



Summary Report

Graduate Tracking Peer Learning Activity

Graduate tracking to improve the skills match

5 – 6 April 2022, online

The Peer Learning Activity was the second of a series of Peer Learning Activities aimed to help countries establish or further develop graduate tracking systems in their countries. This event provided information on how graduate tracking data can be used alongside other data sources to better match the supply of VET training with employer demand. The virtual Peer Learning Activity was hosted by Germany and attended by 91 participants, who represented decision makers and experts in national authorities and statistics agencies¹.

The Peer Learning Activity provided participants with an opportunity to learn from the approaches adopted by Germany and other countries in using VET data to understand the skills match, including the rationale for their approach and the challenges encountered and overcome. It also explored the strengths and weaknesses of different approaches, identifying 'what works', and provided a clearer understanding of the value of graduate and employment data as well as graduate tracking in supporting the planning and management of national VET systems. The Peer Learning Activity also included inputs from Austria, Denmark and Switzerland where they presented their different approaches to graduate tracking.

Evidence-based VET policy in Germany and tools used to provide data

Graduate tracking in Germany is most developed in the higher education sector, where an established system is currently in place. In VET, a system which allows the tracking of the destination of individual graduates is not yet in place but is being discussed. Germany does however conduct considerable research to explore the employment and further learning outcomes of cohorts of VET graduates. This involves a range of German VET system stakeholders, including federal, regional (16 Bundesländer) government and social partners. The multiple actors involved points to the importance of finding a compromise and agreement among them, also in terms of policy measures concerning graduate tracking.

In the German VET system, data on the performance of the German VET system collected from different sources by different methods is primarily used to forecast qualification needs and labour market developments. This is based on a comprehensive integrated data monitoring system encompassing IVET and CVET. The monitoring system enables the stakeholders and policy decision makers to:

¹ Representatives of the European Commission were joined by representatives from AL, AT, BE, BG, CH CZ, CY, DK, EE, ES, FI, DE, EL, HU, HR, IT, LV, LU, MT, NL, PL, PT, RO, RS, SE and SK. They were also joined by representatives from CEDEFOP and the European Training Foundation.

- Improve the matching between supply and demand of apprenticeship training places;
- Improve the matching between education and training and the labour market needs,
- Identify emerging qualification profiles and VET occupations, especially in relation to the twin (green and digital) transitions.

The monitoring relies on a combination of specific statistical instruments, surveys and panels in line with the BBiG (Vocational Training Act).

Statistical data are the backbone of the governance of the German VET system. The BBiG states that the Federal Ministry of Education and Research must constantly track developments in vocational education and training and must submit a corresponding report (Vocational Education and Training Report²) to the Federal Government by 15 May each year. The report is required to describe the current state and likely further development of vocational training" (BBiG section 86). The Federal Act on Vocational Training specifies in a detailed manner the content of the VET Report.

The annual VET report provides information on current developments in the training market. It documents the Federal Government's VET policy priorities, identifies the main challenges and reports on key measures and programmes. It is developed using data from the annual VET statistical Data Report³ and focuses on providing policy decision and guidance through interpretation of data and intelligence (including statements by employers' and employees' organisations

The VET report feeds into the national education report "Education in Germany⁴", which is published every two years, edited by the Autorengruppe Bildungsberichterstattung and funded by the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder. An annual VET Data Report completes the VET Report. The VET Report focuses on providing policy decision and guidance through interpretation of data and intelligence (including statements by employers' and employees' organisations) and this is complemented with an annual VET Data Report, which is purely statistical.

Currently Germany is assessing the feasibility of an integrated CVET report to provide similar information to the VET report to help develop qualifications pathways. This currently includes some scoping research that aims to bring together the various data collected on CVET from VET providers and employers.

In Germany data collection is coordinated using a mix of centralised and de-centralised sources which is coordinated by BIBB, a state agency is to undertake VET research. The German government financially supports the research process. It proposes a (research) programme each year to be discussed with all key stakeholders at federal and regional level, including social partners. Through these discussions it becomes clear what data is available and respectively where data gaps exist. For example, in recent years there has been a high number of refugees arriving in Germany and there is a need to quickly collect data on them (particularly adults).

It is worth noting that data is shared with both national and regional national authorities. The intention is to build policy measures based on evidence regarding VET developments

² Berufsbildungsbericht 2021 - BMBF

³ Datenreport / Datenreport 2021 (bibb.de)

⁴ Bildung in Deutschland — Bildungsbericht - DE

in the regions. However, it is impossible to have a complete overview of how this data is used at a regional level.

Using data on VET graduates is an increasing policy priority in Germany. Relevant political measures in the context of graduate tracking are the National Skills Strategy and the upcoming (National) Labour strategy (2022) which aims to use graduate tracking for tackling skills shortages, using skills potential from third country citizens. The national skills strategy is overarching, i.e., based on the cooperation between different stakeholders and including different data sources. This creates the possibility to develop scientific skills intelligence tools that can be used in digital formats, e.g., by citizens, companies and/or researchers and others.

International data sources and examples have been a useful reference point for Germany. The Ministry in Germany relies on international cooperation and events, such as Peer Learning Activities, to inform their own policy and processes for understanding the skills match. It is particularly interested in lessons from countries such as Austria, Denmark, Luxembourg and Switzerland, as they have a dual VET system similar to that employed in Germany. In addition, the National Skills Strategy was prepared based on a consultation with the OECD.

Qualification and Occupational Projections (QuBe) project, Germany

The QuBe project is not a graduate tracking tool *per se*, but a methodological approach used for data harmonisation. It aims to provide empirical evidence on current and possible future challenges in the labour market, inform stakeholders about those challenges and communicate the methods and results with the scientific community to ensure the validity of the results. The project is undertaken by the joint leadership of the Federal Institute for Vocational Education and Training (BIBB) and the Institute for Employment Research (IAB) in collaboration with the Institute of Economic Structures Research (GWS). The project team also carries out the skilled worker monitoring system in collaboration with the Federal Ministry of Labour and Social Affairs.

The first results of the forecast were published in 2010 and it is updated every second year since then. However, since 2020 the forecast has been updated every year to consider the impact of the COVID-19 pandemic and more recently, the conflict in Ukraine. The project team is now looking to work on data collection sustainability and address wider challenges.

The main work involves is harmonising existing data as it is recognised that different sources have different objectives. It specifically combines data on:

- Workforce supply, drawing on data on the number of pupils and students from the publications of the Federal Statistical Office and from the Standing Conference of the Ministers of Education and Cultural Affairs.
- Workforce demand, using data from national accounts, information on employment history from the Federal Employment Agency, care statistics and other information.
- Workforce supply and demand are structurally linked via the German micro census (the German Labour Force Survey) and the population development (own forecast of the project project).

Using the data, the QuBe project can provide insights into the educational behaviour of the population in Germany on a very detailed macro level. This is used to identify opportunities, risks, occupational balances and mismatches.

In Germany, there is a data delay between data collection and data forecasting of approximately two-to-three years. However, in practice the delay does not cause a substantial problem as they observe a large number of people and macro level changes take time to filter through to the employment and skills landscape.

Occupation and Competence Radar, Germany

The Occupation and Competence Radar is intended to be operational in 2024 as an interactive information portal that provides information on occupations.

The starting point for this approach was recognition that the world of work and occupations is in constant change. The previous approaches to obtaining information on occupations were either very aggregated or predominantly text-based without recourse to current knowledge from labour market and vocational training research. The Occupation and Competence Radar aims to close this gap by providing a website that links current research data and makes it available to the public in a visually appealing way.

The Occupation and Competence Radar is intended to be a website that contains data and research results from a wider variety of sources linked together, including survey data, official statistics and other data, in a unified database that harmonises the data and makes the data available to the public.

The database will be able to include approximately 620 occupations using the German classification of occupations (to an 8-digit level) and 63 NACE codes (Nomenclature of Economic Activities). It also includes trend analyses retrospectively up to the year 2000 and spatial analyses at Federal state level. It has a modular structure so that new or updated data can be connected semi-automatically and the data set can be made accessible for research purposes.

It also intends to include links to:

- The German Labour Force Survey, in terms of detailed data on education, socio-demographic characteristics and information on the labour market
- Register-based data on VET, which provides detailed data on VET
- BIBB/Federal Employment Agency Employment surveys, which provide detailed data on labour conditions, skills and competences
- The QuBe project, which provides mid and long-term projections and information on future challenges
- Online job advertisements of the Federal Employment Agency. The information from job descriptions provides information on competences and working tools, labour conditions and environmental sustainability.

The Competence and Occupation Radar can use this information to compare information from job descriptions in terms of skills by occupation; social skills by occupational sector; competences by requirement level; and social skills by requirement level. In terms of occupational groups matching the fields of study (~5500 items), roughly 20% (not weighted) of the text items of the fields of study completely matched with the description of the occupation. The rest of matching was based on algorithms with comparing the similarity/distance of characters. Afterwards, quality assurance was done on a six-eye principle in that three colleagues worked separately and then compared their results deciding on the best match. A methodological report on the analysis will be published in quarter 3 in 2022.

The Peer Learning Activity participants asked about the reliability of the skills required in online vacancies and how they correlate to the real skills required by employers. The German colleagues noted that it is not possible to prove if employers' 'over-ask'. If vacancies from different years are compared, changes in employers' skills requirements can be detected. Therefore, vacancy information is a good source of information to recognise changes within occupations.

Education-related employment career monitoring (BibEr) – Tracking of VET graduates in Austria

The Austrian Federal Ministry of Labour and Social Affairs are working together with the Austrian labour market service (the public employment service, PES) and the Austrian Federal Statistics Office to develop an education-related employment careers monitoring programme (Biber). This collects information on the employment careers of all residents in Austria after leaving a formal education institution. This includes:

- Graduates of a formal education
- Individuals who have completed formal education without a positive qualification
- Early dropouts from education, including people aged 15 or over who have not completed compulsory schooling and who are not in formal training or PES training
- Not in employment, education or training (NEET) – people aged 15 or over who are not in formal education, PES training, not employed and do not draw their pension.

The database includes information from 2008 covering data on social insurance, unemployment register data, educational history data and educational; attainment data (including apprenticeships). The data fields includes:

- Personal characteristics, including:
 - Educational qualifications (type of school, field of study)
 - Age and gender
 - Nationality and place of residence
- Employment history, including:
 - Labour market status (in training, type of school, employment, PES registration) at 1, 3, 6, 12, 18 and 24 months after the day of graduation
- Characteristics of employment, including:
 - Length until first employment
 - Economic sector
 - Income from employment

The data provides intelligence on VET learner progression into the labour market and recent developments. To date, analysis has been undertaken on the transition in the formal education system and differences in employment rates and starting salaries for learners in different fields of study.

The Ministry is currently working on how to collect data on labour market transitions within Biber. There is data on all employed persons, but not on all self-employed persons and some data is not fully complete (e.g., they do not have the NACE level 2 classification). However, currently it is possible to track whether apprentices change company after graduation and after how many years.

The Biber tool does not cover information on people leaving Austria, for example graduates who are then employed in other countries. It also only captures limited data

on learners that have part-time jobs however, as it does not distinguish whether learners completing a VET study programme enter new employment or continue their existing employment.

It was also highlighted to participants that *Lehre mit Matura* (giving access to higher education) was introduced as an initiative to enhance the activity of practical training. It can be combined with an apprenticeship, or completed afterwards, and there are other initiatives to promote practical training.

One of the challenges is that there is a general problem for time series analysis and policy needs as it takes at least two to three years before a person can be considered as well integrated into the labour market after leaving the education system. In the short- and medium-term longitudinal data can be a useful information resource.

Participants asked about the effect of micro-credentials on the skills forecast. In Austria, it is considered that micro-credentials and the modernisation, and individualisation, of education and training careers will be helpful for better matching although it is likely to make analysis more complicated. It is also more likely that micro-credentials will have a greater effect on CVET, but there will be some impact also on IVET.

Integrated Continuing Vocational Training Reporting (iWBBe), Germany

The iWBBe project is led by BIBB in cooperation with the German Institute for Adult Education. The main objective of the project is to analyse and bring together data and statistical information out of different existing report systems and data sources and to develop an overview of the reports and determine necessary extensions or changes.

The project is based on a relatively well-established data collection system for CVET, with policy discussions on how to collect and use this data initially starting in the 1960s. This includes a number of recent improvements, including the implementation of a CVET reporting system which was transferred from 2007 to the European Adult Education Survey. In addition, the National Skills Strategy for the Federal Government includes an objective to strengthen strategic foresight and optimise CVET statistics.

The project is organised around three parts. Firstly, the conceptual design and the basis of an iWBBe, which started in July 2020 and was ongoing until April 2021. Secondly, reporting in terms of an inventory of existing reporting systems, databases and usable key figures, which began in April 2021. Lastly, the third part is the development of recommendations for further development of reporting, database and report formats and this part will be completed in June 2022.

The review of CVET reporting included the most recent editions of the VET data report in Germany (2018 – 2021), OECD Education at a Glance (2020), National Report on Education 2020 and Report on Vocational Education and Training 2020-2021. The review looked at indicators and key figures reported as well as the data sources used. A summary was produced of the reported key figures per indicator group.

The areas of CVET looked at included formal continuing education (with a qualification in accordance with the National Qualification Framework), non-formal continuing education (without a qualification in accordance with the National Qualification Framework), informal learning (in which no certificate is usually issued) and 'accidental learning' which is non-intentional and unplanned.

Data sources on CVET were mapped against a consistent set of criteria. The analysis looked at five types of continuing education statistics including individual surveys, company surveys, provider surveys, personnel / staff surveys and official / administrative statistics. It also looked at the framework of indicator groups and

classification of learning activities. The analyse was a useful basis for drafting recommendations for further development.

The results of the data mapping found that individual surveys were the richest data source. However, overall, there was information on employment outcomes and the quality of CVET is so far only considered in surveys among individuals, but to a lesser extent in surveys among providers and companies. Additionally, little data is available on the outcomes in general, and almost no data is available on non-monetary outcomes, or on informal learning.

The project has also identified challenges in combining indicators from different sources. Overall, the concept and structure of indicators differs in each report and is different to the iWBBE indicator concept. More information is therefore needed on how the indicators used in existing data sources can be combined. In all reports there is information on participation, in-company CVET provision and participation and provider structure and provision. However, across all of the reports looked at there were only a few indicators about competences. Outputs and outcomes are not covered well in the reports.

Regarding draft recommendations, there are two points are currently emerging. The first is about creating more coherence in reporting on CVET. This could include establishing mechanisms of coordination and transfer between the reports. The second is about ensuring the right data is collected. This should, among other things:

- Be structured according to proposed topics and areas
- Fill existing thematic gaps, including competences, certificates, output/outcome and additional guidance
- CVET areas could include continuing academic education, informal learning, competence development, digital transformation and others
- Systematically include methodological notes and classification aids
- Continue to identify existing gaps and needs.

There is interest in developing a digital reporting system however this needs to be carefully planned so that it is topic-related and is regularly up to date. Another project in the future will need to look at how to do this best.

Continuing Vocational Training Survey, Denmark

CVET data in Denmark comes from three main sources. The first is the Course Participation Register which compiles detailed register data on CVET participation. This is limited to publicly provided programmes, which take place outside of the workplace and has paying participants who undertake a controlled exam. The data covers 1970 – 2002, depending on the type of course. The data is updated each year in February. It includes variables such as participants; institution, programme and course; start and end dates; course completion; and the activity level of each course.

The second main data source is the EU-wide Adult Education Survey⁵. This covers adult participation in education and training (including formal, non-formal and informal learning). It is conducted every six years, with previous editions taking place in 2007, 2011 and 2016. In the 2016 edition 3,432 interviews were undertaken with people aged 25 – 64 years old out of a sample size of 7,868.

⁵ More information about the Adult Education Survey can be found at: <https://ec.europa.eu/eurostat/web/microdata/adult-education-survey>

Lastly, the Continuing Vocational Training Survey⁶ (CVTS) covers continuing vocational training in enterprises, which includes national data emerging from the EU survey on this topic. It is undertaken every five years (2005, 2010, 2015 and 2020). Private enterprises are divided into groups by size and profession. In the 2020 edition, 1,766 enterprises responded out of a sample of 3,432 (51%).

The AES and CVTS data are used by the Danish Ministry of Children and Education to look at what are the obstacles to using CVET and how effective existing and possible future policies are in increasing the use of CVET. It uses data from the AES to look at adults' will to participate. The AES and Course Participation Register is used to look at the public education's share of total education while CVTS data is used to look at the contributions to training funds⁷ in enterprises.

The data shows that the will to participate in CVET is low among large groups in the population. Approximately 40% of 25–64-year-olds neither participated nor wishes to participate in education in 2016. In addition, skilled and unskilled workers are less likely to participate in CVET than highly educated people. In terms of the share of educational activities that are publicly regulated, only one in three participants accesses publicly registered education. Unskilled workers are far more likely to participate in this type of education than skilled and highly educated people according to the 2016 data. In terms of the use of training funds, the data from the CVTS shows that enterprises that contribute to training funds only use half of what they contribute.

The reports produced are only currently in PDF format. It is not a priority in Denmark to digitalise the data at the moment. However digitalised information on course registration is available as there is a publicly available website (in Danish).

Working group question 1: What are the enablers and barriers in your country to use CVET data to understand the skills match (data on demand of skills to inform the supply of skills)?

The discussion in the working groups found that the enablers to use CVET data to understand the skills match include that there is a political will to find and use data, and there is an appetite for data to be used to inform policy.

Another enabler is the sharing of experiences between countries through methods such as mutual learning activities. This is particularly important for those who are at the early stages of developing graduate tracking systems, as they can learn from the best practices and lessons learnt from other countries. In countries where systems are developing, it was agreed that it is useful to start with small, exploratory pilot projects where the lessons and outcomes can then be shared with a wider group.

It was also noted that it is useful to have CVET providers onboard so that surveys can take place and have a good response rate. Such data can show any CVET developments, which may be of interest for the whole educational system.

While GDPR is often an issue, participants noted that central administration and policy play important roles to mitigate this. For example, proven solutions include organising frameworks for data sharing; technical solutions for merging data; and agreements on data sharing in federal systems or with autonomous regions. In addition, bottom-up approaches such as interinstitutional agreements are used in some countries.

⁶ More information about the Continuing Vocational Training Survey (CVTS) can be found at: <https://ec.europa.eu/eurostat/web/microdata/continuing-vocational-training-survey>

⁷ Training funds go via unions and employees apply to use these funds individually. In larger employers it is often the case that employees are more aware of the funds, and they use them more often. However large companies do not contribute more towards the training funds.

In contrast, the barriers to using CVET data to understand the skills match include a lack of understanding of the value of the data where it is not currently collected. There is also a challenge of gathering the data and being able to use it for policy. The data can take years to collect which can be at odds with policy makers' requirements for immediate data. For example, the data from the COVID-19 pandemic may not be available for a few years, yet most countries are taking steps to implement pandemic recovery plans.

A challenge also remains around ensuring a high response rate from employers and providers. It was noted that there is often a lower response rate from smaller employers which affects the information available on them. It was also mentioned that gathering information from schools and providers may take more resources.

Ensuring high quality and granular data is collected was also mentioned as a challenge. For example, sometimes it may not be possible to look at detail around specific occupations. Within CVET, there is also a high range of diversity and therefore data gathering may be difficult with different ways to measure the same things.

The high cost of establishing, maintaining, and improving data systems was also a reported barrier. They require quite some investment at the start as well as ongoing costs to ensure that they function correctly and can be improved as needed over time.

Workshop question 2: What are the lessons learned from the presentations so far? What was missing?

Participants felt that the inputs were useful to understand that there are different methods and approaches that can be taken and how data can be used within policy making. It was recognised that the countries represented by participants are at different stages and there are different journeys towards graduate tracking.

It was noted that end users and education providers may wish to see the data and there is an open question on how best to share and make the data accessible to others.

It was also noted in the discussions that countries at an earlier stage of their journey to implement graduate tracking systems may benefit from learning from countries that are at a similar stage of implementation. Some participants felt the Germany examples were well-advanced and that it would take many years before their country was in a position to implement a similar system.

Potentials of National Educational Panel Study (NEPS) for VET policy making, Germany

Using NEPS for VET policy making is considered in Germany to be a major opportunity, as although NEPs data is well established, they have in the past been used mainly to answer questions about general education. In particular, it provides empirical data which has potential for expanding CVET reporting (e.g., on advanced vocational qualifications such as technicians' degrees and master craftsmen qualifications) and identifying conducive and inhibiting factors in educational processes as starting points for educational policy measures.

The target activity of NEPS is to collect longitudinal data on the development of competencies, educational processes, educational decisions and returns to education in formal, nonformal and informal learning throughout the life span.

NEPs covers all sectors of (post-school) education, including IVET, CVET and higher education. It also includes detailed educational trajectories of complete cohorts including graduates and those who have not completed their studies. NEPS also includes longitudinal data, which prevents retrospective bias and allows for causal analysis. It

also provides cohort comparisons, so it is possible to look at influences of societal changes.

NEPS also offers advantages over other sources of data such as register data. It includes an expanded range of variables relevant to education, such as returns to education, educational decisions, individual education background and competence development. It also includes a combination of survey and administrative/regional data, which provides an observation period from 1975 and it gives detailed information on income, employers and employment history and labour markets. NEPS also includes different information sources (peers, parents and teachers) that prevents one-sided information and enables supplementary information.

However, there are some challenges of working with NEPS data. The challenges include filtering and the voluntariness of participation, which can lead to bias. Additionally, no cross-state comparisons are allowed and there is a lack of depth in some topics. The information does however allow the analysis of VET related correlations/causalities, which can provide more insights than current participation rates.

Overall, NEPS supplements existing VET reporting indicators with previously inaccessible measures, which helps to identify success factors for educational pathways and generates evidence for VET policy making. As next steps, there are some topics that can be explored by NEPS in the future. These include advanced vocational/academic qualifications and higher education students with IVET and the premature dissolution of VET contracts and/or drop out from VET and what happens afterwards. There are also plans to conduct panel analyses in the future to determine whether differences in economic and noneconomic returns are actually due to advanced vocational degrees - or whether they are simply due to differences in skills or aspirations, for example.

Relevance, potentials and limitations of longitudinal analysis based on register data, Switzerland

Switzerland's register data is based on social security numbers that have been used as personal identifiers since 2008. There was also a decision to use cantonal registers to supply official statistics in all domains. The cantons report data includes the ID on all students in official education programmes to the Federal Statistics Office on a yearly basis. The Federal Statistics Office cleans the data, publishes indicators and reports and provides the longitudinal data for research purposes. The data can be used to provide basic indicators on the education system, VET dropouts and the careers of VET graduates who earned a vocational baccalaureate. It is worth noting that it is not possible to track anyone who has left Switzerland.

The Federal Statistics Office has led the process for undertaking longitudinal analysis of register data. In 2020, a specific report on vocational baccalaureates was published by the Swiss Federal University for Vocational Education and Training (SFUVET). The report was presented as an example on how register data can be used for analysis and informing policies. In 2021, a preparatory group by the Swiss Conference of Cantonal Ministers of Education came together to prepare the next steps to strengthen the vocational baccalaureate and national workshops took place with stakeholders. In 2022, the Swiss Conference of Cantonal Ministers of Education mandated for three working groups on the topics of selection, support and cooperation.

Within Switzerland, it is felt that educational register data provides a reliable source of official data. The register data also covers the full population, and it allows individual transitions to be observed. The data can be combined with data from other registers or from surveys. It ultimately provides much needed information on transitions in education and to the labour market.

However, there does need to be considerable investment in infrastructure and in data quality. Register data provides limited information per observation and it does take time to build up longitudinal data. It also requires unique identifiers and there are also data protection and privacy issues, particularly when analysing areas where there are few observations. It does need time and resources for register data to be set up and for it to work.

On the way to comprehensive evidence for VET policy

The Peer Learning Activity concluded with a panel discussion that included representatives from the European Commission and from Germany (BMBF and BIBB). From a European perspective, the quality of labour market data in Europe has not been as detailed as in the US. This is illustrated by many academic papers on the topic historically only using US data. However, in recent years there have been an increase in research papers using German data. This is very encouraging from a European perspective.

When using VET graduate and labour market data, it is useful to take a step back and ask what the evidence is used for, and this is for two reasons. Firstly, for designing educational programmes or governmental policy and secondly, for students to make informed choices about what to study. Continuous information and feedback loops are important to ensure that the evidence flows into programmes, policies and informed choices.

Many countries have information and are moving in the right direction to be able to use more data and information to inform policy, programmes and individual choices. Being able to use the information to its maximum potential is a challenge and it may be best used at the moment for the design of education programmes. The complexity is to consider the labour market context as well as the individual and the tools that can help with this, such as individual learning accounts. Individual learning accounts have been used in France and Singapore to inform training choices and topics and there could be interesting learning points here in the future.

Going forward, Germany is taking forward the initial work of the Competence Radar as this will help to contribute data and scenarios for policy making. They will complement research data with sector studies, discussion papers and exchanges with stakeholders.

The next step in Germany is to build a user-friendly app that would make the data targeted to individual and employer level, as the information is currently more focused towards policy makers and researchers. It would need to be accessible to people anywhere and at any time.

In addition, from Germany's perspective there would also need to be further research in the VET area and potential further work in terms of sharing data more quickly with end users and taking it forward in reporting systems.

It is important to recognise that the labour market is changing, as well as the structure of occupations and the definitions of occupations. However, new occupations do not spring up out of nowhere as it can often be observed that certain tasks are increasing importance. For example, in Germany trends can be observed when new tasks and new skills are introduced to the apprenticeship regulation, and they may then be classified as different occupational groups or classifications. It is often the case that they are new combination of tasks, rather than brand new tasks themselves.

VET ambassadors may play an important role in bring the data closer to the broader public. They could play an important role in visiting schools, speaking with learners and

showing them what jobs are really like and they can provide practical advice and information on certain occupations. This could also work for CVET.

Closing words

The approach used in Germany shows that all stakeholders, at different levels, benefit from research projects looking at data and improving the skills match. The discussions also show that there is cross-fertilisation of ideas between national and European level, which is positive.

Further information and resources

Germany

VET Report 2021 in Germany (in English):

https://www.bmbf.de/SharedDocs/Publikationen/de/bmbf/FS/31702_Berufsbildungsbericht_2021_en.pdf?__blob=publicationFile&v=3

QuBe project website (in English):

<https://www.bibb.de/en/11727.php>

National Educational Panel Study (NEPS) website (available in English and German):

www.neps-data.de

Austria

Skills qualification information:

<https://bis.ams.or.at/qualibarometer/kompetenzstruktur.php>

European level

European graduate tracking mapping study:

<https://op.europa.eu/en/publication-detail/-/publication/93231582-a66c-11ea-bb7a-01aa75ed71a1/language-en>