tailor-made review for each country, identifying key priority areas and associated actions. The Agency developed a comprehensive analytical framework to assess the key elements of a country's skills anticipation and matching infrastructure, while separate notes (on issues such as EU practices of dissemination of labour market and skills intelligence) were prepared to assist the reviewed Member States. Participation of Cedefop staff in the Greek scientific and coordination committees for the national skills diagnosis system has enabled effective cooperation and support between Cedefop and its host country. After consultation

⁽⁵⁹⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/prototype-production-0>

⁽⁶⁰⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/5561>

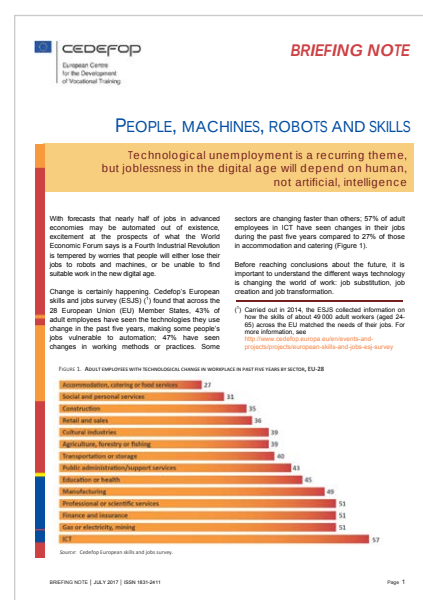
POLICY LEARNING
FORUMVocational training
for the long-term unemployedLearning from inspiring
practicesThessaloniki, Greece
15 and 16 June 2017CEDEFOP
European Centre for the Development
of Vocational Training

with the country representative, the review of Estonia was postponed due to the high resource and time demands of the EU Presidency in the second half of 2017.

In June the Agency organised a dedicated **policy learning forum (PLF) focused on effective and innovative vocational training policies and practices for the long-term unemployed** ⁽⁶¹⁾. For the purposes of the PLF, Cedefop collected evidence from 13 policy programmes from 12 EU countries and prepared a research report synthesising recent evidence on elements of training practices that may support sustainable employment. The PLF attracted the interest of about 60 stakeholders, including representatives of public employment services, ministry officials, VET providers and EU institutions. Building on its previous inventory of EU skills mismatch policies, Cedefop is working on the systematic collection of more than 100 examples of recent skills matching policies in the EU, with emphasis on effective examples of labour market and skills intelligence.

In 2017 Cedefop continued the dissemination of its **skill mismatch** findings and analysis of the Cedefop European skills and jobs survey. In June, the **Cedefop-IZA volume** in the series *Research in labor economics* entitled **Skill mismatch in labor markets** was published ⁽⁶²⁾. It presents a compilation of 11 original research studies and analyses, some reliant on data provided by the Cedefop European skills and jobs (ESJ) survey. Topics include: the way graduate jobs can be defined; the labour market decisions and outcomes of graduates; the determinants of the overeducation wage penalty; the determinants and consequences of underskilling; the wage return of skills; the impact of skill mismatch on aggregate productivity; and the role of work-related training and job complexity on skill development. A

dedicated internal evaluation of the Cedefop ESJ survey was carried out, illustrating its marked efficiencies and value added. Cedefop also provided expertise and participated in major international conferences (such as the ILO skill mismatch conference) focused on the policy challenges and methods of measurement of skill mismatch.



In 2017 Cedefop also initiated a new strand of work on **digitalisation and the future of work**. A briefing note on the impact of robots, digitalisation and automation on employment was published ⁽⁶³⁾, using evidence from the European skills and jobs survey. The interaction between VET systems and trends associated with a changing future world of work was also the main theme of Cedefop's fourth Brussels-based seminar, organised with the cooperation of the Estonian EU Presidency. Following background research on the type of research gaps in existing literature, the concept and scope of a study on the 'implications of online platform work for the continuing skills formation and skills matching of digital labour' were shaped.

⁽⁶¹⁾ <http://www.cedefop.europa.eu/en/events-and-projects/events/policy-learning-forum-vocational-training-long-term-unemployed>

⁽⁶²⁾ Polachek, W. et al. (eds) (2017). *Skill mismatch in labor markets*. Bingley (UK): Emerald Publishing. Research in labor economics series, Vol. 45. Cedefop and IZA volume. <http://www.emeraldinsight.com/doi/book/10.1108/S0147-9121201745> [accessed 1.4.2018].

⁽⁶³⁾ Cedefop (2017). *People, machines, robots and skills*. Briefing note; July 2017. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/9121>

The study was initiated at the end of 2017; new research and data will be collected, focused on the skills development practices of workers in the platform economy, over the next two years. Cedefop discussed initial policy implications of its analysis on the continuing learning practices of online platform workers at an MEP dinner event organised at the European Parliament in December.

Cedefop participated in the **Spring 2017 World Economic Forum dialogue on the future of jobs and a new deal on lifelong learning** ⁽⁶⁴⁾. This entailed participation in several virtual meetings, together with leaders from business, government, academia and civil society, and the provision of inputs for two documents on these topics. A critical part of the dialogue series was a **workshop held at the WEF Centre on the fourth industrial revolution** in June 2017. The workshop convened WEF partners, members of the Global Future Council and selected academic and public sector experts, including Cedefop. It pursued three main goals: (a) developing a common vision on bolstering adult education and reskilling, (b) identifying emerging and growing jobs, and (c) developing strategies for accelerating gender parity in high growth sectors, building on the work done so far through the virtual meetings of the dialogue series.

The **fourth round of the European company survey (ECS) in collaboration with Eurofound** will focus on skills strategies in EU companies: how businesses recruit, use and develop a skilled workforce; how this forms part of their competitive strategy in a context of increasingly digitalised work and jobs; and the outcomes it generates. During the first semester, both agencies specified the terms of their collaboration and launched a joint call for tender for a contractor to carry out the survey fieldwork. The joint call for tender was successful and the contract was signed in November. The fourth ECS will be a fully pan-European web-based survey. The total sample size will be about 23 000 observations across the 28 EU countries. The survey questionnaire was finalised in November, benefitting from suggestions received from an expert group consisting of academics with experience in survey design and organisational issues and with the support of a policy steering

group composed of members of both agencies' governing boards, who also monitored progress. In parallel, another project focusing on **companies' skill strategies** collected qualitative case studies on skills and learning in selected industries ⁽⁶⁵⁾ in five EU countries ⁽⁶⁶⁾. The evidence collected will feed into Cedefop's research on skills development and utilisation at work.

Developing and running an establishment skills survey, the last volume of the compendium of six guides on skills anticipation and matching prepared together with the ILO and the ETF, was published in March ⁽⁶⁷⁾.



⁽⁶⁴⁾ <https://www.weforum.org/projects/future-of-work> <https://www.weforum.org/whitepapers/accelerating-workforce-reskilling-for-the-fourth-industrial-revolution> [accessed 12.1.2018].

⁽⁶⁵⁾ Digital media, food processing, telecommunications and manufacturing.

⁽⁶⁶⁾ Germany, Estonia, Portugal, Slovenia and Finland.

⁽⁶⁷⁾ <http://www.cedefop.europa.eu/de/publications-and-resources/publications/2219>

2.4. TRANSVERSAL ACTIVITY: COMMUNICATION, INFORMATION AND DISSEMINATION

PERFORMANCE

732 ARTICLES

REFERRING TO CEDEFOP IN
EUROPEAN MEDIA



For example:

- *Fuori dalla scuola, fuori dal lavoro* (Out of school, out of work), by: Il Sole 24 Ore, Italy
- *Η Ελλάδα ουραγός στην ανάπτυξη και την αξιοποίηση δεξιοτήτων* (Greece lags behind in development and skills development), by: Naftemporiki, Greece

- *Kollektivvertragliche Bestimmungen zur betrieblichen Weiterbildung in Österreich* (Collective agreement provisions for further training in Austria), by: Wirtschaft und Gesellschaft, Austria

Most articles refer to 'skills anticipation and matching', followed by 'promoting attractiveness of VET', 'development and use of European tools and principles', 'implementation of national VET policies', 'effectiveness of VET policies and programmes' and 'labour market integration and social inclusion'. The main countries covering Cedefop work are Greece, Spain, Italy, France and Bulgaria.

63 150

DOWNLOADS OF CEDEFOP
BRIEFING NOTES



Continued, systematic and targeted promotion and dissemination of Cedefop publications resulted in high demand for briefing notes targeting policy-makers and published on Cedefop's web portal in eight languages.

11 070

FOLLOWERS ON
FACEBOOK
(INCREASED BY 18.4%
OVER 2016)



MORE THAN

1 028 000 SINGLE USERS

REACHED VIA SOCIAL MEDIA (FACEBOOK AD
CAMPAIGN FOR THE PROMOTION OF THE
#CEDEFOPPHOTOAWARD)

6 300

FOLLOWERS ON
TWITTER
(INCREASED BY 21.9%
OVER 2016)

53 EVENTS
ORGANISED BY
CEDEFOP



- 97% of respondents rated Cedefop's events as GOOD or VERY GOOD
- 54% are POLICY-MAKERS at EU/national level
- 19% RESEARCHERS
- 7% PRACTITIONERS
- 3% SOCIAL PARTNERS
- 3% ENTERPRISES

This activity is dedicated to communicating Cedefop's key messages on VET to stakeholders, and to promoting a positive image of Cedefop at European, national and local levels. Throughout 2017, Cedefop organised events and visits for key accounts and other stakeholders to keep them up to date with VET issues and Cedefop's corresponding role. In March, Cedefop provided tailored information about European approaches to the classification and validation of skills to a delegation of the Swedish Retail and Wholesale Council's secretariat and Skills and Occupations Committee. In April, the Greek Deputy Minister of Education, Mr Dimitris Baxevanakis, visited the Agency, discussing the Hellenic qualifications framework and the importance of apprenticeships. In the second semester, Cedefop hosted a resident researcher from KRIVET-South Korea, received and exchanged information with two members of the European Parliament, Mr Zdechovsky (CONT) and Mr Zagorakis (CULT/EMPL) (June), with the German Ambassador to Greece Mr Jens Plötner and Consul General Walter Stechel (August), with the Vice mayor of Thessaloniki Lina Liakou and Resilient City team member Aphrodite Bouikidis (September) and with Norwegian, Swedish and Danish representatives of the pan-Scandinavian Union of Electrical Workers (November). Cedefop also participated in the second EU jobs and mobility roadshow ⁽⁶⁸⁾, organised by Europe Direct from 20 to 25 November in six northern Greek cities: Alexandroupoli, Xanthi, Drama, Komotini, Serres and Thessaloniki. Besides Cedefop, representatives of the European Commission and the European Parliament, Erasmus+, EURES, EU Careers, the European Solidarity Corps, liaison offices from the universities of the various cities and other organisations contributed to the events.

In June, the Agency's Brussels liaison office organised the third and fourth Cedefop Brussels-based seminars 'Addressing and preventing low skills' in cooperation with the Maltese Presidency of the Council of the EU and 'Is the vocational education and training system prepared for the future of work?' with the Estonian Presidency. The events were attended by more than 50 stakeholders from permanent representations to the EU, European institutions and other Brussels based organisations. High attendance indicates that these seminars, which Cedefop has organised

with the sitting Presidency of the Council since 2016, are now established as a regular feature of the Brussels education/training and employment calendar.

In November, a working dinner on 'Digitalisation and new forms of work: promoting upskilling and skills policies for workers in the online economy' was hosted by MEP Martina Dlabajová.

The collaboration between Cedefop and DG EMPL was intensified, focusing on joint social media activities for the 60th anniversary of the Treaties of Rome, as well as the #CedefopPhotoAward 2017, designed as an integrated part of the award concept of the European vocational skills week 2017. Endorsed by the European Commission and supported by European VET provider associations, **the #CedefopPhotoAward campaign** 'Vocational education and training: tell your story' proved an excellent tool for raising VET's visibility, engaging Cedefop's stakeholders, and reaching out to young Europeans in initial VET and to learners in continuing vocational training (CVET) and adult learning. Cross-promotion in all Cedefop communication channels, including a joint social media communication campaign with DG EMPL and a promotional video ⁽⁶⁹⁾ which Cedefop produced at a local VET school, created a notable outreach (more than 1 million single users reached by a social media ad campaign).



⁽⁶⁸⁾ <https://www.facebook.com/EURoadshow/>

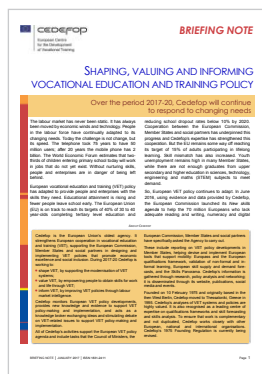
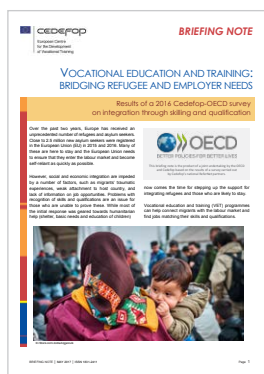
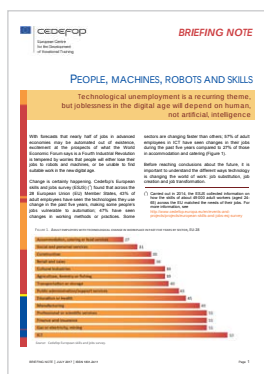
⁽⁶⁹⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/videos/video-cedefopphotoaward-2017>

More than 75 organisations were engaged in communicating the #CedefopPhotoAward competition on social media. As a result Cedefop received 140 photo stories from VET learners in 20 EU Member States. 78 vocational schools and institutions and a total 376 team members (211 female, 165 male, 20% over 30 years old) were engaged in the competition. Two teams of vocational education and training learners from Lithuania and Ireland were the winners of the 2017 competition for telling a personal story of their VET experience. #CedefopPhotoAward 2017 exhibitions and award ceremonies were organised at the Thessaloniki international film festival (3 November) and the European vocational skills week 2017 (20 to 24 November).



Cedefop published five **briefing notes**: *Shaping, valuing and informing vocational education and training policy* ⁽⁷⁰⁾; *Vocational education and training: bridging refugees and employer needs* ⁽⁷¹⁾; *People, machines, robots and skills* ⁽⁷²⁾; *Looking back to look ahead* ⁽⁷³⁾; and *Skills anticipation: looking to the future* ⁽⁷⁴⁾. Three more were prepared for dissemination in 2018. A total of 12 **press releases** were produced ⁽⁷⁵⁾: *Looking to the future: anticipating skills*; *Vocational education and training in Europe beyond 2020*; *Here is what Europeans think of vocational education and training!*; *Apprenticeships discussed at Cedefop policy learning forum*; *Digital plus: in the digital age, digital skills are not enough*; *#CedefopPhotoAward 2017 winners announced*; *Vocational education and training: bridging refugee and employer needs*; *Towards age-friendly work in Europe: a life-course perspective on work and ageing from EU Agencies*; *Cedefop launches online toolkit for tackling early leaving*; *#CedefopPhotoAward is back!*; *As national qualifications frameworks are taking shape, their benefits become visible across the European Union*; and *Building the right workforce for the future*. Three dedicated media alerts were sent to European journalists.

Communication activities also included three issues of Cedefop's print magazine **Skillset and match** ⁽⁷⁶⁾, 25 video clips and interviews ⁽⁷⁷⁾, 10 issues of Cedefop's electronic newsletter and 80 website headlines. The press service



- ⁽⁷⁰⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/9118>
- ⁽⁷¹⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/9120>
- ⁽⁷²⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/9121>
- ⁽⁷³⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/9123>
- ⁽⁷⁴⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/9124>
- ⁽⁷⁵⁾ <http://www.cedefop.europa.eu/news-and-press/press-and-media/press-releases>
- ⁽⁷⁶⁾ <http://www.cedefop.europa.eu/en/news-and-press/magazines>
- ⁽⁷⁷⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/videos>

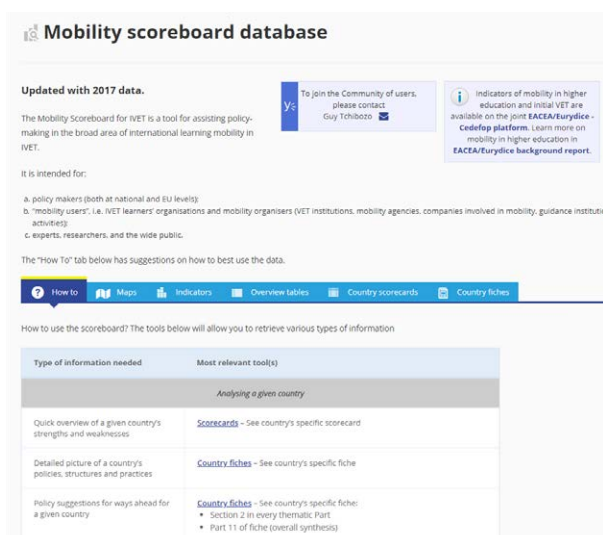
accomplished 15 mailings to international media and a continuous flow of social media postings (127 Facebook posts, 1 690 tweets and retweets).

Linguistic support, layout/design and dissemination services were provided for a variety of communication and public relation activities. Most publications were published online only. Briefing notes and research papers were also made available in e-book format. However, printing-on-demand and the dissemination of hard copy publications continue to play an important role. Bi-annual **video animations for Presidency country VET systems** have been added successfully to the product portfolio of the publications service. Animations on vocational education and training in Malta and vocational education and training in Estonia were published in May ⁽⁷⁸⁾ and November ⁽⁷⁹⁾.

Cedefop's web portal ⁽⁸⁰⁾, a hosted cloud-based platform, continues focusing on new data visualisation functionalities for increased usability and outreach. The VET toolkit for tackling early leaving was successfully developed and finalised in May ⁽⁸¹⁾ and the mobility scoreboard for IVET was successfully updated with data for 2017 ⁽⁸²⁾.

Other online publishing projects are in preparation and/or continuing (including the development of online data visualisation for the opinion survey on VET and the financing adult learning database). Two new online publishing activities were added in the second semester: a pilot *Resources for guidance* was developed and tested by users at a workshop during the European guidance week 2017 (pilot version available for internal use). An apprenticeship information tool, providing a comprehensive overview of apprenticeship schemes in the EU, Iceland and Norway was delivered in December 2017 and is available for internal testing by the content owner.

The Research Support Centre continued providing valuable scientific information to Cedefop's operational departments and access to all subscribed electronic resources and open access databases. Archive and records management successfully continued the preservation of the memory of the Agency and ensured that organisational records are authentic, reliable, and accessible to meet business, financial, and legal obligations.



⁽⁷⁸⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/videos/vocational-education-and-training-malta>

⁽⁷⁹⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/videos/vocational-education-and-training-estonia>

⁽⁸⁰⁾ <http://www.cedefop.europa.eu/>

⁽⁸¹⁾ <http://www.cedefop.europa.eu/en/toolkits/vet-toolkit-tackling-early-leaving>

⁽⁸²⁾ <http://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/mobility-scoreboard/>

RELATIONS WITH EU AGENCIES



3.1. COOPERATION WITH THE ETF

The collaboration of the two agencies has a long-standing tradition. Since its outset in 1997, the ETF and Cedefop have aimed at creating synergies in areas that are relevant to both agencies, taking into account their different mandates, geographic scope and stakeholders. This has led to increased efficiency, economies of scale and increased service levels. The current framework (2014-17) aims at more structured cooperation in thematic areas, projects and activities of common concern to stakeholders and regulatory functions. In 2017 the two agencies concluded work on the new framework of cooperation to cover 2018-20.

In 2017, Cedefop and ETF experts were involved in events and projects of mutual interest organised by both agencies. The two agencies continued joint work on the reporting of VET policies and systems. In line with Cedefop's multiannual objective to monitor policy trends and analyse developments, the Agency prepared an **interim report** of countries' progress towards the 2015-20 priorities (deliverables) agreed in the Riga conclusions within European cooperation on VET. Approach and work on the report were coordinated between the two agencies. This included joint papers and presentations informing the ACVT and DGVT on the approach and findings, as well as joint sections in the synthesis report.

Increased effort was also made to take forward international dialogue on qualifications frameworks, in close collaboration with the ETF, UNESCO-HQ and UNESCO (UIL). Cedefop coordinated the third **edition of national and global qualifications frameworks inventory**, published in 2017 ⁽⁸³⁾.

Cedefop cooperated with the ETF and UNESCO on the study ***The use of learning outcomes to support dialogue between education and training and the labour market***, finalised in April 2017. The study covers 10 VET qualifications in 26 countries and uses the learning outcomes approach to identify similarities and differences between countries, including those outside Europe.

The two agencies continued their collaboration on work-based learning and adult learning, also in the framework of the inter-agency working group on work-based learning together with the OECD, the ILO, UNESCO and other major international organisations.

Since 2013, Cedefop, the ETF and the ILO have engaged in a joint endeavour to promote methods for skills anticipation and matching. Part of this effort included the preparation of six guides on methods and approaches to be used to anticipate skill needs. ***Developing and running an establishment skills survey***, the last volume of the compendium of the six guides prepared together by Cedefop, the ILO and the ETF, was published in March.

In 2017, the ETF and Cedefop conducted two joint thematic meetings to ensure knowledge-sharing and reinforce complementarity in their activities. The Thessaloniki event focused on the ETF's work on qualifications systems in the ETF partner countries and on skills and migration. The Torino event focused on Cedefop's work on 'The changing nature and role of VET: methods and findings' and 'People, machines, robots and platforms: Cedefop's agenda on the impact of digitalisation and automation on skills needs and adult learning'. In 2017 the two agencies attended each other's Governing Board meetings, while the two agencies' Brussels offices cooperated efficiently.

and national qualifications frameworks – Volume I: thematic chapters. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/2221>

(b) Cedefop; ETF; UNESCO; UNESCO Institute for Lifelong Learning (2017). *Global inventory of regional and national qualifications frameworks – Volume II: national and regional cases*. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/2222>

⁽⁸³⁾ (a) Cedefop; ETF; UNESCO; UNESCO Institute for Lifelong Learning (2017). *Global inventory of regional*



3.2. COOPERATION WITH EUROFOUND

Cooperation between Eurofound and Cedefop takes place in the framework of a collaboration agreement renewed in 2016. Each year, based on an early analysis of their respective work programmes, activities of common interest are identified. This helps to structure knowledge exchange and expertise sharing between the two agencies, avoid overlaps, and identify promising areas for close collaboration, such as in the case of the European company survey.

In 2017, Cedefop and Eurofound agreed to organise together the next round of the **European company survey**. To do so, both agencies reflected on a thematic focus for the survey that would be policy-relevant, answer key questions about European companies' strategies, and tap into each agency's respective expertise, while increasing cost-effectiveness. The resulting proposal for a survey was approved by the Governing Boards of both agencies and subsequently included in their Programming documents 2017-20. The joint European company survey will focus on the link between company skills and business strategies – including the response to digitalisation – and how they affect business outcomes. The project leading to the survey started in 2017 and first results will be available in 2020. A steering group composed of members from both agencies' Governing Boards has been appointed to monitor and steer the project's progress. It met twice in 2017.

Another topic on which cooperation took place in 2017 is the **future of manufacturing**. Eurofound is in charge of the project and has sought collaboration with Cedefop to develop projections of employment under different scenarios for the future of manufacturing. The Eurofound job/tasks analysis (from the European job monitor) was 'plugged' into the forecast to give insights into skills needed in the future under different economic and energy scenarios. Cedefop provided input and feedback on the scenarios developed by Eurofound, and monitored alignment

with the standard set of projections. Eurofound participated in Cedefop's forecasting workshop to present the results of these projections. A joint publication will be available in 2018.

Additional activities in 2017 included a presentation by Cedefop to the Eurofound Internal Seminar Series (ISS) on Open Science; there was also continued collaboration on library services. Exchange of information and expertise was initiated regarding the agencies' respective work on the platform economy and new forms of digital work.



3.3. COOPERATION WITH ENISA

In 2017, Cedefop signed a service level agreement (SLA) with the European Union Agency for Network and Information Security (ENISA), located in Greece. The SLA enables both agencies to share and rationalise resources for mutual benefit.

- In ICT, Cedefop will provide physical space for the ENISA servers, while ENISA will provide support in cybersecurity matters.
- Cedefop and ENISA will launch joint procurement calls of common interest, particularly in, but not limited to, the Greek market.
- In compliance, regularity and legality, ENISA will provide legal advice to Cedefop on non-standard issues related to staff regulations and procurement. Cedefop and ENISA will share knowledge related to anti-fraud strategy and risk assessment methodology. The agencies are also exploring sharing confidential counsellor functions.
- Cedefop and ENISA will share their conference facilities and Cedefop will provide storage space to ENISA.
- Cedefop and ENISA will cooperate in negotiations with the Greek authorities on any revisions to their respective headquarter agreements.
- Cedefop will provide technical advice to ENISA's communication services. The two agencies will cooperate on common communication campaigns.

3.4. COOPERATION WITH THE EU AGENCIES' PERFORMANCE DEVELOPMENT NETWORK

Cedefop contributed to the work of the EU agencies' performance development network (PDN) which feeds directly into the common approach of EU decentralised agencies for more balanced governance, improved efficiency, and coherence between them. Cedefop participated in two meetings of the network, contributed to the PDN evaluation handbook, and shared with other EU agencies its approach on establishing key performance indicators (KPIs) for the Director. Cedefop is an active member of the PDN working group on intervention logic and KPIs and has participated in three PDN surveys to support the discussions of the EU agencies' network with the European Commission: revision of the Programming document (PD), improvement of the PD implementing guidelines, and EU agencies' actions towards sustainable development. The PDN provided in 2017 a good forum for Cedefop to exchange views with Cedefop's 'sister' agencies EUROFOUND, ETF and EU-OSHA on several topics of common interest.

3.5. COOPERATION WITH THE EU AGENCIES' NETWORK

Cooperating with the other EU agencies enables significant knowledge sharing and efficiency gains. Cedefop systematically responds to inter-agency consultations, the results of which are, in turn, disseminated. Cedefop contributes actively to the sub-networks (meetings, work programme and outputs, knowledge sharing) and participates in joint procurement actions when appropriate ⁽⁸⁴⁾. It is also common practice to share staff members for evaluation and selection committees (for procurement and recruitment procedures respectively). In 2017, Cedefop collaborated with EUIPO to implement an ICT business continuity site.

⁽⁸⁴⁾ Such as the interinstitutional call for tenders for auditing services, launched by EFSA at the end of 2016.

MANAGEMENT, RESOURCES AND INTERNAL CONTROLS

Services have been delivered efficiently and effectively as planned in support of the core business.

Following the appointment by the Director of the working group on the review of the administration (ROTA) to optimise the use of available resources and explore the possibility of transferring resources from administrative to operational tasks, the Department of resources and support (DRS) was actively involved in analysing tasks and suggesting concrete changes which would lead to simplification of procedures and better use of resources. The working group completed its work in September 2017. It identified a significant potential for efficiency and productivity gains, which can be effected through organisational rationalisation and enhanced digitalisation. Some actions had already been undertaken in 2017 (such as automation of procurement reporting, freeing a 50% FTE from the library by reorganising the mail registration, and simplifying an HR workflow). The action plan resulting from the ROTA work is in preparation and a preliminary draft was submitted to the Bureau at its meeting in December.

Cedefop has implemented its action plan for business continuity, and as part of the internal control standards. The business continuity plan documents were updated and reorganised, and critical functions reviewed and prioritised. Awareness was raised during a presentation to all staff in March and a schedule was established for periodic document review and test performance.

4.1. MANAGEMENT AND RESOURCES

4.1.1. HUMAN RESOURCES

Despite disruptions (post of Head of human resources vacant since April 2017, post of Head of DRS vacant since April 2016) and increased workload in key functions (such as recruitment), regular

HR services have been delivered efficiently and effectively, due to the high commitment of the HR team and reprioritisation of tasks. To ease the transitional period, the Director appointed an Acting head of DRS in March.

Temporary provisions on teleworking were adopted by the Director on 23 June 2017 in anticipation of the agencies' model DGE on teleworking, adopted by Cedefop's Governing Board on 5 and 6 October.

A series of initiatives were organised in the broader context of promoting staff wellbeing at work: practical conflict management training; training on positional dialogue; management workshop on stress and burnout prevention; and resilience building for all staff complemented by individual resilience building coaching for five staff members. A mandatory session on dignity at work and prevention of harassment was delivered by a specialised external contractor, followed up by sessions on positional dialogue.

4.1.2. FINANCE AND PROCUREMENT

Despite disruptions (procurement assistant post vacant since February 2017), finance and procurement service (FPS) regular services have been delivered efficiently and effectively.

Procedures have been updated regularly to optimise efficiency and business continuity. This included a procedure for approval of changes in the financing decision (finalised in March), an updated procedure on third parties and on the follow-up of budget execution.

The FPS has implemented a common digital record management platform with the other departments and is working on the digitalisation and simplification of its processes.

The FPS contributed to the implementation of the Work programme 2017 by ensuring financial resource availability and timely delivery of contracts

following procurement procedures, as well as high levels of compliance with applicable financial rules.

4.1.3. ICT

ICT continued supporting operational activities, preparing for the new Europass and big data, and monitoring the operational outsourced services for business continuity and security purposes.

ICT infrastructure and services have been well-maintained, ensuring maximum availability. Emphasis was given to enhancing Livelink's usability and usage (Intranet, ReferNet and document management).

Business continuity tests were completed for Fibus (ERP) and for Livelink. Cedefop is collaborating with other EU agencies (EU-IPO) to implement a business continuity site.

4.1.4. FACILITIES

Facilities services have been delivered efficiently and effectively. All projects related to building maintenance and monitoring tools are closely followed up.

In 2017, all major issues around the safety of the building were clarified. In July, Cedefop received the final report from the Greek authority in charge of the Cedefop building (Egnatia Odos). The study took into account the current structural condition of the building, its secondary damages over the past 17 years, the results of numerous analyses and the acknowledgment that the landslide will continue at a significantly lower rate compared to that observed before cutting the foundation and reinforcing it locally with micro-piles. The final report concludes that block 4 of the building is safe for the next 25 years. For all other Cedefop building blocks, the study concluded that there is no evidence of significant stress from the geotechnical failures that might threaten their structural integrity, and so they are functioning safely. Nevertheless, Cedefop will continue monitoring the building closely with 3d-monitoring equipment installed and paid by Egnatia Odos.

4.2. AUDITS AND INTERNAL CONTROL

4.2.1. EXTERNAL EVALUATION

As required by the Financial Rules, Cedefop is subject to periodic external evaluations carried out by the Commission. The current external evaluation started in April 2017 and is expected to be finalised in 2018.

Cedefop is being evaluated with regard to its relevance, effectiveness, efficiency, coherence and EU added value. The external evaluation covers the whole of Cedefop's thematic and geographical remit, including its role in dealing with cross-sector themes (for example early school leaving). It also includes in-depth case studies on the following projects: VET policy monitoring; apprenticeship country reviews; work on European tools (particularly EQF and Europass); forecasting skill demand and supply; and VET for labour market integration, social inclusion and adult learning.

Using a cross-cutting perspective, the external evaluation also aims to identify potential synergies and overlaps with Cedefop and the three other EU agencies under the remit of DG EMPL (the European Training Foundation, the European Foundation for the Improvement of Living and Working Conditions and the European Agency for Safety and Health at Work), as well as with the European Commission and other relevant EU instruments and networks, concerning their objectives, activities, governance and internal organisation.

The evaluation is also examining possible duplications and/or opportunities for deeper cooperation with agencies and other relevant EU instruments and networks, not under DG Employment's remit but working in close areas, such as the Fundamental Rights Agency, the European Institute for Gender Equality, and Eurydice. It is also looking at possible synergies and overlaps with alternative forums where social partners can participate.

The evaluation period is from 2013 to 2016. It will consider to what extent the findings of the 2017 evaluation are in line with the findings of the 2013 evaluation, and will help to assess whether future revisions of Cedefop's Founding Regulation are needed.

4.2.2. AUDIT RESULTS AND FOLLOW-UP OF AUDIT RECOMMENDATIONS

Cedefop's internal auditor is the Internal Audit Service of the European Commission (IAS) and the Agency is annually controlled by the European Court of Auditors. The Agency informs the European Parliament annually on the results of the audits through the discharge procedure.

Following each audit, Cedefop draws up a comprehensive action plan for the implementation of recommendations. A regular monitoring of actions is carried out by the Internal Control Coordinator. A consolidated action plan, updated at least biannually, is posted on Cedefop's intranet, accessible to all staff.

Cedefop regularly reports to its Bureau and Governing Board on audit outcomes, progress in implementing related recommendations, as well as risks and internal control issues.

Cedefop is also following up closely on the recommendations received from the Discharge Authority.

In addition to the audits conducted by the IAS and the ECA, Cedefop has also developed several procedures and tools to allow *ex-ante* and *ex-post* controls and evaluations throughout the year; these ensure that controls and actions are in place and implemented efficiently and effectively.

4.2.2.1. Court of Auditors (ECA)

On 7 November the European Court of Auditors published the report on Cedefop's **2016 annual accounts** which was adopted by the Chamber IV on 12 September 2017 ⁽⁸⁵⁾.

In the Court's opinion, Cedefop's annual accounts 2016 present fairly, in all material respects, the financial position of the Centre at 31 December 2016. The results of its operations, its cash flows, and the changes in net assets for 2016 are in accordance with its Financial Rules and the accounting rules adopted by the Commission's accounting officer. The transactions underlying the 2016 annual accounts are legal and regular in all material respects.

The European Court of Auditors included in its final report the follow-up to the previous years' comments regarding the level of committed appropriations in 2015 and safety issues identified

in Cedefop's building. Cedefop addressed both comments and they are considered completed.

According to the new arrangements for the annual audits under Article 208(4) and Article 107 of the new Financial Regulation, Cedefop contracted an external audit company (MAZARS) to audit Cedefop's 2016 accounts, based on a DG BUDG framework contract. The audit of the external audit company took place from 3 to 7 April 2017 and did not lead to any recommendations.

4.2.2.2. Internal Audit Service (IAS)

Following the agreed IAS Strategic audit plan for 2017-19, the IAS conducted an **audit on Cedefop's web-based services** from 15 to 19 May. The audit focused on the following services: Europass, Skills Panorama, mobility scoreboard and the EQF web pages. The IAS final report was received on 20 November and concluded that the design and functioning of the internal control system put in place by Cedefop in relation to these tools is effective and efficient. The resulting action plan was submitted to the IAS for approval on 18 December. Agreed actions will be implemented throughout 2018.

As part of the IAS Strategic audit plan 2017-19, the IAS will conduct an audit on HR management and ethics from 15 to 19 January 2018. To prepare the audit and refine its scope and objectives, the IAS conducted preliminary interviews at Cedefop in the week 13 to 17 November 2017. Prior to the audit, as per common practice, the IAS launched a survey for Cedefop staff.

All recommendations from the agreed action plans resulting from previous IAS audits have been implemented and are closed.

4.2.2.3. Other sources of assurance

(a) ETHICS, INTEGRITY AND INTERNAL CONTROL

To implement its anti-fraud strategy, adopted by the Governing Board in October 2014 ⁽⁸⁶⁾, the action plan is updated yearly and is included in the annual management plan. Related actions are also included in the Agency's consolidated action plan, posted on Livelink and available to all staff.

Regular mandatory sessions on **good governance** continued. The sessions, mandatory for newcomers and open to all staff

⁽⁸⁵⁾ <https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=41975>

⁽⁸⁶⁾ DIR/RB(2014)02387 adopted on 22 October 2014.

members, specifically address ethics, integrity and internal control issues. The 2017 session took place on 28 November and focused on data protection and whistleblowing.

Presentations on the **dignity at work** policy also continued. A one-day session on mindfulness open to all staff took place on 19 October, with a targeted session for management on 18 October. Targeted sessions on positional dialogue took place on 23 and 24 November 2017.

(b) EVALUATION ACTIVITIES 2017

In compliance with Article 45 of Cedefop's Financial Rules, **ex-ante evaluations** are carried out for procurement procedures above EUR 200 000.

In compliance with Article 29(5) of Cedefop's Financial Rules, and with a view to improving decision-making under the principle of sound financial management, Cedefop carries out **ex-post evaluations** for completed programmes/activities which entail spending above EUR 500 000. *Ex-post* evaluations on 2016 activities ⁽⁸⁷⁾ were finalised and action plans prepared to address the resulting recommendations. Final reports and resulting action plans were presented to the Governing Board (October) and the Bureau (December).

Ex-post evaluations on 2017 activities are in progress. An *ex-post* evaluation working party was appointed by the Director on 19 May 2017. Performed with the support of an external company selected from an interinstitutional framework contract led by EFSA, 2017 *ex-post* evaluations covered the following activities:

- development and maintenance services for Europass;
- building maintenance services;
- pan-European skills supply and demand forecasts.

(c) AUDIT ACTIVITIES 2017

As part of the **ex-post controls** plan, a sample of three ReferNet files and five Cedefop payments were audited.

Five Cedefop payments were selected at random by the Internal Control Coordinator and reviewed by Cedefop's accountant, who checked that procedures had been followed

and that the supporting documentation was in place and in line with Cedefop's Financial Rules. The report is expected by end of January 2018.

Following the decision in 2013 not to move to ABAC, Cedefop has been requested to conduct an annual internal **technical review** of the Agency's financial and budgetary operating platform (**Fibus**). The second technical review was conducted in October 2015, concluding that there was no immediate technological threat in Fibus. A third technical review was conducted in October 2016. The review confirmed that there was no immediate technological threat in Fibus. The fourth technical review was finalised on 14 December 2017. It confirmed that there was no immediate technological threat in Fibus. In parallel, to address the recommendations from the working group set up by the Director to review the administration, the Director appointed a project team to review advantages and disadvantages of migrating to ABAC. Results are expected by March 2018.

As foreseen in the note on internal controls *ex-post* of 12 December 2012, and as recommended by the Internal Audit Service on 23 September 2016, Cedefop introduced **annual ex-post controls on a sample of procurement procedures**. For 2016, work was finalised and the action plan is being implemented.

For 2017, a working group was appointed by the Director on 6 October 2017 and is expected to finalise its work by March 2018.

As a follow-up to the *IAS consulting engagement on Cedefop's efficiency gains review of its legal service: final results* ⁽⁸⁸⁾, and the Governing Board conclusions in October 2017, Cedefop contracted an external audit firm to review the risk assessment and cost-effectiveness analysis of the in-house legal service. Final results were shared with the Bureau at its meeting of 5 December 2017.

⁽⁸⁷⁾ ReferNet 2012-15; skills obsolescence; travel agency services.

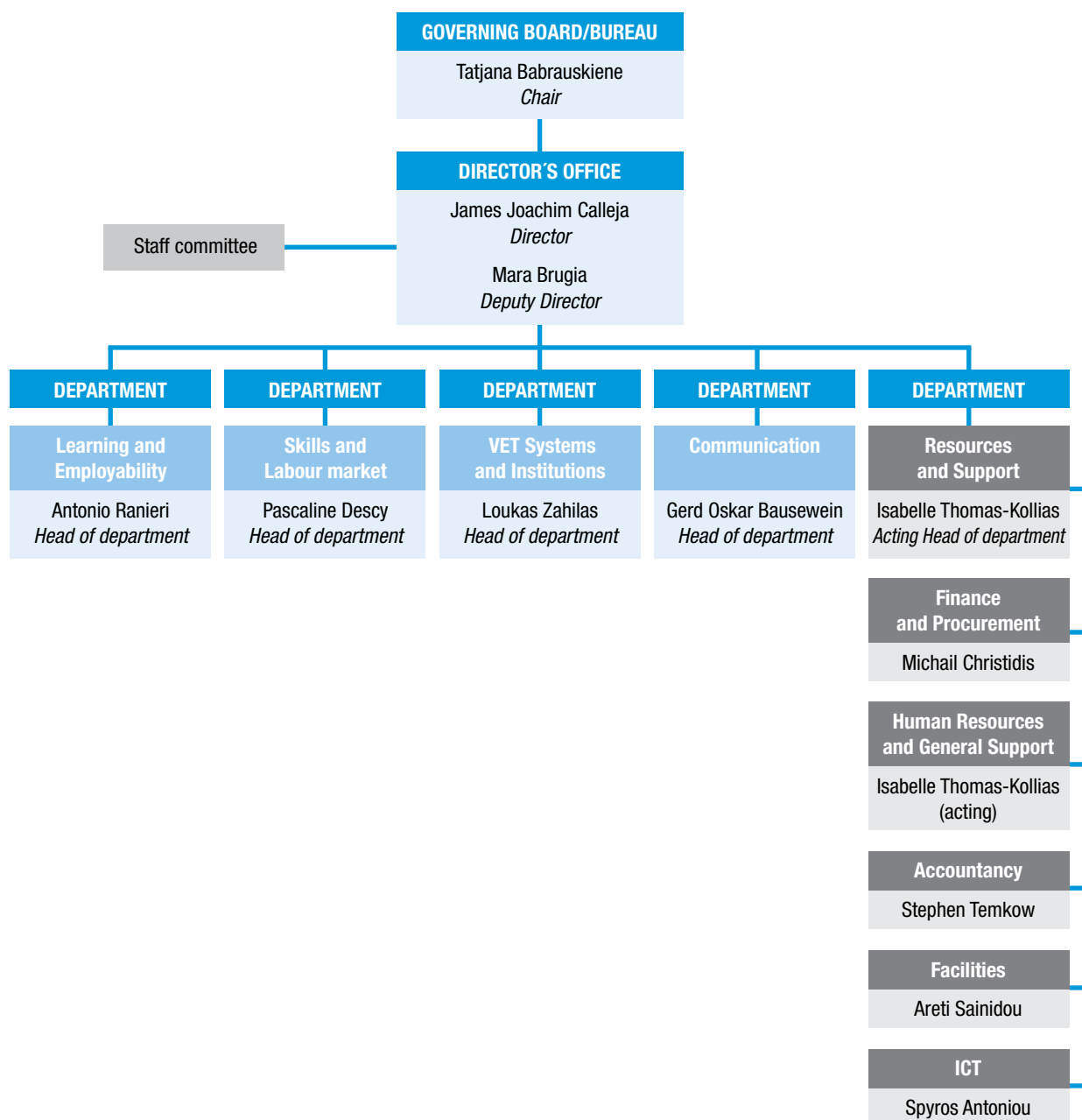
⁽⁸⁸⁾ Ares (2017)4729353 received on 28 September 2017.

LIST OF ABBREVIATIONS

ACVT	Advisory Committee on Vocational Training
CPD	continuing professional development
CVET	continuing vocational education and training
DG BUDG	Directorate General for Budget
DG EMPL	Directorate General for Employment, Social Affairs and Inclusion
DGVT	Directors General for Vocational Education and Training
EACEA	Education, Audiovisual and Culture Executive Agency
EEA	European Economic Area
EaFA	European alliance for apprenticeships
EESC	European Economic and Social Committee
EC	European Commission
ECA	European Court of Auditors
ECVET	European credit system for vocational education and training
EFTA	European Free Trade Association
EIGE	European Institute for Gender Equality
ELET	early leaving from education and training
EMS	environmental management system
EPSA	European public sector award
EQAVET	European quality assurance in vocational education and training
EQF	European qualifications framework
ESJ survey	European skills and jobs survey
ESS	EU statistical system
ETF	European Training Foundation
ETUC	European Trade Union Confederation
EU-OSHA	European Agency for Safety and Health at Work
HE	higher education
HRM	human resource management
ICT	information and communication technology
IAS	Internal Audit Service of the European Commission
ISCED	international standard classification of education
IVET	initial vocational education and training
ILO	International Labour Organization
KPI	key performance indicator
LFS	labour force survey
LMI	labour market information
LMSI	labour market and skills intelligence
MEP	Member of the European Parliament
MPOs	mismatch priority occupations
NEET	not in education, employment or training
NQF	national qualifications framework
OER	open education resources
PDN	performance development network
PLF	policy learning forum
STEM	science, technology, engineering and mathematics
TVET	technical vocational education and training
VET	vocational education and training
WBL	work-based learning

ANNEXES

I. ORGANISATION CHART SITUATION ON 31 MAY 2018



II. SELECTED PERFORMANCE INDICATORS:

1 JANUARY TO 31 DECEMBER 2017

Type	Indicator	2017
Cedefop value 2017-20	Cedefop is a key player in attaining EU policy objectives for VET, skills and qualifications	
	Policy documents prepared with Cedefop participation of EU institutions	45
	of international organisations	39
	Active participation of Cedefop in policy-relevant meetings of senior stakeholders	6
	Cedefop is acknowledged and valued as a European source for evidence and information on VET and skills	
	EU policy documents citing Cedefop's work	144
	Policy documents of international organisations citing Cedefop's work	118
	Downloads of Cedefop publications	377 000
	of which briefing notes	63 150
	Citations of Cedefop publications/studies in the literature	545
	Active participation in conferences and events	90
	Quality and expected impact of events organised by Cedefop	97%
	Website traffic	
	<i>Visits</i>	506 000
	<i>Unique visitors</i>	318 000
	<i>Page views</i>	1 365 000
	Media coverage, take-up of articles and press releases	732
	Europass outcomes among citizens	
	<i>Visits to the Europass website</i>	25.15 m
	<i>Creation of Europass CVs online</i>	21.17 m
	Skills Panorama portal traffic	
	<i>Users</i>	55 000
	<i>Sessions</i>	78 000
	Cedefop is an efficient, well-run and compliant Agency providing a nurturing environment to a qualified and motivated staff	
KPIs for the Director	Rate of implementation of commitment appropriations (budget execution)	99.95%
	Rate of outturn (payment appropriations)	92.80%
	Rate of payments completed within the legal/contractual deadlines	98.89%
	Rate of accepted audit recommendations implemented within agreed deadlines	100%
	Percentage of establishment plan filled (including outgoing procedures)	96%
	Engagement of Cedefop staff members	71%
	Quality of Cedefop consultation with stakeholders (GB members)	77%
	Timeliness of recruitment procedures (average number of days)	
	from deadline for applications [date] to finalisation of selection board report to AIPN [date]	50
	from publication of vacancy notice [date] to decision of AIPN [date]	97

III. REFERNET



ReferNet, Cedefop's reference network on vocational education and training, was created in 2002 to meet the growing demand for comparative information on national vocational education and training (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 VET's role, governance and structure.

ReferNet's annual work plans include:

- (a) reporting on national policy measures and actions 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 towards the 2015-20 deliverables agreed in the Riga conclusions within European cooperation on VET;
- (b) national news stories informing on the latest developments in vocational education and training, and employment and labour market issues in all partner countries. They complement the news in Cedefop newsletters;
- (c) VET in Europe country reports describing the key features of countries' VET systems in their socioeconomic contexts. They are validated at national level and peer-reviewed before being published on Cedefop's website and in hard copy for Presidency countries;
- (d) Spotlight on VET flyers summarising key features, challenges and developments of the national VET systems; targeted at readers who need a concise introduction to a country's VET system. They are published online for all countries and in hard copy in several languages for Presidency countries;
- (e) providing country data on the state of play of mobility policies in initial VET. This input informs detailed country fiches and monitoring instruments within the framework of the mobility scoreboard, a recently established tool for policy-making in learning mobility in initial VET;

- (f) thematic information on issues featuring high on the VET agenda of the EU Presidencies (early leaving from VET, apprenticeships, innovation, teachers and trainers, key competences, outreach and guidance). This information complements the general context provided in country reports and Spotlights for policy analysis;
- (g) maintaining and updating national ReferNet websites, which helps raise Cedefop's visibility, its products and VET issues more generally 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 each year under a four-year framework partnership agreement (2016-19).





 AUSTRIA

ReferNet Austria (ibw – Institut für Bildungsforschung der Wirtschaft; öibf – Österreichisches Institut für Berufsbildungsforschung)

www.refernet.at

 BELGIUM

IBFFP – Institut Bruxellois Francophone pour la Formation Professionnelle (Bruxelles Formation)

www.refernet.be

 BULGARIA

НАПОО – Национална агенция за професионално образование и Обучение

www.refernet.bg

 CROATIA

ASOO – Agencija za strukovno obrazovanje i obrazovanje odraslih

www.refernet.hr

 CYPRUS

ΑνΑΔ – Αρχή Ανάπτυξης Ανθρώπινου Δυναμικού Κύπρου

www.refernet.org.cy

 CZECH REPUBLIC

NÚV – Národní ústav pro vzdělávání
and

NVF – Národní vzdělávací fond

www.refernet.cz

 DENMARK

Professionshøjskolen Metropol

www.phmetropol.dk/refernet

 ESTONIA

HTM – Haridus- ja Teadusministeerium

www.hm.ee/et/refernet

 FINLAND

OPH – Opetushallitus/Utbildningsstyrelsen

www.oph.fi/tietopalvelut/

kansainvalinen_koulutustieto/cedefop/refernet

 FRANCE

Centre Inffo – Centre pour le développement de l'information sur la formation permanente

www.centre-inffo.fr/refernet

 GERMANY

BIBB – Bundesinstitut für Berufsbildung
www.refernet.de

 GREECE

EOPPEP – Εθνικός Οργανισμός Πιστοποίησης Προσόντων & Επαγγελματικού Προσανατολισμού
<http://www.refernet.gr>

 HUNGARY

NSZFH – Nemzeti Szakképzési és Felnőttképzési Hivatal
<http://refernet.nive.hu>

 ICELAND

Menntamálastofnun – The Directorate of Education
www.refernet.is

 IRELAND

SOLAS – An tSeirbhís Oideachais Leanúnaigh agus Scileanna
<http://www.solas.ie/refernet>

 ITALY

INAPP – Istituto Nazionale per l'Analisi delle Politiche Pubbliche
www.isfol.it/refernet-italia

 LATVIA

AIC – Akadēmiskās informācijas centrs
www.aic.lv/refernet

 LITHUANIA

KPMPC – Kvalifikacijų ir profesinio mokymo plėtros centras
www.kpmpc.lt/refernet

 LUXEMBOURG

INFPC – Institut national pour le développement de la formation professionnelle continue
www.refernet.lu

 MALTA

Ministry for Education and Employment
<http://education.gov.mt/en/refernet/Pages/main-page.aspx>

 NETHERLANDS

ECBO – Expertisecentrum Beroepsonderwijs
www.refernet.nl

 NORWAY

SIU – Senter for internasjonalisering av utdanning
<http://siu.no/Videregaaende-opplaering/Samarbeid-med-land-i-Europa/ReferNet>

 POLAND

IBE – Instytut Badań Edukacyjnych
<http://www.refernet.ibe.edu.pl>

 PORTUGAL

DGERT – Direção-Geral do Emprego e das Relações de Trabalho
www.refernet.pt

 ROMANIA

CNDIPT – Centrul Național de Dezvoltare a Învățământului Profesional și Tehnic
www.refernet.ro

 SLOVAKIA

ŠIOV – Štátneho inštitútu odborného vzdelávania
www.refernet.sk

 SLOVENIA

CPI – Center RS za poklicno izobraževanje
www.refernet.si

 SPAIN

Fundación Estatal para la Formación en el Empleo
www.refernet.es

 SWEDEN

SKOLVERKET – Statens skolverk
www.skolverket.se/refernet

 UNITED KINGDOM

ECCTIS Ltd
www.refernet.org.uk



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