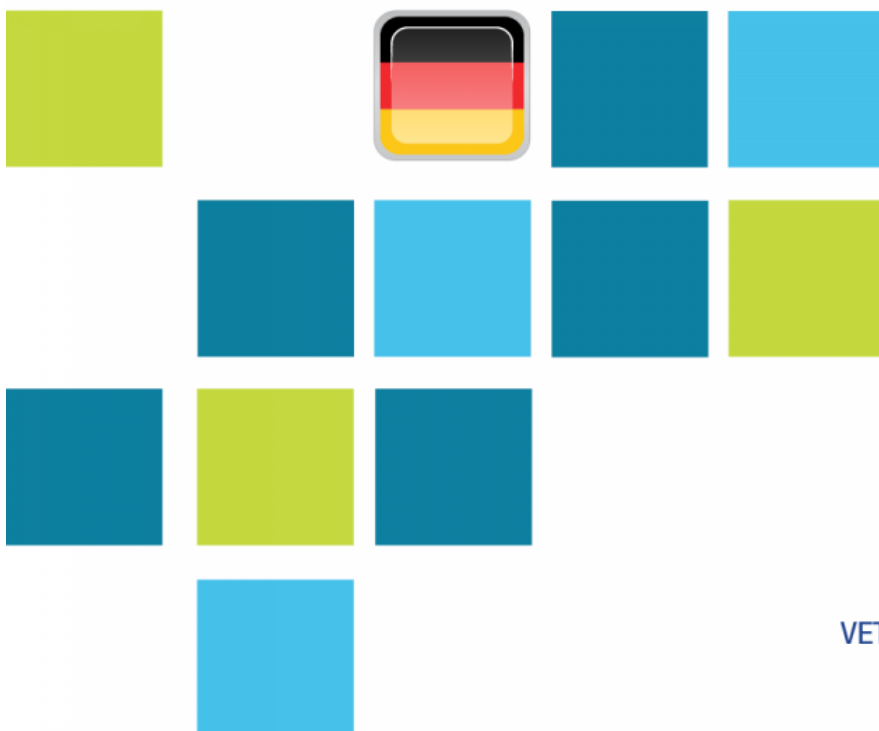




VOCATIONAL EDUCATION
AND TRAINING IN EUROPE
GERMANY

SYSTEM DESCRIPTION



VET IN EUROPE 2019

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Contributors: Adrienne Huismann, Ute Hippach-Schneider, (ReferNet Germany) and Silke Gadji (Cedefop)

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 - Apprenticeship scheme (dual system: duale Ausbildung) according to the Vocational Training Act (BBiG) and the Crafts Code (HwO) at EQF level 3-4 and ISCED level 354 (in 2017: 327 programmes, one for each occupation that can be learnt in the apprenticeship scheme)..
 - Specialised programmes (Berufsoberschule BOS – Fachoberschule FOS – Schule für Gesundheits-, Erziehungs- und Sozialberufen GES nach Bundes- und Landesrecht) leading to EQF level 4-5, ISCED 444, 453, 454.
 - Advanced vocational qualifications at three levels: - EQF level 5: certified advisor (Fachberater), - EQF 6: master craftsperson, specialist (Fachwirte und -meister) and - EQF 7: management and experts (geprüfter Betriebswirt). Four ‘vertical’ paths lead across the three levels mentioned: commercial path, technical path, vocational pedagogical path, IT and media path..

- Technician, specialist etc. programmes in trade and technical schools (Fachschule) leading to EQF level 6 and ISCED 655..
- Dual study bachelor programmes (Duales Studium im Bachelor Programm) leading to EQF level 6 and ISCED level 645.
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CHAPTER 1.

Summary of main elements and distinctive features of VET

VET in Germany comprises the following main features:

- a high proportion of people have upper or post-secondary level qualifications (57.9% in 2017 compared to an EU average of 46.1%), which is mainly due to the popularity of dual VET;
- the apprenticeship scheme (dual system) at upper secondary level (EQF 4) is the main pillar of VET and enables efficient school-to-work transition and low youth unemployment;
- close cooperation between employers, trade unions and the government in shaping and implementing VET;
- advanced vocational training at tertiary level (EQF 6-7), leading to qualification as master craftsman, technician and specialist, is a major factor contributing to the attractiveness of the VET pathway.

Distinctive features ([1]):

Germany's VET is seen as a successful model, largely based on the dual system (apprenticeship) leading to high-quality vocational qualifications. Apprenticeship enables smooth education to work transitions, resulting in low youth unemployment (2015: 7.2% of aged 15 to 24 versus 20.4% in the EU-28).

About one in two secondary school graduates chooses a vocational education programme; of those, 70% participate in apprenticeship. A growing share has a higher education entrance qualification, which shows the attractiveness of apprenticeship. Dual study programmes at tertiary level and advanced vocational training enable the acquisition of middle and top management qualifications in companies. Germany's well-trained skilled workers are a prerequisite of its economic success.

National standards and training regulations (curricula for both in-company and school-based components) assure the success of the dual training programmes. Companies provide training in accordance with the vocational training regulations, developed by the four stakeholders (Federal and State governments, companies and trade unions). These regulations allow for flexibility to agree on company training plans with apprentices. Learning at vocational school is based on a framework curriculum aligned with training regulations, drawn up for every recognised training occupation.

Regular revisions to training regulations guarantee keeping pace with rapid technological and organisational changes. The initiative for updating or developing an entirely new occupational profile comes from social partners or the Federal Institute for VET ([2]). After consultation with all parties involved, the competent federal ministry decides whether to proceed. Cooperation between State and social partners is a core element of VET: social dialogue and shared decisions are the means to ensure that VET reforms are accepted.

Another particularity of the German VET system is its approach to how to acquire vocational competences, the so-called concept of 'vocational action competence': this holistic and

integrated approach to competence acquisition during VET contrasts with the acquisition of isolated skills and competences based on the learning-outcomes approach of the European qualifications framework (EQF).

[2] Bundesinstitut für Berufsbildung (BIBB).

CHAPTER 2.

Main challenges and policy responses

Improving transitions from general education to VET

The number of unfilled training places recently increased again, showing a need to reconcile supply and demand while taking into account significant regional and branch specific differences. Individual assistance for unsuccessful applicants and guidance for small and medium-size enterprises are provided in case of problems with matching. The Alliance for Initial and Further Training has committed to integrating all applicants in VET, including those from unfavourable starting positions, through pre-VET measures, assistance and support during training. To prevent training dropouts, senior experts provide individual coaching to apprentices.

Modernising and developing new occupational profiles with a view to digitalisation

Digital innovation has an impact on qualification profiles and curricula. The VET 4.0 initiative identifies changing demands in the qualification of skilled workers and how to respond to the challenge of digitalisation.

Increasing the attractiveness of VET

A large multimedia information campaign on apprenticeship was relaunched; early vocational orientation guidance in schools is now widely implemented from grade 7, in general upper secondary schools as well. Online VET portals are addressing specific target groups like young women or university dropouts.

Integrating migrants and refugees into education and training

Since 2015, more than one million asylum seekers have arrived in Germany. Their integration into the labour market and VET system is a priority: enabling German language learning, validating formal and non-formal skills, providing vocational orientation and access to VET, apprenticeships and employment. Existing programmes addressing disadvantaged groups (such as migrants) extended their focus to include refugees and new programmes were initiated specifically for this group.

Data from VET in Germany Spotlight 2017 ([3])

CHAPTER 3.

External factors influencing VET

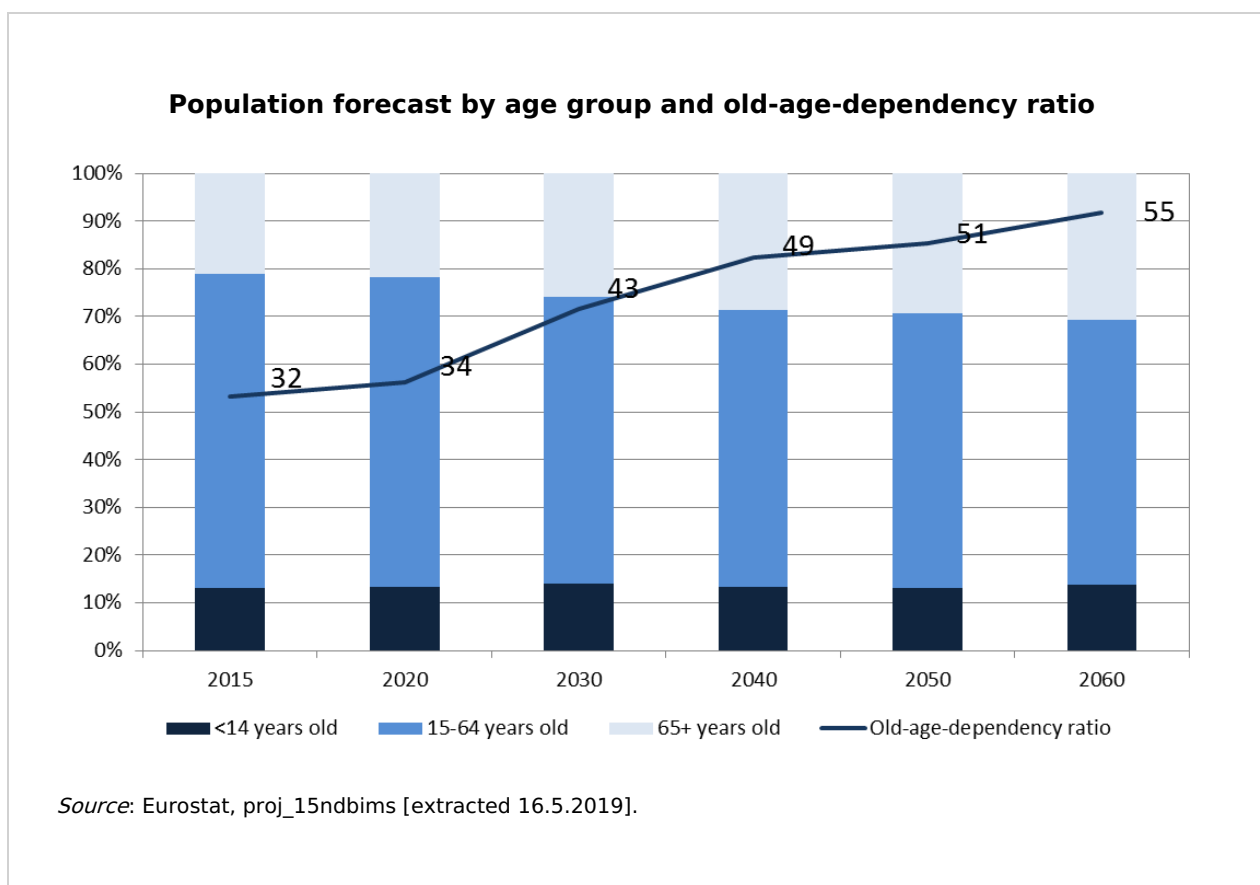
3.1 Demographics

Population in 2018: 82 792 351 ([4])

It increased by 2.8% since 2013 due to migration (net migration in 2015: +1.1 million) ([5]).

As in many other EU countries, the population is ageing.

The old-age dependency ratio is expected to increase from 32 in 2015 to 55 in 2060 ([6]).



The ageing of the currently high proportion of middle-age population cohorts will lead to significant shifts in the age structure, once they join the group of 65+ years old. In 2015, 13.2% of the population were below 14, 65.8% were between 15 and 65, and 21% were 65 or older. By 2060, 13.8% of the population will be below 14, but only 55.6% will be between 15-64 years old, i.e. working age. The number of 65+ year-old people will increase to 30.6%.

There are fewer young people as time passes, more of them are choosing higher education. This partly explains the high number of unfilled apprenticeship places.

Since 2015, more than one million asylum seekers have arrived in Germany. Their integration into the labour market and VET system is a priority: enabling German language learning, validating formal and non-formal skills, providing vocational orientation and access to VET, apprenticeships and employment. Existing programmes addressing disadvantaged groups (such as migrants) extended their focus to include refugees and new programmes were initiated specifically for this group.

3.2 Economics

The overwhelming majority of companies in 2016 (3.46 million enterprises, 99.6%) were micro companies (1-9 employees) and small and medium-sized enterprises, (SMEs, 10-249 employees): of these, around 3.1 million (about 90% of all companies) were micro-enterprises. Only 14 630 enterprises had more than 249 employees. In total, 61% of the 29.1 million employees worked in micro and, SMEs: micro-enterprises employed about 19% of active persons, small enterprises (10-49 employees), approximately 23.2%, and medium-sized enterprises (50-249 employees), around 19.3%. These micro companies and SMEs form the *Mittelstand*, which is playing a major role in the dual VET system by providing the most apprentice placements (1.12 million apprentices in 2016 against approximately 450 000 in large companies having more than 249 employees) ([7]).

In 2017, most employed persons (74.5%) were working in the tertiary economic sector (mainly services), followed by 24.1% working in the secondary sector (production industry) and 1.4% working in the primary sector (agriculture, forestry and fishing) ([8]).

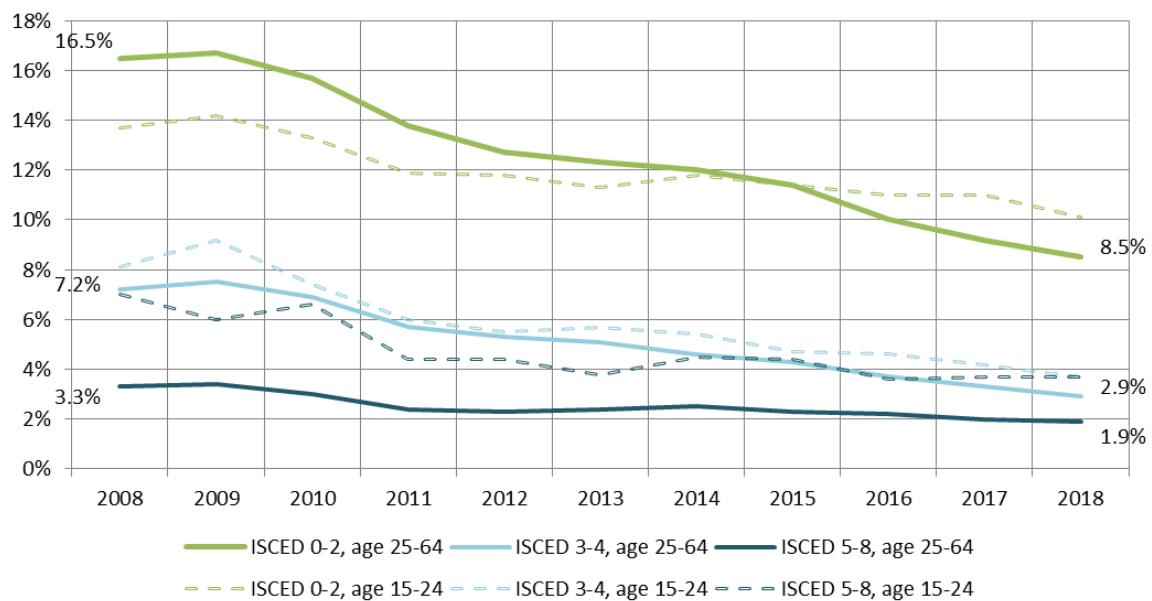
The share of enterprises in the primary sector providing apprentice placements has decreased in recent years. In the secondary sector, many enterprises provide apprenticeship and this number remained stable in 2016. The tertiary sector offers a differentiated picture: a positive trend in personal services (e.g. medical and nursing services), clearly negative trend in company-related services (e.g. financial and legal services, information and communication-related services) and less negative trend in transport, trade, accommodation and catering services.

3.3 Labour market

Most occupations in Germany are regulated and only accessible with the relevant qualification.

Total unemployment ([9]) (2018): 3.1% (6% in EU28); it has fallen by 3.9 percentage points since 2008 ([10]).

Unemployment rate (aged 15-24 and 25-64) by education attainment level in 2008-18



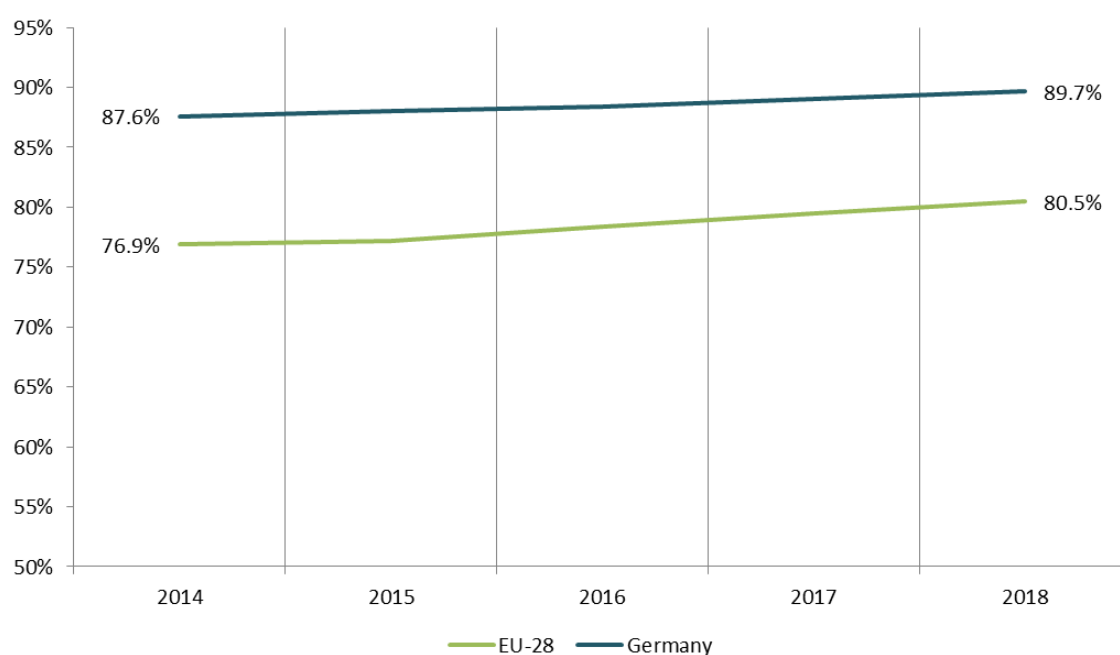
NB: Data based on ISCED 2011; breaks in time series. ISCED 0-2 = less than primary, primary and lower secondary education. ISCED 3-4 = upper secondary and post-secondary non-tertiary education. ISCED 5-8 = tertiary education. Source: Eurostat, Ifsa_urgaed [extracted 16.5.2019].

Unemployment is distributed unevenly between those with low- and high-level qualifications.

The gap has increased during the crisis as unskilled workers are more vulnerable to unemployment. In 2018, the unemployment rate of people with upper secondary and post-secondary non-tertiary education, the levels where most VET graduates exist (ISCED levels 3 and 4), was only slightly above the unemployment rate of people with tertiary education (2.9% compared to 1.9%). Low-skilled people (less than lower secondary education) however, faced a much higher risk of unemployment with the rate at 8.5%.

The employment rate of 20 to 34 year-old VET graduates increased from 87.6% in 2014 to 89.7% in 2018([11]).

Employment rate of VET graduates (20 to 34 years-old, ISCED levels 3 and 4)



NB: Data based on ISCED 2011; breaks in time series. ISCED 3-4 = upper secondary and post-secondary non-tertiary education. *Source:* Eurostat, edat_ifse_24 [extracted 16.5.2019].

The increase (+2.1pp) in employment of 20-34 year-old VET graduates in 2014-18 was higher than the increase in employment of all 20-34 year-old graduates (+1.5 pp) in the same period in Germany ([12]).

For more information about the external drivers influencing VET developments in Germany please see the case study from Cedefop's changing nature and role of VET in Europe project [12a]

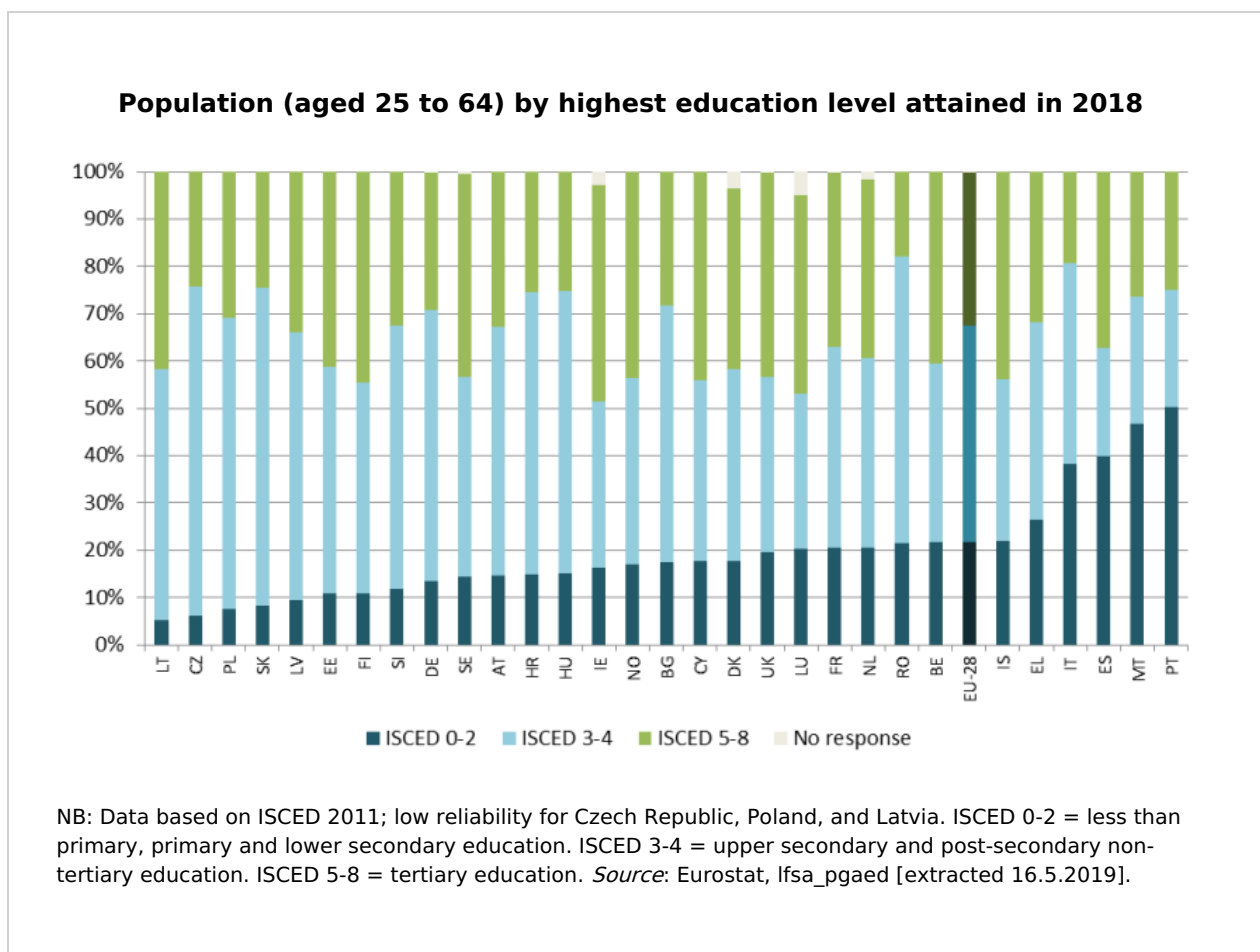
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- [4] NB: Data for population as of 1 January. Eurostat table tps00001 [extracted 16.5.2019].
 - [5] NB: Data for population as of 1 January. Eurostat table tps00001 [extracted 16.5.2019].
 - [6] Old-age-dependency ratio is defined as the ratio between the number of persons aged 65 and more over the number of working-age persons (15-64). The value is expressed per 100 persons of working age (15-64).
 - [8] Results of the employment accounts within the national accounts (VGR):
https://www.destatis.de/DE/Themen/Arbeit/Arbeitsmarkt/Erwerbstaetigkeit/_inhalt.html
 - [9] Percentage of active population, aged 25 to 74.
 - [10] Eurostat table une_rt_a [extracted 20.5.2019].
 - [11] Eurostat table edat_ifse_24 [extracted 16.5.2019].
 - [12] NB: Breaks in time series. Eurostat table edat_ifse_24 [extracted 16.5.2019].

CHAPTER 4.

Education attainment

4.1 Share of high, medium and low level qualifications

Upper secondary and post-secondary non-tertiary education at ISCED level 3-4, is quite popular (57.4%) in Germany, compared to most other EU Member States. This can also be linked to the fact, that apprenticeship is an attractive pathway and even chosen by upper secondary graduates.



For more information about VET in higher education in Germany please see the case study from Cedefop's changing nature and role of VET in Europe project [12b]

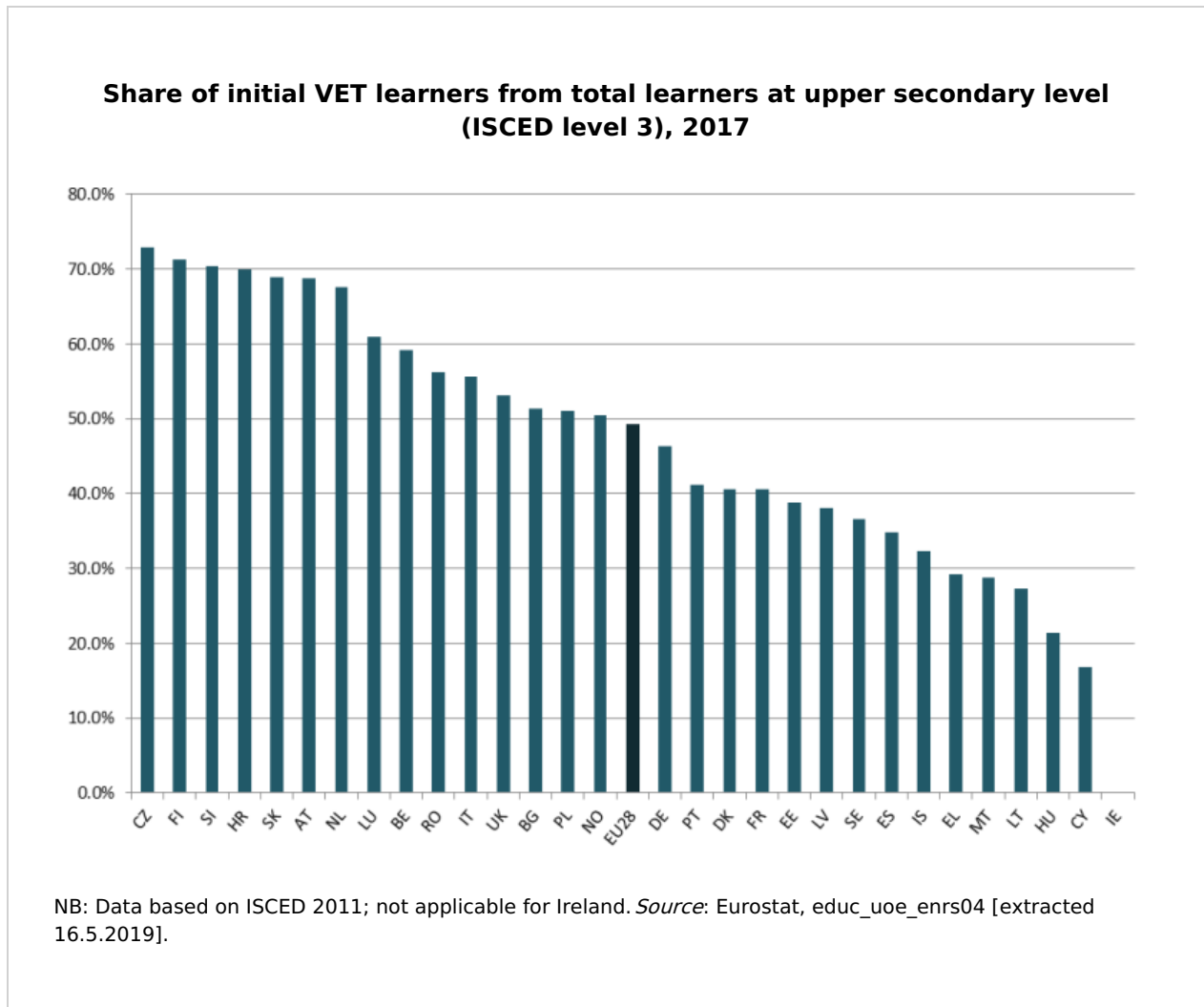
4.3 VET learners by level

Share of learners in VET by level in 2016

lower secondary	upper secondary	post-secondary
-----------------	-----------------	----------------

4.7%	45.6%	92.5%
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Source: Eurostat, educ_uoe_enrs01, educ_uoe_enrs04 and educ_uoe_enrs07 [extracted 16.5.2019].



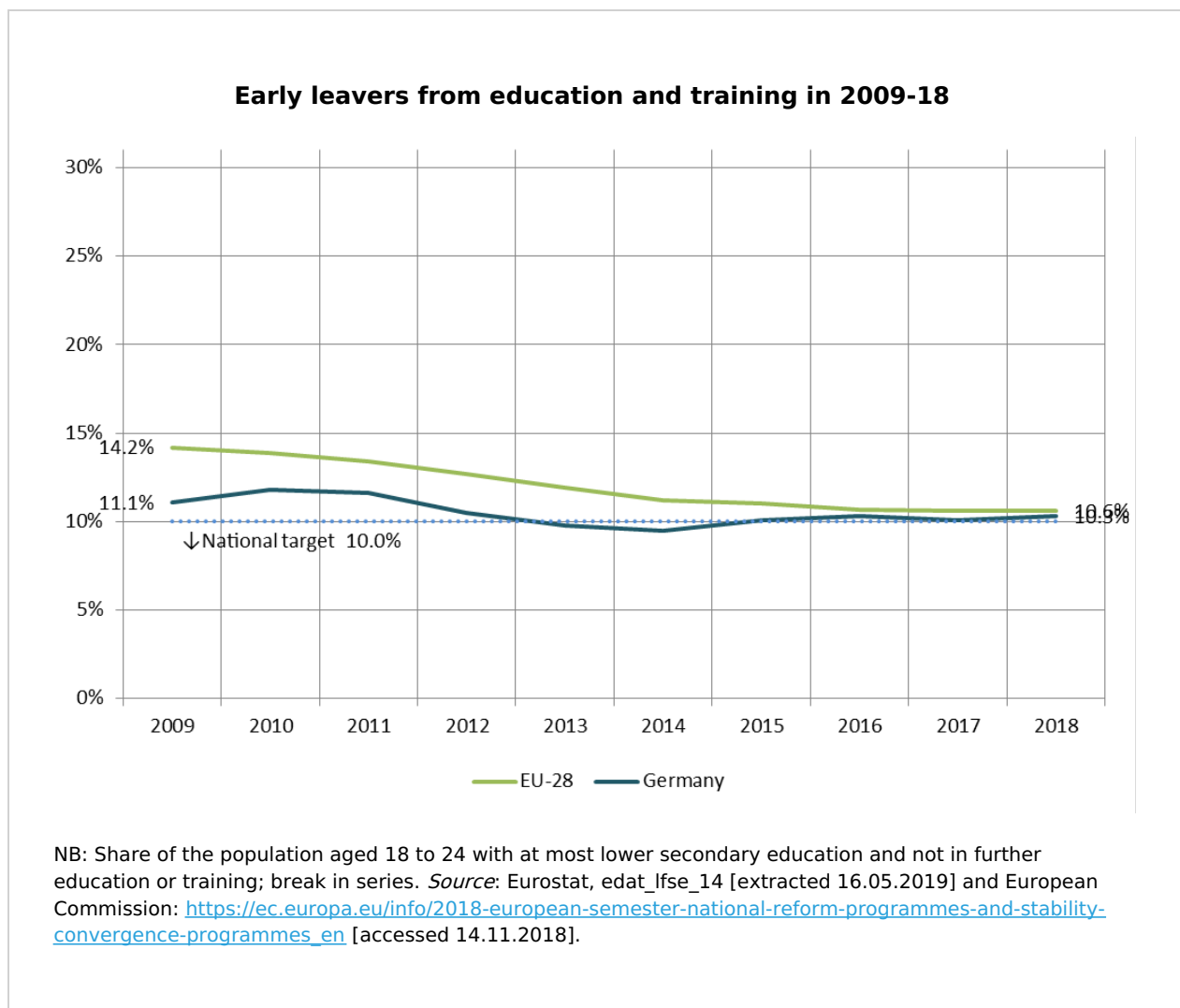
4.4 Female share

Young women and men continue to orient themselves very differently on the VET market in Germany. This applies not only to the training paths taken by girls and boys, but also to the training occupations they choose. For example, male youths are overrepresented in the dual VET system (over 60%), and female youths in full-time school-based training (75%), mostly in healthcare, education and social occupations.

In the apprenticeship programmes, the top five occupations for males are automotive mechatronics technician, electronics technician, IT specialist, plant and industrial mechanics. Among female apprentices, the top five occupations are office management assistant, medical assistant, dental nurse, retail saleswoman and saleswoman.

4.5 Early leavers from education and training

The share of early leavers from education and training has decreased from 11.1% in 2009 to 10.3% in 2018 and has reached almost the national target for 2020 of not more than 10%.

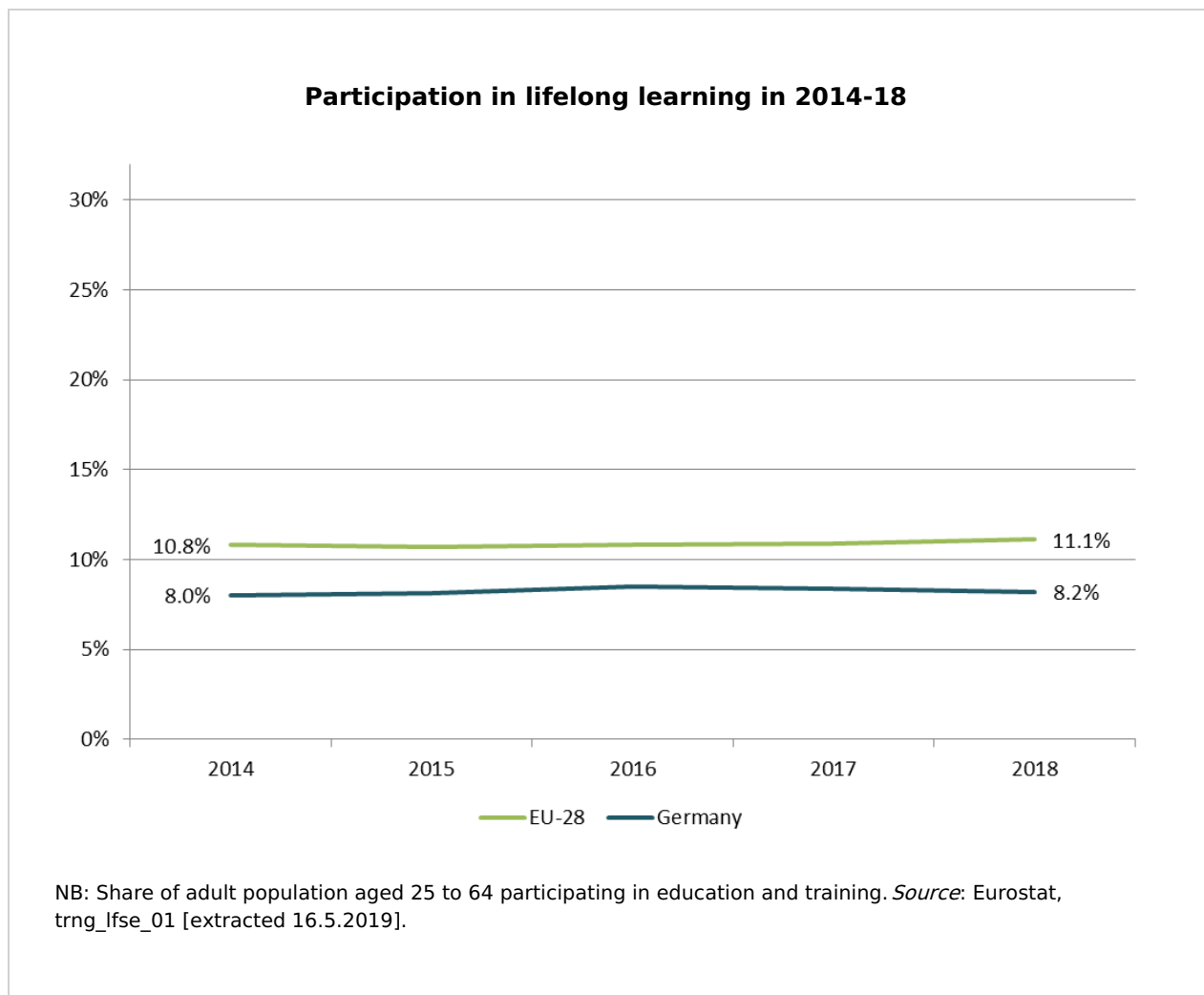


Specific support is offered targeting young people who need help to complete vocational training. Enrolment is voluntary and the support consists of special classes and accompanying socio-educational mentors to help apprentices overcome language and education deficits and acquire specialist theoretical knowledge during at least three hours a week. The law establishing this measure came into force in May 2015. In 2017, 36 000 young people were beneficiaries ([13]). This represented a share of 2.7% of all apprentices in 2017. It helps apprentices to avoid dropping out of training, stabilise training relationships and complete vocational training. Apprentices with difficulties can receive additional individual coaching by senior volunteers working for the Prevention of training dropouts initiative, VerA. The senior experts are retired professionals with broad experience in their respective field of work. ([14])

Specific measures are also targeting young people who need support earlier, i.e. to obtain a general school-leaving certificate and to make the transition from school to training: it includes career start coaching, introductory training, and preparatory VET. All these measures are part of the Educational chains programme, with a strong preventive approach ([15]).

4.6 Participation in lifelong learning

Lifelong learning offers training opportunities for adults, including early leavers from education.



Participation in lifelong learning in Germany slightly increased from 2014 to 2018 from 8.0% to 8.2%, but during those years was still below the EU-28 average (10.8% and 11.1% in 2014 and 2018, respectively).

The European benchmark includes non-formal and formal learning **in the last four weeks** before the survey (Labour force survey) among respondents aged 25 to 64. In the Adult education survey, respondents are asked about learning activities **during the last 12 months**. In this case, the participation rate in lifelong learning in Germany is much higher: 52% in 2016 (compared to an average of 45.1% in EU-28).

4.7 VET learners by age

Data as defined here are not available. However, **yearly cohort data of entrants** in dual vocational training (in accordance with the Vocational Training Act and the Crafts Code), entrants in school-based VET, entrants in pre-VET transitional area, entrants in grammar school and entrants in higher education are available in the integrated training reporting system (iABE) ([16]).

-
- [13] Actual expenditures 2017: EUR 97.1 million. Source: BMBF (2018). Berufsbildungsbericht 2018 [Report on vocational education and training 2018]. Bonn: BMBF, p. 121.
https://www.bmbf.de/upload_filestore/pub/Berufsbildungsbericht_2018.pdf

CHAPTER 5.

VET within education and training system

The education and training system comprises:

- primary education (ISCED level 1);
- lower secondary education (ISCED level 2);
- upper secondary education (ISCED level 3);
- post-secondary non-tertiary education (ISCED level 4 and 5);
- higher education (ISCED levels 6, 7 and 8).

Compulsory full-time education begins at the age of six and lasts nine years (or 10 years, depending on the Federal State). After that, young people who chose not to follow a full-time education programme can attend a (vocational) school for three years part-time, alongside their training in the company. Compulsory education is for all those aged 6 to 18.

Following four years of primary school for all, educational paths are divided in the subdivided school system, consisting of lower secondary programmes (until grade 9 or 10) and upper secondary programmes (until grade 12 or 13).

Germany is one of the European countries in which learning on the job is a traditional component of the education system: the apprenticeship programme (dual system, with two learning venues: 70% work-based and 30% school-based) is the main pillar of VET. About one in two secondary school graduates chooses a vocational path, mostly apprenticeship. Progression is possible through various regulated VET programmes provided at post-secondary and increasingly at tertiary level.

The German VET system comprises initial and continuing education; alongside school-based activity, work based learning (WBL) plays a major role in most of the programmes offered at secondary and tertiary levels. There are the following VET learning options, which all include WBL:

At upper secondary level:

- general vocational programmes with vocational orientation;
- school-based VET programmes;
- apprenticeship programmes (incl. WBL of ca. 75%);

At post-secondary level:

- specialised programmes;

At tertiary level:

- advanced vocational qualifications and exams at EQF level 5 (certified advisor in specific professional areas; technician), EQF 6 (master craftsman, specialist) and EQF 7 (management expert; vocational pedagogue, IT-Professional);
- technician, specialist and similar programmes;
- bachelor programmes;

- master programmes.

The apprenticeship programme at upper secondary level (EQF level 4) is the main pillar of VET and also attracts upper secondary graduates. Parallel to the apprenticeships are school-based VET programmes at upper secondary level (EQF levels 2 to 4), which differ in terms of access, length, types and levels of qualification they lead to. ([17])

The most important tool for assessing non-formal learning outcomes is admission to final examinations known as the *Externen-Prüfung* (examination for external candidates, i.e., those not involved in a formal vocational training programme) ([18]). Under this provision, people can be admitted to a final examination for a recognised occupation requiring formal training (training occupation) if they provide evidence that they have been employed in the relevant occupation for at least one and a half times as long as prescribed for the period of initial training.

At post-secondary level (EQF levels 4 and 5), specialised programmes building on secondary VET impart deeper occupational knowledge and lead to higher education entrance qualifications.

At tertiary level, there are the advanced vocational qualifications and exams. VET in Germany comprises three levels of advanced vocational qualifications (EQF levels 5 to 7). They differ regarding competence requirements and the related operational deployment in companies. Admission to level 7 qualifications requires level 6 qualifications; level 6 qualifications do not require level 5 qualification but can be acquired directly after IVET in the dual system and mostly work experience is necessary (master craftsperson, technician or specialist qualifications).

Unlike the training regulations for IVET in the dual system, these federally regulated advanced training regulations do not include a curriculum; however, they do define and describe examinations. Other features, which must be specified in the advanced training regulations, include (§ 53 para. 2 BBiG, § 42 para. 2 HwO):

- (a) designation of the advanced qualification;
- (b) the aim, contents and requirements of the examination;
- (c) admission requirements;
- (d) examination procedure.

Admission to an examination generally requires a completed course of vocational training and/or appropriate vocational experience. These regulations are laid down by the BMBF by agreement with the competent ministries and following consultation with the primary board (*Hauptausschuss*) of the BIBB. Advanced vocational training as a master craftsperson (*Meister*) entitles the holder to practice a craft trade independently, to employ and train apprentices, and opens up access to courses at craft academies, universities of applied sciences (UASs,

Fachhochschulen) as well as universities.

Data about this programme are not fully recorded in the ISCED-97 statistics for two reasons. First, the examinations do not generally require participation in a preparatory course. Second, even if a huge number of examinees were to participate in preparatory classes, these courses offered by the chambers are not seen as part of the education system. There is political pressure to remedy this lack of transparency in international statistics and to include all programmes that meet the ISCED-2011 level definition in the near future.

Advanced vocational programmes (ISCED 655; EQF 6) are offered at trade and technical schools, which are regulated according to the State law. Entrance requirements vary by subject area: an applicant normally needs a qualification in a recognised training occupation appropriate to the chosen subject, and relevant work experience of at least one year, or a qualification from a full-time vocational school and relevant work experience of at least five years. Advanced vocational

programmes can be followed as part-time or full-time programmes (the latter last between one and three years) and they lead to a State vocational qualification (e.g. educator; technician). Students adopt extensive responsibility and management functions at the workplace. Some trade and technical schools also provide programmes that lead to a formal entrance qualification for the universities of applied sciences. They exist for the following occupational fields: agriculture, design, technology, business and social care. They end with a final State examination under State law.

Dual programmes (EQF levels 6 and 7) combine two learning venues (the workplace and the education institution) and are offered by universities of applied sciences (UASs, *Fachhochschulen*), the dual university (*Duale Hochschulen*), universities of cooperative education (*Berufsakademien*) as well as some universities. Around a quarter of all UAS programmes are dual study programmes ([19]).

[18] Under Section 45 (2) of the Vocational Training Act (BBiG).

[19] Information based on: Hippach-Schneider, U.; Huismann, A. (2019). Vocational education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018. http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf p. 28 onwards

CHAPTER 6.

Apprenticeship

Apprenticeship scheme (dual system)

Dual VET, which is used as a synonym for apprenticeships in Germany, is still very attractive. Particularly owing to how it links learning and work, as well as schools and companies, the system appears to be a successful model for structuring the transition from school to working life. Dual VET is provided in 327 recognised training occupations ([20]). A final exam, conducted by the chambers, completes the apprenticeship. For this task, the chambers are authorised by the State and are officially acting as a public institution. Upon passing the final examination, apprentices receive a chamber certificate to document that training has been successfully completed. This certification of qualification is fully recognised and highly trusted among employers.

An apprenticeship in the dual system normally lasts three years ([21]). On average, young people take up VET at the age of 19.7 ([22]). Compulsory education must have been completed before starting VET. There are no further formal access requirements but companies select their apprentices and the majority of them hold either the intermediate secondary school leaving certificate (*mittlerer Schulabschluss*) or the lower secondary school leaving certificate (*Hauptschulabschluss*). However, the share of apprentices with a higher education entrance qualification has been rising as well: in 2016, almost one in three apprentices (28.7%) was a high-school graduate ([23]). This group followed successively both paths of education at upper secondary level: first the general, followed by the vocational qualification. Despite being classified as 'upper secondary', initial VET is also considered by high-school graduates as an alternative option to tertiary education.

Apprentices attend a vocational school for one or two days per week, where they are mainly taught theoretical and practical knowledge related to their occupation; they take classes on general subjects such as economics, social studies and foreign languages. A framework curriculum is drawn up for every recognised training occupation in accordance with the training regulations. The primary aim of training is to enable young people to acquire comprehensive vocational competence. After finishing the apprenticeship, they should be able to fulfil their duties as employees efficiently, effectively, innovatively, autonomously and in cooperation with others. The array of competences must be demonstrated in exams regulated by law (Vocational Training Act, BBiG). Final exams are geared to vocational practice, i.e., to the work requirements and processes of the occupation. Performance in general subjects is evaluated via school reports.

Apprenticeship places are offered in both enterprises and public institutions. Enterprises enter into a contract with apprentices, where they bear the costs of the in-company training and pay the trainee remuneration. This is regulated by collective agreement and increases with every year of training, averaging about a third of the starting pay for a trained skilled worker. The professional competences to be acquired through in-company training are specified in training regulations and included by the training enterprise in an individual training plan. The binding requirements of the training regulations guarantee a uniform national standard. However, SMEs are often unable to provide all the stipulated learning content: they may lack suitable training personnel, or, owing to their particular specialisation, may not cover all the training content themselves.

There are various ways to overcome these problems:

- inter-company vocational training centres (*überbetriebliche Berufsbildungsstätten, ÜBS*) designed to supplement in-company training: education institutions offer periods in these training centres, which are often sponsored by autonomous bodies in the relevant sectors of industry. Since 2016, digital transformation has been promoted in these training centres by funding the purchase of digital equipment as well as selected pilot projects on adaptation of teaching and learning processes ([24]);
- enterprises can form joint training structures (*Ausbildungsverbünde*). There are four traditional models for this:
 - lead enterprise with partners (*Leitbetrieb mit Partnerbetrieben*): one enterprise takes the lead and bears overall responsibility for training; however, parts of the training are conducted in various partner enterprises;
 - training to order (*Auftragsausbildung*): some training takes place outside the regular enterprise, perhaps in a nearby larger one with a training workshop, on the basis of an order and against reimbursement of costs;
 - training consortium (*Ausbildungskonsortium*): several SMEs sign a cooperation agreement and work together on equal footing. They take on apprentices and train them independently. If an enterprise cannot cover a specific area of content, the apprentice moves to another enterprise (rotation principle);
 - training association (*Ausbildungsverein*): enterprises establish an organisation which takes over administrative tasks such as contracting, while the enterprises conduct training. Association structures usually comprise a general meeting and an honorary committee. A statute regulates members' rights and obligations.

The repartition of apprentices according to the economic sector of occupation was as follows in 2016: 58.7% in trade and industry, 27.2% in craft sector, 8.3% in liberal professions, 2.8% in public sector, 2.5% in agriculture and 0.4% in housekeeping. There has been a fall in new apprenticeship contracts since 2008, the year of the financial crisis (with one exception, in 2011, when 569 379 new apprenticeship contracts were concluded). This downward trend stabilised between 2016 and 2017: 0.6% more apprenticeship contracts were signed in 2017 than in the previous year.

The apprenticeship market continues to be characterised by increasing matching problems. It is becoming more difficult each year to match companies' training supply (2017: 572 226) with young people's demand for training positions (2017: 603 510). This is particularly clear from the fact that vacant positions (2017: 48 937, 12.6% more than 2016 and highest value since 1995) as a proportion of provision has once again increased, from 7.7% to 8.6%. However, the share of unsuccessful applicants as a proportion of the officially identified demand for 2017 is still comparatively high but stable, at 13.3%. The skilled crafts and trades sector was particularly affected by a shortage of applicants. Many public policy measures are aiming to counteract these developments.

Types of school leaving qualification obtained differ among apprentices with newly concluded training contracts. As in the past years, the largest group in 2016 was those with the intermediate secondary school leaving certificate (*mittlerer Schulabschluss*), at 42.8% (215 976). Almost 30% (144 630) of those concluding a training contract, were in possession of a higher education entrance qualification (*Abitur*). About one in four (127 686 or 25.3%) had a lower secondary school leaving certificate (*Hauptschulabschluss*). The proportion of new trainees without a school leaving certificate was very low at 3.1% (15 876) ([25]).

For young people with a migration background, transition from general education to VET is often difficult and lengthy. The latest (2016) BA/BIBB survey among former dual VET applicants shows that one in four (26%) young people with a migration background registered with the federal employment agency (BA) had found a placement and had begun an in-company apprenticeship. In contrast, 42% of those without a migration background had started such an apprenticeship ([

The number of refugees applying for asylum, mostly since 2015, and applying for an apprenticeship placement (with registration at an employment agency) drastically increased from 10 253 in September 2016 to 26 428 in September 2017. It was almost 5% of all registered dual VET applicants.

Additional qualifications

Since the amendment of the Vocational Training Act in 2005 ([27]), there is the possibility of providing so-called ‘codified additional qualifications’ in the context of apprenticeship. This includes ‘additional vocational skills, knowledge and qualifications (...) to supplement or broaden vocational competence’ (BBiG 2005 Section 5 (2) No. 5), which are anchored in the training regulations and go beyond the training occupation profile. The training regulations are supplemented by these additional qualifications. In addition to these, which are linked to a training regulation, there are numerous additional qualifications. For the mechatronics engineers alone, there are almost 400 optional additional qualifications ([28]).

However, these additional qualifications are not so much aimed at broadening a qualification profile as part of that occupation profile, but rather at subject-related additions or specialisations. In this, they differ from the codified additional qualifications, which serve explicitly the extension of the training occupation profile. One of the focuses of these non-codified additional qualifications lies in international qualifications; these include foreign language courses, stays abroad and international management. About one third of apprentices in additional qualifications receive additional training in this area.

Additional qualifications allow for flexible shaping of in-company training with regard to the qualification requirements in the company. This enables companies to respond promptly to changing skills needs, which is becoming increasingly important due to developments in digitalisation. At the same time, it is an attractive opportunity for young people to upgrade their vocational qualifications. Additional qualifications listed in the *AusbildungsPlus* database ([29]) vary significantly in duration: it ranges from under 40 to over 1 000 hours for obtaining an additional qualification. Training companies and vocational schools primarily provide additional qualifications. Chambers of commerce and industry as well as the chambers of crafts and their training centres are among the major providers of additional qualifications.

Two important sources of information and data on the dual apprenticeship scheme in Germany are the yearly *Report on vocational education and training* ([30]) and the corresponding *Data report on VET* ([31]).

Learn more about apprenticeships in the national context from the European database on apprenticeship schemes by Cedefop: <http://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/apprenticeship-schemes/scheme-fiches>

[20] <https://www.bibb.de/en/65925.php>

[21] Some occupations only require two years and there are also regulations allowing a shorter training period for apprentices with an Abitur (the school leaving certificate allowing entry to higher education).

[24] <https://www.bibb.de/uebs-digitalisierung>

[27] https://www.gesetze-im-internet.de/bbig_2005/BBiG.pdf

[28] See AusbildungPlus database: <http://www.ausbildungsplus.de/webapp/suche?typ=zq&neuesuche=true> and Berufsbildungsgesetz 2005: https://www.gesetze-im-internet.de/bbig_2005/BBiG.pdf

- [29] <http://www.ausbildungplus.de/webapp/suche?typ=zq&neuesuche=true>
- [30] <https://www.bmbf.de/de/berufsbildungsbericht-2740.html>

CHAPTER 7.

VET governance

The Vocational Training Act ([32]) defines in detail, which institutions are in charge of organising, developing and monitoring VET in Germany.

The role of Federal government

VET is based on nationally recognised occupations and vocational training regulations, which guarantee a national standard. The federal government is responsible for designing the dual system training content for the occupations it has recognised. The nationally binding recognition of the training occupations ensures that the basic principles agreed with industry and the States are taken into account, and that training for a recognised occupation adheres to the regulations adopted by the federal government. The federal government's responsibilities are not limited to implementing joint agreements; it also takes independent measures to promote dual training. These measures include permanent support programmes as well as special funding programmes, which, for example, aim to create additional training positions in less popular regions. The federal government provides funding for special research projects to ensure VET is constantly updated. The Federal Ministry of Education and Research ([33]) is responsible for general VET policy issues. These include the Vocational Training Act ([34]), the annual VET report, the implementation of programmes to improve VET and the legal supervision and funding of the Federal Institute for VET ([35]).

Nationally, the Federal Institute for VET is the core institution for consensus building between all parties involved in VET. It conducts research on in-company training and provides services and advice to the federal government and VET providers. Its four-party main board advises the government on fundamental issues of in-company vocational training and is involved in setting standards and designing training regulations.

It is the task of the federal ministries responsible for each occupational field to recognise individual occupations requiring formal training. In most cases, this is the Federal Ministry of Economic Affairs and Energy ([36]). The approval of the education ministry is always required, so the ministry provides coordination and guidance for VET policy for all training occupations.

The role of State government

According to the Constitution, responsibility for school education lies with the State ministries of education and cultural affairs ([37]). Their ministers participate in a standing committee ([38]) to ensure a certain degree of uniformity and comparability, especially in school and higher education policies. The standing committee decisions are only recommendations, and only become legally binding when passed by the individual State parliaments. The States have vocational training committees, with equal representation of employers, employees and the highest State authorities. They advise the State governments on vocational training issues in schools and also contribute to designing schemes that support disadvantaged youths and provide opportunities for additional qualifications that require school-based training.

The role of social partners

The dual system is based on a close cooperation between employers, trade unions and the government. Social dialogue and codetermination are important for reforms to be accepted. The social partners – employers and trade unions – have considerable influence on the content and form of VET to ensure their requirements and interests are taken into account. Responsible

action by all participants – beyond each group's particular interests – is a precondition for the efficiency of the dual system. Their representatives are members of the Federal Institute for VET's main board, together with the federal and State governments and participate in their vocational training committees and those of the competent bodies.

Organising apprenticeship/dual training requires a complex but clear division of responsibilities. Employers and unions play a central role in initiatives for change, because the structure of vocational training must meet the demands of industry. If there is a need for change – such as in qualification requirements – representatives of the federal government, State governments, employers and trade unions agree on the basic principles. Such work on the training regulations and framework curricula is continuously coordinated among the partners.

The role of competent bodies

Along with the State and social partners, the so-called 'competent bodies' ([39]) play a crucial role in Germany. They include professional chambers as well as various federal and State authorities. Their tasks are ensuring the suitability of training centres; monitoring training in enterprises; advising enterprises, trainers and apprentices; establishing and maintaining lists of training contracts; organising the exam system and holding final exams. Each competent body has a tripartite vocational training committee whose members represent employers, trade unions and teachers. These committees must be informed and consulted on all important VET issues and decide on regulations for implementing VET.

As self-governing bodies, the chambers of industry and commerce, the chambers of crafts and the appropriate professional boards for the liberal professions have all been assigned public tasks as 'competent bodies' in dual training (see above). Training advisers from the chambers verify the capacity of companies and ability of trainers to train and advise both companies and apprentices. They receive training contracts, check, register, and monitor them, and provide counselling services. The chambers also oversee the overall organisation of exams by fixing dates and establishing exam boards ([40]).

[32] BBiG: https://www.bibb.de/dokumente/pdf/bmbf_berufsbildungsreformgesetz_en.pdf

[33] Bundesministerium für Bildung und Forschung (BMBF).

[34] Berufsbildungsgesetz (BBiG).

[35] Bundesinstitut für Berufsbildung (BIBB).

[36] Bundesministerium für Wirtschaft und Energie (BMWi).

[37] Landesministerien für Bildung, Wissenschaft und Kultur.

[38] Kultusministerkonferenz (KMK).

[39] Zuständige Stellen.

[40] This section is based on: Hippach-Schneider, U.; Huismann, A. (2019). Vocational education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018.
http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf

CHAPTER 8.

VET financing mechanisms

In Germany, initial and continuing VET is based on mixed financing by various public and private bodies. These include the Federal Ministry of Education and Research ([41]), Federal Ministry of Economic Affairs and Energy ([42]), the Federal Ministry of Labour and Social Affairs ([43]), the Federal Employment Agency ([44]), the States and their ministries of employment, economic, education or cultural affairs, the European Union, local authorities, companies, unions, chambers, associations, private institutions and individuals themselves. In this respect, financing for initial VET and continuing general and vocational education differs quite substantially from the schools and universities sector, which benefits from relatively comprehensive public funding.

Funding of IVET

In the dual system, in-company training is usually financed by the individual enterprise: an enterprise decides whether or not it will offer training and in which occupations. It decides how many apprentices it will take on, and how much it wants to spend on training in general. Enterprises enter into a contract with apprentices and pay them remuneration. This is regulated by collective agreement and increases with every year of training, averaging about a third of the starting pay for a trained skilled worker. Average apprentice remuneration across Germany for 2017 was EUR 876 gross per month ([45]).

According to the most recent calculations by the Federal Institute for VET ([46]), based on a representative study for the apprenticeship year 2012-13, the gross costs (apprenticeship costs without returns) were around EUR 25.6 billion. Companies' net costs for apprenticeship were around EUR 7.7 billion, meaning gross and net costs have somewhat increased (by approximately EUR 2 billion each) since the last study based on 2007 data. A new representative study is under way for the apprenticeship year 2017/18, with first results to be expected end of 2019 ([47]). Employers invest on average EUR 18 000 per apprentice per year (62% for remuneration and social benefits for apprentices; 23% for salaries of trainers; 10% other costs and 5% equipment). Companies also have benefits in providing apprenticeship, and estimate that 70% of investment is refinanced by the productive contribution of apprentices during training.

Small and medium-size enterprises, in particular skilled crafts companies, are important training suppliers. It might happen that they are unable, or not fully able, to provide all the facets of training required by regulations. This is primarily due to the increasing division of labour in working processes, increasing specialisation or accelerated technological change. The limited suitability of such enterprises as training providers is compensated by supplementary external training measures in inter-company vocational training centres ([48]) or through training structures ([49]). Inter-company vocational training centres are operated mainly by public law bodies (municipalities, chambers and guilds) or non-profit private law bodies (trade associations). There is mixed financing, with subsidies from the federal employment agency, the federal government (capital grants from the education ministry) and the States added to the resources of the responsible body. Guidelines for funding inter-company vocational training centres and their development into competence centres entered into force in 2009. These guidelines ensure greater legal security and transparency for applicants as well as greater flexibility in funding. They also extend training centres' scope of action. Funding is offered for the modernising and restructuring of inter-company training centres to adapt them to changing education and training policy and economic conditions, as well as the challenge of digitalisation.

The school-based element of dual vocational training is financed by State and local authority

public funds: EUR 3 billion in 2017 for 1 550 public vocational schools providing part-time VET for apprentices ([50]) and EUR 1.85 billion for steering, monitoring and other support measures. The States bear the costs of internal school affairs (supervision of schools, laying down of curricula, teacher training, teachers' pay), and the local authorities are responsible for financing external school affairs (construction, maintenance and renovation of school buildings, management, procurement of teaching and learning resources). The total public expenditures for dual VET amount to approximately EUR 4.85 billion compared to EUR 7.7 billion net costs of dual VET for companies.

Training in full-time vocational schools outside the dual system (public funding in 2017: EUR 5.4 billion ([51]) and special measures to promote VET, such as support programmes (often partly financed by ESF funds) to create additional training places for specific target groups or in less popular regions, are financed from the Federal or State budgets ([52]). The federal government also provides funding for special research projects to ensure that VET is constantly updated (for more details on public IVET expenditures ([53]) and on the funding structures of IVET in the dual system ([54])). The VET-related expenditure of the federal employment agency applies to both pre-VET and IVET (i.e. grants for young people). The data do not include the amounts spent on promoting the transition from IVET to the labour market, since these are classified as employment policy measures.

Funding of continuing VET

Enterprises, the State, the federal employment agency and private individuals themselves are involved in financing continuing VET. Federal, State and local authorities make funding available from their budgets primarily for continuing VET for public sector employees.

Most expenditure is related to continuing company- or job-related training. However, some spending on general, political, cultural and academic research education and training is also included, since such areas cannot always be clearly separated. The federal government contributes to financing continuing training via funding programmes from various ministries. The Federal States participate in financing continuing training in a similar fashion. Acting together with local government, and in some case municipal associations, the Federal States continue to finance adult education centres ([55]), teacher training institutes and other continuing training institutes ([56]).

The Continuing vocational training surveys (CVTS) provide data on enterprise expenditure on continuing vocational training courses for their employees. Initial results from the fifth survey (in 2015) offer insight into the costs of continuing education courses in Germany: direct course costs (payments to external training providers, personnel costs for internal training staff, travel expenses, costs for rooms and equipment) and personnel absence costs for participants in training courses. In 2015, companies invested EUR 683 per employee in continuing education courses. Of this, EUR 361 was for direct costs and EUR 322 for personnel absence costs of continuing VET participants. Compared to 2010, this is an increase of EUR 66 for the total costs, EUR 44 for direct costs and EUR 22 for personnel absence costs. On a percentage basis, this represents an increase between 7% and 14%. The total cost per participant was EUR 1 793 (direct costs EUR 947, personnel absence costs EUR 846). Here too, between 2010 and 2015, there was an increase in course costs of 11 to 18% ([57]) ([58]).

[41] Bundesministerium für Bildung und Forschung (BMBF).

[42] Bundesministerium für Wirtschaft und Energie (BMWi).

[43] BMAS

[44] BA

[46] Bundesinstitut für Berufsbildung (BIBB).

- [48] Überbetriebliche Berufsbildungsstätten (ÜBSs) and in the skilled trade sector (ÜLUs).
- [49] Ausbildungsverbünde.
- [52] Specific information on all public funding activities is available on <http://www.foerderdatenbank.de/>
- [53] See Table concerning public expenditure on IVET (BIBB, 2018, p. 278).
- [54] See Annex 1, Figures 5 and 6.
- [55] Volkshochschulen (VHSs).
- [56] See table concerning public expenditure on CVET in BIBB (2018, p. 404).
- [58] This section is based on: Hippach-Schneider, U.; Huismann, A. (2019). Vocational education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018. http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf

CHAPTER 9.

Teachers and trainers

9.1 VET teacher types

Germany differentiates between teachers and trainers in IVET and in continuing VET. The focus of the following information is on teachers and trainers in the dual system, but it also provides a brief description of teachers in full-time vocational schools and on continuing VET teachers and trainers ([59]).

Teachers and trainers in IVET

In the dual system, there are:

- VET school teachers
 - vocational school teachers
 - practical work teachers ([60])
- in-company trainers

VET school teachers teach theoretical knowledge (general and occupation-related).

General subjects teachers (including those teaching at vocational schools) must have a university degree at the master level (EQF level 7), and for occupation-related subjects, there are special teachers for vocational practice.

Vocational school teachers are trained under the jurisdiction of the Federal States. Their training has a two-phase structure: first a course of studies at a university, then the preparatory practical service, also called the probationary period ([61]). The process is regulated by a framework agreement adopted by the Conference of Ministers of Education and Cultural Affairs ([62]) in 1995 and amended in 2013: the Framework agreement on the training and examination for teaching at the Secondary Level II (vocational subjects) or for vocational schools.

In-company trainers are in charge of training the apprentice at the workplace according to the training regulation for the specific occupation and the individual training plan. According to the Vocational Training Act ([63]), only in-company trainers who possess pedagogical and professional aptitude are eligible to train, meaning that they have special competences. The aptitude of the training staff is guaranteed by the competent chamber that registers them (e.g. chambers of industry and commerce, chambers of skilled crafts). These competent bodies are responsible for adopting examination regulations and setting up examination boards to conduct aptitude examinations for trainers, according to the Trainer Aptitude Regulation ([64]). To support in-company trainers in the acquisition of pedagogical and technical/professional competence, the chambers and other education providers offer different types of course. The Federal Institute for VET recommends taking a 115-hour course to prepare for the Trainer Aptitude Regulation examination.

Types of teacher and trainer in IVET

Type of training	Type of staff
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Dual system of training	Trainers (instructors) or master craftspersons within companies (certified educators/trainers in professional education, certified educators/trainers in initial and continuing vocational education, including VET managers in large companies). VET teachers in vocational schools, two categories: 1. university-trained teachers for job-related theory and general education subjects; 2. <i>Werklehrer</i> (master craftspersons or technicians with additional further training) imparting practical skills. Instructors and trainers within inter-company VET centres (ÜBS).
Special VET for disabled persons leading to dual system diplomas	VET teachers/trainers within private institutions
Full-time vocational schools	VET teachers in vocational schools (see above)
Learning facilitators	Youth workers in training schemes for the disadvantaged, training counsellors in the chambers, vocational guidance counsellors employed by the federal employment agencies, etc.

Source: compiled by ReferNet Germany.

The majority of initial VET trainers are skilled workers, journeymen or forepersons. They engage in training part-time directly at the workplace. However, any company carrying out apprenticeship training has at least one employee who is the designated (full-time) trainer and has proven his aptitude to take over this task by successfully passing the examination according to the Trainer Aptitude Regulation. Most full-time trainers also hold an advanced qualification certificate as master craftsperson. In-company trainers have an important role in helping the apprentices to develop a professional identity and occupational profile together with a strong identification with their company. In small enterprises, the trainer is a crucial role model for the following generation of employees.

Teachers and trainers in non-formal continuing VET

There is a wide variety of professionals acting as teachers or trainers in non-formal continuing VET; there is no common standard for what constitutes a continuing VET teacher or trainer. Their formal qualifications vary widely as does their occupational status, from retired or unemployed to qualified employees in training institutions. If formal advanced vocational training takes place in public sector establishments (such as trade and technical schools, colleges), the training, employment and activities of the teaching staff are based on criteria laid down in the relevant State legislation for teaching staff ([65]).

9.2 Continuing professional development of teachers/trainers

The conditions for continuing professional development (CPD) are determined by the Education Act (*Schulgesetz*) of the relevant State (*Bundesland*) and therefore might differ among the single States. However, it can generally be stated that teachers are obliged to follow continuing training to maintain and further develop their skills and competences.

Teachers can organise on their own relevant training offered by one of various training providers; for this, however, they need the approval of their employer. CPD can be organised and offered by the employer and be mandatory for the teaching staff.

CPD can take place during school holidays as well as during the school year. If continuing training takes place during teaching time, the approval of the teacher's training request depends on the possibility of finding a substitute, or that the lessons which will not take place due to the foreseen training will take place before or afterwards at an alternative time.

Schools receive a certain amount of money every year from the State for teacher CPD. Teachers might supplement this with their own money.

From the non-formal perspective, there is a variety of opportunities for continuing education and training. For example, regular updating of specialist knowledge and skills is necessary, particularly in the technical-commercial and the trades and crafts occupations. Media literacy, for example, is of high importance. Being able to handle confidently the new media (multimedia applications and the internet) is a prerequisite, especially for training staff. Various education providers offer training on this topic, targeted primarily at trainers ([66]); continuing training for trainers is usually organised by the company itself. If a company has a need for further qualification of their training staff, the necessary courses can be provided in or outside the company. Large companies usually have their own personnel development and training units, training rooms and particular teachers and trainers for the training of their staff. But small and medium-sized enterprises also support their trainers in acquiring additional qualifications by offering participation in further training courses organised by chambers or education providers ([67]).

Chambers and other education providers offer different types of course providing theoretical and practical knowledge ([68]) to support VET trainers in the acquisition of pedagogical and technical/professional competence, particularly for the trainer aptitude examination ([69]). The courses can be differentiated between attendance, distance learning and a mix of attendance and self-directed learning.

Further information is available in the Cedefop ReferNet thematic perspective on teachers and trainers ([70]).

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- [59] See also: Hensen, K.A.; Hippach-Schneider, U. (2016). Supporting teachers and trainers for successful reforms and quality of vocational education and training: mapping their professional development in the EU – Germany. Cedefop ReferNet thematic perspectives series. https://cumulus.cedefop.europa.eu/files/vetelib/2016/ReferNet_DE_TT.pdf
- [60] Werklehrer.
- [61] Referendariat.
- [62] Kultusministerkonferenz (KMK).
- [63] Berufsbildungsgesetz (BBiG), 2005 https://www.gesetze-im-internet.de/bbig_2005/BBiG.pdf
- [64] Ausbilder-Eignungsverordnung (AEVO), last amended in 2009. https://www.gesetze-im-internet.de/ausbeignv_2009/AusbEignV_2009.pdf
- [65] This section is based on: Hippach-Schneider, U.; Huismann, A. (2019). Vocational education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018. http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf
- [67] This section is based on: Cedefop; ReferNet (2016). Supporting teachers and trainers for successful reforms and quality of VET – Germany. https://cumulus.cedefop.europa.eu/files/vetelib/2016/ReferNet_DE_TT.pdf
- [68] Especially skilled workers, journeymen, foremen acting as trainers.

- [69] AEVO, Ausbildereignungsprüfung.
- [70] <http://www.cedefop.europa.eu/en/publications-and-resources/country-reports/teachers-and-trainers>

CHAPTER 10.

Shaping VET qualifications

10.1 Anticipating skill needs

Systematic recording and research into future skills needs was initiated in the 1999 resolutions by the Alliance for Jobs, Training and Competitiveness ([71]); it was implemented within the subsequent initiative for early identification of skills needs launched by the education ministry ([72]). The most important resource is the research network FreQueNz ([73]). This includes several research institutions, an education organisation, the Federal Institute for VET ([74]), the Trade Union Confederation ([75]) and the Employers' Organisation for Vocational Training ([76]).

The Federal Institute for VET monitors new skills requirements using the following different main approaches:

- qualification and occupational fields projections ([77]): in cooperation with the Institute for Employment Research ([78]), forecasting model calculations on labour market developments by 2025 are set up. Longer-term developments in occupational fields and qualifications can now be displayed in a more differentiated manner. Projections include areas where a considerable shortage of skilled workers may occur and in which skills levels are at risk of being affected by unemployment ([79]). This makes it possible to take necessary action at an early stage to improve the match between supply and demand in the labour market ([80]);
- company surveys help to build a comprehensive picture of technological and organisational developments and the associated skills requirements. Such surveys are conducted once or twice a year among the companies represented on the Federal Institute for VET panel. Known as the reference company system ([81]), these are more than 2 000 training and non-training firms which vary in size, sector, legal form, length of time in operation and main occupations. There are also surveys in selected sectors geared towards particular fields of work to receive reliable information on the requirements in individual occupations ([82]);
- the VET 4.0 initiative *Effects of digital innovation on vocational training* ([83]) was launched in 2016 by the education ministry and the Federal Institute for VET. It includes various projects, such as the research initiative *Skills, qualifications and competences for the digitised work of tomorrow*;
- job advertisement analyses yield empirically verified information on the demand for skilled workers on the job market and the qualification profiles desired by companies ([84]);
- advertiser surveys determine whether vacancies have been filled and, if not, why not ([85]);
- surveys of guidance staff generate expertise on in-company strategies for change and skills development ([86]);
- regular surveys of continuing education providers gather data on the implementation, reception and modifications to courses, along with experience and assessments of trends in training establishments;
- structural and longitudinal studies of continuing VET courses listed in the KURSNET

database ([87]) yield information on changes and trends in provision.

These research activities focus on changes in existing fields of work or the emergence of new fields, and the accompanying development in qualification requirements, including the factors which influence these. In addition to quantitative assessment, the Federal Institute for VET qualification development also identifies qualitative trends. The education ministry also supports the development of a 'labour market barometer' ([88]), a future-oriented labour market monitoring system ([89]). The States and several regions pursue individual early identification activities (including regional monitoring of qualification developments, and skill needs surveys). Social partners are also involved in early identification, mainly in the context of modernising initial and further training regulations. All these activities help ensure that VET adapts to and meets qualification needs. Investigations into skill needs and qualification development are also carried out by:

- sector-specific associations, such as the Association of Engineers and the German Association of Information Technology, Telecommunications and New Media (BitKom);
- the Institute for Employment Research ([90]);
- several foundations, such as the Hans-Böckler Foundation ([91]), Friedrich-Ebert Foundation ([92]), Konrad-Adenauer Foundation ([93]) and the Bertelsmann Foundation ([94]);
- other stakeholders ([95]).

See also Cedefop's skills forecast ([96]) and European skills index ([97])

10.2 Designing qualifications

Designing qualifications

This section describes the shaping of qualifications in the dual VET system (apprenticeship), which is the predominant form of initial VET in Germany (70% workplace training and 30% of participation in full-time school-based VET). Key elements of dual VET are training occupations ([98]) and the corresponding regulations. These form the basis for in-company training and are complemented by the respective framework curricula from the school-based part of apprenticeships. They comprise VET standards, occupational characteristics, a two- or three-year training plan and examination regulations. In-company training for young people under 18 is only permitted in recognised training occupations. The Vocational Training Act defines the requirements that these training occupations must meet, ensuring binding quality standards and the protection of minors ([99]). Since it is a federal government responsibility to decide on these training occupations, they are called 'State-recognised training occupations'.

Another central feature of the VET system is the close partnership between employers, trade unions and the government. The employers and the unions assume responsibility through their codetermination in shaping VET. Without this codetermination, social partners would be unwilling to take responsibility. This connection forms the basis of a working 'public-private partnership' (PPP).

Developing standards

Training regulations are issued for recognised training occupations by the relevant ministry, usually the Federal Ministry for Economic Affairs and Energy ([100]), in agreement with the Federal Ministry of Education and Research ([101]). These form the legal framework and contain minimum standards for the in-company part of initial training for individual occupations ([102]).

The development of new training regulations and framework curricula (or the adaptation of

existing ones to meet changing vocational practices) follows a standardised procedure, involving the federal government, State governments, employers, trade unions and vocational education researchers ([103]).

The Vocational Training Act ([104]) stipulates that training regulations shall specify:

- the name of the training occupation;
- the duration of training, which shall not be less than two years and not more than three;
- the training occupation profile, i.e., what a learner is expected to know, understand and be in a position to do;
- the framework training curriculum, a guide to structuring the learning process in terms of time and content;
- the exam requirements.

These key points, also referred to as ‘benchmarks’, form the basis for a proposed revision or development of a new occupation. Once a proposal has been submitted to the relevant ministry, training regulations are drawn up in three steps.

Defining the ‘benchmarks’:

These are set in a meeting (‘an application interview’) at the relevant ministry (in most cases the Ministry for Economic Affairs and Energy) ([105]) in which the social partners and the federal and State governments participate;

Elaboration and coordination:

Training regulations for the enterprises and framework curricula for vocational schools are prepared and coordinated. Social partner umbrella associations are asked to designate experts to design the training occupation together with the Federal Institute for VET ([106]). The work on the training regulation framework curricula is coordinated with the work on the corresponding framework curricula for vocational schools drawn up by State representatives to ensure they complement each other ([107]);

Adoption of the regulation:

The relevant Federal/State coordinating committee ([108]) approves the new training regulation and the school framework curriculum. The committee comprises representatives from the State ministries responsible for VET, the education ministry and the ministries responsible for the respective training regulations, usually the Ministry for Economic Affairs and Energy ([109]). The training regulations generally offer enough flexibility to adapt to new technologies and to meet changing demands on training companies, because they are formulated in a broad sense, also with regard to digitalisation.

Between 2008 and 2017, new regulations were drafted for 126 training occupations; 114 of these were updates, 12 were newly introduced ([110]).

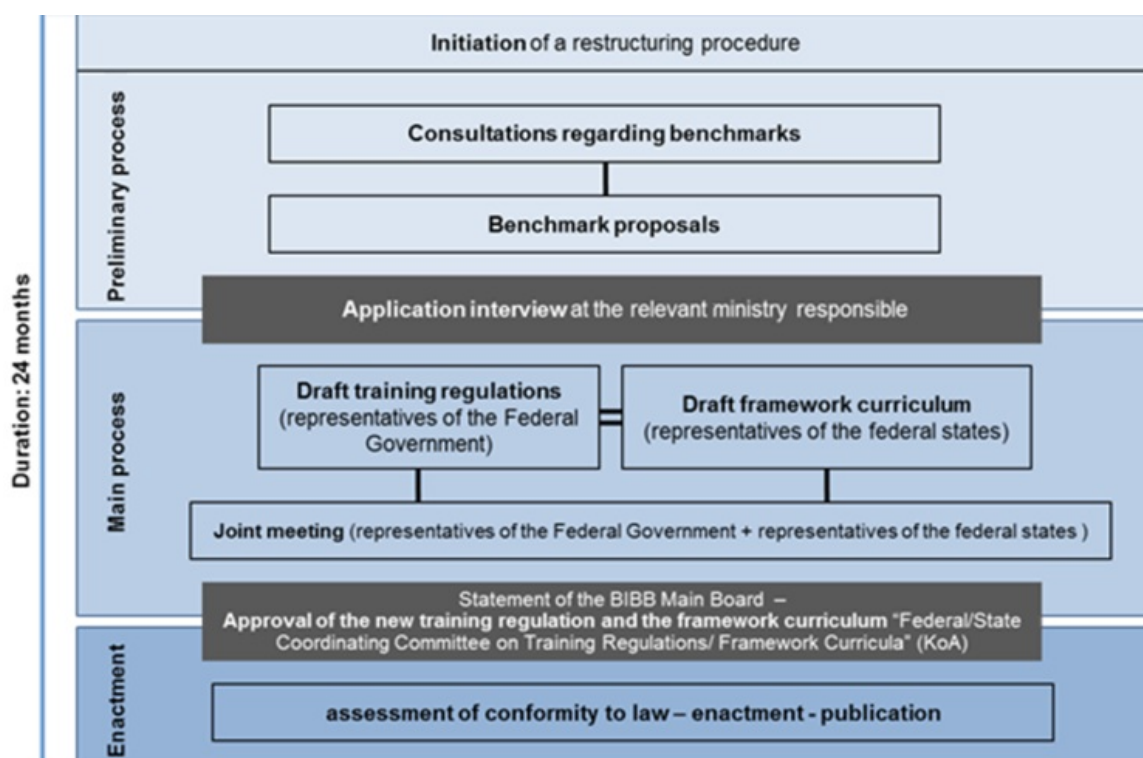
Shared responsibilities

Cooperation based on mutual trust is essential between government and social partners. Employers and trade unions jointly formulate the requirements for the occupational standards. All cooperation related to VET is based on consensus; no regulations concerning initial or further VET may be issued against the declared will of either of the social partners. As a rule, the initiative to update the content or structure of a training occupation, or to develop an entirely new occupation, comes from industry associations: from top-level employer organisations, from trade unions or the Federal Institute for VET. After hearing the views of all parties involved, the responsible Federal ministry decides whether to proceed in consultation with the State governments, since they are responsible for the school regulations and curricula (school-based

part of apprenticeships). In many cases, the Federal Institute for VET issues an opinion or, particularly when larger scale revisions are being considered, conducts research before the ministry takes its decision. The Federal Institute for VET provides the platform for this process and also coordinates and moderates it.

The competent federal ministry ([111]) commissions the Federal Institute for VET to draw up the new training regulation involving the social partners and the State governments. The Federal and State governments have agreed to limit the duration of the development process to around a year. The date when the new regulation is supposed to enter into force is normally set in the meeting that starts the process ('application interview'). Development of the training regulation content and the design of the corresponding framework curriculum for the school-based part of the programme occur in parallel. The latter is the task of the States, with one of them taking the lead. The content development phase is followed by a joint meeting between the federal and State governments. This meeting ensures correlation between the two curricula. The agreed draft training regulation is subsequently submitted to the board of the Federal Institute for VET, which then formally recommends the federal government to enact the training regulation ([112]).

Procedure for updating of training regulations



Source: Author's illustration following Barbara Lorig et al. in: bwp, No 20, June 2011.
http://www.bwpat.de/ausgabe20/lorig_etal_bwpat20.pdf [accessed: 19.9.2018].

- [72] Bundesministerium für Bildung und Forschung (BMBF).
- [73] <http://www.frequenz.net/> [accessed 19.9.2018].
- [74] Bundesinstitut für Berufsbildung (BIBB).
- [75] Deutscher Gewerkschaftsbund (DGB).
- [76] Kuratorium der deutschen Wirtschaft für Berufsbildung (KWB).
- [77] Qualifikation und Beruf (QuBe).
- [78] Institut für Arbeitsmarkt und Berufsforschung (IAB).
- [79] https://www.bibb.de/en/qube_datenportal.php [accessed 19.9.2018].
- [80] <https://kooperationen.zew.de/dfgflex/links/datensaetze-deutschland/bibbiab-erhebungen.html> [accessed 19.9.2018].
- [81] Referenz-Betriebs-System (RBS).
- [82] <https://www.bibb.de/de/12471.php>
- [83] <https://www.bibb.de/en/49603.php>
- [84] <https://www.bibb.de/arbeit-im-wandel>
- [85] <https://www.bibb.de/arbeit-im-wandel>
- [86] <https://www.destatis.de/DE/Startseite.html> and <https://expertenmonitor.bibb.de/index.php>
- [87] <https://kursnet-finden.arbeitsagentur.de/kurs/>
- [88] Arbeitsmarktbarometer.
- [89] <https://www.iab.de/de/daten/arbeitsmarktbarometer>
- [90] <https://www.iab.de/de/befragungen.aspx> ; <https://www.vdi.de/presse/publikationen/> ; https://www.bitkom.org/de/markt_statistik/806.aspx .
- [91] <https://www.boeckler.de/index.htm>
- [92] <https://www.fes.de/>
- [93] <https://www.kas.de/>
- [94] <https://www.bertelsmann-stiftung.de/cps/rde/xchg/bst>
- [96] <http://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/skills-forecast>
- [97] <https://skillspanorama.cedefop.europa.eu/en/indicators/european-skills-index>
- [98] Ausbildungsberufe.
- [100] BMWi
- [101] BMBF
- [104] BBiG
- [105] Bundesministerium für Wirtschaft und Energie (BMWi).
- [106] Bundesinstitut für Berufsbildung (BIBB).
- [108] Der “Bund-Länder-Koordinierungsausschuss Ausbildungsordnungen/Rahmenlehrpläne” (KoA).
- [111] Usually the Federal Ministry of Economic Affairs (BMWi).
- [112] This section is based on: Hippach-Schneider, U.; Huismann, A. (2019). Vocational

education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018.

http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf

CHAPTER 11.

Quality assurance

Three overarching principles are significant for understanding quality assurance in VET. These are the dual principle, the occupation principle ([113]), and the principle of consensus:

- the dual principle combines learning in the work process with learning at a vocational school, and at the same time facilitates the acquisition of occupational experience;
- the occupation principle is based on certification, which is binding and recognised across the country. It affords the opportunity to exercise a multitude of occupational activities;
- the principle of consensus guarantees proximity to the labour market as well as transparency and acceptance of training occupations via the involvement of the social partners, the Federal Government and the federal States in the development of national training standards.

Laws, ordinances and recommendations stipulate nationally-binding minimum standards for company-based training ([114]).

Important instruments of quality assurance in VET are highlighted below:

- national standards based on the VET law,
- monitoring of initial and continuing VET learning, and
- the referencing of the German qualification framework (DQR) to the EQF, allowing more transparency and comparability of qualifications within the EU.

VET law as basis for quality assurance

The VET Act ([115]) and the Crafts Code ([116]) describe the required standards for training facilities and trainers, training regulations and examinations. Training regulations are revised every few years to keep pace with rapid technological and organisational change ([117]). The framework curriculum required for the school section of dual education and training is regularly revised by the Standing Conference of the Ministers of Education and Cultural Affairs ([118]). Compliance with quality assurance requirements by initial VET providers is monitored by the local school authorities. Quality assurance approaches are based on quality frameworks, education standards, centralised exams, monitoring and benchmarking exercises and school inspection. In some cases, for example *Baden-Württemberg Landesinstitut für Schulentwicklung*, specialised agencies for quality development are in charge of supervising the vocational schools.

As company-based VET is a core part of the German dual system, employers are important stakeholders in quality assurance in initial VET ([119]). The Federal Association of German Employer Associations (BDA) has a key role in VET policy, including developing training regulations and setting minimum standards for company-based initial VET. The local chambers of industry and commerce and chambers of crafts and trades usually monitor regulations on training facilities and trainers.

Monitoring and data for evidence-based VET policy

The education ministry publishes an annual report on VET, providing a wealth of information and analysis on various aspects of its development. It is accompanied by the Federal Institute for VET data report which brings together data from different sources (own data, data from federal statistical office, statistical offices of the States, federal labour agency, Institute for Employment Research) on training entrants and on the outcomes of training (such as share of employed

learners, occupation obtained after training). The report sets the basis for policy decisions on VET, including programme funding. Several other projects also inform VET provision:

- the federal employment office and the Federal Institute for VET conduct regular surveys with school leavers and job applicants in order to research transitions to VET;
- the Federal Institute for VET carries out a *Transition Study* ([120]);
- every two years, the national education report analyses developments of the education system, including VET;
- the German education panel study (NEPS) investigates education returns, competence development during lifelong learning, and transitions from VET to the labour market.

Quality assurance in continuous VET

Quality assurance is mandatory for continuous VET providers receiving public funding. Accreditation of continuous VET providers and programmes is done by private certification bodies according to criteria set out in the ordinance regulating accreditation and certification in continuing training. The Federal Ministry of Education and Research (BMBF) funds regular checks of continuous VET providers through an independent foundation ([121]) and has prepared a quality checklist ([122]) to help find a continuous VET offer and provider of good quality. The Federal Institute for VET, together with the German Institute for Adult Education ([123]), operates the online platform *wbmonitor* ([124]) which is dedicated to supporting continuous VET in Germany. It conducts a yearly survey of public and private continuous VET providers and monitored developments in the labour market ([125]).

[113] Berufsprinzip.

[115] Berufsbildungsgesetz (BBiG): https://www.gesetze-im-internet.de/bbig_2005/

[116] Handwerksordnung (HWO): <https://www.gesetze-im-internet.de/hwo/BjNR014110953.html>

[117] In the period from 2007 to 2017, 135 occupations (more than a third of all 327 recognised occupations) were modernised, while 16 occupations have been created.

[118] Kultusministerkonferenz (KMK).

[120] Last BIBB transition study in 2011: <https://www.bibb.de/de/9039.php>

[121] <https://www.test.de/thema/weiterbildungsberatung/>

[122] <https://www.bibb.de/veroeffentlichungen/en/publication/show/8596>

[123] Deutsches Institut für Erwachsenenbildung (DIE).

[124] <https://wbmonitor.bibb.de>

[125] This section is based on: Hippach-Schneider, U.; Huismann, A. (2019). Vocational education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018. http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf

CHAPTER 12.

Validation of prior learning

Validation of non-formal learning: external candidate final exams

The most important tool for assessing non-formal learning outcomes is admission to final vocational examinations under Section 45 (2) of the Vocational Training Act (*BBiG*), known as the *Externen-Prüfung* (examination for external candidates, i.e., those not involved in a formal vocational training programme). Under this provision, people can be admitted to a final examination for a recognised occupation requiring formal training (training occupation) if they provide evidence that they have been employed in the relevant occupation for a period that is equal to or longer than one and a half times the initial training.

Credit can be obtained for a higher level of general education attainment, such as the entrance qualification for specialised upper secondary school ([126]), which shortens the period of employment for which evidence must be produced. A previous relevant initial VET programme in a different training occupation can also be credited towards the required periods of employment.

In 2016, 5.9% of all final examinations for a recognised occupation were external examinations, almost identical with the previous year. There is, however, considerable variation in the proportions of external examinations between individual fields. Housekeeping is the area where external examinations are most significant for acquiring a vocational qualification, with just below 45.1% of candidates in the reporting year taking external examinations. In contrast, external examinations are virtually irrelevant for craft trades and liberal occupations, at 1.2% and 1.3%. Between these two extremes, other figures include 4% in the public sector, 7.4% in trade and industry and 11.9% in agriculture (BIBB 2018, p 164).

Project to set up a validation system

The ValiKom project ([127]), agreed between the education ministry and the national organisations of German chambers (DIHK and ZDH), has been operational since 2015. ValiKom is considered as the reference project to set up a validation system in Germany. It addresses adults who acquired skills and competences through work but lack a formal qualification, including those who wish to access further training. The approach refers to the prevailing training regulations and occupational profiles, and leads to certificates ([128]) expressing the extent to which the skills demonstrated are equivalent to those normally gained under the Vocational Training Act. The participating chambers of industry, commerce and trade started piloting in April 2017; interim results were presented to a broad public at a conference in Berlin in December 2017 ([129]). The result of this reference project in developing a validation system will be a handbook with process description, admission criteria, instruments, certificate of validation and recommendations.

Assessment and recognition of foreign vocational qualifications

The Vocational Qualifications Recognition Act (BQFG), introduced in April 2012, provides individuals with the right to have their foreign-acquired qualifications matched to a German qualification by an appropriate authority. Depending on the sector, assessment and recognition of foreign occupational qualifications is carried out by IHK Fosa ([130]) or lead chambers (*Leitkammern*). The implementation of the Recognition Act is monitored and documented in a yearly report ([131]). In June 2017, the report evaluated the first five years of implementing the Act.

Information and guidance are essential to success in the recognition process. The federal government has established a range of comprehensive services, such as the Recognition in Germany website ([132]), the counselling network of the Integration through qualification (IQ) programme and the Working and living in Germany telephone hotline, a project run jointly by the Federal Employment Agency and the Federal Office for Migration and Refugees ([133]). Where documentation of the acquired qualification is missing or incomplete, a skills analysis ([134]) can help to demonstrate professional competences in a practical way (via a work sample, a work test at a company or an interview). A project of the education ministry and the association of German chambers of commerce and industry, which started at the end of 2015, offers recognition consultants to provide personal consultancy for people interested in having their qualifications recognised while still in their countries of origin (ProRecognition). The funding and residency options available for upskilling training where a foreign qualification has not been judged fully equivalent to a German qualification were substantially expanded in 2015.

The federal government's law on assessing professional qualifications has proven an effective instrument in helping people with qualifications acquired outside Germany to integrate into the labour market and in securing a supply of skilled workers. Between 2012 and 2017, 111 500 applications for recognition were made in professions governed by federal law alone. Almost two thirds of these qualifications acquired abroad (67 500) were certified as being fully equivalent to the relevant German reference qualifications. Most of the qualifications recognised were in the regulated professions, especially in healthcare (nurse, doctor) ([135]) ([136]).

[126] Fachoberschulreife.

[127] <http://www.bildungsspiegel.de/news/weiterbildung-bildungspolitik/17-valikom-chancen-fuer-menschen-ohne-berufsabschluss>; www.validierungsverfahren.de;

[128] Gleichwertigkeitsfeststellung.

[129] <https://www.valikom.de/fachtagung/content/impressionen/>

[130] www.ihk-fosa.de

[131] <https://www.bibb.de/en/68882.php>

[132] <https://www.anerkennung-in-deutschland.de/html/de/>

[133] Bundesamt für Migration und Flüchtlinge (BAMF).

[134] <https://www.anerkennung-in-deutschland.de/html/en/skillsanalysis.php>

[135] https://www.anerkennung-in-deutschland.de/html/de/daten_und_berichte.php

[136] This section is based on: Hippach-Schneider, U.; Huismann, A. (2019). Vocational education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018.
http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf

CHAPTER 13.

Incentives for learners

In Germany various incentives are offered to learners, which differ for IVET and CVET learners:

Apprentice remuneration

According to the Vocational Training Act, the training company shall pay apprentices an appropriate allowance. The amount and payment procedure are specified in the training contract. Training allowances are based on collective wage agreements.

Average apprentice remuneration across Germany for 2017 was EUR 876 gross per month (increasing from the first year of training at EUR 794 to the fourth year at EUR 995). There are significant differences in the level of remuneration between the training sectors and occupations. In 2017, the highest monthly allowances were for the skilled craft occupation of brick layer (EUR 1 095) followed by the mechatronics technician (EUR 1 043 per month). At the other end, the lowest monthly remuneration was for the apprentices as chimney sweep (EUR 518) followed by florist and baker (EUR 617 and EUR 637).

Basic vocational training grant ([137])

Financial support is offered during IVET and prevocational training organised by the federal employment agency to help apprentices overcome the economic difficulties that can stand in the way of appropriate vocational qualification. The overall monthly needs of the apprentice not living with his or her parents are estimated and the amount which cannot be covered by own/parents' income is subsidised. In 2017, 88 000 persons undergoing vocational training and 23 000 participating in pre-vocational training measures received funding and support through such a grant (from 1 August 2016 the maximum is EUR 622 per month) ([138]). There are also vocational training grants specifically adapted to the needs of learners with disabilities ([139]).

Support during training ([140])

This support is targeted at all young people who need help to start and complete vocational training. Enrolment is voluntary. Mentors help apprentices to improve German language and other academic skills through special classes during at least three hours a week. The law establishing this measure came into force in May 2015 and in 2017, 36 000 young people were beneficiaries ([141]). This represents a share of 2.7% of all apprentices in 2017. It helps apprentices to avoid dropping out of training, to stabilise training relationships and to complete vocational training. Six months after completing a measure, 81% of participants were in jobs subject to social insurance contributions.

Pre-VET measures ([142])

Prevocational education and training measures as defined in the German Social Code (SGB III) prepare young people who need extra support for vocational training or, if they cannot yet start training for inherent personal reasons, to enter employment in the mainstream labour market.

Pre-VET measures give participants opportunities to assess their skills and abilities as part of the process of choosing a possible occupation, e.g. through internships. The measures also provide them with the knowledge and skills they need to start initial vocational training. They can support them in their preparation to acquire a secondary general school-leaving certificate or equivalent

school leaving qualification; if this is not or not yet possible, it helps place participants in employment and sustainably integrate into the training and/or labour market.

Around 63 000 young people (about 5% of apprentices) in need of extra support participated in a prevocational training measure in 2017 ([143]).

Introductory training for young people ([144])

The primary goal of introductory training is to give young people (although there is no actual age limit) with limited prospects of being placed in training an opportunity to acquire modular qualifications towards a recognised occupation. Introductory training also offers companies providing training an opportunity to get to know young people, not just in a brief job application interview, but to observe their skills and abilities over a period of six to twelve months in daily work processes.

Companies which offer introductory training enter into a contract with the young people concerned. Employers receive a subsidy of up to EUR 231 per month to remunerate apprentices, plus a flat-rate contribution towards the average total social security amount payable. On completion of the work placement, participants receive a certificate issued by the competent body (e.g. chamber of industry and commerce, chamber of skilled crafts). In certain circumstances, up to six months' credit for the work placement can be offset against the qualifying period of a subsequent apprenticeship. 69% of those completing introductory training transfer into training six months after completing the introductory training measure. In 2017, around 24 000 young people began introductory training ([145]).

Training placements

Training placements are offered to all young people through employment agencies and jobcentres. The agencies also offer employers specific consultancy services and approach them to enquire about training places. In the 2016/17 reporting year, 549 785 training places and 547 824 training place applicants were registered with the federal employment agency ([146]).

Special measures for integrating refugees into IVET

Integrating young people with migration background and refugees in the education and VET system and in the labour market is a priority. Keys to integration are learning the host language, validation of formal and non-formal and informally acquired skills, provision of vocational orientation and access to pre-VET and VET programmes, apprenticeships, upskilling measures and employment. Following the arrival of about one million refugees at the end of 2015, existing programmes aiming to integrate disadvantaged groups into the labour market and the VET system opened up with an additional focus on refugees. New programmes were established in 2016, specifically addressing refugees. A synopsis of integration measures for refugees was published by the federal government in December 2016 ([147]). Since 2015, a specific ESF-supported programme *German for professional purposes* ([148]) was carried out to help people with migration background learn the German language and integrate into society and the world of work. 80 000 people participated in the programme in 2017. A new information hub for German language courses, *Handbook Germany* ([149]), was also set up, funded by the federal office for migration and refugees (BAMF) ([150]).

Since a 2016 amendment to the Social Code, young refugees with tolerated residence status who participate in dual VET are entitled to financial support after 15 months' stay in Germany instead of the previously required four years. Support is in the form of training loans, pre-vocational training measures, and the so-called assisted training scheme (see above). The Integration Act ([151]) was adopted in July 2016 and intends to facilitate refugee integration into society through a 'support and challenge' approach. Refugees with prospects of staying permanently will take integration courses at an early stage, and have legal certainty while in vocational training: up to three-year right of residence for those in apprenticeship until successful completion of training,

followed by two-year right to reside, if the person works in the profession s/he was trained in. Asylum seekers will be granted temporary residence permits once they have submitted their application for asylum, so they have legal certainty and early access to the integration courses and labour market.

Mobility programme for young people interested in vocational training from other European countries ([152])

A special programme, Funding to promote the professional mobility of young people with an interest in training and unemployed young skilled workers from Europe (MobiPro-EU) develops measures and instruments to promote international mobility for apprentices in the EU. German language tuition, social and vocational training and mentoring, and financial support to enable mobility and to secure living costs help young people interested in apprenticeship and young adults from the EU to complete vocational training in a company in Germany.

Incentives for continuing VET learners

The State promotes participation in continuing VET with various support and funding instruments (grants, subsidies and loans to cover continuing VET and living costs), addressing various target groups. Some of them are regulated by law and others are in the form of programmes.

Upgrading Training Assistance Act (*Aufstiegsfortbildungsförderungsgesetz, AFBG*, known as *Meister-BaföG*) ([153])

This law gives craftspeople and other skilled workers a statutory entitlement to financial assistance to cover costs of further training and living expenses. This financial support, jointly covered by the Federal and State governments, comprises subsidies (or, from a certain amount, bank loans at favourable rates) for a master craftsperson course and exam fees or other programmes leading to a comparable qualification. The AFBG, the equivalent to university student grants (BAföG), was amended in 2016 to improve the funding and support, and expand available funding options to new target groups. It increases VET career attractiveness.

In 2016, the number of funding recipients was approximately 162 000. In 2017, EUR 619 million funding was available for this programme: EUR 323 million in the form of subsidies and EUR 296 million in the form of loans. Since the *Meister-BAföG* was introduced in 1996, it has made it possible for around two million people to upgrade their vocational skills and achieve promotion by providing approximately EUR 8 billion in funding ([154]). AFBG is the most comprehensive continuing VET funding instrument. It is a major pillar and driver of skills upgrading and occupational advancement.

Continuing training grant (*Weiterbildungsstipendium*) ([155])

Since 1991, the education ministry ([156]) has offered particularly gifted young workers a specific continuing VET grant (there is a similar programme in academic education). Grants are awarded to approximately 6 000 new recipients every year and more than 133 000 grants have been provided since the programme started. Funding is provided for the measure itself, for travel and accommodation costs and for costs of work materials. Scholarship recipients may apply for a total of EUR 6 000 for an unlimited amount of continuing training courses eligible for funding within the three-year funding period. They are required to bear 10% of costs themselves per course ([157]).

Upgrading scholarship (*Aufstiegsstipendium*) ([158])

The education ministry's upgrading scholarship offers incentives to study for skilled workers with professional experience, whether or not they gained a higher education entrance qualification at school. It was established for professionals with at least two years' work experience and with outstanding talents. When qualified skilled professionals are already working, financial issues

often prevent them from starting a course of studies. It is the only academic programme supporting talented students who are combining work and study (over a third of the scholarship holders) or studying full-time for the duration of their course of studies (standard prescribed study period). The funding provided for full-time study is EUR 815 a month (plus a one-off childcare payment) and EUR 2 400 a year offered for those combining work and study ([159]). Scholarships are awarded to approximately 1 000 new recipients every year and about 9 900 were provided from 2008 to 2017 ([160]).

Continuing education bonus (*Bildungsprämie*) ([161])

To encourage groups of people that tend to have lower rates of participation in company-based continuing vocational training (workers on low incomes, women, employees in small and medium-sized enterprises (SMEs), people working part-time and healthcare professionals), the federal government approved an additional financing scheme in 2008: premium and savings vouchers. The premium voucher reduces training costs by up to 50% of tuition fees (max EUR 500) for job-related training courses or courses that help improve people's employability. It targets employees and the self-employed who work at least 15 hours a week and have a maximum taxable annual income of EUR 20 000 (or 40 000 for couples; child allowances are taken into account) or are on parental leave. The voucher is valid for six months. People can receive vouchers every two years. This measure is supported by the European Social Fund. The savings voucher provides a right to withdraw money from capital formation saving plans without losing the savings grant. This is open to all people who have such saving plans, regardless of their income. Since the programme started in 2008, around 320 000 premium vouchers have been issued and 28 000 individual continuing VET savings plans established.

Continuing VET for the unemployed

One important national strategy is the prevention of unemployment through nation-wide standard (under the German Social Code, SGB III) upskilling programmes, specifically addressing those at risk of long-term unemployment: the low-skilled and the unemployed ([162]). The federal government implements active labour market policy (ALMP) measures addressing long-term unemployment.

To be eligible for a continuing VET voucher, participation must be considered necessary to enable occupational integration, to avert pending unemployment or because the candidate does not have a vocational qualification. When identifying the need for continuing VET measures, the employment agency or the authority providing basic income support for jobseekers must always consider labour market conditions. They must decide, among others, whether the candidate could find employment without continuing VET; whether other labour market policy instruments could be more appropriate; and whether the candidate could, in all likelihood, return to the labour market as a result of the training.

Persons meeting the general eligibility criteria are granted an education and training voucher (*Bildungsgutschein*) by the employment agency or the authority providing jobseeker support. This voucher contains data on the education objective, the time required to reach this objective and information as to where the voucher applies in the region. The holder can redeem it at any education institution of their choice which is accredited for funding under the conditions specified in the education voucher. The continuing VET activity must also be approved for funding and support. The education institution then charges the employment agency for the course costs on the basis of the education voucher. Information on approved continuing VET measures and providers can also be found in the database of the federal employment agency ([163]).

By issuing an education and training voucher, the reimbursement of some or all of the following continuing VET expenses is confirmed: course costs, travel expenses, costs for external board

and lodging, and childcare expenses. Candidates are also entitled to receive unemployment benefit for the duration of the continuing VET programme if specific requirements are met. Regulations related to unemployment benefits remain unchanged for the duration of the continuing VET programme.

The 2016 law to reinforce continuing VET and unemployment insurance coverage (AWStG)

Workers with low-level qualifications, the long-term unemployed and older employees in particular must be increasingly recruited into vocational further training. Qualifying further vocational training should also strengthen participants' motivation, resilience and basic skills and reduce the rate at which people drop out of continuing training. To achieve these goals, the Federal Ministry of Labour and Social Affairs (BMAS) expanded support and funding for further vocational training through a law to strengthen continuing VET and unemployment insurance coverage (AWStG) ([164]); this came into force in 2016. The law improves access and the overall conditions of continuing VET (such as allowances during training and financial incentives for passing exams) in order to attract more people with few or low-level qualifications, the long-term unemployed and older employees into qualifying continuing vocational training. This new law complements and reinforces standard continuing VET support instruments under the German Social Code, as in the following examples.

The FbW programme ([165]) promoting continuing VET

This is available both to the unemployed and employees under threat of imminent unemployment, as well as to workers with low levels of qualifications and employees in SMEs. Eligibility for funding also depends on labour market conditions, as with the education and training voucher. Eligible continuing VET courses aiming to obtain, update or upgrade a vocational (also partial) qualification are listed in the KURSNET ([166]) database of the federal employment agency.

The IFlaS initiative for responding to structural changes ([167])

Based on the German Social Code, this gives people with low-level qualifications living in structurally weak areas the opportunity to acquire a recognised vocational qualification or complete modular (partial) qualifications. Target groups are the unemployed and people at risk of becoming unemployed. Since 2012 the initiative is also helping those returning to work who have no VET qualifications (or have not worked in the occupation they trained for over four years) to get back into jobs subject to social insurance contributions.

The WeGebAU programme ([168])

Employment agencies can provide full or partial funding for qualification courses for employees aged over 45 working in SMEs with fewer than 250 employees. Since April 2012, such employees can also receive funding for continuing VET, regardless of their current qualification level, on the additional provision that their employer meets at least 50% of the course costs. Employees who have no or no useful vocational qualifications can also receive funding. Employers who release employees with low-level qualifications to take part in continuing VET to gain qualifications can receive a subsidy to cover the employee's pay for the period they spend in training. The changed prerequisites for funding resulted in a significant increase in participation rates. WeGebAU has also been increasingly used to help employed geriatric nursing assistants upgrade their qualifications ([169]).

[137] Berufsausbildungsbeihilfe BAB: Standard funding support under p. 56 ff. of the German Social Code (SGB III and BAföG). Actual expenditures 2017: EUR 304.7 million.
https://dejure.org/gesetze/SGB_III/58.html www.bafoeg.bmbf.de
<https://www.arbeitsagentur.de/bildung/ausbildung/berufsausbildungsbeihilfe-bab>

- <https://www.arbeitsagentur.de/web/content/DE/BuergerinnenUndBuerger/Ausb...>
<http://www.bafoeg-aktuell.de/karriere/berufsausbildungsbeihilfe.html>
- [139] <https://www.arbeitsagentur.de/en/training-allowance-disabled-persons>
- [140] Ausbildungsbegleitende Hilfen abH - Standard funding support for dual apprenticeship and introductory training as defined in the German Social Code. (SGB III, 74 to 80).
<https://www.arbeitsagentur.de/bildung/ausbildung/ausbildungsbegleitende-hilfen>
- [141] Actual expenditures 2017: EUR 97.1 million (BMBF, 2018 p 121).
- [142] Berufsvorbereitende Bildungsmaßnahmen – BvB (SGB III, 51). www.arbeitsagentur.de
- [143] Actual spending for 2017: EUR 215.3 million. (BMBF (2018). Berufsbildungsbericht 2018 [Vocational education and training 2018]. Bonn: BMBF, p. 117.
https://www.bmbf.de/upload_filestore/pub/Berufsbildungsbericht_2018.pdf
- [144] Einstiegsqualifizierung – EQ (SGB III, 54a) [https:// www.arbeitsagentur.de](https://www.arbeitsagentur.de)
- [145] Actual spending 2017: € 50 million (BMBF (2018). Berufsbildungsbericht 2018 [Vocational education and training report 2018], Bonn: BMBF, p.118.
https://www.bmbf.de/upload_filestore/pub/Berufsbildungsbericht_2018.pdf
- [147] https://www.bundesregierung.de/Content/DE/_Anlagen/2017/04/2017-04-25-integrationsmassnahmen.html
- [148] www.bamf.de
- [149] <https://handbookgermany.de/en.html>
- [151] <http://www.cedefop.europa.eu/en/news-and-press/news/germany-new-act-aid-refugee-integration> and https://www.bundesregierung.de/Content/EN/Artikel/2016/07_en/2016-05-25-integrationsgesetz-beschlossen_en.html?sessionid=9EF13197E8E4E1732BFC105F9A814042.s1t1
- [152] MobiPro-EU: Förderung der beruflichen Mobilität von ausbildungsinteressierten Jugendlichen aus Europa <http://www.thejobofmylife.de/en/home.html>
- [153] www.aufstiegs-bafög.de and <https://www.bmbf.de/de/aus-meister-bafoeg-wird-modernes-aufstiegs-bafoeg-3170.html>
- [155] <https://www.bmbf.de/de/das-weiterbildungsstipendium-883.html>
- [156] Bundesministeriums für Bildung und Forschung (BMBF).
- [158] <https://www.bmbf.de/de/das-aufstiegsstipendium-882.html>
- [160] Funding volume in 2017: EUR 24.8 million.
- [161] <http://www.bildungspraemie.info/>
- [163] KURSNET: <http://kursnet-finden.arbeitsagentur.de/kurs/>
- [164] <http://www.portal-sozialpolitik.de/recht/gesetzgebung/gesetzgebung-18-wahlperiode/staerkung-berufliche-weiterbildung-und-versicherungsschutz>
- [165] www.arbeitsagentur.de
- [166] <http://kursnet-finden.arbeitsagentur.de/kurs/>
- [167] www.arbeitsagentur.de
- [168] CVET for low-qualified and older employees in SMEs:
<https://www.arbeitsagentur.de/unternehmen/foerderung-weiterbildung>
- [169] This section is based on: Hippach-Schneider, U.; Huismann, A. (2019). Vocational education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018.

http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf

CHAPTER 14.

Incentives for enterprises to boost their participation in VET provision

For many German companies, it is a tradition and a matter of course to provide and to carry most of the costs for apprenticeship. However, the readiness to provide apprenticeship has been declining in the last decade (in 2007, 24.1% of companies against 19.8% in 2016), especially among the smallest companies (1 to 9 employees) who face increasing difficulties in filling the apprenticeship places they offer. This shows that companies, especially small and medium-sized enterprises (SMEs), need support, which is provided in various forms, as described below ([170]):

Inter-company vocational training centres and training structures

SMEs, in particular crafts companies, are important training suppliers, but are unable, or not fully able, to provide all the facets of training required by regulations. This is primarily due to the increasing division of labour in production processes, increasing specialisation and, in some cases, financial problems or accelerated technological change. The limited suitability of such enterprises as training providers is compensated for by supplementary external training measures in inter-company vocational training centres or through training structures. Inter-company training centres also have an essential position in further and continuing training in SMEs, especially in the commercial and technical sectors. Such training centres also exist in the skilled trade sector ([171]). Funding is offered for the modernising and restructuring of inter-company training centres to adapt them to changing education and training policy and economic conditions, as well as the challenge of digitalisation.

Support for SMEs:

- **Training placement**

The employment agencies offer employers specific consultancy services and approach SMEs to enquire about training places. Employers are free to register any training places they are offering. In the 2016/17 reporting year, 549 785 training places and 547 824 training place applicants were registered with the federal employment agency ([172]).

- **Alliance training guarantee**

As of 2016, a process to help find training places / apprentices has been put in place: every young person who is still looking for an apprenticeship on 30 September of a given year will receive three offers of company-based training from an employment agency.

- **Jobstarter plus**

The federal ministry of education funds and supports projects in the national JOBSTARTER plus programme ([173]) with part-finances from the European Social Fund (ESF) to improve regional training structures and trial innovative training policy approaches to solving training market

problems. The programme is designed to respond flexibly and actively to current training market developments with a range of variable funding priorities:

- advise and support SMEs in the process of (re-) starting participation in dual training and increasing their commitment to training;
 - counteract matching problems and the difficulties that companies have in filling training places in certain industries;
 - advising and supporting SMEs in the process of adapting their training to the challenges posed by the increasing automation and digitalisation of the economy.
- ***Passgenaue Besetzung*** ([174]) (Perfect match)

The *Passgenaue Besetzung* programme ([175]), financed jointly by the ESF and federal ministry for economic affairs ([176]), works to counteract matching problems in the training market. The programme provides funding for consultants who support SMEs in filling the training places they offer with suitable local and foreign young people and young refugees and migrants. Since the programme began in 2007, *Passgenaue Besetzung* has successfully placed around 80 000 young people in training and 9 500 in introductory training.

- **Federal employment agency consultancy on qualification for employers** ([177])

The federal employment agency (BA) supports personnel development measures in SMEs as part of its preventative approach to securing a supply of skilled workers. It informs and advises employers and identifies the possibilities for further developing the potential in companies through company-based qualification measures. This consultancy makes employers aware of the advantages of more frequently including groups of employees who are often not considered for participation in measures (e.g. those without formal qualifications and older employees) in further training measures. By offering consultancy on qualification and support for personnel development to employers, the federal employment agency is helping companies to fill training and employment vacancies from within their own ranks ([178]).

- **Support measures to help integrate refugees in dual VET and work**

The following support measures, helping to integrate refugees in apprenticeship, address especially SMEs and skilled trade companies:

- the network *Companies integrate refugees* funded by the federal ministry for economic affairs ([179]) and the umbrella organisation of the chambers of industry and commerce (DIHK) is aimed at companies that are involved, or want to get involved, with refugees. The aim is to bring refugees to training and employment. The network offers its more than 1 650 member companies (three quarters of which are SMEs) the opportunity to exchange experiences and practical information on the employment of refugees;
- the chambers' *Welcome guides* (*Willkommenslotsen*) are available to companies on all issues relating to the operational integration of refugees. Since the start of the programme in March 2016, the *Welcome guides* have achieved around 11 500 placements of refugees in employment, training or internship ([180]);
- by means of a matching process, the online internship platform JOIN ([181]) offers opportunities for companies and refugees to find and get to know each other through internship placements. The aim is to speed up integration into the labour market and to remove obstacles to employment. This joint initiative of the federal ministry of the interior and business looks to offer refugees the possibility of employment in a timely manner and to provide a first proof of their qualifications, even before they receive a residence permit and a work permit ([182]).

[170] For further information on this, please consult: Hippach-Schneider, U.; Huismann, A.

(2019). Vocational education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018.

http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf

[171] www.bmwi.de/Redaktion/DE/Text-sammlungen/Mittelstand/hand-werk.html?cms_artId=243216

[174] www.bmwi.de/passgenaue-besetzung

[176] Bundesministerium für Wirtschaft und Energie, BMWi.

[177] www.arbeitsagentur.de/personalentwicklung

[179] Bundesministerium für Wirtschaft und Energie (BMWi).

[181] <http://www.join-now.org/>

[182] This section is based on: Hippach-Schneider, U.; Huismann, A. (2019). Vocational education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018.
http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf

CHAPTER 15.

Guidance and counselling

Guidance and counselling provision is embedded in Germany's overall employment strategy as well as in its education sector and lifelong learning strategy. Labour market policy has a long tradition of guidance and counselling; however, lifelong learning and lifelong and life-wide guidance and counselling have only recently become high-level topics on the political agenda. Due to the country's constitution and its federal structure with split responsibilities between the Federal Government, sixteen State governments and local municipalities, and between education, labour and youth ministries, guidance policy and provision is also split between these sectors. Although there are several institutional links and cooperation agreements between labour market and education policy, there is so far no coherent cross-sectoral national lifelong guidance strategy.

Since the 1920s, vocational guidance and counselling for youth and adults has been a legal obligation of the federal employment agency (BA) and its local employment agencies. Until 1998, the BA had a State monopoly on vocational guidance and counselling for young people moving from school to work. The BA also offers guidance and counselling services for adults, although there are multiple providers in this area, including further training institutions, some municipalities, non-profit organisations and private career counselling practitioners. Since the abolishment of the State monopoly, the private and semi-private market has grown considerably. This is partly due to limited regulations, such as concerning finances and providers' facilities (SGB III, § 289), with no stipulated qualification requirements for staff or quality standards. Nevertheless, the BA is still the largest and most important guidance and counselling service provider. This includes services for long-term unemployed from jobcentres under the social code (SGB II) ([183]).

Guidance and counselling in the education sector mainly focuses on vocational education, advice on educational career paths or individual learning difficulties. Services vary between States and schools. Following a formal agreement between the standing conference of ministers for education and cultural affairs of the States (KMK) and the BA, school career education and the local employment agencies' vocational guidance services cooperate closely (KMK/BA 2004/17) ([184]):

(a) vocational education is an established element in general education curricula. It is embedded in different school subjects such as work-studies (*Arbeitslehre*), economics and social studies, home economics, engineering, and polytechnic education. Vocational education in class is normally supported by a career counsellor from the local employment agency and supplemented in years 8, 9 or 10 by visits to the vocational information centre, to enterprises and by compulsory one- to three-week work placements in enterprises;

(b) State governments have launched special programmes (for example, *Kein Abschluss ohne Anschluss*) ([185]) and provide funding for additional efforts to improve learners' career development and career management skills (DJI/Inbas 2010 ([186])). Additional funding from the federal government and/or from the BA as well as from private enterprises, foundations or employer associations enables schools to carry out multiple guidance activities;

(c) practice-oriented, systematic vocational guidance is being provided at inter-company vocational training centres and similar vocational training facilities as part of a specific career guidance programme (*Berufsorientierungsprogramm*, BOP) to make the transition from (compulsory) general education to apprenticeships (dual vocational training) easier for learners.

The BMBF supports these centres financially to help them fulfil this task. The programme started in 2008 and was established permanently in 2010. These measures give young people the opportunity to spend two weeks at a vocational training facility gaining practical experience in three occupation-specific areas related to their potential. The aim is to achieve a sustainable improvement in school-to-work transition management ([187]).

Vocational guidance, work studies and initiatives to ease transition from school to apprenticeships/work have received more attention due to the risk of dropouts, low performers and unemployment. Programmes like the Educational chains initiative (*Bildungsketten*) (see below) and Career start mentors (*Berufseinstiegsbegleiter*) ([188]) provide individual coaching and support for learners at risk. Regional transition management (*Regionales Übergangsmanagement*) ([189]) focuses on placing less able school leavers into apprenticeships to match demand from enterprises and provide suitable training opportunities for all school leavers.

Young refugees are specifically addressed by such measures ([190]) as well as disadvantaged young people who are not or no longer reached by regular services (new section in Social Code: 16h SGB II) ([191]).

Educational chains leading to vocational qualifications initiative (*Abschluss und Anschluss - Bildungsketten bis zum Ausbildungsabschluss*) ([192])

This initiative aims to secure young people's success in education and training and to develop a structured and consistent funding and support policy of the Federal government (BMBF, BMAS), the federal employment agency (BA) and federal States for a vocational orientation and transition system. It focuses on analysing the potential of young people at an early stage (from grade 7), action-oriented career orientation options such as the vocational guidance programme Discover your talent (BOP), vocational orientation measures as defined in the German Social Code (SGB), individual career start coaching, mentoring through training by volunteers, introductory training, support for apprentices during training and assisted training. To extend the range of the Educational chains initiative, the BMBF started facilitating agreements between the BA and Federal and State governments in 2014. This close and binding cooperation clarifies funding structures for vocational guidance and the transition from school into work ([193]).

The website www.klischee-frei.de provides information and supports young people with their career choice, with a brief to disregard gender clichés.

In addition to regular student counselling services, universities have increasingly established career services to ease the transition from academic education to the labour market. In 2014 the BMBF started an initiative to attract university dropouts (dropout rate of 29% in bachelor courses) into vocational training ([194]).

Some large municipalities began to establish education guidance services in the 1980s to ensure independent and high quality service delivery for citizens aiming to take up further education (*Kommunale Bildungsberatung*). Due to financial constraints, many of them had to close down, and by the end of the 20th century there was a lack of independent guidance provision, especially for adults and employed persons. In order to implement and support the lifelong learning strategy, the BMBF launched a Learning regions network in 2001. With ministerial funding, local and regional networks were established to initiate regional lifelong learning and employment strategies, including guidance and counselling provision. Training providers, employment agencies, chambers of commerce, enterprises, local schools and municipalities, trade unions, as well as other local actors and stakeholders participated in these networks. In most cases, guidance services formed an integral part.

The follow-up programme, Local learning (*Lernen vor Ort*), was designed to support municipalities in their efforts to establish efficient education management systems. This included

educational monitoring and guidance. The programme helped establish or maintain many municipal career guidance services. 'Transferinitiative Kommunales Bildungsmanagement' ([195]) is a structural funding programme that builds on the results of the BMBF's Local learning funding programme. The programme's fundamental idea is to optimise local government coordination of education and training.

In addition to these comprehensive guidance services, there are numerous specific services addressing, for example, women entering or re-entering the labour market, people with disabilities, people with migrant backgrounds ([196]), and disadvantaged youths and refugees. Some services are provided by non-profit organisations, funded either by federal or State ministries or by public employment services. Some of them work only on a temporary financial basis and are not always well connected to other mainstream guidance services.

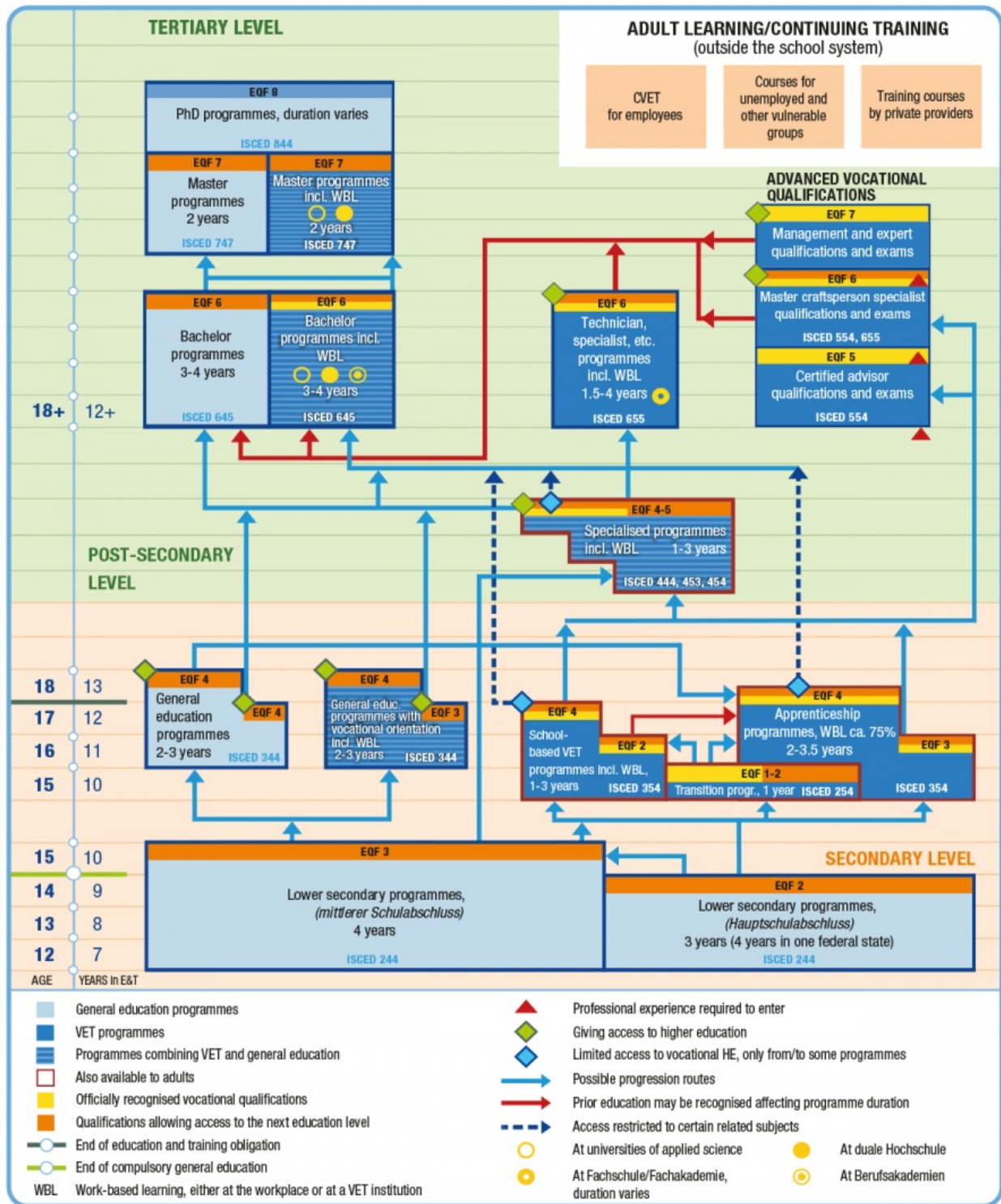
Examples of online information and guidance tools include Arbeitsagentur.de and BERUFENET, studienwahl.de, Bildungsserver, KURSNET, InfoWebWeiterbildung iwwb.de, Berufsorientierungsprogramm.de, Studienabbruch-und-dann.de, and Klischee-frei.de. The BMBF offers a telephone information and guidance service supporting individuals who are considering their further education options ([197]) ([198]).

Please see:

- guidance and outreach German national report ([199]);
- Cedefop's inventory of lifelong guidance systems and practices ([A1]).

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- [184] <https://www.kmk.org/aktuelles/thema-berufliche-bildung.html>
- [185] <https://www.mags.nrw/uebergang-schule-beruf-startseite>
- [186] https://www.dji.de/fileadmin/user_upload/bibs/9_11672_berufsorientierung.pdf
- [187] <http://www.berufsorientierungsprogramm.de/html/de/12.php>
- [188] https://www.bmbf.de/pub/Berufseinstiegsbegleitung_die_Moeglichmacher.pdf
- [189] <https://www.ueberaus.de/wws/dossier-uebergangsmanagement.php>
- [190] <https://www.berufsorientierungsprogramm.de/angebote-fuer-fluechtlinge/de/english-1993.html>
- [191] <https://www.bmas.de/DE/Themen/Arbeitsmarkt/Modellprogramme/respekt-pilotprogramm.html>
- [192] <https://www.bildungsketten.de/> and <https://www.berufsorientierungsprogramm.de/>
- [194] <https://www.studienabbruch-und-dann.de/>
- [195] <https://www.transferinitiative.de/>
- [196] <https://www.jobstarter.de/de/kausa-21.php>
- [197] <https://www.der-weiterbildungsratgeber.de/>
- [199] <http://www.cedefop.europa.eu/events-and-projects/networks/refernet/thematic-perspectives/guidance-outreach>

Vocational education and training system chart



NB: ISCED-P 2011. This is a simplified chart, based on the unified approach used for the spotlights on VET in all EU-28 countries plus Iceland and Norway.
Source: Cedefop and ReferNet Germany, 2019.

VET Programme Types

EQF 3-4
General education programmes with vocational orientation incl. WBL 2-3 years ISCED 344

General education programmes with vocational orientation, EQF level 3-4, ISCED 344 (Berufliches Gymnasium or Fachgymnasium)

EQF level	3-4	ISCED-P 2011 level	344
Usual entry grade	minimum 11	Usual completion grade	minimum 12/13
Usual entry age	minimum 15/16	Usual completion age	minimum 17/19
Length of a programme (years)	2-3		
Is it part of compulsory education and training?	✓	Is it part of formal education and training system?	✓
Is it initial VET?	✓	Is it continuing VET?	✗
Is it offered free of charge?	✓	Is it available for adults?	✗
ECVET or other credits	Information not available		
Learning forms (e.g. dual, part-time, distance)	<ul style="list-style-type: none"> • school-based learning; • work-based learning parts (with career-oriented subjects such as business and technology). 		
Main providers	Technical grammar school (Fachgymnasium)		
Share of work-based learning provided by schools and companies	Information not available		
Work-based learning type (workshops at schools, in-company training / apprenticeships)	Information not available		

Main target groups	Programmes are available for young people.
Entry requirements for learners (qualification/education level, age)	An intermediate secondary school leaving certificate is required.
Assessment of learning outcomes	<i>Abitur</i> examination as in a general <i>Gymnasium</i> but with career-oriented subjects in addition; leading to a general higher education entrance qualification.
Diplomas/certificates provided	These programmes lead to the general higher education entrance qualification.
Examples of qualifications	These programmes lead to the general higher education entrance qualification.
Progression opportunities for learners after graduation	<p>Graduates can continue their education at tertiary level in one of the following institutions:</p> <ul style="list-style-type: none"> • university; • university of applied science; • university of cooperative education; • dual university.
Destination of graduates	Information not available
Awards through validation of prior learning	Information not available
General education subjects	✓
Key competences	✓
Application of learning outcomes approach	Information not available
Share of learners in this programme type compared with the total number of VET learners	Information not available

EQF 2-4

School-based VET

programmes

incl. WBL,

1-3 years

ISCED 354

School-based VET programmes at EQF level 2-4, ISCED 354 (Berufsfachschule)

EQF level	2-4	ISCED-P 2011 level	354
Usual entry grade	minimum 10	Usual completion grade	minimum 10/12
Usual entry age	minimum 14/15	Usual completion age	minimum 15/18
Length of a programme (years)	1-3		
Is it part of compulsory education and training?	✓	Is it part of formal education and training system?	✓
Is it initial VET?	✓	Is it continuing VET?	✗
Is it offered free of charge?	✓	Is it available for adults?	✓

ECVET or other credits Information not available

Learning forms (e.g. dual, part-time, distance)

- school based learning
- work-based learning elements

Main providers

Full time vocational schools (*Berufsfachschule*)

Share of work-based learning provided by schools and companies

Varies

Work-based learning type (workshops at schools, in-company training / apprenticeships)

- practical training at school
- in-company practice

Main target groups

Programmes are available for young people and also for adults.

Entry requirements for learners (qualification/education level, age)	Minimum entry requirement is the lower secondary school leaving certificate.
Assessment of learning outcomes	Assessment methods vary; some schools are governed by the federal states; some are governed by federal law ([200]).
Diplomas/certificates provided	Vocational school at upper secondary level offering a wide range of branches and courses of varying duration. A full-time school, it prepares or trains learners for a specific occupation at different levels of qualification.
Examples of qualifications	Chemical technician, business assistant, technical designer, tourism assistant, childcare assistant ([201])
Progression opportunities for learners after graduation	<p>Graduates can progress to programmes offered at:</p> <ul style="list-style-type: none"> • trade and technical school, • vocational academy, • specialised upper secondary school, • senior vocational school, • school of health care • the entrance qualification to university of applied sciences can be acquired under certain conditions on completion of a course lasting a minimum of two years.
Destination of graduates	Information not available
Awards through validation of prior learning	<p>✓</p> <p>In cases where such schools do not provide a full career qualification, the successful completion of the <i>Berufsfachschule</i> may, under certain conditions, be credited as part of the training period in occupations requiring formal training (Art. 7 of the Vocational Training Act). In order to prove the equivalence of a vocational qualification at a <i>Berufsfachschule</i> with dual vocational education and training, successful graduates can sit an examination before the competent authority. Admission to this so-called chamber examination is possible if the <i>Land</i> in question has adopted appropriate regulations pursuant to Article 43, paragraph 2 of the Vocational Training Act or if there are arrangements to this end between the vocational schools and the competent authorities.</p>
General education subjects	✓
Key competences	✓
Application of learning outcomes approach	Information not available

Share of learners in this programme type compared with the total number of VET learners	Information not available
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- [200] https://www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/2013/2013_10_17-RV-Berufsfachschulen.pdf
- [201] <https://www.kmk.org/themen/berufliche-schulen/schulische-berufsausbildung/europass-zeugniserlaeuterungen/downloads-berufsfachschulen.html>

EQF 1-2

Transition programmes,

1year

ISCED level 254

Transition programmes leading to EQF level 1-2 and ISCED level 254 and include the following programmes: pre-vocational training year (Berufsvorbereitungsjahr - BVJ); basic vocational training year (Berufsgrundbildungsjahr - BGJ); introductory training (Einstiegsqualifizierung - EQ).

EQF level	1-2	ISCED-P 2011 level	254
Usual entry grade	minimum 10	Usual completion grade	minimum 10
Usual entry age	minimum 14/15	Usual completion age	minimum 15/16
Length of a programme (years)	1		
Is it part of compulsory education and training?	✓	Is it part of formal education and training system?	✓
Is it initial VET?	✓	Is it continuing VET?	✗
Is it offered free of charge?	✓	Is it available for adults?	✓

ECVET or other credits Information not available

Learning forms (e.g. dual, part-time, distance)	<p>School and work based learning:</p> <ul style="list-style-type: none"> • pre-vocational training year (<i>Berufsvorbereitungsjahr</i> – BVJ): the BVJ is a one-year course of training, usually offered full-time by schools and designed to prepare young people for the demands of vocational training. The majority of participants do not have a secondary school leaving certificate. However, this can be acquired in the course of the BVJ, thus improving the holder's prospects in the market for training positions; • basic vocational training year (<i>Berufsgrundbildungsjahr</i> – BGJ): basic vocational education can be completed either as a year at school (full-time) or in joint fashion at an enterprise and school. Successful completion of the BGJ can be credited as the first year of vocational training in the training occupations assigned to the relevant occupational field. In the BGJ, learners receive basic educational knowledge in a specific occupational field (e.g., metalworking techniques, electrical engineering, business and administration); • Introductory training (<i>Einstiegsqualifizierung</i> – EQ): EQ provides young people whose prospects of being placed in VET are limited due to individual reasons with an opportunity to acquire or enhance personal and vocational competences and gives companies offering training the chance to get to know these young people. It has proved to be a 'door-opener' to apprenticeship for approx. 70% of participants.
Main providers	Varies
Share of work-based learning provided by schools and companies	Varies
Work-based learning type (workshops at schools, in-company training / apprenticeships)	<ul style="list-style-type: none"> • practical training at school • in-company practice
Main target groups	Young people and adults with social disadvantages, learning difficulties or handicap or insufficient German language skills (migrants) have different possibilities for pre-vocational education and training measures.
Entry requirements for learners (qualification/education level, age)	The minimum entry requirement is the lower secondary school leaving certificate for BGJ and EQ; for the BVJ, the certified attendance of grade 1 to 9 is enough.
Assessment of learning outcomes	Information not available

Diplomas/certificates provided	<p>a) BVJ: lower secondary school certificate, in case not yet obtained;</p> <p>b) Successful completion of the BGJ can be credited as the first year of vocational training in the training occupations assigned to the relevant occupational field;</p> <p>c) EQ does not lead to a certificate but it has proved to be a ‘door-opener’ to apprenticeship for approx. 70% of participants.</p>
Examples of qualifications	In the BGJ, learners receive basic educational knowledge in a specific occupational field (e.g., metalworking techniques, electrical engineering, business and administration).
Progression opportunities for learners after graduation	Progression is possible to school-based VET programmes and apprenticeship programmes (even in the 2 nd year, in case of the BGJ).
Destination of graduates	The former participants in these programmes mostly start an apprenticeship or a school-based VET programme. ([202])
Awards through validation of prior learning	Information not available
General education subjects	✓
Key competences	✓
Application of learning outcomes approach	Information not available
Share of learners in this programme type compared with the total number of VET learners	<p>Information not available</p> <p>The share of apprentices having taken part in such a so-called transition or preparatory VET programme before starting the apprenticeship amount to approx. 9% (2016: 45 585 out of 509 997 first-year-apprentices) ([203]).</p>

[202] BIBB (2018). *Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]*. Bonn: BIBB, p. 141-147.

https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf

[203] BIBB (2018). *Datenreport zum Berufsbildungsbericht 2018*, p. 142.

https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf

EQF 3-4

Apprenticeship programmes,


WBL ca. 75%

2-3.5 years

ISCED level 354


Apprenticeship scheme (dual system: duale Ausbildung) according to the Vocational Training Act (BBiG) and the Crafts Code (HwO) at EQF level 3-4 and ISCED level 354 (in 2017: 327 programmes, one for each occupation that can be learnt in the apprenticeship scheme).

EQF level	3-4	ISCED-P 2011 level	354
Usual entry grade	minimum 10	Usual completion grade	minimum 11-13
Usual entry age	minimum 14/15 but in practice, average age of entry is 19.7 ([204])	Usual completion age	minimum 16/17 but in practice from 22 upwards (see above)
Length of a programme (years)	2-3,5		
Is it part of compulsory education and training?	✓	Is it part of formal education and training system?	✓
Is it initial VET?	✓	Is it continuing VET?	✗

Is it
offered
free of
charge? 

According to the Vocational Training Act (BBiG), the training company shall pay apprentices an appropriate allowance. The amount and payment procedure are specified in the training contract. The training allowances are based on collective wage agreements and increase with every year of training, averaging about a third of the starting pay for a trained skilled worker.

Average apprentice remuneration across Germany for 2017 was EUR 876 gross per month (increasing from 1st year of training: EUR 794 to 4th year: EUR 995). There are significant differences in the level of remuneration between the training sectors and occupations. In 2017, the highest monthly allowances were for the skilled craft occupation of brick layer (EUR 1 095) followed by the mechatronics technician (EUR 1 043 per month). On the other end, the lowest monthly remuneration was for the apprentices as chimney sweeper (EUR 518) followed by florist and baker (EUR 617 and EUR 637).

Is it
available
for adults? 

ECVET or other credits Information not available

**Learning forms (e.g.
dual, part-time,
distance)**

- school-based and practical learning in schools and inter-company vocational training centres (*überbetriebliche Berufsbildungsstätten*, ÜBS), (e.g. one or two days per week or one week per month);
- company-based learning (share of approx. 70%).

The system is described as dual because training is conducted in two places of learning: companies and vocational schools. Apprentices attend a vocational school one or two days per week, where they are mainly taught theoretical and practical knowledge related to their occupation; they attend classes on general subjects such as economics, social studies and foreign languages. Systematic teaching at vocational school is a necessary supplement to process-oriented training within a company, which is more based on specific in-company requirements. The primary aim of training is to enable young people to acquire comprehensive vocational competence. Training programmes are designed on the principle that they should be as broad as possible and as specific as necessary.

Main providers Companies in cooperation with vocational schools



Apprenticeship places are offered in both enterprises and public institutions. The professional competences to be acquired through in-company training are specified in training regulations and included by the training enterprise in an individual training plan. The binding requirements of the training regulations guarantee a uniform national standard. However, SME are often unable to provide all the stipulated learning content: they may lack suitable training personnel, or, owing to their particular specialisation, may not cover all the training content themselves.

There are various ways to overcome these problems:

- inter-company vocational training centres (*überbetriebliche Berufsbildungsstätten, ÜBS*) designed to supplement in-company training: education institutions offer periods in these training centres, which are often sponsored by autonomous bodies in the relevant sectors of industry. The federal ministry of education supports sponsors with investment subsidies (for buildings and infrastructure). The BIBB is responsible for promoting inter-company training centres and supporting the planning, establishment and development of these facilities. Since 2016, an additional programme is promoting the digital transformation of these training centres by funding the purchase of digital equipment as well as selected pilot projects on adaptation of teaching and learning processes ([205]);
- enterprises can form joint training structures (*Ausbildungsverbünde*). There are four traditional models for this:
 - lead enterprise with partners (*Leitbetrieb mit Partnerbetrieben*): one enterprise takes the lead and bears overall responsibility for training; however, parts of the training are conducted in various partner enterprises;
 - training to order (*Auftragsausbildung*): some training takes place outside the regular enterprise, perhaps in a nearby large enterprise with a training workshop, on the basis of an order and against reimbursement of costs;
 - training consortium (*Ausbildungskonsortium*): several SMEs sign a cooperation agreement and work together on equal footing. They take on apprentices and train them independently. If an enterprise cannot cover a specific area of content, the apprentice moves to another enterprise (rotation principle);
 - training association (*Ausbildungsverein*): enterprises establish an organisation which takes over administrative tasks such as contracting, while the enterprises conduct training. Association structures usually comprise a general meeting and an honorary committee. A statute regulates members' rights and obligations.

Share of work-based learning provided by schools and companies About 75%

Work-based learning type (workshops at schools, in-company training / apprenticeships)	<ul style="list-style-type: none"> • in-company practice (about 70%), • practical training at school, • practical training in inter-company vocational training centres (<i>überbetriebliche Berufsbildungsstätten, ÜBS</i>).
Main target groups	Programmes are available for young people and also for adults.
Entry requirements for learners (qualification/education level, age)	<p>Completion of full-time compulsory education, no further requirements for access (but companies select their apprentices).</p> <p>The majority of apprentices hold either the intermediate secondary school leaving certificate (<i>mittlerer Schulabschluss</i>) or the lower secondary school leaving certificate (<i>Hauptschulabschluss</i>). However, the share of apprentices with a higher education entrance qualification has been rising as well: in 2016, almost one in three apprentices (28.7%) was a high-school graduate ([206]). This group followed <i>successively both paths</i> of education at upper secondary level: first the general, followed by the vocational qualification. Indeed, despite being classified as ‘upper secondary’, initial VET is also considered by high-school graduates as an alternative option to tertiary education.</p>
Assessment of learning outcomes	<p>A final exam is testing the practical and general knowledge of the learner based on the work requirements and processes of the occupation. As a rule, a final exam covers four or five fields relevant to the occupation. Performance in general subjects is evaluated via school reports. The exams are regulated by law (Vocational Training Act – BBiG) and is performed by the chambers. For this task, the chambers are authorised by the state and are officially acting as a public institution. Upon passing the final examination, apprentices receive a chamber certificate to document that training has been successfully completed. This certification of qualification is fully recognised and highly trusted among employers.</p> <p>In 2016, 431 667 apprentices took the final exams ([207]). The success rate was 92.6%, and after retaking the exam by those who first missed, even 99.4% in total. The repartition of exam participants according to the economic sector of occupation was as follows: 63.3% in trade and industry, 23% in craft sector, 8% in liberal professions, 2.7% in public sector, 2.6% in agriculture and 0.4% in housekeeping.</p>
Diplomas/certificates provided	<ul style="list-style-type: none"> • certificate from the training company, • certificate from the vocational school, • final examination certificate of apprenticeship (<i>Gesellen- oder Facharbeiterbrief; IHK-Prüfungszeugnis</i>)

Examples of qualifications	Among Top 10 dual apprenticeship programmes (out of 327) in 2017 ([208]): Office manager, management or sales assistant for retail services, motor vehicle mechatronics technician, industrial clerk, medical assistant, IT specialist. The four most popular apprenticeship programmes in craft trades are hairdresser, cook, joiner and painter([209]).
Progression opportunities for learners after graduation	<p>In general, graduates of dual apprenticeship programmes are fully qualified to enter the labour market and most of them do so.</p> <p>Those who successfully completed their apprenticeship programme, have several possibilities to further progress to post-secondary programmes, such as specialised and technician programmes, or and master craftsperson. Access to certain tertiary vocational programmes are restricted to related subject of the graduate's apprenticeship programme. Short term apprenticeship programmes do not always provide access to tertiary education programmes.</p>
Destination of graduates	Graduates of dual apprenticeship programmes are fully qualified to enter the labour market and most of them do so. They have very good prospects of finding a work placement in a short delay.
Awards through validation of prior learning	 <p>The most important tool for assessing non-formal learning outcomes is admission to final examinations under Section 45 (2) of the Vocational Training Act (BBiG), known as the '<i>Externen-Prüfung</i>' (examination for external candidates, i.e., those not involved in a formal vocational training programme). Under this provision, people can be admitted to a final examination for a recognised occupation requiring formal training (training occupation) if they furnish evidence that they have been employed in the relevant occupation for a period at least one and a half times as long as prescribed for the period of initial training.</p>
General education subjects	 <p>General subjects such as mathematics, economics, social studies and foreign languages, depending on the programme</p>



The primary aim of apprenticeship is to enable young people to acquire comprehensive vocational competence. Apprenticeship programmes are designed on the principle that they should be as broad as possible and as specific as necessary. After finishing the apprenticeship, they should be able to fulfil their duties as employees efficiently, effectively, innovatively, autonomously and in cooperation with others.

The professional competences to be acquired through in-company training are specified in training regulations and included by the training enterprise in an individual training plan. The binding requirements of the training regulations guarantee a uniform national standard.

For teaching in vocational schools, a framework curriculum is drawn up for every recognised training occupation in accordance with the training regulations.

Application of learning outcomes approach

As part of the implementation of the DQR (German qualification framework), the Federal Institute for Vocational Education and Training (BIBB), together with the social partners and the ministries, adopted in June 2014 a recommendation of the BIBB Board on the structure and design of training regulations which addresses the issue of **competence orientation**.

According to this recommendation, the Vocational Training Act equates vocational action capacity with the DQR's understanding of action competence. The four competence dimensions of the DQR are to be systematically taken into account in all training regulations that are to be developed from 2015 onwards, so that competence orientation is increasingly incorporated into the regulatory work."

These are:

- professional competences: **knowledge and skills**,
- social competences: **social competence and independence**,

which together form the **vocational action competence** (*Handlungskompetenz*). ([210])

Share of learners in this programme type compared with the total number of VET learners

The data available is on a different base: **More than two thirds (68.5%) of new entrants in upper secondary VET programmes in 2017 chose the dual apprenticeship scheme (dual system)**, while 31.5% enrolled in a school-based VET programme. ([211])

[205] <https://www.bibb.de/uebs-digitalisierung>

[206] BIBB (2018). *Datenreport zum Berufsbildungsbericht 2018*, p. 132.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf

[207] BIBB (2018). *Datenreport zum Berufsbildungsbericht 2018*, p. 162.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf

[208] https://www.bibb.de/en/pressemitteilung_77368.php

- [209] A list of qualifications (in DE/E/F) can be found at:
https://www.bibb.de/en/occupationsinfo.php/certificate_supplements/en
- [210] BIBB (2015). *Ausbildungsordnungen und wie sie entstehen* [Vocational training regulations and the process behind them]. Bonn: BIBB, p. 22f .
<https://www.bibb.de/veroeffentlichungen/de/publication/show/2061>
- [211] BIBB (2018). *Datenreport zum Berufsbildungsbericht 2018*, p. 86 (iABE).
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf

EQF 4-5
Specialised programmes
incl. WBL
1-3 years
ISCED 444, 453, 454

Specialised programmes (Berufsoberschule BOS - Fachoberschule FOS - Schule für Gesundheits-, Erziehungs- und Sozialberufen GES nach Bundes- und Landesrecht) leading to EQF level 4-5, ISCED 444, 453, 454

EQF level	4-5	ISCED-P 2011 level	444, 453, 454
Usual entry grade	minimum 11	Usual completion grade	minimum 12 ([212])
Usual entry age	minimum 15/16	Usual completion age	minimum 16/17
Length of a programme (years)	1-3		
Is it part of compulsory education and training?	in some cases	Is it part of formal education and training system?	✓
Is it initial VET?	✓	Is it continuing VET?	✗
Is it offered free of charge?	Varies	Is it available for adults?	✓

ECVET or other credits Information not available

Learning forms (e.g. dual, part-time, distance)

- school-based learning;
- work-based learning (practical training at school and work practice);

BOS: full time vocational schools;

FOS: school- and work-based VET programmes

GES: Many of these health VET programmes are attached to hospitals providing both theoretical and practical training.

Main providers Regulated by Federal or state law

- senior vocational school (*Berufsoberschule* BOS)
- specialised upper secondary school (*Fachoberschule* FOS)
- schools of health, education and social care (GES)
- other vocational schools such as *Fachschule* and *Fachakademie*



Share of work-based learning provided by schools and companies	Varies from low share (BOS) to high share (FOS and GES)
Work-based learning type (workshops at schools, in-company training / apprenticeships)	<ul style="list-style-type: none"> • practical training at school • work practice (e.g. in attached hospital in the case of healthcare schools)
Main target groups	Programmes are available for young people and also for adults.
Entry requirements for learners (qualification/education level, age)	<p>Leaving certificate from intermediate secondary school (<i>mittlerer Schulabschluss</i> at the end of grade 10) and</p> <p>(1) two years' successful vocational training or</p> <p>(2) five years' practical experience</p>
Assessment of learning outcomes	final examinations
Diplomas/certificates provided	Programmes at post-secondary level aim at increasing the permeability between secondary (for holders of general intermediate secondary leaving certificate) and tertiary education, by acquiring a higher education entrance qualification (subject-specific or not).
Examples of qualifications	<p>Heath/education/social sector schools: nurse, physical therapist, pharmaceutical-technical assistant, educator, social worker</p> <p>Post-secondary programmes at ISCED level 454 correspond to cases having acquired <i>two</i> qualifications: a higher education entrance qualification and a dual VET qualification or two VET qualifications.</p>
Progression opportunities for learners after graduation	<p>Programmes at post-secondary level aim at increasing the permeability between secondary (for holders of general intermediate secondary leaving certificate) and tertiary education, by acquiring a higher education entrance qualification.</p> <p>Depending on their chosen programme and duration, graduates from specialised programmes can further progress to vocational and general bachelor programmes, as well as to technician specialists programmes.</p>
Destination of graduates	Information not available
Awards through validation of prior learning	information not available
General education subjects	✓
Key competences	✓
Application of learning outcomes approach	Information not available

Share of learners in this programme type compared with the total number of VET learners	Information not available
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EQF 5-7
Management and expert qualifications and exams;
Master craftsperson specialist qualifications and exams;
ISCED 554, 655
Certified advisor qualifications and exams
ISCED 554

Advanced vocational qualifications at three levels: - EQF level 5: certified advisor (Fachberater), - EQF 6: master craftsperson, specialist (Fachwirte und -meister) and - EQF 7: management and experts (geprüfter Betriebswirt). Four ‘vertical’ paths lead across the three levels mentioned: commercial path, technical path, vocational pedagogical path, IT and media path.

EQF level	5-7	ISCED-P 2011 level	554, 655	Data about these programmes are not fully recorded in the ISCED-97 statistics for two reasons. First, the examinations do not generally require a participation in a preparatory course. Second, even if a huge number of examinees were to participate in preparatory classes, these courses offered by the chambers are not seen as part of the education system. There is political pressure to remedy this lack of transparency in international statistics and to include all programmes that meet the ISCED-2011 level definition in the near future.
Usual entry grade	Varies	Usual completion grade	Varies	
Usual entry age	Varies	Usual completion age	Varies	
Length of a programme (years)	Varies: depends on preparation classes			

Is it part of compulsory education and training?		Is it part of formal education and training system?	
Is it initial VET?		Is it continuing VET?	It is advanced VET.
Is it offered free of charge?	 Exams fees and fees for preparation classes provided by the Chambers for example.	Is it available for adults?	

ECVET or other credits Information not available

Learning forms (e.g. dual, part-time, distance) These advanced vocational qualifications do not contain a curriculum; however, they do define and describe examinations. The candidates can prepare themselves while continuing to work. Most candidates attend preparatory courses. These courses may be full-time, part-time or distance learning.

Main providers Exams: Assessment/certification by the chambers;
Preparatory courses: provided by the chambers.

Share of work-based learning provided by schools and companies The candidates can prepare themselves while continuing to work. Most candidates attend preparatory courses (full time or part time after work), which mostly do not include any work-based learning. However, professional practice is required to access each new level of qualifications.

Work-based learning type (workshops at schools, in-company training / apprenticeships) The candidates can prepare themselves while continuing to work. Most candidates attend preparatory courses (full time or part time after work), which mostly do not include any work-based learning. However, professional practice is required to access each new level of qualifications.

Main target groups	<p>Programmes are aimed at people who have already completed vocational or professional training and/or have a number of years of professional experience. They are designed to offer further professional development.</p> <p>Advanced vocational training as a master craftsperson (<i>Meister</i>; at EQF level 6) entitles the holder to practise a craft trade independently, to employ and train apprentices and opens up access to courses at craft academies, universities of applied sciences (UASs, <i>Fachhochschulen</i>) as well as universities.</p>
Entry requirements for learners (qualification/education level, age)	<p>The admission requirements to the examination are threefold:</p> <ul style="list-style-type: none"> • IVET qualification, • work experience • advanced vocational qualification at EQF level 6 to do an advanced vocational qualification at EQF level.
Assessment of learning outcomes	<p>Unlike the training regulations for IVET in the dual system, these federally regulated advanced training regulations do not contain a curriculum; however, they do define and describe examinations. Other features, which must be specified in the advanced training regulations, include (§ 53 para. 2 BBiG, § 42 para. 2 HwO):</p> <ul style="list-style-type: none"> • designation of the advanced qualification, • the aim, contents and requirements of the examination, • admission requirements and • examination procedure. <p>The assessment and certification is carried out by the Chambers.</p>
Diplomas/certificates provided	<ul style="list-style-type: none"> • certified advisor in specific professional areas; technician (EQF 5), • master craftsperson, specialist, etc. (EQF 6), • management expert; vocational pedagogue, IT-Professional (EQF 7).
Examples of qualifications	<p>EQF 5</p> <p>Technical consultant, foreign language correspondent, automotive service technician</p> <p>EQF 6</p> <ul style="list-style-type: none"> • <u>Crafts</u>: e.g. Master painter, baker, hairdresser • <u>Commerce and industry</u>: e.g. certified industrial supervisor specializing in footwear manufacturing, certified audio-visual media production specialist, certified financial services consultant, certified commercial specialist for logistics systems. <p>EQF 7</p> <p>Certified Business Manager, Certified Technical Business Manager, Certified Professional Educator and Strategic Professionals</p>

Progression opportunities for learners after graduation	Completion of advanced vocational training at EQF level 6 as a master craftsperson (<i>Meister</i>) and at EQF level 7 opens up access to higher education.
Destination of graduates	Information not available
Awards through validation of prior learning	These advanced vocational qualifications do not contain a curriculum; however, they do define and describe examinations. Validation of prior learning is therefore not relevant for those advanced vocational qualifications.
General education subjects	Varies according to the qualification and corresponding examination
Key competences	Varies according to the qualification and corresponding examination
Application of learning outcomes approach	Information not available
Share of learners in this programme type compared with the total number of VET learners	Information not available

EQF 6

Technician, specialist etc. programmes

incl. WBL

1.5-4 years

ISCED 655







Technician, specialist etc. programmes in trade and technical schools (Fachschule) leading to EQF level 6 and ISCED 655.

EQF level	6	ISCED-P 2011 level	655
Usual entry grade	Varies	Usual completion grade	Varies
Usual entry age	Varies	Usual completion age	Varies
Length of a programme (years)	1.5 up to 4 years		
Is it part of compulsory education and training?	✗	Is it part of formal education and training system?	✓
Is it initial VET?	✗	Is it continuing VET?	✓
			advanced VET
Is it offered free of charge?	Varies	Is it available for adults?	✓
ECVET or other credits	Information not available		
Learning forms (e.g. dual, part-time, distance)	Depends on the field of study: mostly school-based learning but also work-based learning required in the fields of curative education care and social pedagogy (one third of the learning).		
Main providers	State regulated technical and trade schools They exist for the following occupational fields: agriculture, design, technology, business and social care.		
Share of work-based learning provided by schools and companies	Depends on the field of study: mostly school-based learning but also work-based learning required in the fields of curative education care and social pedagogy (one third of the learning).		
Work-based learning type (workshops at schools, in-company training / apprenticeships)	work practice		

Main target groups	<p>Programmes are available to graduates from apprenticeship and school-based VET programmes after a certain number of years working in the related profession.</p> <p>They qualify learners to take on management tasks and encourage them to become self-employed. They can also be used to prepare the master craftsperson examination.</p>
Entry requirements for learners (qualification/education level, age)	Entrance requirements vary by subject area: an applicant normally needs a qualification in a recognised training occupation relevant to the chosen subject and relevant work experience of at least one year, or a qualification from a full-time vocational school and relevant work experience of at least five years.
Assessment of learning outcomes	They end with a final state examination under state law.
Diplomas/certificates provided	The programmes end with a final state examination under state law with a state certified qualification.
Examples of qualifications	State vocational qualification (e.g. educator; technician)
Progression opportunities for learners after graduation	<p>Progression to vocational bachelor programme is possible ([213]) and prior education may be recognised affecting the programme duration.</p> <p>They qualify learners to take on management tasks and encourage them to become self-employed. They can also be used to prepare the master craftsperson examination.</p>
Destination of graduates	They qualify learners to take on management tasks and encourage them to become self-employed. They can also be used to prepare the master craftsperson examination.
Awards through validation of prior learning	<p>✓</p> <p>An applicant normally needs a qualification in a recognised training occupation relevant to the chosen subject and relevant work experience of at least one year, or a qualification from a full-time vocational school and relevant work experience</p>
General education subjects	<p>✓</p> <p>Depends on the field of study ([214])</p>
Key competences	<p>✓</p> <p>Depends on the field of study</p>
Application of learning outcomes approach	Information not available
Share of learners in this programme type compared with the total number of VET learners	Information not available

- [213] KMK resolution of 5.6.1998 in the version currently in force.
- [214] http://www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2002/2002_11_07-RV-Fachschulen.pdf

Dual study bachelor programmes (Duales Studium im Bachelor Programm) leading to EQF level 6 and ISCED level 645

EQF level	6	ISCED-P 2011 level	645
Usual entry grade	13-14	Usual completion grade	Varies
Usual entry age	Varies but minimum 17-18	Usual completion age	Varies
Length of a programme (years)	3-4		
Is it part of compulsory education and training?		Is it part of formal education and training system?	
Is it initial VET?	 Around a quarter of all <i>Fachhochschulen</i> programmes are dual study programmes. They combine two learning venues (i.e., the workplace and the education institution) and are provided in three different forms of programmes: two are regarded as initial studies and one as continuing education.	Is it continuing VET?	 Around a quarter of all <i>Fachhochschulen</i> programmes are dual study programmes. They combine two learning venues (i.e., the workplace and the education institution) and are provided in three different forms of programmes: two are regarded as initial studies and one as continuing education.
Is it offered free of charge?	 In most federal states, no general tuition fees during the standard period of study.	Is it available for adults?	

ECVET or other credits Graduate need to proof a minimum of 180 ECTS points ([215]).

Learning forms (e.g. dual, part-time, distance)	<p>Dual learning:</p> <ul style="list-style-type: none"> • school-based learning • work-based learning
Main providers	<p>Dual programmes (EQF levels 6, 7) are offered by</p> <ul style="list-style-type: none"> • universities of applied sciences (UASs, <i>Fachhochschulen</i>): 69% of all dual study programmes ([216]) • the dual university (<i>Duale Hochschulen</i>):13% • universities of cooperative education (<i>Berufsakademien</i>): 12% • as well as some universities.
Share of work-based learning provided by schools and companies	<p>Percentage of in-company training varies, but at least 40-50%</p>
Work-based learning type (workshops at schools, in-company training / apprenticeships)	<ul style="list-style-type: none"> • practical training at school • in-company practice <p>The initial dual study programmes have the following characteristics:</p> <p>(1) alternation between theory phases in the institution of higher education or academy and practical phases in the training enterprise;</p> <p>(2) a regulation about the practical training;</p> <p>(3) learners have the status as a student/employee (a) or an mostly unpaid-trainee (b), based on a contract with the company;</p> <p>(4) closely interwoven learning activity in the company and acquisition of theoretical knowledge in the higher education institution / academy;</p> <p>(5) close coordination and cooperation between the higher education institution and company.</p>
Main target groups	<p>The continuing VET dual study programmes with an employment component are primarily aimed at people who have already completed vocational or professional training and/or have a number of years of professional experience.</p>

Entry requirements for learners (qualification/education level, age)	<p>As a rule, enrolling in an IVET dual study programme requires a higher education entrance qualification (<i>Allgemeine Hochschulreife</i> or <i>Fachhochschulreife</i>). However, vocationally qualified applicants without a higher education entrance qualification obtained at school can be granted the right of entry to higher education under standard preconditions. (e.g. successful completion of apprenticeship, years of work experience in the field).</p> <p>The programme with a training component also requires an employment contract. In some cases, the completion of an internship (8 to 12 weeks) in a company working in the field of study is required before the start of studies (<i>Vorpraktikum</i>).</p> <p>The CVET dual study programmes with an employment component are primarily aimed at people who have already completed vocational or professional training and/or have a number of years of professional experience. They are designed to offer further professional development and combine a course of study with professional experience that is directly relevant to the course. No higher education entrance qualification is required.</p>
Assessment of learning outcomes	<p>The examinations are in general performed as an accompaniment to studies. The study courses are provided with a credit point system (at least 180 ECTS for a Bachelor's degree). A written dissertation (Bachelor's thesis) is obligatory. Learners are to demonstrate the ability to independently address a problem from their subject within a specified period of time using academic methods. The examinations regulations (<i>Prüfungsordnungen</i>) prescribe the objectives of and subject-matter on the examinations, the required standards and the examining procedures for each study course.</p>
Diplomas/certificates provided	<p>Programmes lead in general to a bachelor qualification, which can differ in the following way:</p> <ul style="list-style-type: none"> • initial dual study programmes with an integrated training component combine a course of study with practical training in a recognised occupation in a company. In addition to the bachelor degree, learners obtain a formal IVET qualification; • initial dual study programmes with a work experience component combine a course of study with extended practical placements with an employer (about 40-50% in-company training). Learners obtain a bachelor degree but not a recognised vocational qualification; • continuing VET dual study programmes with an employment component are primarily aimed at people who have already completed vocational or professional training and/or have a number of years of professional experience. They are designed to offer further professional development and combine a course of study with professional experience that is directly relevant to the course.

Examples of qualifications	The most common combination for initial dual study programmes is a business management programme plus commercial training, as well as an engineering or computer science programme combined with technical training. There is a wide range of possible subject areas, such as insurance, mechatronics, commercial law, health economy, mathematics, biology, architecture, and media informatics.
Progression opportunities for learners after graduation	<p>Graduates can further progress to professional or general Master programmes.</p> <p>The CVET dual study programmes with an employment component are designed to offer further professional development and combine a course of study with professional experience that is directly relevant to the course.</p>
Destination of graduates	Information not available
Awards through validation of prior learning	Information not available
General education subjects	✓
Key competences	Information not available
Application of learning outcomes approach	Information not available
Share of learners in this programme type compared with the total number of VET learners	Information not available

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- [215] For further information on ECVET read: https://ec.europa.eu/education/resources-and-tools/the-european-credit-system-for-vocational-education-and-training-ecvet_en
- [216] AusbildungPlus 2016: https://www.bibb.de/dokumente/pdf/duales_studium_in_zahlen_2016.pdf







EQF 7

Master programmes

2 years

ISCED 747

Master programme (Master Programm) leading to EQF level 7, ISCED 747

EQF level	7	ISCED-P 2011 level	747
Usual entry grade	17	Usual completion grade	18
Usual entry age	23	Usual completion age	24
Length of a programme (years)	2		
Is it part of compulsory education and training?		Is it part of formal education and training system?	
Is it initial VET?	 can be both initial and continuing VET	Is it continuing VET?	 can be both initial and continuing VET
Is it offered free of charge?	 in most federal states, no general tuition fees during the standard period of study.	Is it available for adults?	
ECVET or other credits	For a Master programme on average 30 credits each semester have to be achieved. A one-year programme has therefore typically 60 credits, a two-year programme 120 points in line with the European Credit Transfer System ([217]).		
Learning forms (e.g. dual, part-time, distance)	Dual learning: <ul style="list-style-type: none"> • school-based learning • work-based learning 		

Main providers	<p>Dual programmes (EQF levels 6, 7) are offered by:</p> <ul style="list-style-type: none"> • universities of applied sciences (UASs, <i>Fachhochschulen</i>): 69% of all dual study programmes ([218]); • the dual university (<i>Duale Hochschulen</i>):13% ; • universities of cooperative education (<i>Berufsakademien</i>): 12%; • as well as some universities.
Share of work-based learning provided by schools and companies	Information not available
Work-based learning type (workshops at schools, in-company training / apprenticeships)	<ul style="list-style-type: none"> • practical training at school • in-company practice <p>Initial dual study programmes have the following characteristics:</p> <ul style="list-style-type: none"> • alternation between theory phases in the institution of higher education or academy and practical phases in the training enterprise; • a regulation about the practical training; • learners have the status as a student-employee (a) or an mostly unpaid-trainee (b), based on a contract with the company; • closely interwoven learning activity in the company and acquisition of theoretical knowledge in the higher education institution / academy; • close coordination and cooperation between the higher education institution and company.
Main target groups	The continuing VET dual study Master programmes with an employment component are primarily aimed at people who have already completed vocational or professional training and/or have a number of years of professional experience as well as the bachelor diploma.
Entry requirements for learners (qualification/education level, age)	To enter the dual study Master programmes, learners must have successfully graduated from a general or vocational Bachelor programme.
Assessment of learning outcomes	The examinations are in general performed as an accompaniment to studies. The study courses are provided with a credit point system (at least 120 ECTS for a Master's degree). A written dissertation (Master's thesis) is obligatory. The examinations regulations (<i>Prüfungsordnungen</i>) prescribe the objectives of and subject-matter on the examinations, the required standards and the examining procedures for each study course.
Diplomas/certificates provided	Information not available

Examples of qualifications	The most common combination for initial dual study programmes is a business management programme plus commercial training, as well as an engineering or computer science programme combined with technical training. There is a wide range of possible subject areas, such as insurance, mechatronics, commercial law, health economy, mathematics, biology, architecture, and media informatics.
Progression opportunities for learners after graduation	Graduates holding a Master degree can progress to do a PHD programme and degree.
Destination of graduates	Information not available
Awards through validation of prior learning	Information not available
General education subjects	Information not available
Key competences	Information not available
Application of learning outcomes approach	Information not available
Share of learners in this programme type compared with the total number of VET learners	Information not available

[217] For further information on ECVET read: https://ec.europa.eu/education/resources-and-tools/the-european-credit-system-for-vocational-education-and-training-ecvet_en

[218] AusbildungPlus 2016:
https://www.bibb.de/dokumente/pdf/duales_studium_in_zahlen_2016.pdf

References

- [1] Cedefop (2017). Spotlight on vocational education and training in Germany. Luxembourg: Publications Office. http://www.cedefop.europa.eu/files/8116_en.pdf
- [3] Cedefop (2017). Spotlight on vocational education and training in Germany. Luxembourg: Publications Office. http://www.cedefop.europa.eu/files/8116_en.pdf
- [7] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018.] Bonn: BIBB. p.206.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf See also:
https://www.destatis.de/DE/Themen/Branchen-Unternehmen/Unternehmen/_inhalt.html
- [14] Huismann, A. (2018). Guidance and outreach for inactive and unemployed – Germany. Cedefop ReferNet thematic perspectives series, pp. 22-26.

http://libserver.cedefop.europa.eu/vetelib/2018/guidance_outreach_Germany_Cedefop_ReferNet.pdf

- [15] BMBF (2018). Berufsbildungsbericht 2018 [Report on vocational education and training 2018]. Bonn: BMBF, p. 90.
https://www.bmbf.de/upload_filestore/pub/Berufsbildungsbericht_2018.pdf
- [16] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB, p. 85, 88 and 167.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
BIBB (2017). VET data report Germany 2016-17: facts and analyses to accompany the Federal Government report on VET: selected findings. Bonn: BIBB, p 39-41.
<https://www.bibb.de/datenreport/en/60595.php>
- [17] Cedefop (2017). Spotlight on vocational education and training in Germany. Luxembourg: Publications Office. http://www.cedefop.europa.eu/files/8116_en.pdf
- [22] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB, p.167.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
- [23] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB, p. 132.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
- [25] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB, p. 136.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
- [26] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB, p. 326.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
- [31] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB.
<https://www.bibb.de/datenreport/de/index.php>
- [45] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB. p. 273.
<https://www.bibb.de/datenreport/>
- [47] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB. <https://www.bibb.de/datenreport/>
- [50] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB, p. 277.
<https://www.bibb.de/datenreport/>
- [51] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB, p. 277.
<https://www.bibb.de/datenreport/>,
- [57] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB, p. 355.
<https://www.bibb.de/datenreport/>
- [66] BMBF (2013). Qualifizierungsmöglichkeiten für Ausbilderinnen und Ausbilder: Geprüfte/-r Aus- und Weiterbildungspädagoge/-in. Geprüfte/-r Berufspädagoge/-in [Qualification possibilities for trainers: certified education and training educator and certified vocational trainer]. Bonn: BMBF. <https://lit.bibb.de/vufind/Record/61379>
- [95] This section is based on: Hippach-Schneider, U.; Huismann, A. (2019). Vocational

education and training in Europe: Germany. Cedefop ReferNet VET in Europe reports 2018.

http://libserver.cedefop.europa.eu/vetelib/2019/ReferNet_Germany_VET_in_Europe_2018.pdf

- [99] BIBB (2017a). Training regulations and how they come about. Bonn: BIBB.
<https://www.bibb.de/veroeffentlichungen/en/publication/show/8277>
- [102] BIBB (2017). Training regulations and how they come about. Bonn: BIBB.
<https://www.bibb.de/veroeffentlichungen/en/publication/show/8277>
- [103] BIBB (2017). Training regulations and how they come about. Bonn: BIBB.
<https://www.bibb.de/veroeffentlichungen/en/publication/show/8277>
- [107] BIBB (2017). Training regulations and how they come about. Bonn: BIBB.
<https://www.bibb.de/veroeffentlichungen/en/publication/show/8277>
- [109] BIBB (2017). Training regulations and how they come about. Bonn: BIBB.
<https://www.bibb.de/veroeffentlichungen/en/publication/show/8277>
- [110] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB, p. 76.
<https://www.bibb.de/datenreport/>
- [114] BIBB (2017). Quality assurance of company-based training in the dual system in Germany: an overview for practitioners and VET experts.
<https://www.bibb.de/veroeffentlichungen/en/publication/show/8548>, p. 7.
- [119] Quality assurance of company-based training in the dual system in Germany. Bonn: BIBB.
- [138] BMBF (2018). Berufsbildungsbericht 2018. Bonn:, p. 119
- [146] BMBF (2018). Berufsbildungsbericht 2018.[Vocational education and training report 2018]. Bonn: BMBF, p. 118.
- [150] BMBF (2018). Berufsbildungsbericht 2018, p. 57-60 and from p. 88.
https://www.bmbf.de/upload_filestore/pub/Berufsbildungsbericht_2018.pdf
- [154] BMBF(2018). Berufsbildungsbericht 2018. Bonn: BMBF, p. 125.
- [157] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018. Bonn: BIBB, p. 396.
<https://www.bibb.de/datenreport/>
- [159] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018. Bonn: BIBB, p. 399.
<https://www.bibb.de/datenreport/>
- [162] Huismann, A. (2018). Guidance and outreach for inactive and unemployed – Germany. Cedefop ReferNet thematic perspectives series.
http://libserver.cedefop.europa.eu/vetelib/2018/guidance_outreach_Germany_Cedefop_R_eferNet.pdf
- [172] BMBF (2018). Berufsbildungsbericht 2018. Bonn: BMBF, p. 118.
https://www.bmbf.de/upload_filestore/pub/Berufsbildungsbericht_2018.pdf
- [173] BMBF (2018). Berufsbildungsbericht 2018. Bonn: BMBF, p. 93.
- [175] BMBF(2018). Berufsbildungsbericht 2018. Bonn: BMBF, p. 122.
- [178] BMBF (2018). Berufsbildungsbericht 2018. Bonn: BMBF, p. 124.
- [180] BMBF (2018). Berufsbildungsbericht 2018. Bonn: BMBF, p.94.
- [183] Huismann, A. (2018). Guidance and outreach for inactive and unemployed – Germany. Cedefop ReferNet thematic perspectives series, pp. 13-16.
http://libserver.cedefop.europa.eu/vetelib/2018/guidance_outreach_Germany_Cedefop_R

- [193] BMBF (2018). Berufsbildungsbericht 2018. Bonn: BMBF, p. 90.
https://www.bmbf.de/upload_filestore/pub/Berufsbildungsbericht_2018.pdf
- [198] BMBF (2018). Berufsbildungsbericht 2018. Bonn: BMBF, p. 126.
https://www.bmbf.de/upload_filestore/pub/Berufsbildungsbericht_2018.pdf
- [202] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018 [Data report of the vocational education and training report 2018]. Bonn: BIBB, p. 141-147.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
- [203] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018, p. 142.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
- [204] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018, p. 167.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
- [206] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018, p. 132.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
- [207] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018, p. 162.
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
- [210] BIBB (2015). Ausbildungsordnungen und wie sie entstehen [Vocational training regulations and the process behind them]. Bonn: BIBB, p. 22f .
<https://www.bibb.de/veroeffentlichungen/de/publication/show/2061>
- [211] BIBB (2018). Datenreport zum Berufsbildungsbericht 2018, p. 86 (iABE).
https://www.bibb.de/dokumente/pdf/bibb_datenreport_2018.pdf
- [12b] Cedefop (2019). The changing nature and role of vocational education and training in Europe. Volume 6: vocationally oriented education and training at higher education level. Expansion and diversification in European countries. Case study focusing on Germany. Cedefop research paper; No 70.
https://www.cedefop.europa.eu/files/germany_cedefop_changing_nature_of_vet_case_study.pdf
- [12a] Cedefop (2018). The changing nature and role of vocational education and training in Europe. Volume 3: the responsiveness of European VET systems to external change (1995-2015). Case study focusing in England. Cedefop research paper; No 67.
https://www.cedefop.europa.eu/files/england_cedefop_changing_nature_of_vet_case_study.pdf