VET Data Report Germany 2023

Facts and analyses to accompany the Federal Government Report on Vocational Education and Training – Selected findings

Federal Institute for Vocational Education and Training

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Preface

Dear readers,

The Federal Institute for Vocational Education and Training (BIBB) is publishing the English version of the Data Report for the 15th time. This English version is based on an abridged version of the German edition of the 2023 BIBB Data Report[1]. It contains comprehensive data on initial and continuing vocational education and training in Germany.

The training market underwent a considerable downturn between 2019 and 2022 as a result of the coronavirus pandemic. As of 30 September 2022, the number of newly concluded training contracts was still significantly below the level for 2019, the year prior to the pandemic. Training supply has not yet been able to compensate for the massive collapse which occurred in 2020. Demand from young people for a training place has decreased further. One of the reasons for this decline is demographic development, which is leading to falling numbers of school leavers. Secondly, young people are aspiring to higher school-leaving qualifications, and compared to previous years, those with a higher education entrance qualification are showing a greater propensity to embark upon degree courses. The drop in demand for dual training places represents a considerable challenge in terms of securing the future availability of skilled workers. It remains difficult to match young people who are interested in training with companies offering training places. In addition to this, there has been a rise in the proportion of young adults without a vocational qualification. Young people who have failed to achieve a school-leaving certificate and those with personal experience of migration were more likely to be affected.

This is an area where immediate action is needed. Our aim must be to put suitable education and training provision in place for all young people who find it difficult to enter vocational education and training or who, for a variety of reasons, are unable or unwilling to complete the education and training pathway they have commenced in the dual system, in the school-based VET system or in higher education study, and thus offer them the best possible training for their future working life. Implementing changes in the VET system involves driving forward innovations. For this reason, the main focus of the report is “Innovations in vocational education and training via programmes”. Programmes are an important educational policy instrument with regard to tapping into areas of potential for innovation in vocational education and training and in respect of supporting the further development of these in practice.

We hope that you find this issue of the BIBB Data Report both informative and inspiring as well as useful in your daily work!

Prof. Dr. Friedrich Hubert Esser
President

1 The Data Report is prepared by a multitude of authors from the BIBB and from other affiliated institutions which are not mentioned in the abbreviated translation. Furthermore, for the sake of simplification, we have refrained from mentioning the citations which are featured in the original report.

Contents

Part A: Initial VET indicators

A1 Vocational training indicators

Key facts on initial vocational education and training

Dual vocational education and training traditionally enjoys a high degree of importance in Germany. However, the number of trainees has decreased significantly over the longer term. In 2021, 1.26 million trainees completed training in one of the 326 recognised training occupations pursuant to the BBiG/HwO (2010: 1.51 million). Such a development was in part demographically-related and brought about by falling numbers of school leavers, but there were also other factors in the form of a trend towards higher level school qualifications and an increased preference for higher education study compared to previous years. In 2020, the training market underwent a considerable downturn in the wake of the coronavirus pandemic and the ensuing limitations. It has yet to recover from this.

Only a small rise in the number of newly concluded training contracts

According to the BIBB survey of the competent bodies, a total of 475,100[2] new training contracts were concluded nationally during the period from 1 October 2021 to 30 September 2022. This constitutes an increase of 2,100 contracts (+0.4%) compared to the previous year. The number of newly concluded company-based training contracts was 460,800, thus 4,200 contracts (+0.9%) higher than in 2021. A decrease of 2,200 (-13.1%) to 14,300 was recorded in the case of newly concluded extra-company training contracts (2019 comparison: 14,400).

A slight growth in training supply, too

544,000 training places were on offer nationwide. Training supply (newly concluded training contracts plus unfilled VET places) thus increased by 7,800 places (+1.4%) compared to the previous year. The number of company-based training places on offer (not including training places primarily publicly funded) was 529,700. This means that firms and companies in Germany made 9,900 (+1.9%) more training places available than in the previous year. However, supply remained significantly below the level of 2019 (supply: -34.200 or -5,9%; company-based supply: -34,100 or -6.1%).

Further decreases on the demand side

Demand declined to 535,500 in 2022 (-5,300 or -1.0% compared to 2021). A comparison with 2019 (598,800) shows considerable downturns on the demand side (-63,200 or -10.6%). In 2019, demand fell to below 600,000 for the first time.

Rise in the supply–demand ratios

The supply-demand ratio (as per the extended definition) was 101.6 in 2022, the first time that the figure has exceeded 100. The progression rate of young people interested in entering training (EQI) was also higher at 68.0. The market situation has thus improved from the point of view of young people seeking a training place. However, this also due to the fact that both demand and the number of persons interested in training are significantly lower than in previous years.

Difficulties in matching supply and demand[3]

As of the cut-off point of 30 September 2022, a total of 60,400 applicants were still seeking a training place (2021: 67,800). The number of unfilled vocational education and training places also rose further in 2022 by 5,700 (+9.0%) to 68,900. Matching training supply and demand remains difficult. In 2022, applicants still seeking a training place accounted for 11.3% of total demand, a lower proportion than in either of the previous years (2021: 12.5%, 2020: 14.3%). On the other hand, the number of unfilled places as a proportion of total company-based provision also saw a further rise. Matching problems constitute a major challenge on the training market. There are considerable differences between occupations and regions in this regard.

2 Absolute figures have been rounded.

3 Because data for 2022 is not yet available from all central statistical sources at the time of publication of the 2023 Data Report, the following presentation contains information for 2021 alongside information for 2022. This needs to be considered when interpreting the results.

Entrants in the transitional sector

According to preliminary results from the Integrated Training Reporting System, the number of entrants in the transitional sector (239,100) rose for the first time since 2016 (+6.3% compared to 2021, -4.4% vis-à-vis 2019). This growth has its origins in an increase in the number of foreign entrants.

Participation in training by companies

416,700 companies participated in the vocational education and training of young people and young adults in 2021. The number of companies providing training decreased by -0.7% compared to the previous year. The rate of companies providing training was 19.1%. In 2021, declining participation in training was solely due to falling involvement by the smallest category of company with up to nine employees.

Contract dissolution rate

A total of 141,200 training contracts were prematurely dissolved nationally in 2021. The contract dissolution rate was 26.7%. Compared to the previous year, the rate increased by 1.6 percentage points (2020: 25.1%).

Final examinations

In 2021, there was once again virtually no change compared to the previous year in the number of examinations sat (+0.7%), number of examination candidates (+0.4%) and number of persons passing an examination (-0.4%). The pass rate in final examinations for all candidates was 91.5%.

Persons without a vocational education and training qualification

The proportion of young adults aged between 20 and 34 not in possession of a formal vocational qualification was 17.8%. Extrapolating this figure indicates 2.64 million young adults without a formal qualification. Persons from a migration background are also disproportionately likely to remain without a vocational qualification. The ratio of migrants aged between 20 and 34 and with their own experience of immigration who are without a formal qualification was 38.1% (for the purpose of comparison, the corresponding figure for Germans not from a migrant background is 10.6%).

A2 Current training market figures

Several indicators are always necessary in order to describe the training market. One of the reasons for this is the fact that said indicators sometimes exhibit a conflicting relationship in terms of education and training policy (see Information Box).

Information Box – Terminological distinctions within the scope of the training market figures

The terms vocational education and training places and **training place applicants** originate from the training market statistics produced by the Federal Employment Agency (BA). They encompass the places and applicants registered with the advisory and placement services with a view to obtaining placement support. Young people are only registered as training place applicants if individual suitability for the training occupations they wish to enter has been clarified or if the prerequisites for commencement of VET have been met.

The official training place supply each year, which determines the overall final figures, includes the newly concluded training contracts recorded by the BIBB within the scope of its survey conducted as of 30 September (supply of training places successfully filled) together with the company-based VET places registered with the BA which have been offered to the labour administration authorities for placement during the reporting year and which have not yet been filled as of 30 September (unsuccessful placements, supply of training places not filled). Official **training place demand**, which informs the overall final figures, is made up of young people interested in training who have either concluded a new training contract and have thus been recorded via the BIBB survey as of 30 September (successful demand) and further comprises the group of applicants still continuing their search for a training place on the cut-off date of 30 September (unsuccessful demand). The extended **supply-demand ratio** (eANR) indicates arithmetically how many training places are on offer for each 100 potential training place applicants. "Extended" means that, unlike in previous calculations, all potential training place applicants recorded by the advisory and placement services as still seeking to secure a place at the cut-off date are additionally counted as unsuccessful training place applicants.

Registered training place applicants who have opted for alternative provision over the course of the year (e.g. a return to school, higher education study, employment, vocational preparation scheme) and who are no longer or initially no longer seeking a vocational training place as of

30 September are not in principle deemed to be potential training place applicants (even if they are pursuing this alternative because of unsuccessful applications). They are, however, counted as **persons interested in training**. This group includes all institutionally recorded young people who displayed an interest in commencing dual VET at least at some point during the course of the reporting year and whose suitability in this regard has been ascertained insofar as they have not progressed to training.

A2.1 Developments on the training market

A2.1.1 Supply and demand, supply–demand ratio

Developments in training place demand and training place supply in 2022 continued in a similar fashion as in the previous year. The same applies in respect of company-based training provision. As in 2021, training place demand once again fell slightly in the current reporting year. On the basis of the longer-term development in training place demand and training place supply, → **Table A2.1.1-1** makes clear that the decreases in supply and demand are only partially attributable to the coronavirus pandemic and to its containment measures. Prior to the outbreak of the pandemic, the training market was already characterised by downward trends in the wake of falling numbers of school leavers over previous years, decreasing interest in training, and rising numbers of unfilled training places. Although demographic development is often stated to be the main reason for declining demand in the public debate, a larger role is actually played by the perceived attractiveness of dual vocational education and training as compared to school-based training programmes and higher education. The specific occupations to which young people aspire are closely linked with these training systems. Above and beyond the respective occupational tasks, later earnings potential, career choice and the expected societal recognition of occupations are particularly significant to occupational choice. Generally speaking, men are more likely than women to choose training in the dual system. Secondly, as a consequence of a demographically-driven fall in the number of school leavers and a trend towards higher training, demand has for some years been marked by an increase in the average level of prior school learning. In 2011, the number of potential applicants in possession of a lower secondary school-leaving certificate significantly exceeded the number of potential applicants with a higher education entrance qualification by 59,100 persons. Since 2015, however, this ratio has been reversed. In 2022, the number of potential applicants with a lower secondary school-leaving certificate outstripped the number of those with a higher education qualification by 21,600 → **Table A2.1.1-1**.

Because training place supply nationally once again rose slightly compared to the previous year whilst training place demand dropped somewhat at the same time, the ratio between the two values (eANR = extended supply-demand ratio) shifted in favour of the potential training place applicants. Arithmetically, there were 101.6 training places on offer for every 100 potential training place applicants in the 2022 reporting year → **Table A2.1.1-1**. It was unprecedented for this value to be over the level of 100 nationally, i.e. demand for training places was lower than the training place supply for the first time. However, such a development should not hide the fact that supply problems on the training market continue to exist for young people in many training occupations. At the same time, this means that the recruitment problems of the companies are exacerbated.

A2.1.2 Unsuccessful market participations and matching problems

The number of unfilled training places has reached a new record in each of the past three reporting years. In 2022, it rose by 5,700 places or 9.0% compared to the previous year to 68,900 unfilled training places. The rate of unfilled company-based training places as a proportion of all company-based training places increased to 13.0% in the same period. For the companies, this means that between one in seven and one in eight company-based training places remained vacant in 2022 and further increases the challenge they face in covering their own skilled worker requirements via training → **Table A2.1.2-1**.

Whereas recruitment problems have increased for the companies, the supply situation has improved from the point of view of many young people. In the 2022 reporting year, the number of applicants still seeking a training place fell by 7,400 (-10.9%) compared to the previous year to 60,400. This meant that the rate of applicants still seeking a training place fell below the rate of unfilled company-based training places for the first time.

Unused training contract potential in the 2022 reporting year (see Information Box) was 68,900. This figure represents 68,900 unfilled training places as opposed to 60,400 potential applicants still seeking a training place. Contrary to unused contract potential, one further relevant factor for the determination of matching problems (see Information Box) is the extent to which the side with the higher number of market participations

Table A2.1.1-1: **Development of supply and demand in Germany from 2011 to 2022 (cut-off date 30 September)**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022 compared to 2021	
													Absolute	in %
Training places on offer[1]	**599,868**	**585,333**	**564,261**	**561,651**	**563,838**	**563,832**	**572,274**	**589,068**	**578,175**	**527,433**	**536,238**	**544,011**	**+7,773**	**1.4%**
Primarily publicly financed[2]	30,459	25,905	21,681	20,394	18,864	17,550	15,879	14,883	14,367	14,889	16,512	14,343	-2.169	-13,1%
Company-based[3]	569,406	559,428	542,580	541,257	544,974	546,282	556,395	574,185	563,808	512,544	519,726	529,668	+9.942	1,9%
Training places demand[4]	**641,796**	**627,378**	**613,284**	**604,590**	**603,198**	**600,876**	**603,510**	**610,032**	**598,758**	**545,721**	**540,882**	**535,545**	**-5,337**	**-1.0%**
Male	377,457	369,267	362,877	360,390	362,022	364,107	375,168	384,921	379,215	346,620	344,592	340,191	-4.401	-1,3%
Female	264,342	258,111	250,407	244,200	241,173	236,769	228,339	225,111	219,531	199,053	196,134	195,126	-1.008	-0,5%
With lower secondary school-leaving certificate (estimate)[5]	204,331	192,967	181,173	170,274	163,244	154,449	151,058	153,890	151,250	137,887	135,188	133,448	-1.741	-1,3%
With intermediate secondary school-leaving certificate (estimate)	267,901	262,153	255,778	254,897	253,031	251,079	247,316	246,695	240,497	222,142	221,479	219,572	-1.907	-0,9%
With higher education entrance qualification (estimate)	145,205	149,198	153,134	156,400	163,965	169,204	171,401	174,039	172.307	156.061	156.566	155,031	-1.535	-1,0%
Supply and demand ratio (eANR)[6]	**93.5**	**93.3**	**92.0**	**92.9**	**93.5**	**93.8**	**94.8**	**96.6**	**96.6**	**96.6**	**99.1**	**101.6**	**+2.5**	**.**
Company supply and demand ratio[7]	88.7	89.2	88.5	89.5	90.3	90.9	92.2	94.1	94.2	93.9	96.1	98.9	+2.8	.

[1] Newly concluded training contracts plus the training places registered as unfilled by the BA as of 30.09.

[2] (At least) in the first year of training

[3] Training places on offer minus the newly concluded training contracts that result from primarily publicly financed training.

[4] Newly concluded training contracts plus the people registered by the BA as applicants still looking for a training place as of 30 September.

[5] The relative distribution of newly concluded training contracts by school qualifications recorded as of 30 September from the Vocational Training Statistics from the previous year are used for the estimation. These figures are then projected onto the current newly concluded contract numbers from the BIBB survey from 30 September. The demand by school-leaving certificate is calculated in connection with data from the BA training market statistics, which contains differentiated responses to school-leaving certificates. As cut-off date for the year 2022, we select 30.09 rather than 31.12 as usually selected for vocational training statistics. This is also possible retroactively for the years 2011 onward, whereby the numbers of training place demand by school qualification also change in these years. This is to be taken into account when comparing previous publications in the scope of the BIBB survey from 30.09 and the present chapter of the vocational training report.

[6] Number of offers per 100 persons asking for training places

[7] Number of company-based offers per 100 persons asking for training places

Note: Due to regulatory statutes on data protection, all whole numbers in connection with the BIBB survey on newly concluded training contracts are rounded to a multiple of three.

Source: Federal Institute for Vocational Education and Training survey as of 30 September, Federal Employment Agency, training market statistics as of 30 September (Special analysis for the preparation of the Vocational Training Report); DAZUBI: BIBB "Trainee Database" based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states; Calculations by the Federal Institute for Vocational Education and Training

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Table A2.1.2-1: **Unsuccessful market participation in Germany from 2010 to 2022 (cut-off date 30 September)**

Year	Unfilled training places		People still looking for a training place	
	Absolute	Ratio to company-based supply (in %)	Absolute	Ratio to training place demand (in %)
2010	19,898	3.7	80,456	12.6
2011	30,487	5.4	72,417	11.3
2012	34,075	6.1	76,119	12.1
2013	34,720	6.4	83,742	13.7
2014	38,449	7.1	81,388	13.5
2015	41,678	7.6	81,037	13.4
2016	43,561	8	80,603	13.4
2017	48,984	8.8	80,221	13.3
2018	57,656	10	78,619	12.9
2019	53,137	9.4	73,721	12.3
2020	59,948	11.7	78,237	14.3
2021	63,176	12.2	67,818	12.5
2022	68,868	13.0	60,400	11.3
2022 compared to 2021	+5,692	0.8 Percentage points	-7,418	-1.2 Percentage points
	9.0%		-10.9%	

Source: Federal Institute for Vocational Education and Training, survey as of 30 September. Absolute values are rounded to a multiple of three for reasons of data protection.

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exceeds the smaller figure. The greater the side with the larger figure exceeds the side with the smaller figure, the greater the likelihood will be that supply and demand do not fundamentally match. In order to, at the same time, delineate matching problems in terminological terms from recruitment problems (many unfilled places but few unsuccessful young people) or from supply problems (many unsuccessful applicants but few unfilled places), the determination is that matching problems exist if, as of the cut-off date of 30 September, both relatively many unfilled training places and relatively many unsuccessful young people are left over.

Information Box – Unused training contract potential

Unused training contract potential is always as high as the smaller number of the unsuccessful participations registered on both sides of the training market (because each of these unsuccessful participations is reflected in at least one unsuccessful participation on the other side of the market and, as a consequence of this, the potential was in place to bring every one of these market participations to a successful contract conclusion).

Matching problems

In quantitative terms, the extent of matching problems can be mapped by multiplying the relative proportions of lack of success on both sides of the training market. The "Matching Problems Index" (IP) is calculated as the product of the number of unfilled places as a percentage proportion of company-based training supply and the number of applicants still seeking a training place as a percentage proportion of training place demand.

Arithmetically, the range of values thus varies between 0% x 0% = 0 (no matching problems, no registered training places remain unfilled, and no potential applicant is still seeking a training place at the end of the year) and the mathematically feasible but practically impossible value of 100% x 100% = 10,000 (all registered training places remain vacant and every single potential applicant is continuing to look for a training place at the end of the reporting year).

As was the case in previous years, craft trade occupations were particularly badly affected by recruitment problems in 2022. This was especially true of craft trade occupa-

Table A2.1.2-2: **Training market situations 2022 in selected occupations with recruitment and supply problems**

	Newly concluded training contracts		Company-based supply		Training place demand		(Company) supply-demand ratio	Proportions of unsuccessful market participants (in %)	
	Total	Extra-company	Total	Unfilled on 30.09	Total	Still searching as of 30.09		Proportion of unfilled places in company-based provision	Persons still searching as a proportion of demand
	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9
Occupations with recruitment problems	Absolute	Absolute	Col 1-Col 2+Col 4	Absolute	Col 1+ Col 6	Absolute	Col 3/ Col 5	Col 4/Col 3	Col 6/ Col 5
Tinsmith	333	0	603	273	345	12	175,1	45.0	3.5
Salesperson specialising in foodstuffs	3,783	57	6,633	2,904	3,972	186	167,0	43.8	4.7
Butcher	1,113	18	1,836	741	1,158	45	158,6	40.4	3.9
Professional caterer	666	0	1,101	435	714	48	154,4	39.6	6.6
Concreter	600	24	924	345	630	30	146,3	37.5	4.8
Pipeline fitter	288	0	432	144	300	12	143,9	33.3	4.0
Scaffolder	402	0	588	189	417	15	140,9	31.9	3.8
Dialogue marketing services manager	741	3	1,074	339	798	57	134,7	31.5	7.3
Stuccoist	438	3	624	189	462	24	135,6	30.2	5.0
Baker	1,797	54	2,481	735	1,950	150	127,3	29.7	7.7
Hotel management clerk	300	0	426	126	336	36	126,5	29.6	11.0
Glazier	378	3	522	147	399	21	130,8	27.8	5.0
Audiologist	1,020	6	1,386	369	1,056	36	131,0	26.6	3.4
Aircraft mechanic	699	0	948	246	756	57	125,1	26.1	7.5
Restaurant and events catering specialist	3,750	27	5,022	1,296	3,912	162	128,3	25.8	4.1
Occupations with supply problems									
Animal keeper	714	21	705	12	1,176	462	60,0	1.8	39.3
Audiovisual media producer	885	3	900	18	1,449	561	62,1	1.9	38.8
Visual marketing designer	489	3	504	18	768	279	65,7	3.8	36.4
Sports and fitness administrator	1,185	15	1,563	393	1,716	531	91,1	25.1	30.9
Designer of digital and print media	2,457	120	2,454	117	3,525	1.071	69,6	4.8	30.3
Biological laboratory technician	477	0	480	3	636	159	75,3	0.4	25.0
Specialist in media and information services	552	0	564	12	726	174	77,5	2.3	24.1
Protection and safety specialist	1,230	9	1,377	156	1,620	390	85,1	11.3	24.1
Specialist in labour market services	648	0	675	27	837	189	80,5	4.0	22.7
Interior decorator	642	33	684	75	822	180	83,3	10.8	21.8
Housekeeper	516	75	576	132	657	141	87,5	23.1	21.5
Florist	828	45	885	102	1,053	222	84,2	11.6	21.2
Property agent	3,357	18	3,414	72	4,206	846	81,2	2.1	20.1
IT systems electronics technician	1,413	24	1,680	291	1,761	348	95,3	17.3	19.8
Hairdresser	6,675	435	7,245	1,005	8,301	1.626	87,3	13.9	19.6

Note: The list only includes training occupations in the dual system (BBiG/HwO) in which a minimum of 400 company-based training places were offered in 2022 and in which a large proportion of non-company training does not take place.
For reasons of data protection, all whole numbers which relate to the BIBB survey as of 30 September have been rounded to a multiple of three.

Source: Federal Institute for Vocational Education and Training survey as of 30 September, Federal Employment Agency, training market statistics as of 30 September, calculations conducted by the Federal Institute for Vocational Education and Training VET Data Report Gemany 2023

tions in the food industry → Table A2.1.2-2. Supply problems continue to be apparent in areas such as media occupations and in parts of the commercial sector. There is also a considerable discrepancy between the (minimum) school qualification training place providers expect for their training places and the actual school qualifications of the registered applicants.

A2.2 Newly concluded training contracts – results of the BIBB survey as of 30 September 2022

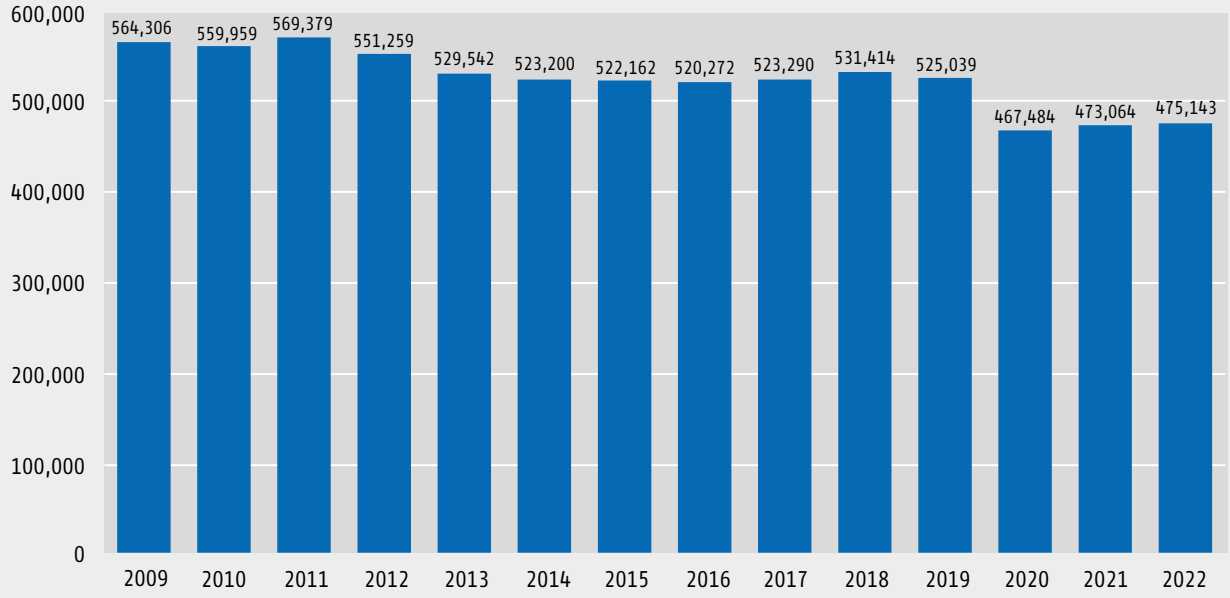
In the survey of newly concluded training contracts as of 30 September 2022, the competent bodies responsible for vocational education and training pursuant to the BBiG and HwO reported 475,143 newly concluded training contracts to the BIBB. This is 2,082 (+0.4%) more than in 2021. This meant that the number of new contracts continued to be significantly lower (-49,893 or -9.5%) than the level of 2019 (before the coronavirus pandemic) → Chart A2.2-1.

Information Box – Newly concluded training contracts (also referred to in abbreviated form as new contracts)

In the BIBB survey of newly concluded training contracts as of 30 September (referred to in abbreviated form as the BIBB survey as of 30 September), new contracts are defined as vocational education and training contracts entered into the register of initial training relationships pursuant to the BBiG or HwO which were concluded between 1 October of the previous year and 30 September of the current year and which have not been prematurely dissolved. The crucial aspect determining whether a newly concluded contract is counted is the date of conclusion of contract, which is recorded in the Index of Vocational Education and Training Contracts pursuant to § 34 Paragraph 2 Clause 5 BBiG (2005) and can thus be used by the competent bodies as a selection criterion.

Newly concluded contracts are recorded at the level of employment agency districts and are specifically differentiated for gender and for individual occupations. Contracts for training programmes for persons with a disability (training programmes pursuant to § 66 BBIG and § 42m [2005] and

Chart A2.2-1: **Development of newly concluded training contracts as of 30 September, Germany 2009 to 2022**



Source: Federal Institute for Vocational Education and Training, survey as of 30 September.
Absolute values are rounded to a multiple of three for reasons of data protection.

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§ 42r HwO [2020] are the only training contracts which are mapped within a collective category for the areas of trade and industry, craft trades, agriculture, the public sector and housekeeping.

Follow-up contracts are recorded separately. Unlike in the survey of 31 December conducted for the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (referred to in abbreviated form as the survey as of 31 December), they are not added to the overall total of new contracts. Here, too, however, it is necessary to bear in mind that not all trainees with a new contract are training entrants to the dual system. Training contracts are also newly concluded following premature dissolutions or in the event of second training programmes within the dual system.

Because of the differences stated above and other differences in design, the definitions of new contracts within the scope of the BIBB survey as of 30 September and in the survey as of 31 December do not correlate.

Newly concluded training contracts by areas of responsibility[4]

The area of trade and industry recorded an increase in newly concluded training contracts compared to 2021 (+2.7%). The number of newly concluded training contracts decreased compared to the previous year in the other areas of responsibility (see Information Box). The values of 2019 (prior to the pandemic) were not achieved in any of the areas of responsibility → **Table A2.2-1**.

The area of trade and industry accounted for 56.0% of all newly concluded training contracts in 2022 and, as in the previous years, was the largest area of responsibility (2021: 54.8%, 2020: 56.1%, 2019: 58.0%) → **Table A2.2-2**.

Information Box – Alignment of training contracts to the areas of responsibility

Categorisation of training contracts to the areas of responsibility is generally determined by the type of the training occupation rather than by the company providing training. There are exceptions for trainees being trained in a trade and industry occupation at a craft trades company (industrial occupation in the craft trades). In the aggregation of training contracts by areas, such contracts are aligned to the craft trades. The same applies to craft trade occupations for which training takes place at companies in the area of trade and industry (skilled crafts occupation in industry). These training contracts are aligned to the area of trade and industry in the aggregated figures. For this reason, the term used is "areas of responsibility" rather than "areas of training" because actual training performance in individual areas does not necessarily correlate with count results by areas of responsibility. Whereas the BIBB survey as of 30 September does not record the company characteristic "alignment to the public sector", this aspect is included in the survey of 31 December conducted for the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states. This enables more precise identification of delivery of training by the public sector

173,307 of the 475,143 newly concluded training contracts in 2022 were concluded with women and 301,620 with men. Over the longer term, the number of training contracts concluded with women has decreased significantly → **Chart A2.2-2**.

Newly concluded training contracts of shortened duration

Information Box – Shortening of duration of training

A shortening of the duration of training is possible when recognition or credit transfer can be given for certain education (and training) qualifications (e.g. basic vocational training year, attendance of a full-time vocational school, intermediate or higher-level educational qualification). The BIBB survey of 30 September only designates training contracts as shortened if the shortening of the duration of training is at least six months and if shortening is stipulated at the time when the contract is concluded. New contracts concluded by young people who change the company during training (e.g. because of bankruptcy on the part of the company providing training) are also generally counted as shortened contracts.

In the case of the BIBB survey as of 30 September, a differentiation is drawn between training contracts which encompass the regular duration of training (as stipulated in the training regulations) and such contracts in respect

4 The BIBB survey of newly concluded training contracts as of 30 September differentiates 13 areas of responsibility (see Information Box). Reports for the areas of public sector, public sector – church and the liberal professions are collated into seven areas of responsibility for the purpose of evaluations.

Table A2.2-1: **Number of newly concluded training contracts in 2022 and change compared to 2021 by areas of responsibility**

	Newly concluded training contracts																							
	Total			Of which in the area of responsibility of																				
				Trade and industry			Craft trades			Public sector			Agriculture			Liberal professions			Housekeeping			Maritime sector		
		Development			Development			Development			Development			Development			Development			Development			Development	
		Absolute	in %		Absolute	in %		Absolute	in %		Absolute	in %		Absolute	in %		Absolute	in %		Absolute	in %		Absolute	in %
Germany	**475,143**	**2,082**	**0.4**	**266,262**	**6,879**	**2.7**	**133,149**	**-2,952**	**-2.2**	**13,998**	**-189**	**-1.3**	**13,314**	**-933**	**-6.5**	**46,890**	**-294**	**-0,6**	**1,437**	**-420**	**-22.6**	**96**	**-12**	**-11.9**

Source: Federal Institute for Vocational Education and Training, survey as of 30 September, as of: 07/12/2022. Absolute values are rounded to a multiple of three for reasons of data protection

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Table A2.2-2: **Newly concluded training contracts by areas of responsibility from 2009 to 2022**

Area of responsibility															2022 to 2021	
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	in %
Germany																
Trade and industry	333,405	331,044	342,783	332,622	317,265	311,733	308,244	304,302	304,272	309,831	304,593	262,206	259,380	266,262	6,879	2.7
Craft trades	155,583	155,178	154,506	147,327	142,137	141,234	141,513	141,768	143,718	145,308	142,875	132,195	136,101	133,149	-2,952	-2.2
Public sector[1,2]	13,725	13,554	12,402	12,009	12,216	12,417	13,281	13,791	14,253	14,448	15,087	14,646	14,184	13,998	-189	-1.3
Agriculture	14,646	13,923	13,482	13,260	13,158	13,164	13,551	13,566	13,701	13,464	13,368	13,488	14,247	13,314	-933	-6.5
Liberal professions[1]	42,675	42,441	42,612	43,095	42,051	42,051	43,140	44,562	45,096	46,245	47,100	43,140	47,181	46,890	-294	-0.6
Housekeeping[1]	3,996	3,582	3,345	2,763	2,559	2,421	2,262	2,139	2,106	1,992	1,899	1,701	1,857	1,437	-420	-22.6
Maritime sector	279	240	249	183	156	183	168	141	141	126	117	108	108	96	-12	-11.9
Total	**564.306**	**559.959**	**569.379**	**551.259**	**529.542**	**523.200**	**522.162**	**520.272**	**523.290**	**531,414**	**525,039**	**467,484**	**473,064**	**475,143**	**2,082**	**0.4**

[1] Not including new training contracts for which other bodies (chambers) are responsible.

[2] Not including career track training in the civil service

Source: Federal Institute for Vocational Education and Training, survey as of 30 September, As of: 07/12/2022. Absolute values are rounded to a multiple of three for reasons of data protection; The overall value may therefore deviate from the total of the individual values.

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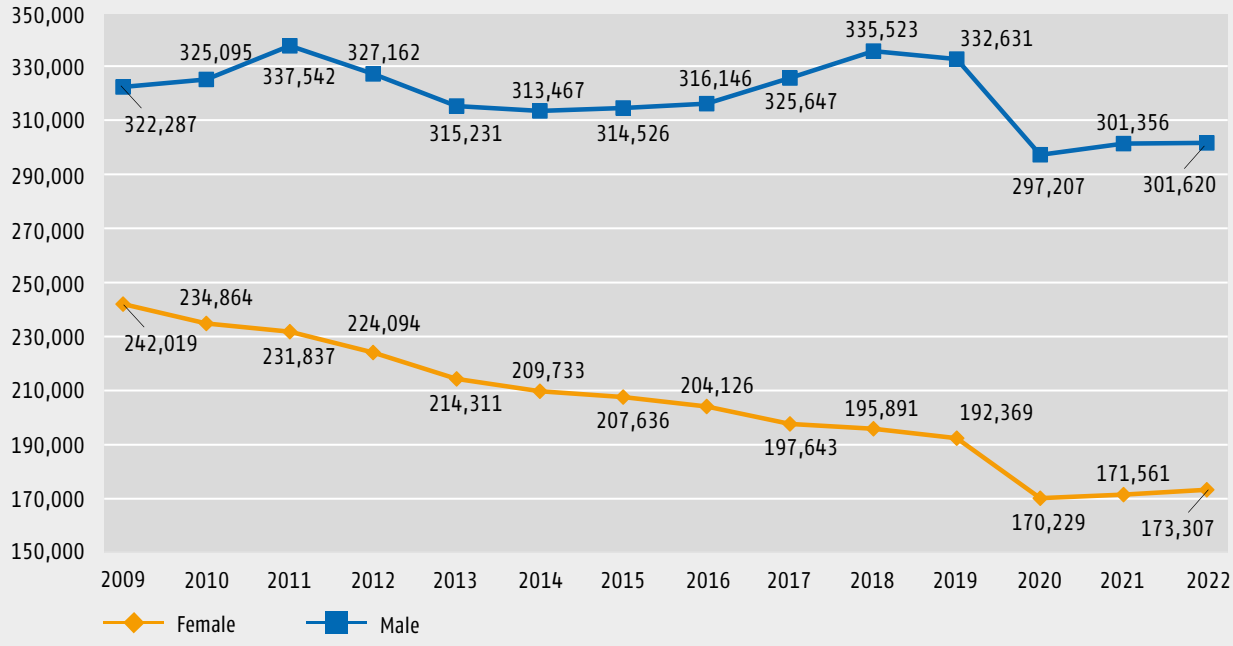
Chart A2.2-2: **Newly concluded training contracts by gender, Germany from 2009 to 2022**



Source: Federal Institute for Vocational Education and Training, survey as of 30 September.
Absolute values are rounded to a multiple of three for reasons of data protection.

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of which a shortening of at least six months is agreed to at the outset (see Information Box). For the 2022 survey, the competent bodies registered 65,625 training contracts nationally in respect of which a shortening of at least six months had been stipulated at the time of conclusion. This corresponds to 13.8% of all newly concluded training contracts. The proportion was thus somewhat lower than in recent years (2021: 14.6%, 2020: 15.1%, 2019 14.6%). The highest proportions of shortened contracts were in the area of agriculture (29.1%), followed by the craft trades (22.7%) → **Table A2.2-3.**

Newly concluded training contracts in occupations with a training duration of two years

40,224 training contracts with a training duration of up to 24 months were reported nationally for the 2022 survey.[5] This thus constituted a proportion of 8.5% of newly concluded training contracts (2021: 8.4%, 2020: 8.6%, 2019: 8.4%). 37,908 new training contracts with a duration of two years were concluded in the area of responsibility of trade and industry. This makes up 14.2% of the newly concluded training contracts in this area → **Table A2.2-3**. In the two-year training occupation with the highest volume of contracts, the occupation of sales assistant for retail services, the number of new contracts rose by 2.2% compared to 2021 to reach 21,225. The second largest number of new two-year training contracts, a total of 5,595, were concluded in the occupation of warehouse operator (-2.0%).

Across the country as a whole in 2022, 6.7% of contracts in two-year training occupations were predominantly publicly financed in the first year of training → **Table A2.2-4.**

5 Training regulations stipulate a regular duration of training of up to 24 months for 26 training occupations. These occupations are alteration tailor, construction finishing worker, miner and mining machine operator, chemical laboratory assistant, specialist in the hotel and restaurant sector, woodwork and building protection specialist, skilled express and postal services employee, stitching leather specialist, skilled metal worker, specialist in the hospitality services industry, kitchen specialist, warehouse operator, bicycle mechanic, building construction worker, industrial electrician, insulation fitter, machine and plant operator, upholstery and interior furnishings seamer, chemical production specialist, product tester for textiles, service specialist in dialogue marketing, service driver, protection and safety specialist, textile and apparel sewer, civil engineering workers and sales assistant for retail services.

Table A2.2-3: **Newly concluded training contracts 2022 by structural characteristics (Part 1)**

		Baden-Württemberg	Bavaria	Berlin	Brandenburg	Bremen	Hamburg	Hesse	Mecklenburg-West Pomerania	Lower Saxony	North-Rhine-Westphalia	Rhineland-Palatinate	Saarland	Saxony	Saxony-Anhalt	Schleswig-Holstein	Thuringia	Germany
All areas	New training contracts	65,847	82,239	14,709	10,290	5,304	11,193	33,831	7,998	48,576	108,759	22,968	5,922	19,728	10,335	17,556	9,894	**475,143**
	With female trainees	24,612	31,194	5,730	3,444	2,085	4,278	12,039	2,934	17,808	38,838	8,253	2,172	6,729	3,327	6,483	3,378	**173,307**
	With abbreviated term	13,791	12,906	2,163	993	447	1,218	3,897	642	7,899	12,993	2,901	939	1,353	705	2,043	735	**65,625**
	In two-year occupations	4,611	6,195	1,137	1,029	417	762	2,772	1,023	3,777	9,153	1,896	546	2,382	1,449	1,653	1,428	**40,224**
	Pursuant to Section 66 BBiG/Section 42r HwO	846	618	126	318	123	36	309	234	450	1,326	210	93	549	303	294	333	**6,171**
	Primarily publicly financed	1,515	1,671	846	489	249	357	1,260	357	1,029	2,958	594	219	1,059	639	522	579	**14,346**
Trade and industry	New training contracts	37,569	45,873	8,409	5,655	3,309	7,302	19,407	4,638	24,741	61,485	12,039	3,354	11,805	6,291	8,412	5,967	**266,262**
	With female trainees	12,888	16,665	2,898	1,842	1,137	2,547	6,570	1,803	8,811	20,223	4,158	1,185	4,011	2,040	3,072	2,049	**91,899**
	With abbreviated term	4,146	3,984	1,263	453	204	498	1,590	324	2,520	6,759	1,158	567	678	306	564	366	**25,383**
	In two-year occupations	4,443	5,931	1,092	939	396	741	2,580	966	3,486	8,754	1,767	519	2,202	1,344	1,437	1,314	**37,908**
	Pursuant to Section 66 BBiG/Section 42r HwO	315	195	66	156	72	,	135	156	132	672	48	39	270	63	108	174	**2,604**
	Primarily publicly financed	771	813	486	279	117	207	612	258	405	1,677	246	99	684	306	246	363	**7,566**
Craft trades	New training contracts	18,414	24,003	3,357	2,946	1,149	2,247	9,354	1,974	14,877	29,232	7,335	1,662	5,424	2,676	5,871	2,625	**133,149**
	With female trainees	3,798	5,007	651	543	249	441	1,671	354	2,820	4,986	1,395	282	1,176	522	1,149	522	**25,566**
	With abbreviated term	7,728	6,510	528	393	189	402	1,863	192	3,840	4,650	1,380	285	534	303	1,119	273	**30,195**
	In two-year occupations	168	261	45	90	21	21	192	57	291	399	129	30	180	105	216	114	**2,313**
	Pursuant to Section 66 BBiG/Section 42r HwO	321	213	27	81	33	12	99	30	117	264	72	6	126	114	66	57	**1,635**
	Primarily publicly financed	522	690	333	126	111	117	549	57	393	864	246	66	213	213	156	96	**4,752**
Public sector	New training contracts	1,998	1,848	735	465	171	180	1,083	360	1,560	2,979	660	141	588	396	519	321	**13,998**
	With female trainees	1,452	1,164	435	279	126	111	711	216	852	1,803	387	81	357	207	303	195	**8,682**
	With abbreviated term	630	84	27	0	0	72	99	0	36	378	9	3	3	6	6	15	**1,374**
	In two-year occupations	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	**0**
	Pursuant to Section 66 BBiG/Section 42r HwO	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	**0**
	Primarily publicly financed	0	0	3	0	0	0	0	0	0	15	0	0	0	0	0	0	**18**

Table A2.2-3: **Newly concluded training contracts 2022 by structural characteristics (Part 1 – Continued)**

		Baden-Württemberg	Bavaria	Berlin	Brandenburg	Bremen	Hamburg	Hesse	Mecklenburg-West Pomerania	Lower Saxony	North-Rhine-Westphalia	Rhineland-Palatinate	Saarland	Saxony	Saxony-Anhalt	Schleswig-Holstein	Thuringia	Germany
Agriculture	New training contracts	1,425	2,070	225	483	45	150	714	495	2,076	2,502	588	117	789	432	804	402	**13,314**
	With female trainees	450	597	63	138	15	33	198	132	594	522	180	27	237	87	249	102	**3,624**
	With abbreviated term	528	1,017	45	63	6	54	135	108	939	312	192	24	111	78	219	48	**3,882**
	In two-year occupations	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	**0**
	Pursuant to Section 66 BBiG/Section 42r HwO	99	102	12	33	6	9	45	18	93	213	45	27	78	69	69	33	**954**
	Primarily publicly financed	96	69	6	33	6	18	63	12	84	219	48	33	87	66	72	48	**960**
Liberal professions	New training contracts	6,252	8,292	1,959	690	573	1,248	3,219	492	5,103	12,297	2,265	618	1,035	480	1,851	507	**46,890**
	With female trainees	5,865	7,629	1,668	597	516	1,122	2,850	402	4,578	11,097	2,067	570	873	426	1,644	450	**42,348**
	With abbreviated term	744	1,281	300	81	42	189	207	15	540	888	153	60	18	9	129	21	**4,677**
	In two-year occupations	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	**0**
	Pursuant to Section 66 BBiG/Section 42r HwO	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	**0**
	Primarily publicly financed	12	6	0	0	3	0	6	0	30	3	0	0	0	0	0	0	**63**
Housekeeping	New training contracts	192	153	21	51	42	24	57	36	186	261	78	30	87	60	87	75	**1,437**
	With female trainees	159	132	12	45	36	18	42	27	156	207	66	27	75	45	69	60	**1,182**
	With abbreviated term	15	27	3	3	3	0	6	0	24	3	6	0	6	0	3	9	**111**
	In two-year occupations	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	**0**
	Pursuant to Section 66 BBiG/Section 42r HwO	111	108	21	48	15	15	27	33	108	180	45	18	72	57	48	69	**978**
	Primarily publicly financed	117	93	18	51	15	15	30	33	114	180	54	21	72	54	48	72	**987**
Maritime sector	New training contracts	,	,	,	,	12	39	,	3	30	,	,	,	,	,	12	,	**96**
	With female trainees	,	,	,	,	3	3	,	0	0	,	,	,	,	,	0	,	**6**
	With abbreviated term	,	,	,	,	3	0	,	0	0	,	,	,	,	,	0	,	**3**
	In two-year occupations	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	**0**
	Pursuant to Section 66 BBiG/Section 42r HwO	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,	**0**
	Primarily publicly financed	,	,	,	,	0	0	,	0	0	,	,	,	,	,	0	,	**0**

Source: Federal Institute for Vocational Education and Training, Survey as of 30 September 2022. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values.

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Table A2.2-3: **Newly concluded training contracts 2022 by structural characteristics (proportion in %) (Part 2)**

		Baden-Württemberg	Bavaria	Berlin	Brandenburg	Bremen	Hamburg	Hesse	Mecklenburg-West Pomerania	Lower Saxony	North-Rhine-Westphalia	Rhineland-Palatinate	Saarland	Saxony	Saxony-Anhalt	Schleswig-Holstein	Thuringia	Germany
All areas	New training contracts	65,847	82,239	14,709	10,290	5,304	11,193	33,831	7,998	48,576	108,759	22,968	5,922	19,728	10,335	17,556	9,894	**475,143**
	With female trainees	37.4%	37.9%	39.0%	33.5%	39.3%	38.2%	35.6%	36.7%	36.7%	35.7%	35.9%	36.7%	34.1%	32.2%	36.9%	34.2%	**36.5%**
	With abbreviated term	20.9%	15.7%	14.7%	9.7%	8.4%	10.9%	11.5%	8.0%	16.3%	11.9%	12.6%	15.8%	6.9%	6.8%	11.6%	7.4%	**13.8%**
	In two-year occupations	7.0%	7.5%	7.7%	10.0%	7.8%	6.8%	8.2%	12.8%	7.8%	8.4%	8.3%	9.2%	12.1%	14.0%	9.4%	14.4%	**8.5%**
	Pursuant to Section 66 BBiG/Section 42r HwO	1.3%	0.8%	0.8%	3.1%	2.3%	0.3%	0.9%	2.9%	0.9%	1.2%	0.9%	1.6%	2.8%	2.9%	1.7%	3.4%	**1.3%**
	Primarily publicly financed	2.3%	2.0%	5.8%	4.7%	4.7%	3.2%	3.7%	4.5%	2.1%	2.7%	2.6%	3.7%	5.4%	6.2%	3.0%	5.9%	**3.0%**
Trade and industry	New training contracts	37,569	45,873	8,409	5,655	3,309	7,302	19,407	4,638	24,741	61,485	12,039	3,354	11,805	6,291	8,412	5,967	**266,262**
	With female trainees	34.3%	36.3%	34.5%	32.5%	34.4%	34.9%	33.8%	38.9%	35.6%	32.9%	34.5%	35.4%	34.0%	32.4%	36.5%	34.3%	**34.5%**
	With abbreviated term	11.0%	8.7%	15.0%	8.0%	6.1%	6.8%	8.2%	7.0%	10.2%	11.0%	9.6%	16.9%	5.7%	4.9%	6.7%	6.2%	**9.5%**
	In two-year occupations	11.8%	12.9%	13.0%	16.6%	12.0%	10.1%	13.3%	20.8%	14.1%	14.2%	14.7%	15.4%	18.7%	21.4%	17.1%	22.0%	**14.2%**
	Pursuant to Section 66 BBiG/Section 42r HwO	0.8%	0.4%	0.8%	2.8%	2.2%	.	0.7%	3.4%	0.5%	1.1%	0.4%	1.2%	2.3%	1.0%	1.3%	2.9%	**1.0%**
	Primarily publicly financed	2.0%	1.8%	5.8%	5.0%	3.5%	2.8%	3.2%	5.5%	1.6%	2.7%	2.0%	2.9%	5.8%	4.8%	2.9%	6.1%	**2.8%**
Craft trades	New training contracts	18,414	24,003	3,357	2,946	1,149	2,247	9,354	1,974	14,877	29,232	7,335	1,662	5,424	2,676	5,871	2,625	**133,149**
	With female trainees	20.6%	20.9%	19.4%	18.4%	21.8%	19.7%	17.9%	17.9%	18.9%	17.1%	19.0%	16.9%	21.7%	19.5%	19.6%	19.8%	**19.2%**
	With abbreviated term	42.0%	27.1%	15.7%	13.4%	16.4%	17.9%	19.9%	9.8%	25.8%	15.9%	18.8%	17.1%	9.8%	11.4%	19.1%	10.4%	**22.7%**
	In two-year occupations	0.9%	1.1%	1.3%	3.0%	1.7%	0.9%	2.1%	2.9%	2.0%	1.4%	1.8%	1.7%	3.3%	3.9%	3.7%	4.3%	**1.7%**
	Pursuant to Section 66 BBiG/Section 42r HwO	1.7%	0.9%	0.8%	2.7%	2.8%	0.5%	1.1%	1.5%	0.8%	0.9%	1.0%	0.3%	2.3%	4.3%	1.1%	2.1%	**1.2%**
	Primarily publicly financed	2.8%	2.9%	9.9%	4.2%	9.6%	5.2%	5.9%	2.8%	2.6%	3.0%	3.4%	3.9%	3.9%	8.0%	2.7%	3.6%	**3.6%**
Public sector	New training contracts	1,998	1,848	735	465	171	180	1,083	360	1,560	2,979	660	141	588	396	519	321	**13,998**
	With female trainees	72.8%	63.0%	59.1%	60.3%	74.3%	61.9%	65.6%	60.0%	54.7%	60.6%	58.9%	57.9%	60.6%	52.4%	58.3%	60.4%	**62.0%**
	With abbreviated term	31.6%	4.6%	3.7%	0.0%	0.6%	40.3%	9.1%	0.0%	2.3%	12.7%	1.5%	2.1%	0.7%	1.3%	1.2%	5.0%	**9.8%**
	In two-year occupations	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**0.0%**
	Pursuant to Section 66 BBiG/Section 42r HwO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**0.0%**
	Primarily publicly financed	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.1%**

Table A2.2-3: **Newly concluded training contracts 2022 by structural characteristics (proportion in %) (Part 2 – Continued)**

		Baden-Württemberg	Bavaria	Berlin	Brandenburg	Bremen	Hamburg	Hesse	Mecklenburg-West Pomerania	Lower Saxony	North-Rhine-Westphalia	Rhineland-Palatinate	Saarland	Saxony	Saxony-Anhalt	Schleswig-Holstein	Thuringia	Germany
Agriculture	New training contracts	1,425	2,070	225	483	45	150	714	495	2,076	2,502	588	117	789	432	804	402	**13,314**
	With female trainees	31.5%	28.9%	28.3%	28.8%	31.1%	22.0%	27.8%	26.9%	28.6%	20.9%	30.5%	22.9%	29.9%	20.2%	30.8%	25.7%	**27.2%**
	With abbreviated term	37.0%	49.1%	19.5%	13.3%	13.3%	36.7%	18.9%	22.1%	45.3%	12.5%	32.9%	19.5%	13.9%	18.3%	27.2%	12.0%	**29.1%**
	In two-year occupations	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**0.0%**
	Pursuant to Section 66 BBiG/Section 42r HwO	7.0%	4.9%	5.8%	6.8%	11.1%	6.0%	6.3%	3.4%	4.4%	8.5%	7.7%	23.7%	10.0%	16.2%	8.7%	8.5%	**7.2%**
	Primarily publicly financed	6.7%	3.3%	2.2%	6.6%	11.1%	12.7%	8.7%	2.4%	4.0%	8.7%	8.2%	28.8%	11.2%	15.5%	8.9%	12.2%	**7.2%**
Liberal professions	New training contracts	6,252	8,292	1,959	690	573	1,248	3,219	492	5,103	12,297	2,265	618	1,035	480	1,851	507	**46,890**
	With female trainees	93.8%	92.0%	85.1%	86.5%	90.1%	89.8%	88.5%	81.3%	89.7%	90.2%	91.2%	91.9%	84.4%	88.4%	88.8%	89.1%	**90.3%**
	With abbreviated term	11.9%	15.4%	15.3%	11.9%	7.5%	15.1%	6.4%	3.2%	10.6%	7.2%	6.7%	9.7%	1.8%	1.9%	7.0%	4.0%	**10.0%**
	In two-year occupations	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**0.0%**
	Pursuant to Section 66 BBiG/Section 42r HwO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**0.0%**
	Primarily publicly financed	0.2%	0.1%	0.0%	0.0%	0.7%	0.0%	0.2%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	**0.1%**
Housekeeping	New training contracts	192	153	21	51	42	24	57	36	186	261	78	30	87	60	87	75	**1,437**
	With female trainees	83.8%	87.5%	59.1%	88.5%	86.0%	70.8%	76.8%	74.3%	82.9%	78.9%	84.8%	93.1%	88.4%	76.3%	80.5%	82.4%	**82.3%**
	With abbreviated term	8.4%	18.4%	9.1%	3.8%	7.0%	0.0%	8.9%	2.9%	12.3%	1.5%	8.9%	0.0%	8.1%	1.7%	4.6%	12.2%	**7.8%**
	In two-year occupations	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**0.0%**
	Pursuant to Section 66 BBiG/Section 42r HwO	58.6%	71.1%	90.9%	92.3%	32.6%	66.7%	50.0%	91.4%	58.3%	68.6%	58.2%	65.5%	84.9%	96.6%	56.3%	91.9%	**68.1%**
	Primarily publicly financed	60.7%	61.2%	86.4%	98.1%	32.6%	66.7%	53.6%	94.3%	61.0%	69.3%	68.4%	75.9%	83.7%	89.8%	55.2%	97.3%	**68.8%**
Maritime sector	New training contracts	.	.	.	.	12	39	.	3	30	.	.	.	.	.	12	.	**96**
	With female trainees	.	.	.	.	16.7%	10.3%	.	33.3%	0.0%	.	.	.	.	.	0.0%	.	**7.3%**
	With abbreviated term	.	.	.	.	16.7%	0.0%	.	0.0%	0.0%	.	.	.	.	.	0.0%	.	**2.1%**
	In two-year occupations	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**0.0%**
	Pursuant to Section 66 BBiG/Section 42r HwO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**0.0%**
	Primarily publicly financed	.	.	.	.	0.0%	0.0%	.	0.0%	0.0%	.	.	.	.	.	0.0%	.	**0.0%**

Source: Federal Institute for Vocational Education and Training, Survey as of 30 September 2022. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values.

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Table A2.2-4: **Development in the number of newly concluded training contracts in state-recognised training occupations in which training regulations stipulate a duration of training of two years**

	2019		2020		2021		2022		2022 to 2021	
	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Germany										
Newly concluded training contracts with two-year training period in total	44,322	100.0	40,158	100.0	39,750	100.0	40,224	100.0	474	1.2
Company based	41,436	93.5	37,239	92.7	36,537	91.9	37,515	93.3	978	2.7
Primarily publicly financed (extra-company)	2,886	6.5	2,919	7.3	3,213	8.1	2,709	6.7	-504	-15.7

Note: Not including occupations according to training regulations for persons with disabilities (pursuant to §66 BBiG/§42r HwO).

Source: Federal Institute for Vocational Education and Training, survey as of 30 September. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. VET Data Report Gemany 2023

Follow-up contracts

Regulations relating to "follow-up contracts" (see Information Box) affect the areas of responsibility of trade and industry and the craft trades. In the BIBB survey as of 30 September, the competent bodies responsible for vocational education and training are requested to report newly concluded follow-up contracts separately from newly concluded training contracts. The purpose of obtaining this information is to arrive at an assessment as to whether the opportunity to continue VET after a programme has been completed is being well received in practice.

Information Box – Follow-up contracts

Follow-up contracts are deemed to be training contracts which are newly concluded subsequent to a previous completed programme of vocational education and training and which lead to a further qualification. However, the term only applies to VET contracts which have been defined in the training regulations as constitutive training occupations (usually conferring entry to the third year of training) or which are mentioned under "Continuation of the vocational education and training".

In the BIBB survey as of 30 September, follow-up contracts are indicated separately rather than being counted as newly concluded training contracts.

7,413 follow-up contracts were registered within the scope of the 2022 BIBB survey of newly concluded training contracts (-5.7% compared to 2021). The chambers of crafts and trades reported 759 follow-up contracts, 26.1% fewer than in 2021. The training occupation in which the highest number of follow-up contracts were concluded, 5,250, was once again management assistant for retail services. It was followed by the occupation of warehouse logistics operator, in which there were 738 follow-up contracts. These figures correspond accordingly with the high numbers of newly concluded training contracts in 2022 for the two-year training occupations of sales assistant for retail services (21,225 contracts) and warehouse operator (5,595 contracts).

A2.3 Overview of the education (and training system)

The particular aim of this chapter is to present the quantitative significance of dual vocational education and training pursuant to the BBiG/HwO in comparison to other education and training opportunities. This quantitative significance will be described on the basis of various standard indicators from the Integrated Training Reporting System (iABE) (see Annex) → **Chart A2.3-1**.

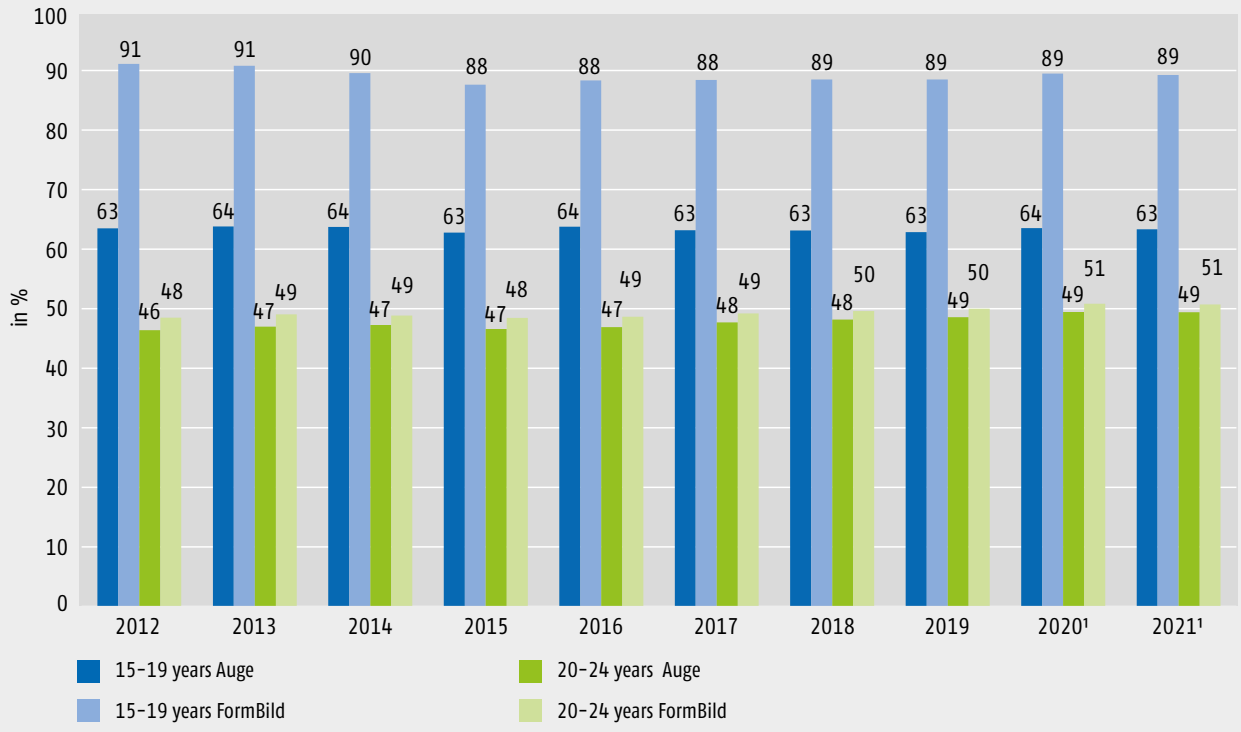
Young people aged between 15 and 24 (population data)

In respect of the question as to in which educational sectors young people of a certain age are located, a useful approach is to relate young people within a particular age group (population data) to the resident population of the relevant age (e.g. young people in VET pursuant to BBiG/HwO aged between 15 and 24 as opposed to the resident population aged between 15 and 24). Proportions vary significantly depending on the age group considered. On the basis of the educational reporting system of the OECD,[6] the age groups 15 to 19 and 20 to 24 were selected[7]. As a ratio of the residential population of the same

6 According to the calculations of the OECD, participation in education and training by the 15 to 19 age group was 87% in 2019. This figure is above the OECD average (84%) but below the average for the EU22 (88%).

7 With regard to the following analysis, it must be considered that young

Chart A2.3-1: **Young people in the education (and training) system (Auge) and in formal education (FormBild) by age groups 2012 to 2021 (in %) (population data; 100% = residential population of the respective age)**



¹ Estimated values for account I 05

Source: Federal Statistical Office: Integrated Training Reporting System 2021 (as of: 02.02.2023); Population Forecast GENESIS-Online (as of: 14.02.2023)

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age, about 63% of young people aged between 15 and 19 were in the education (and training) system in Germany in 2021 → **Chart A2.3-1**.

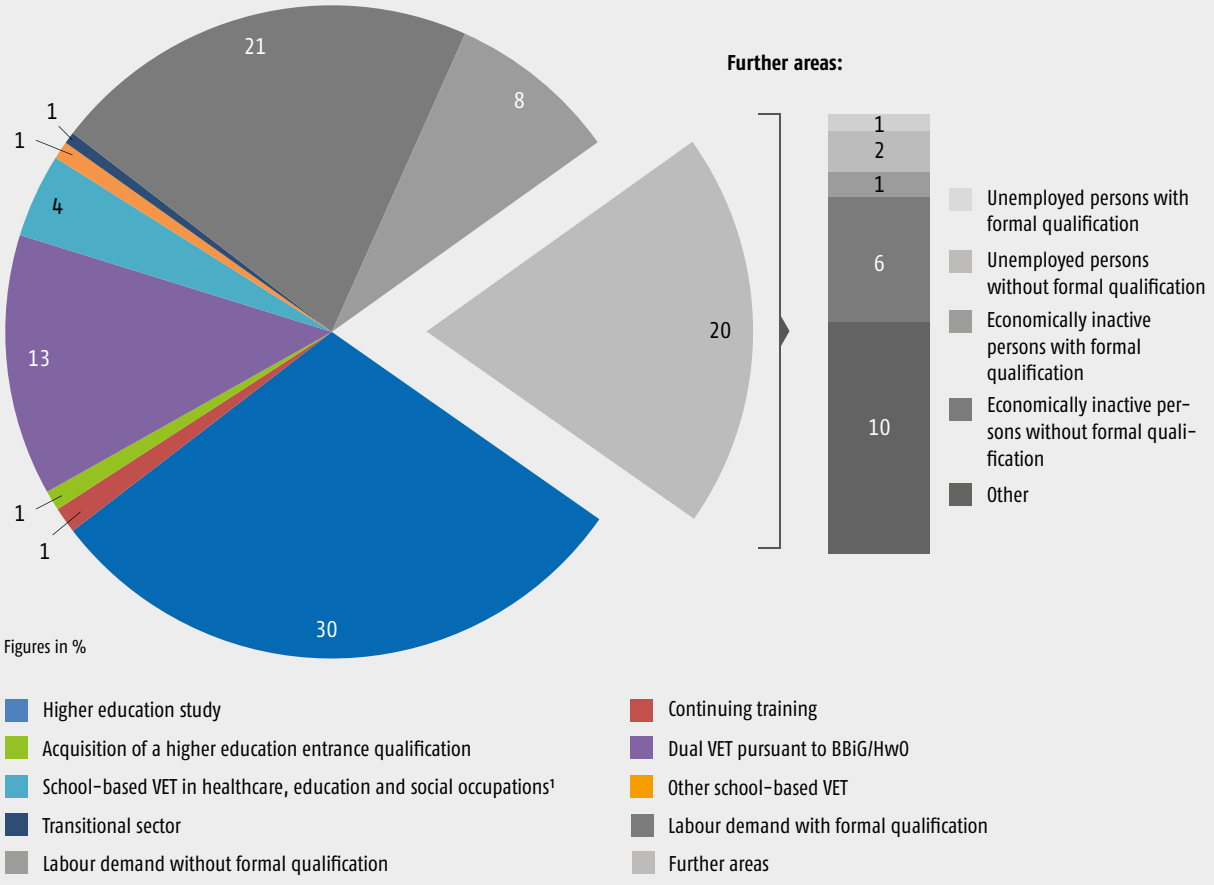
The following analyses are informed by data from the iABE, by data from the Population Forecast, and by data from the microcensus, which clarifies the employment status of young people. Estimated values are presented because the data sources used vary in terms of aspects such as cut-off dates and collection procedures. A change to the survey concept of the microcensus in 2020 means that detailed descriptions of the younger age cohorts are no longer possible. For this reason, the presentation concentrates on the 20 to 24 age group. In addition to this, around half of young people aged from 20 to 24 are already no longer in formal education provision. → **Chart A2.3-2** shows the proportions of young people aged from 20 to 24 inside and outside formal education provision.

Below we look at all entrants to the education (and training) system regardless of age rather than considering specific age groups. In this case, entrants to a sector are related to all entrants to the education (and training) system (e.g. entrants to the "vocational education and training" sector in relation to all entrants to the education (and training) system). The following presentation of current developments in the education (and training) system in 2022 is based on preliminary data from the 2022 iABE (previously the Flash Report, see data sources in the Annex).

In 2022, 36.2% (682,400) of entrants to the education (and training) system commenced fully qualifying vocational education and training. Just under two thirds (65.1%) of young people commenced dual VET pursuant to the BBiG/HwO in this sector. The remainder (34.9%) embarked on school-based training → **Chart A2.3-3**.

people spend different periods of time in the various types of education and training and employment sectors. Whereas dual VET pursuant to the BBiG/HwO usually takes three years, the duration of a course of higher education study may exceed five years. Some measures in the "transitional sector" have a duration of less than a year. This means that young people in dual training will normally be recorded for three successive survey years in the population of the "vocational education and training sector", whereas participants in a measure in the "transitional sector" will generally only be counted once in a single year in this particular population.

Chart A2.3-2: **Young people aged from 19 to 24 inside and outside formal education provision in 2021 (in %) (population data) (100 % = resident population aged from 19 to 24)**



¹ Data for account I 05 school-based VET in healthcare, education and social occupations estimated

Source: Federal Statistical Office: Integrated Training Reporting System 2021 (as of: 02.02.2023); microcensus survey 2021 (final results; special evaluation for the Federal Institute for for Vocational Education and Training; as of: 16.02.2023); Population Forecast GENESIS-Online (as of: 14.02.2023)

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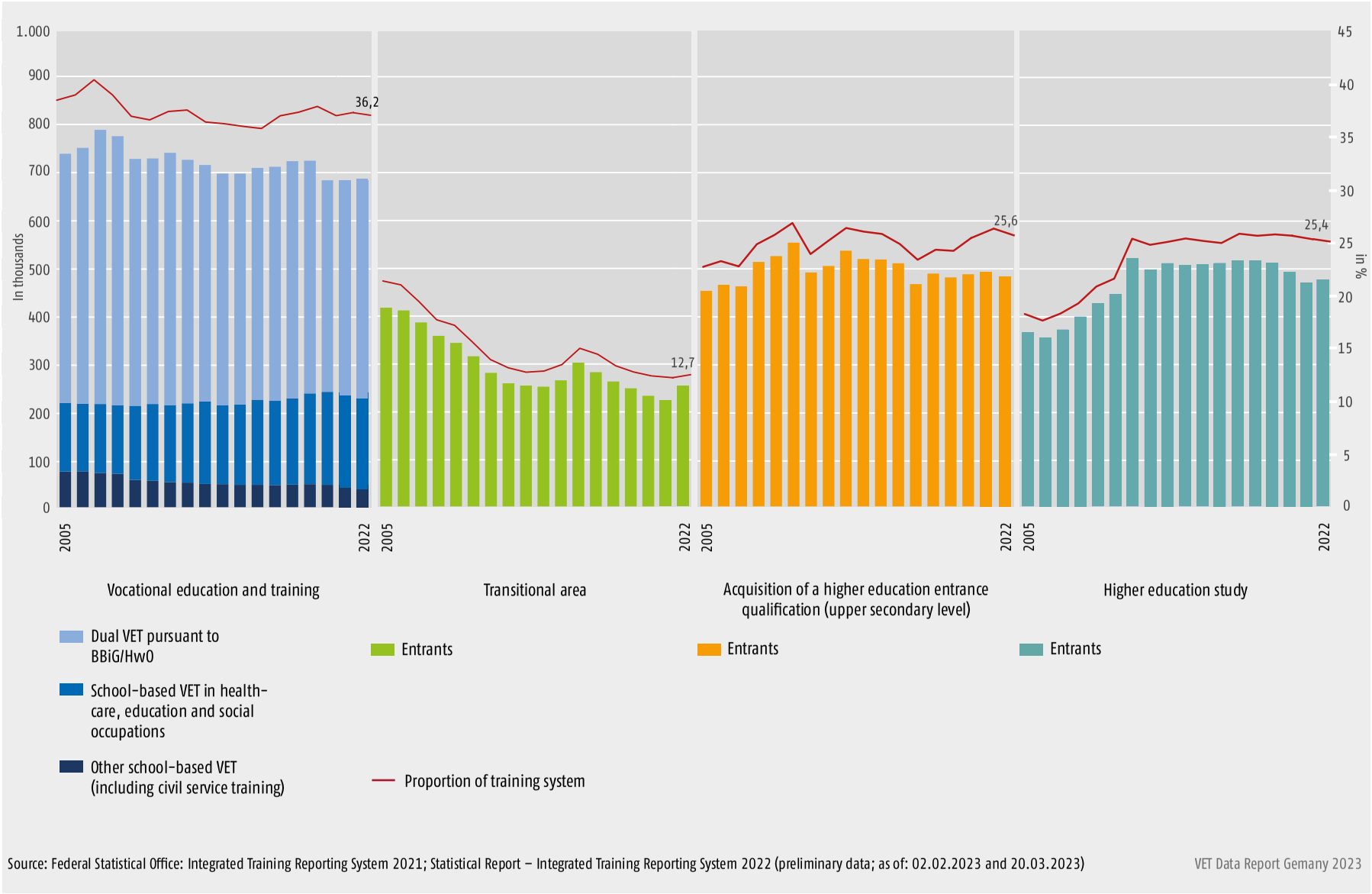
School-based VET in the healthcare, education and social sectors accounted for the majority of the latter. This represents the completion of a long-term tendency for a shift in entrant figures towards more young people who are commencing vocational education and training in healthcare, education and social services occupations, even though current developments show a decrease in such occupations → **Chart A2.3-3**. Even in the third year since the onset of the coronavirus, the latest developments in the educational sectors are still of particular interest. For this reason, the development of the educational sectors compared to the previous year 2021 and to 2019, the year prior to the pandemic, will be presented below→ **Table A2.3-1**.

In 2022, a total of around 13,600 more young people (+0.7%) progressed to the education (and training) system than in the previous year. This slight growth is the result of two contrary developments. There has been an increase in the number of young foreigners commencing a programme in the education (and training) system accompanied by a small fall in the number of German entrants to the education (and training) system compared to the previous year.

In 2022, the "vocational education and training" sector stabilised compared to the previous year. Nevertheless, differing developments were shown for the various education and training accounts. Whereas dual VET pursuant to the BBiG/HwO recorded a growth compared to the previous year, there was a decrease in progressions to school-based VET in the healthcare, education and social sectors and to other school-based VET programmes. In overall terms, the "vocational education and training" sector recorded a decline of around 56,800 entrants (-7.7%) compared to 2005. This decrease is also strongly

Chart A2.3-3: **Development of sectors in the education and training system from 2005 to 2022 – absolute and relative terms (100% = all persons entering the training system)**



Source: Federal Statistical Office: Integrated Training Reporting System 2021; Statistical Report – Integrated Training Reporting System 2022 (preliminary data; as of: 02.02.2023 and 20.03.2023)

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Table A2.3-1: **Entrants in the sectors and accounts of the Integrated Training Reporting System (iABE), Germany 2005 to 2022 (Part 1)**

Sectors iABE accounts**		2022*				2021	2020	2019	2018	2017	2016	2015	2014	2013	2010	2007	2005
		Entrants (preliminary)	Change to 2021 (in %)	Change to 2019 (in %)	Change to 2005 (in %)												
I	**Sector Vocational education and training**	**682,380**	**-**	**-5.8**	**-7.7**	**682,200**	**67,185**	**724,610**	**723,890**	**712,415**	**707,625**	**698,420**	**698,115**	**716,040**	**729,575**	**788,955**	**739,170**
I 01	Vocational education and training in the dual system in accordance with the BBiG/HwO	444,475	1.3	-8.1	-14.1	438,611	432,261	483,714	492,669	486,428	481,423	479,545	481,136	491,380	509,900	569,460	517,342
I 02	School-based VET at full-time vocational schools in accordance with the BBiG/HwO	3,670	-0.9	-23.2	-68.0	3,702	4,365	4,776	3,861	4,018	4,243	4,160	4,735	4,792	6,118	9,813	11,472
I 03	School-based VET at full-time vocational schools in accordance with the BBiG/HwO in accordance with federal state law	11,515	-7.9	-8.4	-64.6	12,503	11,722	12,573	12,801	13,453	14,373	14,639	14,746	15,437	20,677	29,683	32,514
I 04	School-based VET with acquisition of a HEEQ (double qualifying)	16,906	-1.7	-10.3	-42.1	17,203	18,840	18,852	20,178	21,115	21,891	22,697	24,145	24,292	25,718	32,189	29,177
I 05	School-based VET in healthcare, education and social sectors according to federal or federal state law	186,567	-2.3	-0.7	30.7	190,942	191,138	187,932	178,983	175,011	174,453	167,328	164,007	171,081	159,850	143,144	142,710
I 06	VET in a public-sector apprenticeship (middle level civil servant training)[1]	19,255	-	14.9	223.3	19,255	17,855	16,765	15,405	12,390	11,245	10,050	9,345	9,060	7,315	4,665	5,955
II	**Sector Integration in training (transitional sector)**	**239,090**	**6.3**	**-4.4**	**-42.8**	**224,850**	**234,620**	**249,980**	**263,930**	**283,140**	**302,880**	**266,190**	**252,670**	**255,400**	**316,490**	**386,864**	**417,649**
II 01	General education programmes at full-time vocational schools to fulfil compulsory education or the later acquisition of upper secondary school-leaving certificates	20,735	-3.1	3.7	-69.5	21,402	21,207	20,001	20,142	20,108	25,919	22,552	45,069	49,394	54,180	63,976	68,095
II 02a	Training courses at full-time vocational schools teaching basic vocational training which can be counted.	46,954	-3.6	-1.4	-20.0	48,690	50,405	47,610	47,586	47,889	47,017	47,355	35,581	36,119	47,479	55,548	58,706
II 02b	Basic vocational training year	4,362	-4.0	-22.6	-91.0	4,543	4,550	5,634	5,715	5,868	5,957	6,285	28,408	27,325	30,620	44,337	48,581
II 03a	Training courses at full-time vocational schools teaching basic vocational training which is not counted	37,072	0.4	-6.8	27.4	36,916	39,333	39,771	42,552	43,663	41,652	41,355	21,490	21,153	24,790	31,947	29,106
II 03b	Pre-vocational training year incl. one-year career entry classes	83,038	28.8	9.6	42.1	64,491	64,360	75,798	80,856	94,123	108,494	72,450	45,202	41,340	40,661	46,841	58,432
II 03c	Training courses at vocational schools for employed/ unemployed students without a training contract	7,617	-1.3	-37.3	-71.8	7,721	9,435	12,147	12,447	12,800	13,781	17,370	14,393	15,331	19,186	25,789	27,035
II 03d	Training courses at vocational schools for employed/ unemployed students aiming for general upper secondary school-leaving certificates	303	-23.1	-40.6	-97.8	394	427	510	474	312	280	400	2.324	2.325	6.808	11.498	13.477
II 04	Compulsory internship before teacher training at occupational schools	2,929	-2.1	-11.8	-16.9	2,991	3,200	3,321	3,615	3,665	3,594	3,829	3,841	3,890	3,854	3,391	3,525
II 05	Occupational preparatory training courses (Federal Employment Agency)[2]	31,520	-2.8	-13.5	-65.7	32,440	34,820	36,450	39,620	41,560	44,020	44,760	46,150	47,260	69,930	80,193	91,811
II 06	Introductory training (Federal Employment Agency)[2]	4,570	-13.3	-47.7	-75.8	5,270	6,900	8,730	10,930	13,150	12,170	9,840	10,210	11,260	18,980	23,344	18,881

Table A2.3-1: **Entrants in the sectors and accounts of the Integrated Training Reporting System (iABE), Germany 2005 to 2022 (Part 2)**

Sectors iABE accounts**		2022*				2021	2020	2019	2018	2017	2016	2015	2014	2013	2010	2007	2005
		Entrants (preliminary)	Change to 2021 (in %)	Change to 2019 (in %)	Change to 2005 (in %)												
III	**Sector Acquisition of a higher education entrance qualification (upper secondary level)**	**482,762**	**-0.7**	**0.1**	**6.2**	**486,406**	**485,884**	**482,154**	**487,695**	**465,230**	**508,968**	**516,679**	**517,200**	**534,678**	**554,704**	**463,464**	**454,423**
III 01	Training courses at vocational upper secondary schools which lead to a HEEQ, without prior vocational education and training	64,869	-0.1	-0.7	6.5	64,915	64,810	65,319	68,721	61,922	63,413	62,396	61,000	71,251	68,846	62,560	60,898
III 02	Training courses at specialised upper secondary schools (vocational specialised upper secondary schools) which lead to a HEEQ	59,608	-1.3	-0.3	15.3	60,376	60,890	59,775	59,751	63,424	65,579	67,793	68,210	65,333	57,203	52,692	51,715
III 03	Training courses at full-time vocational schools which lead to a HEEQ	33,461	-3.5	-7.6	-2.7	34,682	34,984	36,195	37,542	39,365	40,994	43,038	41,975	42,715	42,897	32,158	34,395
III 04	Upper secondary level at general education schools	324,832	-0.5	1.2	5.7	326,430	325,197	320,865	321,681	300,519	338,982	343,452	346,015	355,379	385,758	316,054	307,415
IV	Sector Higher education[3]	**478,929**	**0.6**	**-6.7**	**30.8**	**476,038**	**494,094**	**513,082**	**516,192**	**516,036**	**512,646**	**509,821**	**508,135**	**511,843**	**447,890**	**373,510**	**366,242**
Training system (total)		**1,883,150**	**0.7**	**-4.4**	**-4.8**	**1,869,510**	**1,890,760**	**1,969,820**	**1,991,710**	**1,976,820**	**2,032,120**	**1,991,110**	**1,976,120**	**2,017,960**	**2,048,660**	**2,012,795**	**1,977,480**

Note: For purposes of non-disclosure, the data (absolute values) are partially rounded. The overall value may therefore deviate from the total of the individual values.
*Preliminary results of the iABE 2022
**Due to data revisions, there are deviations from previous depictions. For notes/metadata on the years 2005 to 2021, cf. Federal Statistical Office: Integrated Training Reporting Flash Report. Entrants in the training system by sectors/accounts and federal states, Wiesbaden, various school years; Federal Statistical Office and the statistical offices of the federal states: Quality and results report of the Integrated Training Reporting System. Wiesbaden 2011. For further notes on specifics for federal states for the years 2022 and 2021, cf. Federal Statistical Office: Statistical Report – Integrated Training Reporting System 2022 (preliminary data). Wiesbaden 2023.
[1] Data from the previous year for 2022
[2] Data for 2022 partially estimated
[3] Data from the previous year for 2022 for the universities of cooperative education

Source: Federal Statistical Office Integrated Training Reporting System 2021; Statistics Report – Integrated Training Reporting System 2022
(preliminary data; as of: 02 February 2023 and 20 March 2023)

Table A2.3-2: **Entrants to the education and training sectors by selected characteristics (in %)**

Entrants by training sectors	2022[1]		2021				
	Proportion female[3]	Proportion non-German	Without lower secondary school-leaving certificate	With lower secondary school-leaving certificate	with intermediate secondary school-leaving certificate[4]	with university of applied sciences or general higher education entrance qualification	Proportion no information available/other
	in %	in %	in %	in %	in %	in %	in %
Training system (total)[2]	49.3	18.3	4	13	45	36	2
Vocational Education and Training[2]	48.2	13.7	2	21	52	22	3
Dual VET pursuant to BBiG/HwO	37.2	12.7	3,8	23.0	46.4	24.0	2.8
School-based VET in healthcare occupations[2]	75.3	16.8	1	17	55	25	1
Other school-based VET (including civil service training)	45.2	10.6	0,3	6,0	86.0	7.3	0.4
Integration into vocational training (transitional sector)	39.6	33.9	27.4	44.4	20.3	1.7	6.1
Acquisition of a higher education entrance qualification (upper secondary level)	52.9	8.5	0,0	1.5	97.8	0.2	0.5
Higher education study	52.9	26.9	0.0	0.0	0.0	100.0	0.0

[1] Preliminary data of the iABE 2022. Differentiated data on school-based prior training are not available for 2022.
[2] Proportion of school-based prior training without North Rhine-Westphalia, Lower Saxony, Saxony Anhalt and Schleswig-Holstein due to missing data in the healthcare account. The proportions are rounded (marked in colour).
[3] Persons signing under the gender "other" [German: "divers"] or "no response" are randomly assigned to the male or female gender or the categories "male" and "female" (without proportional quotation, with expected value of 0.5) depending on the possibilities of the federal states.
[4] Including school-based part of university of applied sciences entrance qualification.

Source: Federal Statistical Office Integrated Training Reporting System 2021; Statistics Report–Integrated Training Reporting System 2022; preliminary data; as of: 02 February 2023 and 20 March 2023)

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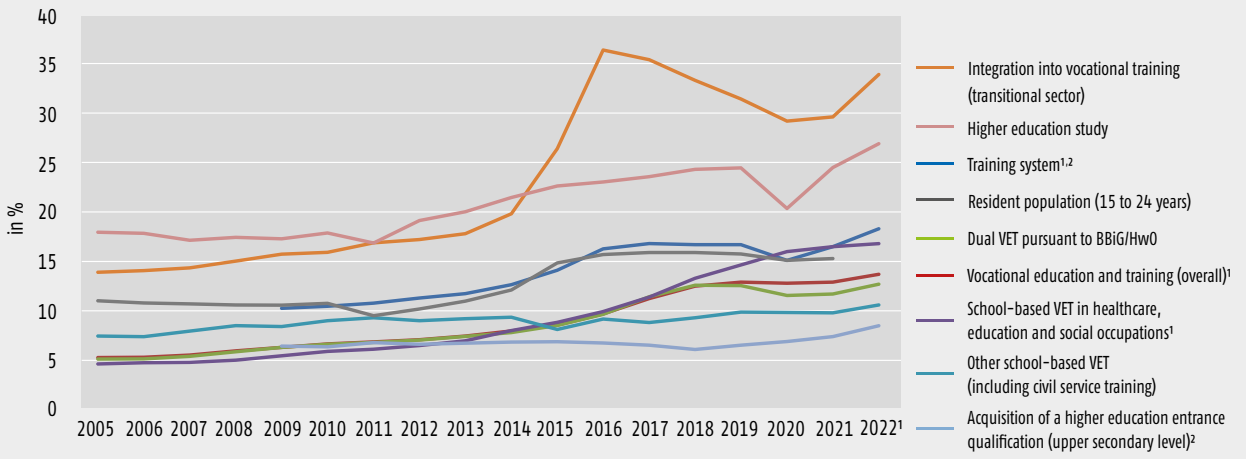
marked by the influences of the pandemic. In the "transitional sector", there was a continuous reduction in the number of progressions between the years 2005 and 2014 (around -40%). This fall largely occurred in line with demographic development. However, the number of entrants rose again significantly in 2015 and in 2016 in particular. Compared to the low point reached in 2014, the transitional sector recoded a plus of around 20% in 2016. This rise was mainly caused by the increasing number of refugees, particularly from the war zones of Syria.

The rising numbers of entrants in the sector "acquisition of a higher education entrance qualification" between 2005 and 2010 and a time-delayed increase in "higher education study" up until the year 2013 indicate a seemingly completed trend towards higher training which has since stabilised at a high level (higher education study +30.8% and acquisition of a higher education entrance qualification +6.2%, in each case comparing 2022 to 2005). One point to be borne in mind, however, is that the switch to eight-year upper secondary education (G8) that has taken place over recent years has produced double school-leaving cohorts after completion of the lower secondary level or upper secondary school-leaving certificate. In the education (and training) system, progressions in the sectors "acquisition of a higher education entrance qualification (upper secondary level)" (shortened intermediate secondary education) and "higher education study" (double upper secondary school-leaver cohorts) rose in the relevant years. The most dynamic developments compared to the year 2005 are revealed in the sector of "higher education" (+30.8%). The number of persons commencing a course of higher education study is being influenced by the effects of eight-year upper secondary education and by the number of foreign students in particular. These are foreign students who acquire a higher education entrance qualification abroad before moving to Germany to study. The Federal Statistical Office recorded around 103,000 foreign students for the year 2021, a virtual doubling of the figure compared to 2005. In overall terms, however, more young people progressed to the "vocational education and training" sector, which includes both dual VET pursuant to BBiG/HwO and school-based vocational education and training programmes, than to higher education study.

Chart A2.3-4: **Development of proportions of foreigners in the educational sectors 2005 to 2022 (in %)**



¹ Shares for 2020 excluding Lower Saxony, North Rhine-Westphalia, Saxony-Anhalt and Schleswig-Holstein due to missing data in the GES account.
² No reliable data for the years from 2005 to 2008 is available for the sector "Acquisition of a higher education entrance qualification (upper secondary level)".

Source: Federal Statistical Office: Integrated Training Reporting System 2021; Statistical Report – Integrated Training Reporting System 2022 (preliminary data; as of: 02.02.2023 and 20.03.2023); Population Forecast GENESIS-Online (as of: 14.02.2023)

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Table A2.3-3: **Most popular fully qualifying vocational education and training programmes in 2021 (ranking¹ irrespective of legal regulation)**

KldB 2010	Statistics	Occupational title	Newly concluded training contracts as of 31.12.2021/ students in first school year 2021/2022
81302	Nursing training statistics (PfleA)	General nurse	56,000
83112	School statistics	Nursery school teacher	41,000
62102	Vocational Education and Training Statistics	Management assistant for retail services	24,000
71402		Office manager	23,000
62102		Sales assistant for retail services	20,000
25212		Motor vehicle mechatronics technician	20,000
83142	School statistics	Social assistant	19,000
81102	Vocational Education and Training Statistics	Medical assistant	17,000
43102		Information technology specialist	16,000
71302		Industrial clerk	14,000
81112		Electronics technician	14,000
26252		Plant mechanic for sanitary, heating and air conditioning systems	14,000
34212		Qualified dental employee	13,000
83112	school statistics	Social education assistant, childcare assistant	12,000

¹ Notes on ranking: The number of trainees with newly concluded training contracts as of 31.12.2021 are used both for the vocational education and training statistics and PfleA. For the school statistics (Statistics vocational schools), the number of pupils in the first school year in the 2021/2022 school year are incorporated. Including where necessary previous occupations and aggregation of specialisms and areas of responsibility in the case of occupations pursuant to the BBiG/HwO based on the vocational education and training statistics.

Source: Federal Statistical Office Vocational education and training statistics 2021; Nursing training statistics (PfleA) 2021; Vocational schools statistics 2021/2022

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When the sectors of the education (and training) system are compared with regard to the characteristics available to the iABE of gender, nationality and prior school learning, the following observations can be made:

The ratio in the sector "vocational education and training", however, conceals major differences for two education and training accounts. Whereas the proportion of women in dual vocational education and training was significantly below average at 37.2%, the school-based VET programmes in the healthcare, education and social occupations were revealed to be strongly female dominated. The proportion of women was below average in "integration into training (transitional sector)" (39.6%). A consideration of the development of female proportions in these sectors between 2005 and 2022 shows only a slight fluctuation.

The proportion of foreigners in the education (and training) system in 2022 was 18.3 % → **Chart A2.3-4**. This was 3 percentage points higher than the proportion of foreigners in the residential population aged between 15 and 24 (15.3% in 2021). Account needs to be taken of the fact that data relating to the residential population is only available in time-delayed form and thus does not yet reflect the current refugee momentum in the wake of the Russian war of aggression against Ukraine. One particular explanation of the above average proportion of foreigners in the training system is the high proportion of foreign students in the "higher education study" sector. Rising proportions of foreigners are revealed across all educational sectors for the period from 2005 or 2009 to 2022. Forced migration movements from Ukraine are a particular reason for the increase in proportions of foreigners last year.

The most popular fully qualifying vocational education and training programmes

Annual ranking lists are traditionally drawn up of the most popular training occupations pursuant to the BBiG/HwO. → **Table A2.3-3** provides a summary of the most popular occupations irrespective of their legal foundation. The table makes it clear that the new occupation of qualified nurse is the most popular occupation by some distance, with around 56,000 newly concluded training contracts.

A3 Recognised training occupations pursuant to the Vocational Training Act (BBiG)/ Crafts and Trades Regulation Code (HwO)

A3.1 Number and structure of recognised training occupations pursuant to BBiG/HwO

The following descriptions and definitions relate to occupations that are or are considered to be state-recognised pursuant to the BBiG and HwO. Pursuant to § 103 Paragraph 1 BBiG, recognised apprenticeships, semi-skilled occupations or comparably regulated training occupations whose occupational profiles, VET plans, examination requirements and examination regulations are applicable until the enactment of training regulations in accordance with § 4 BBiG constitute state-recognised occupations within the meaning of § 4 BBiG, including such occupations recognised prior to 1 September 1969.[8] In 2022, the number of training occupations recognised pursuant to the BBiG and HwO increased from 323 to 326 compared to the previous year. Inland shipping captain and kitchen specialist are new occupations. The total number of training occupations also rose because modernisation of the 2004 occupation of railway worker resulted in two new occupations in the form of railway worker specialising in operational train driving and transport and railway worker specialising in train traffic control. Distribution of the structural models (see Information Box in VET Data Report Germany 2021, p. 33) of the training occupations exhibits more changes compared to the previous year than in the preceding years. The developments of the last 15 years are basically continuing.

- In 2022, the number of mono-occupations has decreased from 244 to 240 since 2013.
- There has been a slight increase in the number of training occupations which contain differentiation (specialisms or main focuses) from 2013 (85 training occupations) to 2022 (86 training occupations). Their share of all training occupations rose to 26%.
- Training occupations with elective qualifications have been enacted since 2000. There were five recognised training occupations with elective qualifications at this time. The total figure had increased to 27 by 2022.

8 There is also a comparable company-based training programme in the occupation of ship's mechanic, which lies outside the scope of application of the BBiG (§ 3 Paragraph 2 No. 3). This training programme will not be included in the following presentation.

Table A3.1-1: **Overview of training occupations with additional qualifications**

Specialist retail assistant for the music branch (2009/2015)	Electronics technician for information and systems technology (2018)
Bookseller (2011)	Industrial mechanic (2018)
Print media technologist (2011)	Construction mechanic (2018)
Screen print media technologist (2011)	Mechatronics fitter (2018)
Tourism services management clerk (management clerk for individual holidays and business trips) (2011)	Precision tool mechanic (2018)
Textile designer in the craft trades (2011)	Tools mechanic (2018)
Office manager (2014)	Milling machine operator (2018)
Wood mechanic (2015)	Vehicle interiors mechanic (2021)
Plant mechanic (2018)	Restaurant and events catering specialist (2022)
Electronics technician for automation technology (2018)	Professional caterer (2022)
Electronics technician for industrial engineering (2018)	Specialist in the hotel business (2022)
Electronics technician for building and infrastructure systems (2018)	Hotel management clerk (2022)
Electronics technician for devices and systems (2018)	Cook (2022)

Source: Federal Institute for Vocational Education and Training VET Data Report Gemany 2023

- Training occupations with additional qualifications have been enacted since 2005. Compared to 2021, their number increased sharply from 21 to 26 in 2022. This increase is entirely due to the updating of the hotel and hospitality occupations.

→ **Table A3.1-1** displays all training occupations with additional qualifications that are currently in force.

A3.2 New and modernised training occupations

A total of 124 training occupations were updated between 2013 and 2022 (see Information Box). These included 118 modernised occupations and six new training occupations → **Table A3.2-1**.

Twelve modernised training occupations entered into force with effect from 1 August 2022. Inland shipping captain and kitchen specialist were newly created occupations. As in the past two years, when the IT occupations and electrical occupations in the craft trades were updated, a larger group of occupations closely related in terms of content – the hotel and hospitality occupations – were interlinked in 2022 within the scope of a modernisation procedure. A cross-cutting additional "bar and wine" qualification is, for example, now available, and the opportunities for credit transfer created by the updating of the BBiG in 2022 have been enacted for the first time. Both of the two-year occupations kitchen specialist and specialist in the hospitality sector can be credited towards other occupations within the scope of 24 months. The qualification of kitchen specialist may be credited towards the occupation of cook, and the qualification of specialist in the hospitality sector offers a possible credit transfer for the occupations of restaurant and events catering specialist or professional caterer. The qualification of specialist in the hospitality sector or kitchen specialist can also be obtained upon application in the event that the final examination in the occupations of restaurant and events catering specialist, professional caterer or cook is not passed.

Two further particular characteristics of the occupation of kitchen specialist should be noted. It is the first occupation with a duration of training of 24 months to enter into force for five years. The last such occupation was sales assistant for retail services in 2017. Secondly, this occupation has been enacted for a fixed period and will be valid until 31 July 2029. At the end of this fixed term, the intention is for an evaluation of the training regulations to take place to serve as a basis for a decision regarding the continuation of this two-year training occupation.

The modernisation of the occupation of railway worker specialising in operational train driving is notable in that it runs counter to the trend of restructuring and conflation of training occupations, which has led to a reduction in their number over the past decades. This was the first time that the splitting of an occupation with specialisms

Table A3.2-1: **Number of new and modernised training occupations 2013 to 2022**

Year	New	Modernised	Total
2013	2	12[1]	14
2014	0	9	9
2015	0	17	17
2016	0	9	9
2017	0	12	12
2018	1	24	25
2019	0	4	4
2020	0	11	11
2021	1	8	9
2022	2	12	14
Total	**6**	**118**	**124**

[1] In order to depict the new regulation procedure in full, the modernisation of the comparable company-based training programme "Ship mechanic" (beyond the remit of the BBiG [§ 3 Para. 2 No. 3]) is counted.

Source: Federal Institute for Vocational Education and Training, Index of Recognised Training Occupations (various years) VET Data Report Gemany 2023

into two mono occupations had been examined and implemented as part of a regulatory procedure.

A total of three occupations were renamed in 2022 with the aim of mapping changed training contents more appropriately following the update. Hotel clerks are now known as hotel management clerks. The occupation of specialist in the hospitality services industry has been renamed restaurant and events catering specialist, and insurance and financial services brokers have become insurance and financial investment specialists.

The training regulations have already been published for the following training occupations, which enter into force on 1 August 2023. These include glass apparatus maker, motor vehicle body and vehicle construction mechanic, designer of digital and print media, and tax clerk. In addition, a new training occupation is being created: designer of immersive media.

Information Box – Updating of training occupations

The starting point for the updating of training occupations within the dual system on the basis of §§ 4 Paragraph 1 of the Vocational Training Act (BBiG)/§ 25 Paragraph 1 of the Crafts and Trades Regulation Code (HwO) is a relevant skills requirement in trade and industry. If the contents of a training occupation are to be modernised or if a new occupation is to be created, the initiative for such a move usually emanates from the specialist associations, from the umbrella associations of the employers, from the trade unions or from the BIBB. Classification by new and modernised training occupations has been applied to updates since the intensification of the updating system in 1996.

Updated training occupations

The designation "updated" indicates the circumstance that training regulations have been enacted. It is an umbrella term which encompasses new training occupations, modernised training occupations and simple transfer into permanent law. The characteristics of "new" or "modernised" are not applied to occupations for persons with a disability.

New training occupations

A training occupation is designated as being new if its training regulations do not cancel a predecessor occupation pursuant to the BBiG/HwO.

Modernised training occupations

Training occupations whose training regulations rescind a predecessor occupation are deemed to be modernised. Rectifications of training regulations (e.g. clerical or numbering errors) are not counted as modernisations. Predecessor occupations according to the BBiG/HwO are state-recognised training occupations or training occupations that are acknowledged to be state-recognised (see Index of Recognised Training Occupations). A predecessor occupation is cancelled when the training regulations cease to be in force or when relevant provisions previously stipulated for occupational profiles, VET plans and examination requirements are no longer applied.

Amendment ordinances

Changes to training regulations which go beyond a rectification are usually enacted via amendment ordinances. An occupation is not deemed to be new or modernised if individual formulations or paragraphs are altered. A categorisation as "modernised" within the scope of the regulatory procedure may, however, ensue in the case of extensive adaptations.

Pilot ordinances

Pilot ordinances are exclusively enacted for a fixed term for the purpose of testing certain circumstances prior to final enactment. If the piloting relates to the whole of the training occupation, it will be listed in the statistics as a new occupation being piloted. If parts of the training occupation have been piloted (e.g. examination regulations), the oc-

cupation will be designated as a state-recognised training occupation. Training occupations being piloted become state-recognised once transferred to training regulations.

Fixed-term training regulations

Fixed-term training regulations cease to be in force on a stipulated date. The fixed term will be rescinded by an amendment ordinance following scrutiny and any realignment required.

A3.3 Future developments with regard to updates of recognised training occupations pursuant to BBiG/HwO

Transformation processes are currently determining multifarious areas in the economy and in society. Particular mention should be made of processes relating to digitalisation and to sustainable and ecological design. The keywords associated with this are decarbonisation, energy transition, conservation of resources and repairability. Requirements regarding intercultural and international cooperation are also changing. In order to support regulatory work with the diverse updating procedures, instruments for experts have been developed over recent years which offer concepts and/or illustrative examples for the occupationally-specific enshrinement of social policy meta-themes. These are aligned towards the occupationally-specific and targeted thematisation of aspects beyond the new standard occupational profile positions established in 2020.

Generally valid standards versus occupationally-specific differences

Within the context of the transformation processes described above, various strands of discourse centring on different watchwords are taking place to discuss competencies which are entirely relevant to regulatory work but which require precise definition and adaptation into the systemic regulatory logic of the German vocational education and training system. The BIBB Board has identified a series of these competencies as being relevant in a cross-cutting manner for all future skilled workers in Germany. Following a detailed analysis, these have informed the modernisation of the standard occupational profile positions. In contrast to the standard occupational profile positions which have been valid so far, a particular emphasis is now being placed on autonomy, on the capacity for reflection and on learning skills, and on calling for a perspective that extends beyond a person's own workplace. A binding requirement to accord due consideration to the newly formulated standard occupational profile positions when all training regulations are updated has been in force since 1 August 2021. The realignment of these generally valid minimum standards, which apply across all training occupations, is particularly focused on the topics of "the digitalised world of work" and "sustainability and environmental protection".

Digitalisation in regulatory instruments

A continuous establishment of information and communication technology in ordinances can be identified since the 1990s. Some occupations, such as those in the printing and media industry, have undergone very considerable change in the wake of digitalisation of work and business processes, whilst changes to regulatory instruments have tended to be minor in other occupations. This reflects the different degree of digitalisation in the individual occupational fields. In the metal working and electrical industry, specific requirements are imparted within the context of digitalisation in the form of codified additional qualifications. In the chemical occupations, which are organised in accordance with the structural concept of elective qualifications, new elective qualifications relating to digitalisation have been introduced (e.g. in the areas of digital networking, 3D printing, data security, programming, process and system integration and IT-based plant modifications). Some individual cases involve the creation of a new occupational profile (e.g. management assistant in e-commerce or designer of immersive media).

Sustainability and environmental protection in regulatory instruments

In the area of sustainability and environmental protection, too, it is useful to investigate where occupationally-specific aspects extend beyond the enshrinement of digitalisation in the standard occupational profile positions. This may, for example, involve specific consideration of the Supply Chain Act (production, recycling or maintenance processes) or dealings with customers (advice on sustainability-oriented financial products, advice on transport routes, sustainable product properties, husbandry conditions and consideration of animal welfare or biodiversity in the landscape). A topic and competency grid for VET for sustainable development was drawn up as part of the main funding focus "Vocational education and training for sustainable development 2015–2019" (BBNE). In this grid, the employability skills relating to sustainability and environmental protection are reflected in the dimensions of appropriate sustainable actions, socially responsible actions and subjectively meaningful actions, each of which is linked with profile-defining areas of activity, operational and organisational areas of activity and social areas of activity within an occupation.

International competencies in regulatory instruments

There is an ever more frequent need for both employees deployed abroad and those working in Germany to be ready and able to conduct themselves in a professionally competent and socially responsible manner in international and intercultural contexts. However, internationalisation has only been reflected in individual isolated cases in training regulations thus far. Against this background and at the behest of the BMBF, the BIBB has created a toolbox containing proposed formulations. This toolbox addresses the various areas of competency of international employability skills. These consist of "international professional competencies", "intercultural competencies", and "foreign language skills".

A4 Trainees

A4.1 Persons interested in training

The number of young people institutionally recorded as being interested in training includes all persons who have signed a training contract or who have been registered with the BA as a training applicant at least periodically. This figure thus encompasses young people who successfully conclude a training contract without involvement of the advisory and placement services[9], applicants who progress to VET with the assistance of these services and applicants who are still seeking a training place as of the cut-off date of 30 September. The latter further include those registered by the BA as "other former applicants" who abandoned their wish to be placed prior to the cut-off date and who are therefore not counted in the official training place demand.

In 2020, the overall number of young people institutionally recorded as being interested in training fell considerably by 62,600 to 724,300. Demand in the 2021 reporting year decreased once more by 17,300 or 2.4%. The downward trend in the number of young people interested in training also continued in the 2022 reporting year. Compared to the previous year, 698,900 persons were institutionally recorded as being interested in training. This represents a decrease of 18,200 persons or 1.2%. The number of persons interested in training thus fell below the 700,000 mark for the first time. This is the lowest figure recorded since 1992, the first year in which it was possible to calculate training market figures for the country as a whole following reunification.

Progression or participation rate (EQI)

The national proportion of persons interested in training who concluded a new training contract (EQI) (see Information Box) rose compared to last year (EQI = 66.9%) by 1.1 percentage points to 68.0%. This took it above the level of 2019 (EQI = 66.7%) prior to the coronavirus pandemic.

9 This number is arithmetically determined as the difference between the number of newly concluded training contracts and the number of training place applicants registered with the BA who progress to a VET placement.

Information Box – Progression or participation rate (EQI)

The proportion of persons interested in training who conclude a new training contract is referred to as the progression or participation rate (EQI) of persons interested in training. This rate states the degree of success achieved in securing participation in vocational education and training by young people who are at least periodically interested in VET during the reporting year.

Persons interested in training who prematurely abandoned their wish to be placed

The total number of all persons institutionally recorded as being interested in training is differentiated from official training place demand by the inclusion of training place applicants registered with the BA who have abandoned their wish to be placed prior to the cut-off date (the term used in the BA's training market statistics being "other former applicants"). There were 163,300 such other former applicants in 2022. Nationally speaking, they thus made up a proportion of 23.4% of all 698,900 persons interested in training. The Labour Market Statistics of the BA have been able to provide information on unemployment since 2016. As of 30 September 2022, 18,400 of the applicants for whom no placement remit was still ongoing and for whom no destination was known were registered as unemployed. We also know from the Applicant Surveys carried out by the Federal Employment Agency (BA) and the Federal Institute for Vocational Education and Training (BIBB) that usually only a small proportion of these persons will be in fully qualifying training (company-based, school-based, higher education). Relatively many of them will be not working or unemployed or merely engaged in casual work.

Persons interested in training who avail themselves of advisory and placement services

In 2022, the total number of training place applicants registered with the BA was 422,400 → **Table A4.1-1**. Applicants registered with the BA thus represented a proportion of 60.4% of all 698,900 persons institutionally recorded as interested in training in 2022. This value can be roughly interpreted as the arithmetical "engagement rate". It is a coarse interpretation because the total number of persons interested in training does not include young people who do not endeavour to obtain institutional support from the advisory and placement services even if they continue to be unsuccessful in their search for a training place and who therefore cannot be institutionally recorded anywhere. Amongst persons interested in training, the proportion of applicants registered with the BA decreased slightly compared to the previous year from 61.3% to 60.4%. By way of contrast, the supply-demand ratio increased from 99.1 in 2021 to 101.3 in 2022, a positive development from the point of view of the young people. This correlation is plausible if we consider that the new training year is already several weeks old by the cut-off date for the training market figures (30 September) and that, in the event of impending failure, applicants will have to act in a timely manner in order to secure alternatives, i.e. long before the cut-off date. After commencement of these alternatives (e.g. a return to school), many young people clearly believe that it is sensible to complete these options, and thus to cancel the placement remit prior to the cut-off date and postpone their wish to enter training until the next training year. A further argument in favour of this strategy is that opportunities in the post-placement phase that takes place in the "fifth quarter" (from 1 October to the end of the calendar year) tend to be scarce.

Unplaced applicants from previous years

In the 2022 reporting year, a total of 182,700 or 43.3% of the total of 422,400 registered training place applicants had left school in a year prior to the reporting year. If we compare this figure with 2019, when the number of applicants who had left school in a previous year was 221,600, then the decrease vis-à-vis 2022 is even more significant at -17.5%. However, because the number of training place applicants registered with the BA is in decline in overall terms, the proportion of all training place applicants for which they account has remained unchanged during the same period at 43.3% in each case.

Even if applicants are referred to unplaced applicants from previous years by dint of the fact that they left school in an earlier year, it is not certain whether they were interested in obtaining a vocational education and training place in a previous year. For this reason, information on registered applicants for VET places who have sought a training place both in the current year and in previous years with the support of an employment agency or a job centre has been included in the BA training market statistics since 2014 (see Information Box).

Of the 422,400 applicants registered nationally in 2022, 165,500 persons (39.2%) had applied for a training place in at least one of the last five reporting years → **Table A4.1-2**.

Table A4.1-1: **Comparison of characteristics of applicants depending on placement status in the 2021/2022 reporting year**

	Total applicants		of which:									
			Placed applicants		Other former applicants (premature abandonment of the placement request)		Applicants still looking		of which:			
									Applicants with an alternative at 30.09.		Unplaced applicants	
	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Total	**422,400**	**100**	**198,684**	**100**	**163.316**	**100**	**60,400**	**100**	**37,715**	**100**	**22,685**	**100**
Gender												
Men	261,561	61.9	123,713	62.3	99,277	60.8	38,571	63.9	24,069	63.8	14,502	63.9
Women	160,741	38.1	74,924	37.7	63,999	39.2	21,818	36.1	13,637	36.2	8,181	36.1
Age												
Under 18 years	154,239	36.5	86,067	43.3	51,312	31.4	16,860	27.9	14,192	37.6	2,668	11.8
18 to 19 years	117,769	27.9	57,892	29.1	42,831	26.2	17,046	28.2	10,203	27.1	6,843	30.2
20 to 24 years	118,487	28.1	46,771	2.5	52,062	31.9	19,654	32.5	10,702	28.4	8,952	39.5
Aged 25 and above	31,903	7.6	7,953	4	17,110	10.5	6,840	11.3	2,618	6.9	4,222	18.6
Nationality												
Germans	343,436	81.3	169,119	85.1	127,163	77,9	47,154	78.1	29,746	78.9	17,408	76.7
Foreign nationals	78,963	18.7	29,565	14.9	36,152	22,1	13,246	21.9	7,969	21.1	5,277	23.3
School-leaving qualification												
No lower secondary school-leaving certificate	6,416	1.5	2,924	1.5	2,221	1.4	1,271	2.1	753	2	518	2.3
With lower secondary school-leaving certificate	116,763	27.6	53,343	26.8	45,251	27.7	18,169	30.1	11,305	30	6,864	30.3
Intermediate secondary school-leaving certificate	172,179	40.8	94,089	47.4	55,524	34	22,566	37.4	14,812	39.3	7,754	34.2
University of Applied Sciences entrance qualification	54,571	12.9	20,834	10.5	25,645	15.7	8,092	13.4	5,149	13.7	2,943	13
General higher education entrance qualification	48,687	11.5	18,230	9.2	23,845	14.6	6,612	10.9	3,803	10.1	2,809	12.4
No response	23,784	5.6	9,264	4.7	10,830	6.6	3,690	6.1	1,893	5	1,797	7.9
School attended												
General school	203,941	48.3	116,955	58.9	63,160	38.7	23,826	39.4	14,043	37.2	9,783	43.1
Vocational school	175,366	41.5	67,000	33.7	79,221	48.5	29,145	48.3	20,200	53.6	8,945	39.4
Institute of higher education/ universities of cooperative education	19,362	4.6	7,112	3.6	9,331	5.7	2,919	4.8	1,490	4	1,429	6.3
No response	5,468	1.3	1,564	0.8	2,903	1.8	1,001	1.7	361	1	640	2.8
School-leaving year												
In the reporting year	236,168	55,9	120.839	60.8	84,654	51.8	30,675	50.8	23,280	61.7	7,395	32.6
In the previous years	182,737	43,3	77.023	38.8	76,659	46.9	29,055	48.1	14,234	37.7	14,821	65.3
No response	3,495	0,8	822	0.4	2,003	1.2	670	1.1	201	0.5	469	2.1

Source: Federal Employment Agency, Special analysis for the Vocational Training Report;
Calculations by the Federal Institute for Vocational Education and Training

Table A4.1-2: **Registered training place applicants in Germany differentiated by most recent status of the search for training prior to the respective current reporting year**

Reporting year	Total		of which:							
			Applicants in at least one of the preceding five reporting years		of which:					
					One or two years before the reporting year		of which:			
							One year before the reporting year		Two years before the reporting year	
	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
2014	561,145	100	187,043	33.3	173,131	30.9	151,031	26.9	22,100	3.9
2015	550,910	100	185,485	33.7	171,186	31.1	148,745	27	22,441	4.1
2016	547,728	100	185,150	33.8	170,862	31.2	147,907	27	22,955	4.2
2017	547,824	100	183,727	33.5	169,875	31	147,664	27	22,211	4.1
2018	535,623	100	189,234	35.3	174,972	32.7	148,041	27.6	26,931	5
2019	511,799	100	186,820	36.5	170,074	33.2	143,424	28	26,650	5.2
2020	472,981	100	183,898	38.9	162,807	34.4	135,817	28.7	26,990	5.7
2021	433,543	100	183,239	42.3	159,758	36.8	134,341	31	25,417	5.9
2022	422,400	100	165,491	39.2	142,237	33.7	119,940	28.4	22,297	5.3

Source: Training market statistics of the Federal Employment Agency, special analysis for the preparation of the Vocational Training Report; calculations of the Federal Institute for Vocational Education and Training

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Information Box – Applicants who have had contact with the advisory and placement services in previous years

In interpreting the figures relating to applicants who have had contact with the advisory and placement services in previous years, the BA bases alignment on the year categories when the person was last registered as an applicant in previous years. It is therefore not possible to state, for example, whether a person who was last registered one year before the reporting year actually sought a training place with the support of the BA in earlier years. By the same token, the fact that an applicant was last recorded a longer time ago does not give rise to the conclusion that such a person had sought a training place in vain throughout the entire period.

A4.1.1 Prior learning of trainees with a newly concluded training contract

The prior learning of trainees is considered below on the basis of Vocational Education and Training Statistics data from the Federal Statistical Office and the statistical offices of the federal states relating to newly concluded training contracts. Newly concluded training contracts (also referred to in abbreviated form as new contracts) are deemed to be vocational education and training contracts recorded in the Index of Vocational Education and Training Contracts pursuant to the BBiG/HwO which have begun within the recording period and which are still in existence on 31 December. This definition was used up until the 2007 reporting year and reintroduced from the 2021 reporting year (the interim slightly divergent definition was abandoned). Three types of prior learning are mapped for all trainees. These are information regarding the highest general school-leaving qualification achieved, information regarding prior participation in a vocational preparation scheme, or in basic vocational training and information regarding previous vocational education and training, or a previous course of higher education study.

A4.1.2 Highest general school-leaving certificate by groups of persons

With regard to development of the absolute number of new training contracts concluded in 2021, a clear decrease is revealed compared to the previous year, especially in respect of the relatively uncommon category "not achieved a lower secondary school-leaving certificate" (-13.0%; new contracts in 2021: 13,140). Trainees with a lower secondary school-leaving certificate were virtually at the same level as the previous year, displaying a fall of only -0.6% (new contracts in 2021: 111,882). New contracts with trainees in possession of an intermediate secondary school-leaving certificate rose slightly by +1.1% (new contracts in 2021: 193.221). The same applied in respect of trainees with a higher education entrance qualification (+2.1%; new contracts in 2021: 138,585). The most significant growth by some distance was shown for trainees with a "qualification obtained abroad which cannot be allocated" (+6.3%; new contracts in 2021: 9,348). The trend towards higher level training over previous years with regard to general school-leaving certificates (see Information Box) on the part of trainees in the dual system continued in 2021. In long-term comparative terms, the proportion of those in the vocational education and training system in possession of a higher education entrance qualification has risen by around eleven percentage points (2007: 18.8%) → **Chart A4.1.2-1**.

Information Box – Recording of the highest general school-leaving qualification in the Vocational Education and Training Statistics

Following a revision of the Vocational Education and Training Statistics introduced by the Vocational Training Reform Act (BerBiRefG) of 23.03. 2005, three types of prior learning of trainees have been differentiated since the 2007 reporting year. These were extended as of the 2021 reporting year by the Vocational Education and Training Modernisation Act (BBiMoG) of 12.12.2019. Information is recorded on general school-leaving qualification achieved, on prior participation in vocational preparation training or in basic vocational training, and separately on previous VET or a previous course of higher education study. Since the revision, all characteristics recorded within the scope of the Vocational Education and Training Statistics can be freely combined and evaluated for various groups of persons. This has significantly expanded opportunities for analysis. Type of school, i.e. where the qualification was acquired, is irrelevant. The following categories are differentiated:

No lower secondary school-leaving certificate

Lower secondary school-leaving certificate

Intermediate secondary school-leaving certificate or comparable qualification

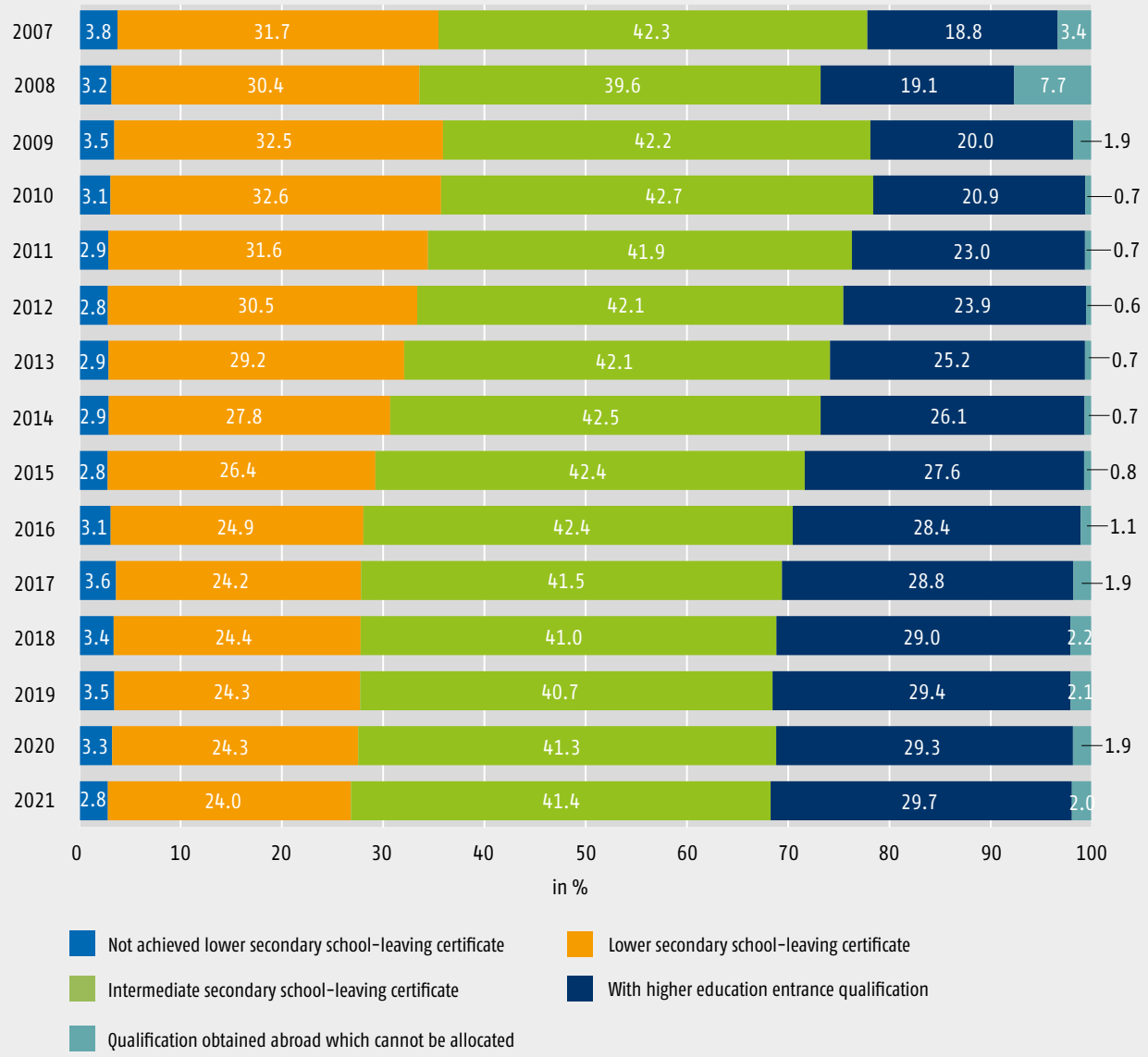
Higher education entrance qualification

Qualification obtained abroad which cannot be allocated to any of the above categories

In the initial years following the revision of the Vocational Education and Training Statistics, especially in the 2007 and 2008 reporting years, the category "qualification obtained abroad which cannot be allocated" was reported to a conspicuously frequent extent. The assumption must be that this category was also used to cover other missing information regarding the general school-leaving qualification. For this reason, calculation of school qualification proportions for the years from 2007 to 2018 was conducted without the category "qualification obtained abroad which cannot be allocated". This category was reintroduced into the percentage calculations in the 2019 reporting year (including retrospectively). The school qualification proportions set out below thus differ from those contained in the data reports of previous years up until 2020. In arriving at an interpretation, account needs to be taken of the circumstance that, when the proportion of "qualification obtained abroad which cannot be allocated" is high, it may well be the case that other types of qualification are significantly underestimated. When observing individual types of school-leaving certificates, consideration should thus always be accorded to how much information is missing.

There was no evidence in the past of a process of displacement on the training market caused by a sharp increase in persons in possession of a higher education entrance qualification. The outcome instead was that fiercer competition took place between applicants with a higher education entrance qualification for the often scarce places in occupations they particularly favoured. If we take account of developments over recent years, the question of a possible displacement no longer arises in future. One further object of increasing interest is whether the acquisition of trainees with a higher education entrance qualification and of former students for dual VET can successfully compensate for the declining numbers of persons who have achieved no qualification higher than the lower secondary school-leaving certificate in terms of being able to continue to secure a supply of skilled workers in future. Persons who have completed or failed to complete a course of higher education could – alongside possible higher education – offer an area of further potential in terms of securing a supply of skilled workers. This group of persons will be examined more precisely later.

Chart A4.1.2-1: **Prior school learning of trainees with a newly concluded training contract[1] 2007 to 2021 (in %)[2]**



[1] The definition of a newly concluded contract was switched back to the version used up until the 2006 reporting year (including retrospectively). Slight deviations from previous publications may therefore occur.

[2] Unlike in the preceding years, the school qualification category "qualification obtained abroad which cannot be allocated" is included in the percentage calculations from the 2019 reporting year (including retrospectively). Because of the changed method of calculation, the percentage values of all types of school qualification are not comparable with those presented in past Data Reports. Account needs to be taken of the circumstance that, when the proportion of "qualification obtained abroad which cannot be allocated" is high, it may well be the case that other types of qualification are significantly underestimated.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2007 to 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). Calculations by the Federal Institute for Vocational Education and Training

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Table A4.1.2-1: **Trainees with a newly concluded training contract[1] by highest general school-leaving qualification, gender and nationality, Germany 2021**

Group of persons	Total new training contracts	Highest general school-leaving qualification									
		Not achieved lower secondary school-leaving certificate		Lower secondary school-leaving certificate		Intermediate secondary school-leaving certificate		Higher education entrance qualification		Qualification obtained abroad which cannot be allocated	
	Absolute	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Men	297,549	9,600	3.2	79,434	26.7	124,245	41.8	78,399	26.3	5,871	2.0
Women	168,627	3,543	2.1	32,445	19.2	68,976	40.9	60,186	35.7	3,477	2.1
Germans	414,390	10,005	2.4	93,927	22.7	178,962	43.2	129,159	31.2	2,334	0.6
Foreign nationals	51,786	3,135	6.1	17,952	34.7	14,259	27.5	9,426	18.2	7,014	13.5
Total	**466,176**	**13,140**	**2.8**	**111,882**	**24.0**	**193,221**	**41.4**	**138,585**	**29.7**	**9,348**	**2.0**

[1] The definition of newly concluded training contracts was (also retroactively) changed back to the version used in the 2006 reporting year. This may therefore result in minor deviations to earlier publications.

Source: BIBB "Trainee Database" provided by the Federal Statistical Office based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), 2021 reporting year. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training

Highest general school-leaving qualification achieved by groups of persons

In the 2021 reporting year, women concluding a new training contract in the dual VET system were once again significantly more likely than men in overall terms to be in possession of a higher education entrance qualification (around 36% as opposed to around 26%) → **Table A4.1.2-1**. **Table A4.1.2-2** illustrates the development for the period from 2010 to 2021.

Within the group of foreign trainees[10] concluding a new contract in 2021, around 41% were in possession of no qualification higher than a lower secondary school-leaving certificate (6.1% without and 34.7% with). This applied to around 25% of German trainees (2.4% not in possession of a lower secondary school-leaving certificate and 22.7% with). By way of contrast, 31.2% of trainees holding German nationality were in possession of a higher education entrance qualification. The corresponding figure for trainees who were foreign nationals was 18.2%. Over the course of time, however, a significant rise has occurred in the number of foreign trainees as a proportion of those in possession of a higher education entrance qualification. Developments will be considered in greater detail below and differentiated according to the individual school-leaving certificates.

10 Although the Vocational Education and Training Statistics record nationality, possible migrant background cannot be indicated. All trainees not in possession of a German passport are counted as foreign trainees. Young people who hold both German and non-German citizenship are not recorded as foreign trainees.

Table A4.1.2-2: **Trainees with a newly concluded training contract[1] by highest general school-leaving qualification and area of responsibility, Germany 2010 to 2021 (Part 1)**

Area of responsibility[3]	Reporting year	Total new training contracts	Highest general school-leaving qualification									
			Not achieved lower secondary school-leaving certificate		Lower secondary school-leaving certificate		Intermediate secondary school-leaving certificate		Higher education entrance qualification		Qualification obtained abroad which cannot be allocated	
		Absolute	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Trade and industry	2010	328,626	8,055	2.5	83,298	25.3	146,067	44.4	88,251	26.9	2,952	0.9
	2011	339,465	7,794	2.3	83,061	24.5	146,751	43.2	98,808	29.1	3,051	0.9
	2012	329,886	7,809	2.4	78,234	23.7	142,758	43.3	98,658	29.9	2,430	0.7
	2013	314,550	7,431	2.4	71,496	22.7	135,375	43.0	97,653	31.0	2,598	0.8
	2014	309,114	7,905	2.6	68,004	22.0	131,355	42.5	99,291	32.1	2,562	0.8
	2015	305,994	7,674	2.5	64,398	21.0	128,172	41.9	103,206	33.7	2,547	0.8
	2016	301,125	8,760	2.9	59,649	19.8	125,436	41.7	104,037	34.5	3,243	1.1
	2017	301,521	10,242	3.4	57,927	19.2	122,769	40.7	105,534	35.0	5,046	1.7
	2018	306,399	9,300	3.0	59,550	19.4	124,725	40.7	106,833	34.9	5,991	2.0
	2019	299,745	9,231	3.1	58,194	19.4	120,576	40.2	105,735	35.3	6,009	2.0
	2020	263,862	7,974	3.0	51,780	19.6	107,355	40.7	92,016	34.9	4,740	1.8
	2021	262,083	6,591	2.5	51,120	19.5	106,179	40.5	92,679	35.4	5,517	2.1
Craft trades	2010	153,708	6,411	4.2	82,020	53.4	54,363	35.4	10,680	6.9	231	0.2
	2011	151,737	5,835	3.8	78,570	51.8	54,762	36.1	12,219	8.1	354	0.2
	2012	145,491	5,424	3.7	72,963	50.1	53,466	36.7	13,260	9.1	378	0.3
	2013	138,252	5,301	3.8	67,557	48.9	51,027	36.9	13,863	10.0	507	0.4
	2014	136,248	4,914	3.6	62,397	45.8	53,238	39.1	14,973	11.0	726	0.5
	2015	136,224	4,848	3.6	58,608	43.0	54,819	40.2	16,989	12.5	960	0.7
	2016	135,711	5,085	3.7	55,029	40.5	55,821	41.1	17,883	13.2	1,893	1.4
	2017	139,560	6,417	4.6	54,036	38.7	56,325	40.4	19,236	13.8	3,546	2.5
	2018	139,812	6,567	4.7	53,763	38.5	55,299	39.6	20,178	14.4	4,002	2.9
	2019	137,997	6,309	4.6	51,858	37.6	55,659	40.3	20,565	14.9	3,609	2.6
	2020	129,033	5,286	4.1	47,244	36.6	53,424	41.4	20,346	15.8	2,730	2.1
	2021	130,398	4,758	3.6	46,314	35.5	55,197	42.3	21,690	16.6	2,436	1.9
Public sector	2010	12,960	36	0.3	561	4.3	6,780	52.3	5,577	43.0	3	0.0
	2011	12,186	30	0.2	483	4.0	5,970	49.0	5,691	46.7	9	0.1
	2012	11,760	33	0.3	363	3.1	5,571	47.4	5,784	49.2	9	0.1
	2013	12,138	42	0.3	408	3.4	5,535	45.6	6,141	50.6	9	0.1
	2014	12,240	45	0.4	453	3.7	5,625	45.9	6,111	49.9	9	0.1
	2015	12,939	30	0.2	513	4.0	5,586	43.2	6,801	52.6	9	0.1
	2016	12,783	30	0.2	411	3.2	5,133	40.2	7,185	56.2	24	0.2
	2017	13,836	27	0.2	468	3.4	5,640	40.8	7,662	55.4	36	0.3
	2018	14,259	45	0.3	600	4.2	5,589	39.2	7,974	55.9	48	0.3
	2019	14,775	33	0.2	588	4.0	5,937	40.2	8,181	55.4	39	0.3
	2020	14,307	30	0.2	543	3.8	5,961	41.7	7,737	54.1	36	0.3
	2021	13,809	39	0.3	486	3.5	5,598	40.5	7,647	55.4	36	0.3

Table A4.1.2-2: **Trainees with a newly concluded training contract[1] by highest general school-leaving qualification and area of responsibility, Germany 2010 to 2021 (Part 2)**

Area of responsibility[3]	Reporting year	Total new training contracts	Highest general school-leaving qualification									
			Not achieved lower secondary school-leaving certificate		Lower secondary school-leaving certificate		Intermediate secondary school-leaving certificate		Higher education entrance qualification		Qualification obtained abroad which cannot be allocated	
		Absolute	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Agriculture	2010	14,232	1,248	8.8	6,363	44.7	4,839	34.0	1,680	11.8	102	0.7
	2011	13,581	1,218	9.0	6,174	45.5	4,212	31.0	1,893	13.9	84	0.6
	2012	13,248	1,065	8.0	5,925	44.7	4,239	32.0	1,932	14.6	90	0.7
	2013	13,248	1,140	8.6	4,686	35.4	4,971	37.5	2,376	17.9	75	0.6
	2014	13,371	1,065	8.0	4,386	32.8	5,193	38.8	2,667	19.9	63	0.5
	2015	13,419	1,011	7.5	4,338	32.3	5,217	38.9	2,775	20.7	78	0.6
	2016	13,368	990	7.4	3,936	29.4	5,238	39.2	3,120	23.3	84	0.6
	2017	13,413	1,035	7.7	3,960	29.5	5,190	38.7	3,093	23.1	138	1.0
	2018	13,203	897	6.8	3,870	29.3	5,100	38.6	3,156	23.9	180	1.4
	2019	12,894	939	7.3	3,840	29.8	4,851	37.6	3,132	24.3	135	1.0
	2020	13,341	852	6.4	3,750	28.1	5,154	38.6	3,453	25.9	132	1.0
	2021	13,680	756	5.5	3,672	26.8	5,511	40.3	3,621	26.5	120	0.9
Liberal professions	2010	40,794	252	0.6	6,564	16.1	23,772	58.3	9,744	23.9	465	1.1
	2011	40,887	342	0.8	6,897	16.9	22,773	55.7	10,374	25.4	498	1.2
	2012	41,127	258	0.6	7,134	17.3	22,677	55.1	10,665	25.9	396	1.0
	2013	40,623	348	0.9	6,660	16.4	22,011	54.2	11,124	27.4	480	1.2
	2014	40,650	231	0.6	6,402	15.7	22,665	55.8	10,914	26.8	438	1.1
	2015	41,886	219	0.5	6,450	15.4	23,190	55.4	11,586	27.7	438	1.0
	2016	42,507	285	0.7	6,552	15.4	23,178	54.5	11,970	28.2	525	1.2
	2017	42,873	297	0.7	6,744	15.7	23,028	53.7	12,084	28.2	720	1.7
	2018	43,884	261	0.6	7,890	18.0	22,272	50.8	12,522	28.5	936	2.1
	2019	43,539	573	1.3	8,556	19.7	20,745	47.7	12,585	28.9	1,077	2.5
	2020	41,031	456	1.1	8,307	20.2	19,053	46.4	12,087	29.5	1,128	2.7
	2021	44,553	489	1.1	9,408	21.1	20,529	46.1	12,906	29.0	1,221	2.7
Housekeeping	2010	3,537	1,026	29.0	2,010	56.9	444	12.6	45	1.3	9	0.3
	2011	3,243	933	28.8	1,890	58.3	369	11.4	45	1.4	6	0.2
	2012	2,844	807	28.4	1,635	57.5	357	12.6	36	1.3	9	0.3
	2013	2,643	795	30.0	1,425	53.9	363	13.7	48	1.8	15	0.6
	2014	2,385	753	31.6	1,224	51.4	333	14.0	57	2.4	15	0.6
	2015	2,226	636	28.6	1,209	54.3	297	13.3	66	3.0	18	0.8
	2016	2,070	642	31.1	1,059	51.2	288	13.9	48	2.3	30	1.5
	2017	2,070	633	30.6	1,026	49.6	303	14.6	69	3.3	39	1.9
	2018	2,007	609	30.3	1,020	50.8	288	14.3	36	1.8	54	2.7
	2019	1,920	561	29.2	1,029	53.6	243	12.7	39	2.0	48	2.4
	2020	1,734	501	28.8	942	54.3	231	13.4	30	1.8	30	1.7
	2021	1,653	504	30.6	879	53.3	207	12.6	39	2.4	21	1.2

Table A4.1.2-2: **Trainees with a newly concluded training contract[1] by highest general school-leaving qualification and area of responsibility, Germany 2010 to 2021 (Part 3)**

Area of responsibility[3]	Reporting year	Total new training contracts	Highest general school-leaving qualification									
			Not achieved lower secondary school-leaving certificate		Lower secondary school-leaving certificate		Intermediate secondary school-leaving certificate		Higher education entrance qualification		Qualification obtained abroad which cannot be allocated	
		Absolute	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Total	2010	553,857	17,031	3.1	180,816	32.6	236,268	42.7	115,977	20.9	3,762	0.7
	2011	561,099	16,152	2.9	177,075	31.6	234,840	41.9	129,030	23.0	4,002	0.7
	2012	544,356	15,390	2.8	166,251	30.5	229,068	42.1	130,335	23.9	3,312	0.6
	2013	521,454	15,057	2.9	152,232	29.2	219,279	42.1	131,202	25.2	3,681	0.7
	2014	514,008	14,910	2.9	142,863	27.8	218,412	42.5	134,013	26.1	3,810	0.7
	2015	512,688	14,418	2.8	135,516	26.4	217,284	42.4	141,420	27.6	4,050	0.8
	2016	507,564	15,795	3.1	126,636	24.9	215,091	42.4	144,243	28.4	5,799	1.1
	2017	513,270	18,651	3.6	124,161	24.2	213,258	41.5	147,678	28.8	9,522	1.9
	2018	519,564	17,679	3.4	126,696	24.4	213,276	41.0	150,702	29.0	11,211	2.2
	2019	510,870	17,646	3.5	124,065	24.3	208,011	40.7	150,237	29.4	10,914	2.1
	2020	463,311	15,099	3.3	112,566	24.3	191,184	41.3	135,672	29.3	8,793	1.9
	2021	466,176	13,140	2.8	111,882	24.0	193,221	41.4	138,585	29.7	9,348	2.0

[1] 1The definition of newly concluded training contracts was (also retroactively) changed back to the version used in the 2006 reporting year. This may therefore result in minor deviations to earlier publications.

[2] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training (with the exception of craft trades). Trainees who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades. The area of responsibility of maritime shipping is no longer part of the VET statistics since the 2008 reporting year.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2010 to 2021. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training

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A4.1.3 Prior vocational preparation and basic vocational training of trainees with a newly concluded training contract

The transitional sector enables young people who do not fulfil the prerequisites for the commencement of vocational education and training or cannot find a training place for other reasons to improve their individual competencies with a view to entering training or employment. However, these education and training programmes do not lead to a full vocational qualification.[11] Since 2007, the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states have recorded whether trainees in the dual system have previously completed vocational preparation and/or basic vocational training (see Information Box) and the type of measure(s) involved.

Of the total of 466,176 newly concluded training contracts in 2021, 37,296 were reported as being preceded by participation in a measure within the transitional sector → **Table A4.1.3-1**. This means that the proportion of young people who completed vocational preparation measures and/or basic vocational training prior to training rose slightly compared to the previous year to 8.0% (2020: 7.5%). In long-term comparative terms, however, this proportion has declined significantly (2009: 11.7%).

Differences by areas of responsibility

Clear differences are revealed if the proportion values of vocational preparation training and basic vocational training are considered in accordance with the various areas of responsibility.

11 Development of the transitional sector over the course of time is recorded within the scope of the Integrated Training Reporting System (iABE).

Table A4.1.3-1: **Previous participation in vocational preparation training or in basic vocational training by areas of responsibility[1], Germany 2021**

Area of responsibility[1]	Total new training contracts[2]	Previous participation in vocational preparation training or basic vocational training (multiple responses possible)											
		Total[3]		*of which:*									
				Company training measure		Prevocational training measure		School-based vocational preparation year		School-based basic vocational training year		Full-time vocational school not leading to a full vocational qualification	
	Absolute	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Trade and industry	262,083	11,313	4.3	1,641	0.6	4,281	1.6	2,016	0.8	756	0.3	3,219	1.2
Craft trades	130,398	21,099	16.2	6,183	4.7	4,353	3.3	2,964	2.3	5,976	4.6	5,748	4.4
Public sector	13,809	177	1.3	45	0.3	51	0.4	30	0.2	24	0.2	90	0.7
Agriculture	13,680	2,046	15.0	171	1.3	477	3.5	207	1.5	1,056	7.7	159	1.2
Liberal professions	44,553	1,854	4.2	474	1.1	399	0.9	399	0.9	132	0.3	627	1.4
Housekeeping	1,653	804	48.6	6	0.4	534	32.3	159	9.6	48	2.9	84	5.1
Total	**466,176**	**37,296**	**8.0**	**8,520**	**1.8**	**10,092**	**2.2**	**5,775**	**1.2**	**7,992**	**1.7**	**9,927**	**2.1**

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training (with the exception of craft trades). Trainees who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades. The area of responsibility of trade and industry reports the housekeeping occupations for the federal states of Hesse and Schleswig-Holstein. The area of responsibility of maritime shipping is no longer part of the VET statistics since the 2008 reporting year.

[2] The definition of newly concluded training contracts was (also retroactively) changed back to the version used in the 2006 reporting year. This may therefore result in minor deviations to earlier publications.

[3] Because of the possibility of multiple responses, total values are lower than the line totals for the individual measures.

Source: BIBB "Trainee Database" provided by the Federal Statistical Office based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), 2021 reporting year. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training

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Information Box – Vocational Education and Training Statistics: Recording of vocational preparation training or basic vocational training since 2007

Only vocational preparation training or basic vocational training courses which have been completed and are of a minimum duration of six months are counted as prior vocational preparation training or basic vocational training. The following types are differentiated.

- Company-based training measure (introductory training year [EQJ], training module, company internship) (BQM)
- Vocational preparation schemes [BvB] offered by the Federal Employment Agency pursuant to SGB III and further regional measures (BVM)
- School-based vocational preparation year (BVJ), A5
- School-based basic vocational training year (BGJ) (not including a cooperative BGJ [part-time])
- Full-time vocational school not leading to a full vocational qualification (insofar as not covered by BGJ or BVJ) (BFS)

Multiple responses are possible. Continuous data mapping transitional processes until progression to a training place is not available because the respective points in time at which the training schemes have been completed are not recorded.

Differences by highest general school-leaving qualification obtained

Although school-leaving certificates do not constitute a formal prerequisite for entry to vocational education and training pursuant to the BBiG/HwO, it has been shown that school leavers in possession of the lower secondary school-leaving certificate or without any qualification at

Table A4.1.3-2: **Trainees with a newly concluded contract and prior participation in vocational preparation training or in basic vocational training by highest general school-leaving qualification obtained, 2021 reporting year**

Highest general school-leaving qualification	Total new training contracts[1]	Previous participation in vocational preparation training or basic vocational training (multiple responses possible)											
		Total[2]		*of which:*									
				Company training measure		Prevocational training measure		School-based vocational preparation year		School-based basic vocational training year		Full-time vocational school not leading to a full vocational qualification	
	Absolute	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Not achieved lower secondary school-leaving certificate	13,140	2,775	21.1	495	3.8	1,575	12.0	567	4.3	129	1.0	228	1.7
Lower secondary school-leaving certificate	111,882	16,233	14.5	3,561	3.2	5,130	4.6	3.606	3.2	3,087	2.8	2,910	2.6
Intermediate secondary school-leaving certificate	193,221	13,542	7.0	3,114	1.6	2,604	1.3	1.302	0.7	3,726	1.9	4,893	2.5
Higher education entrance qualification	138,585	4,065	2.9	1,032	0.7	582	0.4	234	0.2	984	0.7	1,776	1.3
Degree obtained abroad that cannot be assigned[3]	9,348	681	7.3	318	3.4	204	2.2	69	0.7	66	0.7	120	1.3
Total	**466,176**	**37,296**	**8.0**	**8,520**	**1.8**	**10,092**	**2.2**	**5.775**	**1.2**	**7,992**	**1.7**	**9,927**	**2.1**

[1] The definition of newly concluded training contracts was (also retroactively) changed back to the version used in the 2006 reporting year. This may therefore result in minor deviations to earlier publications.

[2] Because of the possibility of multiple responses, total values are lower than the line totals for the individual measures.

[3] Unlike in previous years, starting from the reporting year 2019 (also retroactively), the percentages for the school graduation category "degree obtained abroad that cannot be assigned" will be reported.

Source: BIBB "Trainee Database" provided by the Federal Statistical Office based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), 2021 reporting year. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training

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all are significantly less likely to progress to training immediately upon completion of general schooling. For this reason, the following section will address participation in vocational preparation training and basic vocational training differentiated by highest general school-leaving qualification obtained. Clear differences are shown if the proportion values are considered in accordance with the various areas of responsibility → **Table A4.1.3-2**.

Trainees by gender and nationality

Significant differences in the proportions of prior vocational preparation training and basic vocational training are also revealed in the case of differentiation by gender of the trainees → **Table A4.1.3-3**.

Table A4.1.3-3: **Prior participation in vocational preparation training or in basic vocational training by groups of persons, Germany 2021**

Group of persons	Total new training contracts[1]	Previous participation in vocational preparation training or basic vocational training (multiple responses possible)											
		Total[2]		*of which:*									
				Company training measure		Prevocational training measure		School-based vocational preparation year		School-based basic vocational training year		Full-time vocational school not leading to a full vocational qualification	
	Absolute	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Men	297,549	27,678	9.3	6,681	2.2	6,942	2.3	4,176	1.4	6,675	2.2	7,323	2.5
Women	168,627	9,618	5.7	1,839	1.1	3,150	1.9	1,599	0.9	1,317	0.8	2,604	1.5
Germans	414,390	31,821	7.7	6,540	1.6	8,607	2.1	4,746	1.1	7,299	1.8	8,805	2.1
Foreign nationals	51,786	5,475	10.6	1,980	3.8	1,485	2.9	1,029	2.0	693	1.3	1,122	2.2
Total	**466,176**	**37,296**	**8.0**	**8,520**	**1.8**	**10,092**	**2.2**	**5,775**	**1.2**	**7,992**	**1.7**	**9,927**	**2.1**

[1] The definition of newly concluded training contracts was (also retroactively) changed back to the version used in the 2006 reporting year. This may therefore result in minor deviations to earlier publications.

[2] Because of the possibility of multiple responses, total values are lower than the line totals for the individual measures.

Source: BIBB "Trainee Database" provided by the Federal Statistical Office based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), 2021 reporting year. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training

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A4.2 Premature dissolution of training contracts

The topic of premature contract dissolutions has been an object of debate in dual VET since the 1980s, when there was a steep rise in dissolution rates. Amidst fears of a shortage of skilled workers, major attention is also being particularly accorded to reducing the number of contract dissolutions and to avoiding training drop-outs in dual VET. This continues to form part of the educational policy agenda.

Both premature dissolution of training agreements (premature contract dissolutions, see Information Box) and failure in the final examination may lead to complete abandonment of training, i.e. the training relationship ends without a (dual) vocational qualification.

Information Box – Prematurely dissolved training contracts (also referred to in abbreviated form as contract dissolutions)

Prematurely dissolved training contracts are defined as contracts which end before expiry of the period of training (e.g. notice of termination of training contracts). They do not include contracts which come to an end because the final examination has been passed.

Further cases of premature contract dissolution include conclusion of severance agreements, the arrangement of a court settlement with the object of severance, the contesting of the training contract for reasons such as error or deceit, death of the trainee (not death of the trainer since their legal successor will take on the role), and de facto ending of training because of absenteeism or failure to provide training.

Contract dissolutions that take place prior to commencement of training are not recorded because the Vocational Education and Training Statistics only collect data on contracts or training relationships actually entered into. Destination following contract dissolution is not recorded. No full continuous data is thus available. Contract dissolutions with or without entire abandonment of training in the dual system cannot be differentiated. The reasons for contract dissolutions are not (any longer) recorded in the Vocational Education and Training Statistics.

Contract dissolution ≠ drop-out: not every premature contract dissolution represents a drop-out from training, and not every drop-out is associated with a contract dissolution. These two terms intersect, but they are not congruent.

A multitude of studies is available regarding destination after contract dissolution. These largely arrive at the same findings. Around half of all persons who prematurely dissolve their contract subsequently conclude a new training contract in the dual system relatively soon afterwards. This proportion fluctuates between about 40% and 70% according to the specific characteristics of the study (region, area of responsibility, length of the period of time after the contract dissolution forming the object of consideration etc.). Because the dissolution rate is not a drop-out rate, it cannot be unrestrictedly compared with the drop-out rate in the higher education sector. A rough calculation of the drop-out rate in the dual system based on the calculation of the higher education drop-out rate for the 2020 completion cohort shows that the drop-out rate in the dual system is 21.9% (although longer lengths of stay in the year 2020 were not taken into account and foreign trainees were also included). That means that a rough comparison of numbers of those successfully completing training for the first time and of numbers of entrants produces an arithmetical proportion for the 2020 completion cohort of about 22% of entrants to dual VET (pursuant to the BBiG/HwO) who failed to acquire a vocational qualification within the dual system. The drop-out rate in dual VET calculated in this manner is thus below the dissolution rate (2020: 25.1%) and even more significantly below the higher education drop-out rate for Bachelor programmes of study (2020 graduate cohorts: 31% and 28%).

Premature contract dissolutions in 2021 by time of dissolution

In the 2021 reporting year, 141,207 training contracts were dissolved nationally prior to the expiry of the duration of training → **Table A4.2-1**. 36.0% of all contract dissolutions occurred during the probationary period, and 29.5% took place after the probationary period itself but still within the first 12 months following commencement of training. A large proportion of dissolutions, 23.8%, also took place in the second year of the contract. More than 24 months had elapsed since the start of the contract in the case of 11% of dissolutions. The proportion of contract dissolutions was somewhat higher in 2021

Table A4.2-1: **Premature contract dissolutions by areas of responsibility[1] and time of contract dissolutions[2] (in absolute terms and in % of all contract dissolutions[3]), Germany 2021**

Area of responsibility	Total premature contract dissolutions		*of which dissolved:* Within the probation period (maximum 4 months)[2]		After the probation period, within the first 12 months		After between 13 and 24 months		After between 25 and 36 months		After more than 36 months	
	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Trade and industry	70,416	100.0	26,490	37.6	20,877	29.6	16,566	23.5	5,391	7.7	1,092	1.6
Craft trades	50,226	100.0	16,113	32.1	14,796	29.5	12,756	25.4	5,241	10.4	1,320	2.6
Public sector	1,035	100.0	345	33.2	318	30.6	255	24.6	105	10.1	15	1.4
Agriculture	3,609	100.0	1,128	31.3	1,227	34.0	837	23.2	345	9.6	72	2.0
Liberal professions	15,363	100.0	6,597	42.9	4,233	27.6	3,039	19.8	1,215	7.9	276	1.8
Housekeeping	558	100.0	129	23.1	198	35.5	150	26.9	63	11.3	18	3.2
Total	**141,207**	**100.0**	**50,802**	**36.0**	**41,646**	**29.5**	**33,603**	**23.8**	**12,360**	**8.8**	**2,796**	**2.0**

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training (with the exception of craft trades).

[2] Time period between start and dissolution of contract (in months); since 2016, the probation period within the scope of the vocational education and training statistics is generally no longer calculated with four months and is instead reported by the competent bodies according to the agreement in the training contract. Since the 2021 reporting year, the proportion of contract dissolutions during the probation period can – with the introduction of the recording of contract dissolutions to the day (no longer only month and year) – be more precisely calculated; underestimation possible before 2021.

[3] Contract dissolutions, the commencement of which is a certain number of months in the past as a proportion of all contract dissolutions (of each area of responsibility); not the dissolution rate and not "genuine" continuous data!

Source: BIBB "Trainee Database" provided by the Federal Statistical Office based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), 2021 reporting year. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training

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Information Box – contract dissolution rate (also referred to in abbreviated form as dissolution rate) – "multi-tier model", new calculation method

The dissolution rate in accordance with the multi-tier model is calculated using the following formula.

$$LQ_{neu} = \left(\frac{\text{Number of contracts dissolved in year}_0 \text{ and commenced in year}_0}{\text{Number of training contracts}_0 \text{ commenced in year}} + \frac{\text{Number of contracts dissolved in year}_0 \text{ and commenced in year}_{-1}}{\text{Number of training contracts}_{-1} \text{ commenced in year}} + \frac{\text{Number of contracts dissolved in year}_0 \text{ and commenced in year}_{-2}}{\text{Number of training contracts}_{-2} \text{ commenced in year}} + \frac{\text{Number of contracts dissolved in year}_0 \text{ and commenced in year}_{-3 \text{ or earlier}}}{\text{Number of training contracts}_{-3} \text{ commenced in year}} \right) \cdot 100$$

LQ: dissolution rate; $year_0$: current reporting year; $year_{-1}$: previous year; $year_{-2}$: two years earlier; $year_{-3}$: Three years earlier

How can this formula be used?

It can be interpreted as an approximate value for the proportion of training contracts commenced in the reporting year (B.1) which are prematurely dissolved during the course of training.

If we begin by considering the first partial rate, this will contain only some of the contracts for the B12021 which were commenced in 2021 and prematurely dissolved. The proportion of dissolved contracts will rise further because some of the contracts commenced in 2021 (which were not dissolved in 2021) will not be dissolved until 2022 or later. Because the data status as of 2021 does not provide any indication as to how many contracts will be dissolved in future, past values may be used instead. The proportions of contracts commenced in 2020 or earlier that were dissolved in the year 2021 may be considered as replacement values for the proportion of contracts commenced in 2021 which will be dissolved in the following years. For pragmatic reasons, differentiation is restricted to four partial rates.

than in previous years. The reason for this is that training events were recorded on a daily basis.

The total dissolution rate in the 2021 reporting year was 26.7% (LQneu). This means that just over a quarter of training contracts commenced in 2021 were dissolved prematurely. The dissolution rates during and after the probationary period were 9.7% and 16.9%, respectively → **Table A4.2-2**.

In overall average terms for the dual system, a slightly higher dissolution rate was revealed in the 2021 reporting year for women (27.1%) than for men (26.4%). Significant differences in dissolution rates are also revealed in the case of the contracts with trainees of German and foreign nationality. Trainees not holding German nationality had higher dissolution rates than German nationals in all areas of responsibility. If we consider dissolution rates in accordance with the general school-leaving certificate previously acquired, a clear correlation is revealed between higher dissolution rates and lower levels of general school-leaving certificates achieved by trainees. Compared to the previous year, the overall average dissolution rate rose for all groups of persons considered here → **Table A4.2-3**.

The causes of contract dissolutions are multifarious and complex. Young people in possession of the lower secondary school-leaving certificate are, for example, more likely to be found in more unstable training arrangements. They are also less likely to be working in their preferred occupation, and this leads to a higher risk of dissolution. The craft trades contain significantly higher proportions of trainees with lower school-leaving qualifications than the area of trade and industry. The craft trades sector also tends to be characterised by small-company structures. Both of these aspects increase the risk of dissolution. If trainees or companies providing training are directly asked about the reasons for premature contract dissolutions, the various studies largely arrive at consistent findings. Depending on whether (former) trainees or companies providing training are surveyed, the reasons given for contract dissolutions or for considering the idea of a contract dissolution are company training conditions or training performance of the young people. If companies or trainers are asked, the main reasons stated lie within the scope of responsibility of the young people. Examples include flawed vocational orientation or career choice, poor motivation (periods of absence, insufficient identification with the company), and lack of perseverance and effectiveness on

Table A4.2-2: **Dissolution rate[1] in % of training contracts commenced, Germany 2010 to 2021**

Jahr	LQ Germany as a whole	Germany as a whole	
		$LQ_{neu\_Probezeit}$	$LQ_{neu\_nach\ Probezeit}$
2010	23.0	7.5	15.5
2011	24.4	8.2	16.2
2012	24.4	8.4	16.0
2013	25.0	8.6	16.3
2014	24.6	8.5	16.1
2015	24.9	8.8	16.1
2016	25.8	8.6	17.2
2017	25.7	8.6	17.1
2018	26.5	8.9	17.7
2019	26.9	9.0	17.9
2020	25.1	8.6	16.5
2021	26.7	9.7	16.9

[1] The new calculation method (LQ_{neu}) as well as the differentiation of the dissolution quota (LQ) during and after the probation period (German: "Probezeit") is only possible as of 2009 (with three subquotas) or as of 2010 (with four subquotas). Until 2015, the probation period within the scope of the vocational education and training statistics was generally calculated to be four months. It has only been reported by the competent bodies according to the agreement in the training contract since the 2016 reporting year. This change to the collection leads to a slight decrease of the LQ during the probation period and a slight increase of the quota after the probation period. Since the 2021 reporting year, the proportion of contract dissolutions during the probation period can, with the introduction of the recording of contract dissolutions to the day (no longer only month and year), be more precisely calculated; before 2021, the LQ during the probation period tended to be slightly underestimated and the LQ after the probation slightly overestimated.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2007 to 2021. Calculations by the Federal Institute for Vocational Education and Training

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the part of the trainees (inadequate performance at the company, inability to cope). If young people or (former) trainees are surveyed, they predominantly make mention of company reasons such as communication problems or conflicts with trainers and line managers and insufficient quality of training (employment instead of training, poor imparting of training contents). They also cite working conditions, including unpaid overtime, inconvenient working times and provisions for paid leave. Nevertheless, consideration needs to be accorded to the fact that asking about reasons directly does not constitute a cause analysis. As the findings show, there is a risk of retrospective justifications and instances of mutual attribution of blame. Various studies also showed a correlation between training allowances and risk of dissolution. In this case, too, however, the assumption would be that this correlation is not causal in nature. A multivariate analysis of company contract dissolutions on the basis of the BIBB Training Panel shows that the risk of contract dissolution is lower if company-based VET is strongly investment-oriented. Over the course of time, the dissolution rate has been fluctuating across Germany as a whole since the 1990s within the context of the situation on the training market. The more favourable the supply and demand ratio (ANR) from the point of view of the potential training place applicants, the higher the dissolution rate has been. This may be driven by the circumstance that a training market situation which is favourable from the perspective of the trainees will make it more likely that there will be an opportunity to switch to a preferred training arrangement if there is dissatisfaction with a training place commenced. This can be especially significant if trainees are initially unable to secure a training place in their preferred occupation. A contract dissolution therefore does not necessarily mean failure on the part of trainees.

Table A4.2-3: **Contract dissolution rates (LQ_{neu} in %)[1] by personal characteristics and areas of responsibility[2], Germany 2021**

Personal characteristic	LQ_{neu} by time of dissolution			LQ_{neu} by areas of responsibility					
	Total	During the probation period (max. 4 months)	After the probation period	Trade and industry	Craft trades	Public sector	Agriculture	Liberal professions	Housekeeping
Gender									
Male	26.4	9.2	17.2	22.9	32.9	8.6	23.7	32.6	28.5
Female	27.1	10.7	16.4	24.7	36.9	6.2	27.6	30.7	29.4
Nationality									
German nationality	25.5	9.3	16.2	22.6	32.4	7.0	24.3	30.3	28.8
Without German nationality (foreign nationals)	35.3	12.9	22.5	32.5	40.5	9.9	40.1	33.5	36.5
Highest general school-leaving qualification									
Without lower secondary school-leaving certificate	38.6	13.6	25.0	33.1	48.1	11.8	32.2	41.4	30.9
With lower secondary school-leaving certificate	38.5	13.9	24.6	36.2	41.6	13.4	32.2	40.2	29.2
Intermediate secondary school-leaving certificate	24.9	9.1	15.9	23.0	28.7	8.0	22.3	30.6	27.7
With higher education entrance qualification	16.5	6.4	10.1	15.0	22.2	6.0	17.0	23.7	25.2
Total	**26.7**	**9.7**	**16.9**	**23.5**	**33.6**	**7.1**	**24.8**	**30.9**	**29.3**

1 Multi-tier model of the Federal Institute for Vocational Education and Training based on the new method of calculation; in % of training contracts commenced.

[2] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training (with the exception of craft trades).

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2018 to 2021. Calculations by the Federal Institute for Vocational Education and Training

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A4.3 Final examinations in dual vocational education and training and pass rates

At the end of the training time, final examinations are held in all recognised training occupations in the dual system pursuant to the Vocational Training Act (BBiG or the Crafts and Trades Regulation Code, HwO). Their purpose is to provide evidence that the requisite employability skills have been achieved by determining whether candidates have acquired the skills, knowledge and competencies necessary for the awarding of certification and for the qualified exercising of the occupation in which training has taken place (pursuant to § 38 BBiG/§ 32 HwO). Trainees who fail the final examination may resit the exam twice at a maximum.

Information Box – Final examinations of trainees (Vocational Education and Training Statistics)

The Vocational Education and Training Statistics (survey as of 31 December) use the partial dataset relating to trainees in dual VET pursuant to the BBiG or HwO (data record type 1) to record on an annual basis the month and year (and from contracts commenced in 2021 the full date) in which final examinations took place for all training contracts (the term "journeyman examinations" is used in the craft trades). The number of examinations sat counts all final examinations conducted in the calendar year. The number of examination candidates (delineation possible since 2008) counts all training contracts in the reporting

year in respect of which there has been examination(s) sat. If, for example, a final examination and a resit have been reported within the same training contract in the reporting year, then two examinations sat and one examination candidate will be recorded. Double counts of examination candidates are unlikely (it may be assumed that it will be very rare for the same person to take part in two final examinations relating to two different training contracts within a reporting year). The figure cannot be determined more precisely because no flow statistics are available which permit the linking of data from different training contracts relating to the same person. As well as recording examination participation, the Vocational Education and Training Statistics also collect information on examination success (differentiated as passed, not passed and definitively not passed). For the first examination sat, they also record type of admission (differentiated as premature, scheduled [i.e. in accordance with the training contract]).

Final examinations of trainees and pass rates in time comparison terms

There were a total of 427,242 final examinations taken by trainees in the dual system in the year 2021. 413,625 trainees sat at least one final examination. 378,630 of these passed the final examination and this acquired a vocational qualification in the dual system. Even under the difficult conditions of the coronavirus pandemic, no significant decreases were thus revealed with regard to final examinations taken by trainees or persons completing training in the dual system. In the higher education sector, by way of contrast, the number of graduates declined by 6% in 2020 compared to the previous year. However, the figure rose again by 9% in 2021. 88.6% of all examinations sat were passed (EQ I). 91.5% of all candidates passed the examination (EQ II) → **Table A4.3-1**.

Examination participation and pass rates 2021 – first final examinations and resits

Trainees are admitted to the final examination if they have completed the regular or contractually stipulated period of training (“scheduled admission”; this also includes examinations sat after contractually agreed extensions). Admission may, however, also take place prior to expiry of the regular period of training if justified by a trainee’s performance (“premature admission”).

In the 2021 reporting year, scheduled admission was reported for 90.9% of all 394,692 candidates for a final examination. Scheduled admission within this context refers both to the training duration stated in the training regulations and to the duration stipulated in the training contract. 9.1% of all first final examinations sat were reported as having been preceded by a shortened duration of training. This proportion varies significantly by federal states and by areas of responsibility.

Information Box – Examination success/pass rates

Two types of pass rates for the final examinations can fundamentally be calculated on the basis of the Vocational Education and Training Statistics. Each of these relates to the reporting year.

EQ I: The amount of examinations passed as a proportion of all **examination** participations in a reporting year.

$$\text{EQ I} = \frac{\text{Number of final examinations passed}}{\text{Number of all examination participations}} \cdot 100$$

EQ II: The number of trainees who have passed examinations as a proportion of **all examination candidates** in a reporting year.

$$\text{EQ II} = \frac{\text{Number of final examinations passed}}{\text{Number of all candidates}} \cdot 100$$

Pass rates are calculated on the basis of rounded data. Distortions may occur in the case of small sample sizes.

EQ II is always higher than EQ I (unless some people do not pass at the first attempt and take part in resits). The following text explains EQ II only. Nevertheless, EQ I is additionally indicated in the tables. The number of resits as a proportion of all examination participations in a reporting year is indicated and explained alongside the pass rate.

No flow statistics are available. Examination success cannot be evaluated in relation to all training contract commenced in a certain year. It can only be determined for the candidates or examination participations in the respective reporting years. Persons who do not sit the examinations at all or who do not register are not included in the statistics. Neither is any information collected as to whether someone who fails a VET examination goes on to successfully complete another training contract. To this extent, the pass rates provide only a limited indication of success or failure with regard to the achievement of a vocational qualification.

Table A4.3-1: **Final examinations and examination success (in absolute terms and in %) in dual vocational education and training by personal characteristics (trainees), Germany 2021**

Final examinations and examination success	Men	Women	Germans	Foreign nationals	Not achieved lower secondary school-leaving certificate	Lower secondary school-leaving certificate	Intermediate secondary school-leaving certificate	Higher education entrance qualification	No response school-leaving certificate[1]	Total
Examination participations	268,818	158,424	378,096	49,146	13,263	95,544	177,240	132,192	9,003	427,242
of which: Resits	22,770	9,780	24,828	7,722	1,980	14,187	11,598	3,345	1,437	32,550
Examination participants	258,918	154,707	367,812	45,813	12,540	89,877	172,032	130,803	8,373	413,625
Examinations passed (Number completing programme)	234,039	144,591	342,021	36,609	10,008	73,737	160,839	127,437	6,609	378,630
Successful examinations in % of all examination participations (EQ I)[2]	87.1	91.3	90.5	74.5	75.5	77.2	90.7	96.4	73.4	88.6
Share of resit examinations (in % of all examination participants)	8.5	6.2	6.6	15.7	14.9	14.8	6.5	2.5	16.0	7.6
Successful examinations in % of all examination participants (EQ II)[3]	90.4	93.5	93.0	79.9	79.8	82.0	93.5	97.4	78.9	91.5

[1] The response to highest general school-leaving qualification may only be absent if a school-leaving certificate obtained abroad cannot be assigned. Missing information is sometimes reported here for other reasons, too. The category cannot be meaningfully interpreted here. It is only included in order to be able to estimate the number of examination participations or examination participants for which information regarding school-leaving qualification is missing.

[2] Number of examinations passed as a proportion of all examinations conducted (success rate I). Calculation takes place on the basis of rounded absolute values.

[3] Number of examinations passed as a proportion of all examination participants (success rate II). Calculation takes place on the basis of rounded absolute values.

Source: BIBB "Trainee Database" provided by the Federal Statistical Office based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), 2021 reporting year. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training

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External examinations sat and admission on the basis of school-based vocational education and training

Alongside the final examination following dual VET and after having concluded a training contract in the dual system, the BBiG and the HwO offer further possibilities for admission to the final examination conducted by the competent body. Admission may be granted on the basis of occupational experience (or upon submission of other evidence of acquisition of employability skills). Secondly, candidates may be admitted to the chamber examination if they have completed a school-based VET programme which is the equivalent of a recognised dual training occupation. Both these cases of admission to the chamber examination are recorded under "External examinations" or "External admissions" in the Vocational Education and Training Statistics (see Information Box).

Information Box – External admissions or external examinations (including admission to the final examination on the basis of occupational experience)

The Vocational Education and Training Statistics also record final examinations sat in dual training occupations by persons who have been admitted to the final examination for other reasons rather than by dint of completion of dual VET. These so-called external admissions or external examinations and admissions on the basis of occupational experience are recorded using the dataset for other examinations (data record type 2 of the Vocational Education and Training Statistics) instead of the trainee dataset (data record type 1 of the Vocational Education and Training Statistics). Only external examinations sat are counted.

The term "external examination", which was used within the scope of the Vocational Education and Training Statistics for many years, has been abandoned in favour of the more appropriate designation "external admissions". The usual final examinations are concerned. Only the nature of the admission is different to that which applies to trainees in the dual system. Recording is differentiated according to type of admission. In accordance with the differentiation set out in the BBiG, the categories are a) admission of persons who have completed a programme of education and training at a vocational school pursuant to § 43 (2) BBiG and b) admission on the basis of occupational experience pursuant to § 45 BBiG (2) and (3).

Both forms of external admissions play a different role with regard to the final examination. Similarly to in the previous years, admission in the vast majority of external examination cases in 2021 (85.4%) took place on the basis of the statutorily required minimum duration of relevant occupational experience. In the other instances (14.6%), examination candidates had completed a school-based course recognised as being equivalent to the training occupation. The two forms of admission have a different level of significance in the individual areas of responsibility.

- The number of external examinations sat (including resits) was in decline after 2010 (35,949 external admissions) with the exception of the year 2020. In 2021, 18,681 of the external admissions to final examinations in the dual system led to the acquisition of a vocational qualification in the dual system.
- The pass rate for external admissions in 2021 (in the case of external examinations only the participation-related rate, EQ I, can be calculated) was 84.4%, slightly below the corresponding trainee pass rate (88.6%). The figure was slightly higher for admissions on the basis of school-based VET (87.2%) than for admissions on the basis of occupational experience (83.9%).

A4.4 Age of trainees and training participation of young people in the dual system

Age of trainees

The Vocational Education and Training Statistics have surveyed the age or year of birth of trainees with a new training contract (see Information Box) in the dual system (BBiG or HwO) since the 1993 reporting year. The proportions of different age groups and average age will be presented below.

→ **Table A4.4-1** provides information on the average age (see Information Box) of trainees concluding a new training contract. In 2021, the average age of trainees with a newly concluded training contract was 20.0 years. The average age has been rising steadily since 2007. This development has been partially caused by the higher proportion of trainees in the dual system with a higher education entrance qualification (also due in some cases to double upper secondary school leaver cohorts). In the most recent past, an increase in the average age has only essentially been observed in the case of trainees without German citizenship.

Information Box – Age of trainees – recording within the scope of the Vocational Education and Training Statistics

The year of birth of trainees has been recorded both for newly concluded contracts and for all training contracts (trainees, examination candidates, contract dissolutions) in the dual system since the 2007 reporting year. Average age is calculated as an arithmetical mean. Since the 2007 reporting year, the year of birth of trainees has been collected for all training contracts, and it has been possible to include all age cohorts in the calculation separately. Because precise recording takes place only by year (reporting year – year of birth), the average age calculated underestimates the actual average age.

Older persons who obtain a vocational qualification are fundamentally underrepresented amongst trainees. Although there is no general age limit for commencement of dual VET, older people usually acquire vocational qualifications within the scope of retraining courses (which may also take place on an in-company basis), via so-called external admissions to the final examination or within the framework of advanced training programmes rather than undertaking training in the dual system. For this reason, they are not included in the trainee data (or in data relating to training contracts) in the Vocational Education and Training Statistics.

As in most of the previous years, the average age of women (20.2 years) was slightly higher than that of men (19.9 years) in the 2021 reporting year. This is also likely due to the fact that the proportion of women in possession of a higher education entrance qualification at the time when a new training contact is concluded is greater than the corresponding proportion of men.

Table A4.4-1: **Trainees with a newly concluded training contract, training entrants and persons completing training by age, Germany 2021 (in %)**

Group of persons	Trainees with newly concluded training contracts											
	Age cohort in %										Newly concluded training contracts absolute	Average age[1]
	Up to 16 years	17 years	18 years	19 years	20 years	21 years	22 years	23 years	24 to 39 years	40 years and older		
Total	11.3	14.9	15.0	15.0	12.1	8.5	5.9	4.3	12.7	0.5	466,176	20.0
Men	12.3	16.2	15.0	13.9	11.2	8.1	5.8	4.3	12.8	0.3	297,549	19.9
Women	9.4	12.4	15.0	16.8	13.6	9.2	6.0	4.3	12.5	0.8	168,627	20.2
Germans	12.2	15.7	15.6	15.5	12.3	8.4	5.5	4.0	10.4	0.3	414,390	19.7
Foreign nationals	3.9	7.8	10.6	10.7	10.4	9.0	9.0	6.6	30.6	1.5	51,786	22.6
Group of persons	**New Trainees as a subgroup of trainees with a new qualifications**											
	Age cohort in %										New trainees in total	Average age[1]
	Up to 16 years	17 years	18 years	19 years	20 years	21 years	22 years	23 years	24 to 39 years	40 years and older		
Total	12.5	16.1	15.6	15.1	11.8	7.9	5.4	3.9	11.3	0.4	415,272	19.7
Men	13.7	17.7	15.6	14.0	10.8	7.4	5.3	3.9	11.3	0.2	264,645	19.6
Women	10.5	13.4	15.6	17.2	13.5	8.6	5.5	3.8	11.2	0.6	150,627	20.0
Germans	13.5	17.1	16.1	15.7	12.0	7.8	5.0	3.6	9.0	0.2	369,750	19.4
Foreign nationals	4.4	8.6	11.3	10.9	10.4	8.6	8.6	6.4	29.5	1.4	45,522	22.4
Group of persons	**Graduates (trainees who have passed their final examination)**											
	Age cohort in %										Graduates in total	Average age[1]
	Up to 19 years	20 years	21 years	22 years	23 years	24 years	25 years	26 years	27 to 42 years	43 years and older		
Total	10.0	15.0	18.0	16.6	12.5	8.2	5.2	3.6	10.6	0.3	378,630	22.7
Men	9.5	15.9	18.5	15.8	11.9	8.0	5.3	3.7	11.2	0.2	234,039	22.7
Women	10.8	13.4	17.0	18.0	13.6	8.5	5.2	3.5	9,6	0.4	144,591	22.7
Germans	10.7	15.9	18.9	16.7	12.5	8.0	5.0	3.4	8.7	0.2	342,021	22.5
Foreign nationals	3.5	5.9	9.5	15.4	13.2	9.8	7.3	6.0	28.4	1.0	36,609	25.3

[1] Unlike in earlier publications, each age cohort for newly concluded contracts and entrants are no longer included in the calculation with +0,5. Nevertheless, account should be taken of the fact that the Vocational Education and Training Statistics survey the year of birth of trainees. This means that age is only precisely recorded with regard to the year. A training contract usually begins in August/September, the final examinations primarily take place in the months of June/July. At least for the newly concluded contracts and entrants with the cut-off date consideration of 31 December, the actual average age is above the calculated age. Because it is not possible to determine precisely by how many months the average age is distorted, the addition of +0.5 to the calculation was abandoned, including with retrospective effect. Unlike in earlier publications, all age cohorts are individually incorporated into the calculation of the average age.

Source: BIBB "Trainee Database" provided by the Federal Statistical Office based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), 2021 reporting year. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training

A4.5 Training participation of young people in the dual system

This section considers the extent of the proportion of young people commencing or successfully completing dual vocational education and training pursuant to the BBiG/HwO in the first place, regardless of the age at which they do so. For this purpose, arithmetical rates are calculated on the basis of the Vocational Education and Training Statistics and the Population Forecast by means of an aggregation method. These rates may be interpreted as indicators of the quantitative significance of the dual system and as a measure of the integration of various groups of persons. Because correction of the data of the Population Forecast on the basis of the 2011 census is only available retrospectively up until 2011, only the development since 2011 will be considered here.

Training entrant rate

The training entrant rate (see Information Box) is an indicator of the proportion of young people who commence dual vocational education and training. It does not, however, take account of the age at which this takes place or of the length of the transition from general school to VET. Also included in the rate are persons who (will) commence or have commenced a course of higher education study or another type of training at some point prior to or after dual VET or at the same time (dual programme). For the 2021 reporting year, the result is an arithmetical proportion of 50.7% of young people (resident population) who at some point during the course of their biography commence dual VET. This is a slight increase compared to the previous year (49.7%). Although demographic reasons were also responsible for the significant decline in the number of training entrants in 2020, the difficult general conditions created in the wake of the coronavirus pandemic had a particular impact. The increase in the entrant rate in 2021 thus represents

Table A4.5-1: **Training entrant rate[1] by personal characteristic, 2011 to 2021 (in %)**

Year	Training entrant rate in %						
	Total	Germans, of which:			Foreign nationals[2], of which:		
		Total	Men	Women	Total	Men	Women
2011	58.0	60.3	70.5	49.6	35.4	38.8	31.8
2012	56.5	59.0	68.9	48.6	33.7	36.3	30.9
2013	54.2	56.8	66,5	46.7	31.7	35.0	28.1
2014	53.4	56.3	66.0	46.0	31.1	33.2	28.8
2015[2]	52.4	56.7	66.8	46.1	25.9	25.8	26.2
2016[2]	51.7	55.8	66.2	44.9	27.6	28.6	26.3
2017	52.9	55.7	67.1	43.6	34.2	39.3	26.9
2018	54.5	56.5	68.8	43.5	38.7	46.2	28.2
2019	54.4	56.3	69.3	42.7	38.4	45.1	29.4
2020	49.7	51.4	64.1	38.1	35.4	39.0	30.7
2021	50.7	52.7	65.8	38.9	35.1	39.0	30.2

[1] The training entrant quota is calculated with the number of training entrants as a subgroup of the newly concluded training contracts. In contrast to the previous reporting years, an adjusted definition of newly concluded training contracts applies as of the 2021 reporting year. In this table, the training entrant quotas of the previous years are retroactively calculated using the new definition in order to ensure consistent time series. Therefore, the training entrant quotas in this table may slightly deviate from the quotas of the previous reporting years in previously published publications.

[2] In this quota calculation, the number of first-time entrants is placed in relation to the resident population. It should be taken into account here that, as part of the population estimation, persons without German nationality, regardless of their legal residence status, are already counted in the residential population when they register their place of residence according to law. Thus persons are also recorded from whom an (immediate) entry into dual vocational education and training cannot be expected. If the residential population number significantly grows due to specific developments (i.e. strongly increased number of refugees), this results in a significant decline of the training entrant quota for the affected group of persons. Additionally, the results of the migration statistics and as a result, the development of the population as of the 2016 reporting year onwards are only comparable to a limited extent with the values of the previous years due to methodological changes, technical developments.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2011 to 2021 (previous year's figures needed to be used for Bremen for the reporting year 2015 because no data reporting took place) and the Population Forecast of the Federal Statistical Office (population as of 31 December), reporting years 2011 to 2021 on the basis of the 2011 census. Calculations by the Federal Institute for Vocational Education and Training

a slight recovery from the collapse which occurred as a result of the coronavirus in the previous year. Compared to the participation rate in the German higher education system, it is revealed that the entrant rate in dual VET (training entrant rate) was higher than the entrant rate in the higher education sector (higher education entrant rate). In overall terms, the entrant rate of young people without German citizenship (35.1%) was significantly below that of young people who were German nationals (52.7%). The training entrant rate for German men has been far above the rate for German women over recent years. Women are significantly more likely to be in full-time, school-based VET programmes. In 2021, the higher education entrant rate of German women was 9.0 percentage points higher than that of German men → **Table A4.5-1**.

Information Box – Training entrant rate of young people (AAQ)

Only the training contracts of training entrants are used to calculate the AAQ (not the number of newly concluded contracts). It has only been possible to delineate entrants as a sub-group of newly concluded contracts since the revision of the Vocational Education and Training Statistics entered into force in 2007. Given that there were initial implementation problems with data reports, too, the entrant rate has only been calculated since the 2009 reporting year.

The aggregation method (OECD standard) is used to determine the partial rates of entrants and of the resident population per cohort. These are then added to form the entrant rate. The AAQ states the arithmetical proportion of a synthetic age cohort within the resident population commencing training for the first time with a training contract within the dual system. For information on the aggregation method in accordance with the OECD standard.

$$AAQ = \sum_{i=16\#}^{24\#} \frac{\text{Training entrants}_i}{\text{Resident population}_i} \cdot 100$$

i = age
For reasons of simplification, only a limited number of partial rates are formed. Training entrants at the age of "16 and younger" are collated to form the lower age group. Those at the age of "24 and older" are collated to form the upper age group. With regard to the resident population, the individual age cohorts from 16 to 24 inform each partial rate.

No correction has been undertaken of the effect of double upper secondary school-leaving cohorts. Correction of the effect caused by the shift to eight-year upper secondary education is problematic for dual vocational education and training because no differentiation between general higher education entrance qualifications and University of Applied Sciences entrance qualifications is made within the scope of the Vocational Education and Training Statistics. Nevertheless, this effect is significantly less marked than in the higher education sector due to the comparatively small proportion of those in possession of a higher education entrance qualification. The AAQ may be slightly overstated because of the absence of the correction. It is, moreover. not possible to calculate a participation rate for dual vocational education and training which does not include "foreign students" – i.e. excluding those who have not acquired their higher education entrance qualification in Germany – in the same way in which the higher education entrant rate is calculated. This is also not comparatively significant in the dual system, meaning that no comparable effect on the training entrant rate can be assumed.

In addition to an effect of slight overestimation, there is also an effect of underestimating the number of beginners, as in the number of trainees (as a subgroup of new contracts), those beginners who have a contract termination in the same reporting year and do not promptly conclude a new training contract are not included. In principle, an alternative calculation of beginners as a subgroup of newly started training contracts would be better suited to delineate beginners. However, it is to be suspected that in the number of started contracts, due to not yet complete reports on previous dual vocational training, individuals are significantly double-counted, which would lead to an inflation of the beginners' rate. Data from the population updates of the Federal Statistical Office are based on the 2011 census.

Training completion rate

A further interesting aspect of considering participation in education and training by the population in the dual system is how many percent successfully complete dual VET and achieve a corresponding vocational qualification. In the 2021 reporting year, 378,630 trainees passed their final examination in the dual system. For 358,779 of these persons, this constituted their first achievement of a vocational qualification in the system. In order to avoid multiple counting or an overestimation of the proportion of the residential population completing VET, aggregation methods (see Information Box) are used to relate only the data of those successfully completing training for the first time to the residential population of the relevant age.

For the 2021 reporting year, this produces a training completion rate (AbsQ) (see Information Box) of 40.1%

Table A4.5-2: **Training completion rate by personal characteristic, 2011 to 2021 (in %)[1]**

Year	Training completion rate in %						
	Total	German nationals			Foreign nationals[2]		
		Total	Men	Women	Total	Men	Women
2011	47.8	50.5	57.7	43.0	22.2	23.4	21.0
2012	45.4	48.5	55.7	40.9	19.8	20.6	18.8
2013	44.5	48.1	55.0	40.8	18.1	18.7	17.3
2014	43.8	48.1	55.4	40.4	16.3	16.4	16.2
2015	41.9	47.9	55.6	39.7	12.9	12.0	14.1
2016[3]	40.4	46.8	54.6	38.6	11.9	11.2	12.9
2017	39.4	45.9	53.9	37.5	11.7	11.3	12.5
2018	39.1	45.4	53.6	36.9	12.4	11.8	13.3
2019	39.0	44.9	53.1	36.2	13.9	14.3	13.4
2020	39.5	44.3	53.1	35.0	16.9	18.5	14.9
2021	40.1	44.4	53.3	35.1	18.6	21.3	15.1

[1] Since the updating of the Vocational Education and Training Statistics in 2007 and the switch to recording individual data, the statistics have provided age information for those completing training, and those successfully completing training for the first time can also be delineated. The completion rates for the years 2011 and 2013 were also recalculated on the basis of the Population Forecast data for 2011 and 2013 taken from the 2011 census. They therefore deviate from the values published in the 2015 Data Report and in 2014.

[2] In this quota calculation, the number of first-time training graduates is placed in relation to the resident population. It should be taken into account here that, as part of the population estimation, persons without German nationality, regardless of their legal residence status, are already counted in the residential population when they register their place of residence according to law. Thus, persons are also recorded from whom an (immediate) entry into dual vocational education and training cannot be expected. If the residential population number significantly grows due to specific developments (i.e. strongly increased number of refugees), this results in a significant decline of the training entrant quota for the affected group of persons for some years and a decline of the training graduate quota for even more years. Additionally, the results of the migration statistics and as a result, the development of the population as of the 2016 reporting year onwards are only comparable to a limited extent with the values of the previous years due to methodological changes, technical developments.

[3] Due to calculation error, the training graduate quotas of the 2016 reporting year was falsely shown, with exception of the overall quota, in previous editions of the BIBB Data Report. The calculation error has been corrected in this table. The training graduate quotas of the 2016 reporting year thus deviate from those in previous data reports.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2011 to 2021 (previous year's figures needed to be used for Bremen for the reporting year 2015 because no data reporting took place) and the Population Forecast of the Federal Statistical Office (population as of 31 December), reporting years 2011 to 2021 on the basis of the 2011 census. Calculations by the Federal Institute for Vocational Education and Training VET Data Report Gemany 2023

→ **Table A4.5-2**. The training completion rate in the dual system thus rose slightly (+0.6 percentage points) compared to the previous year.

Information Box – Training completion rate of young people (AbsQ)

The aggregation method is also deployed to calculate the completion rate in the dual system. In order to avoid multiple countings, not all of those completing a programme of dual VET are included in the calculation. Only those completing training for the first time are taken into account, i.e. persons who have not previously successfully completed a dual vocational education and training programme. The data situation has also only permitted calculation of the completion rate since 2009 (see also the explanations regarding the training entrant rate).

The AbsQ states the arithmetical proportion of a synthetic age cohort within the resident population which has successfully completed a programme of dual VET pursuant to the BBiG or HwO. The rate is calculated on the basis of the Vocational Education and Training Statistics and the Population Forecast of the Federal Statistical Office and the statistical offices of the federal states , in each case as of the cut-off date of 31 December. Trainees who have passed a final examination and have not previously successfully completed dual training (persons completing training for the first time) are compared to the resident population of the relevant age.

$$AbsQ = \sum_{i=19^{\#}}^{27^{\#}} \frac{\text{Persons completing VET for the first time}_i}{\text{Resident population}_i} \cdot 100$$

i = Age

For reasons of simplification, only a limited number of partial rates are formed. Training entrants at the age of "16 and younger" are collated to form the lower age group. Those at the age of "24 and older" are collated to form the upper age group. With regard to the resident population, the individual age cohorts from 16 to 24 inform each partial rate.

In respect of the population data used, see also the explanations regarding the training entrant rate.

A4.6 Educational behaviour of young people: mobility of trainees (results of the Employment Statistics)

Supply and demand on local training markets are influenced by the regional mobility of young people. Attractive training markets entice persons interested in training from both their home and other regions, whereas less attractive regions frequently display high rates of trainees commuting out. Regional mobility of young people interested in training is considered to be a key factor for alleviating matching problems. Official information on the mobility of young people in connection with their vocational education and training can be obtained from the Employee Statistics of the Federal Employment Agency (BA). These statistics indicate where trainees live and where their training places are located. Regional mobility as of the cut-off date of 30 September 2021 is portrayed below on this basis. In interpreting the information, account needs to be taken of the fact that the BA Employee Statistics merely reflect mobility as factually realised, i.e. cases in which young people do not change their main place of residence following commencement of a training programme.

Despite the negative consequences of the coronavirus pandemic, which were reflected in a reduced proportion of newly concluded training contracts in both 2020 and 2021 compared to the figures prior to the pandemic, the observed regional mobility of trainees remained extremely stable. The number of trainees recorded in the Employment Statistics of the BA fell in absolute terms, but there was no appreciable change in proportions of mobile trainees in the federal states. It should be noted that the figures presented here do not provide any information on whether working from home or home schooling may have taken place, i.e. from which location trainees actually exercised their work/training. Against the background of the coronavirus pandemic and the associated subjective strain perceived by applicants, mention must also be made of the aspect of the stress factor caused by long travelling times. Increasing travelling times also bring a rise in the proportion of those who find it difficult to relax in their leisure time after work.

As of the cut-off date of 30 September 2021, around 115,450 of the 1,657,529 employees registered as trainees by the BA at this time were not living in the same federal state in which their company providing training was located. This represented a proportion of 7.0%. The proportion was significantly lower in the western German federal states than in the eastern German states (5.9% as opposed to 11.7%). Particularly in the city states,[12] cross-federal state mobility leads to a situation in which higher proportions of the training places available are not filled by residents of the state. The figures for Bremen (33.4%), Hamburg (30.5%) and Berlin (21.1%) show that the rates of those commuting in are, as expected, the highest within a comparison of all federal states. The city states mostly offer many more training places than the local areas of young people interested in training. Diversity of supply is also materially higher than in less densely populated regions. Appreciable numbers of young people living within the city states also complete training outside their own federal state (Bremen 16.8%, Hamburg 14.2%, Berlin 9.0%).

The highest differences of all federal states in this regard are also exhibited by the city states of Bremen (+16.6%), Hamburg (+16.3%) and Berlin (+12.1%). The consequence of this has been that urban markets which were once favourable or very favourable for the young people living there prior to mobility tend to become difficult markets because of mobility and trainees commuting in. The opposite effect, i.e. a situation in which mobility particularly reduces pressure on training markets from the perspective of the young people, is mainly shown in Brandenburg, Schleswig-Holstein, Thuringia, Rhineland Palatinate, Mecklenburg-Western Pomerania, and Saxony-Anhalt. In the above cases, the rates of trainees commuting out to other federal states are noticeably higher than the rates of those commuting in (by more than four percentage points in each case). This phenomenon is most pronounced in Brandenburg, where the figure is -12.0%.

The three federal states in which most resident trainees actually also receive their training were North Rhine-Westphalia (97.3%) and Bavaria (97.0%), followed by Baden-Württemberg (95.8%). One of the reasons for this is presumably the circumstance that these three states have the highest populations and the highest amount of training place supply in absolute terms.

12 Three federal states in Germany are designated as city states – Berlin, Hamburg and Bremen. This means that they have the status of unitary municipal authorities and of federal states.

A5 Training in the dual training system – analyses on the basis of the Vocational Education and Training Statistics

A5.1 Vocational Education and Training Statistics (survey as of 31 December)

Training contracts

The Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (referred to in abbreviated form as the Vocational Education and Training Statistics) are a total annual survey of data relating to dual vocational education and training pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO) (see Annex – Data sources). The Vocational Education and Training Statistics collect various sub-datasets ("data record types"). This chapter is largely based on data record type 1, which records trainee data or (more precisely) data relating to training contracts. This includes prior school learning, age, gender and nationality of the trainees, dater (prior to 2021 only month and year) of the contractually agreed commencement and end of the training contract, premature contract dissolutions and examinations sat (final examinations only). In addition to data record type 1, consideration will also be accorded to some of the data from data record type 2, namely, the so-called external admissions to final examinations.

A5.2 Total number of training contracts in the Vocational Education and Training Statistics

The population data of trainees both in overall terms and differentiated according to the individual areas of responsibility and selected characteristics (gender, nationality) on the basis of data from the Vocational Education and Training Statistics is examined in more detail in the following chapter. The population data of trainees counts trainees across all years of training (1st, 2nd, 3rd and 4th year of training). This includes all persons who have a training contract pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO), which is in force as of 31 December each year.[13] On 31 December 2021, 1,255,440 persons were registered across Germany as a whole as trainees in dual VET pursuant to the BBiG or HwO. This means that the population data fell by -2.6% compared to the previous year → **Table A5.2-1**. The reason for this is the sharp decline in newly concluded training contracts in the 2020 reporting year. Even though the number of newly concluded training contracts increased again slightly in the 2021 reporting year, the figure remains far below the pre-pandemic level. The small rise in the number of new contracts in 2021 was thus unable to prevent a further drop in the trainee population. The development reveals regional differences.

Development in the population data in the areas of responsibility

Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training.

Compared to the previous year, there was a good deal of variance in the development of the trainee population data in the individual areas of responsibility. Whereas significant decreases occurred in some cases in the areas of trade and industry and housekeeping in particular and to a lesser extent in the craft trades and in the public sector, growths were recorded in the liberal professions and in agriculture → **Table A5.2-1**.

Proportion of women in dual training occupations

Compared to the previous year, the proportion of women in dual training occupations in the 2021 reporting year declined once more to 34.5% (2020: 34.8%) → **Table A5.2-2**. In the case of men, the gap in demand for dual training thus created has, however, been filled to a significant extent by high levels of male immigration. Young women have increasingly been turning away from dual training provision in the supposedly "easier" service occupations, and greater numbers have instead been entering training programmes in the healthcare, nursing and social occupations as well as gravitating to the public sector and to institutes of higher education. Furthermore, the reasons for this gender imbalance are also materially connected with different occupational wishes. Women are primarily interested in commercial and service occupations and are disproportionately more likely to enter school-based vocational education and training. In the

13 There is a slight underestimate of the trainee population data before the 2021 reporting year. This is because the contractually agreed end of training was only recorded by month prior to the 2021 reporting year. Recording the precise day of the contractually agreed end of training was not introduced until the 2021 reporting year. However, because only 666 of over 1.2 million trainees (0.05% of all trainees as of the cut-off date) were recorded as ending training on 31 December 2021, the previous underestimate (caused by recording by month) does not appear to be quantitatively significant.

Table A5.2-1: **Trainees as of 31 December by areas of responsibility[1], Germany 2010 to 2021**

Year	Total number of trainees	Trade and industry	Craft trades	Public sector	Agriculture	Liberal professions	Housekeeping
2010	1,508,328	873,402	434,907	37,587	38,667	113,682	10,086
2011	1,460,658	850,689	414,207	37,998	36,624	111,861	9,276
2012	1,429,977	841,062	400,131	35,967	34,764	109,854	8,196
2013	1,391,886	825,156	381,387	34,932	33,585	109,443	7,386
2014	1,358,550	805,398	369,501	34,713	33,441	108,822	6,675
2015	1,337,004	790,257	361,656	36,087	33,510	109,299	6,195
2016	1,321,197	776,097	359,763	36,432	32,904	110,256	5,745
2017	1,323,894	770,514	364,101	38,655	32,898	112,140	5,586
2018	1,330,764	772,890	367,134	40,095	32,493	112,806	5,346
2019	1,328,964	769,335	367,461	41,193	32,331	113,460	5,184
2020	1,288,962	737,022	361,290	41,961	32,469	111,303	4,914
2021	1,255,440	707,136	356,625	41,424	33,207	112,425	4,620

[1] As a rule, the decisive factor for the allocation of apprentices to the areas of responsibility is not the training company (except for skilled trades) but the competent body for the training occupation. Trainees who are trained, for example, in public service companies or the liberal professions for commercial occupations are assigned to the areas of responsibility of industry and trade or skilled trades.

Source: "Apprentice Database" of the Federal Institute for Vocational Training based on vocational training statistics from the Federal and State Statistical Offices (collected as of December 31), reporting years 2010 to 2021 (for Bremen, the previous year's figures had to be used for the reporting year 2015 because no data was reported). Absolute values rounded to a multiple of 3 for reasons of data protection; the total value may therefore differ from the sum of the individual values.

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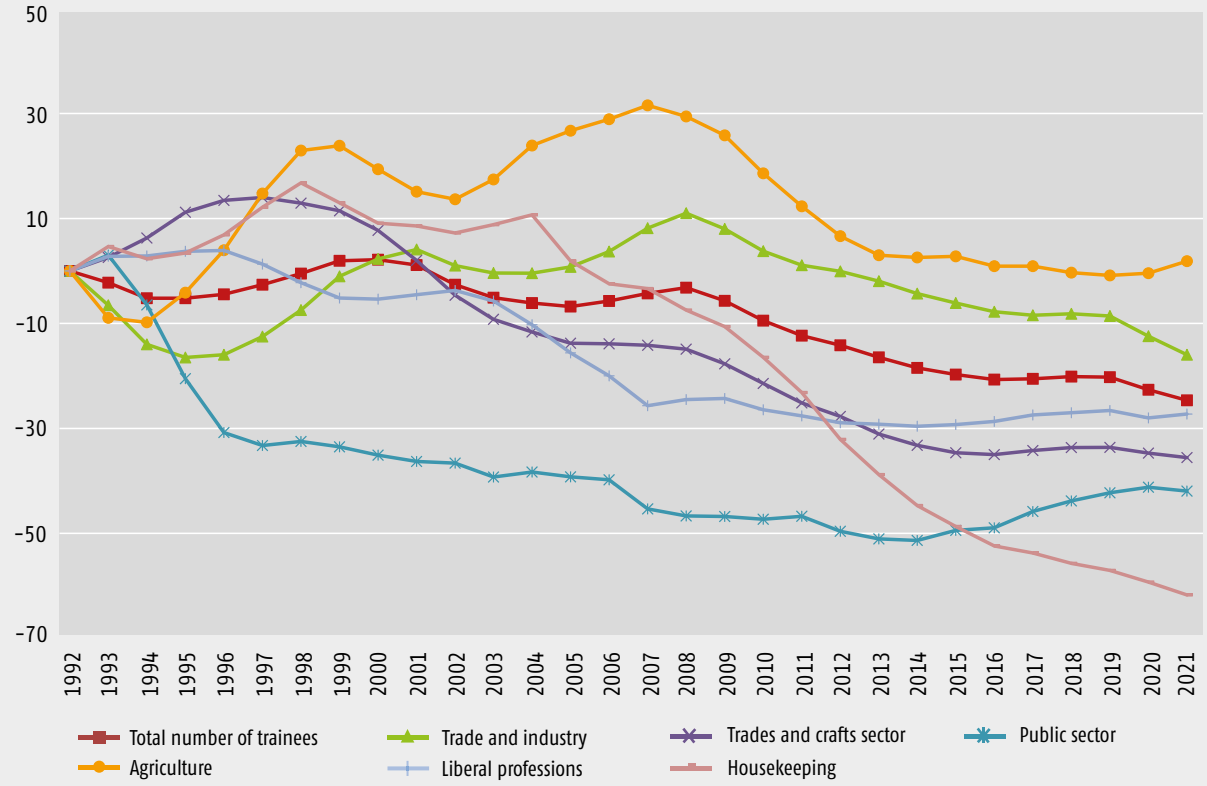
wake of tertiarisation, i.e. the shift towards a service society, increasing numbers of men are also entering training in the service sector. This introduces more male competition and thus further exacerbates the already high degree of competitive pressure amongst female applicants in their preferred occupations. Nevertheless, commercial and technical occupations, which continue to play a significant role in the dual VET system, are accorded very little consideration by women. Significant differences are also accordingly revealed in the case of an occupationally-specific consideration and with regard to a comparison of the proportion of women in the various areas of responsibility. Horizontal gender segregation is readily apparent at the aggregation level of the areas of responsibility. On the one hand, there are areas of responsibility which have, to a relatively constant extent, contained almost exclusively women over the years. Examples are the liberal professions, housekeeping and the public sector. → **Table A5.2-2**. On the other hand, the quantitatively significant areas of responsibility of trade and industry and the craft trades are in particular primarily occupied by male trainees. Although women also remain significantly underrepresented in agriculture (24.3%), this sector is unusual in that it is the only area in which a continuous growth has been recorded in the proportion of women since 2012 rather than a decline (2012: 21.9%).

Proportion of foreigners in dual training occupations

The proportion of trainees who were foreign nationals[14] virtually halved between the early 1990s and 2006 (1994: 8.0% as opposed to 2006: 4.2 %). One of the reasons for this fall was increased naturalisations. Moreover, it is also likely that considerable shortages on the training market in the past have contributed towards the creation of a longer and more difficult transitional phase, particularly for young foreigners. This once declining trend has reversed in recent years. The proportion of trainees who are foreign nationals has risen constantly and reached 10.9% in 2020 → **Table A5.2-3**.

14 Although the Vocational Education and Training Statistics record nationality of trainees, possible migrant background cannot be indicated. All trainees not in possession of a German passport are counted as foreign trainees. Young people who hold both German and non-German citizenship are not recorded as foreign trainees.

Chart A5.2-1: **Development of number of trainees as of 31 December from 1992 to 2021 by areas of responsibility (basis = 1992)**



Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 1992 to 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). Calculations by the Federal Institute for Vocational Education and Training.

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The main reasons for this development are likely to lie in a significant rise in the number of refugees. This is also borne out by the population data for trainees holding the nationality of a (non-European) country of asylum seeker origin, which has seen a significant increase over recent years (population data for 2012: 2,763 versus 2020: 48,562). This development was not continued in the 2021 reporting year. The population of trainees holding the nationality of a (non-European) country of asylum seeker origin fell to 44,598, and the total number of foreign trainees decreased once more in 2021 (2020: 140,829 versus 2021: 134,702).

The proportion of foreigners is a suitable vehicle for a comparison of areas of responsibility or for analyses at the level of individual occupations. It also reveals significant differences between the individual areas of responsibility. The highest proportions of foreign nationals were to be found in the craft trades (13.8%) and in the liberal professions, where just under one in five trainees held a foreign nationality (19.5%).

Table A5.2-2: **Women as a proportion of all trainees by areas of responsibility[1], Germany 2010 to 2021 (in %)**

Year	Total number of trainees	Trade and industry	Craft trades	Public sector	Agriculture	Liberal professions	Housekeeping
2010	39.8	39.6	23.8	65.3	22.7	94.7	92.5
2011	39.3	39.0	23.2	65.1	22.2	94.4	92.4
2012	39.0	38.6	22.7	65.2	21.9	94.0	91.8
2013	38.6	38.1	22.0	65.0	21.9	93.7	91.9
2014	38.3	37.6	21.6	65.3	22.0	93.4	91.7
2015	38.1	37.2	21.3	65.1	22.1	93.1	91.2
2016	37.8	36.7	21.1	64.6	22.3	92.8	90.3
2017	37.0	35.7	20.3	63.8	22.6	92.5	89.4
2018	36.1	34.7	19.2	63.4	22.7	92.0	88.6
2019	35.3	33.9	18.2	63.2	23.1	91.7	86.6
2020	34.8	33.5	17.3	62.9	23.5	91.3	85.7
2021	34.5	32.9	16.7	62.6	24.3	91.1	84.8

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training (with the exception of craft trades). Trainees who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades. The area of responsibility of trade and industry reports the housekeeping occupations for the federal states of Hesse and Schleswig-Holstein. The area of responsibility of maritime shipping is no longer part of the VET statistics since the 2008 reporting year.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2010 to 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). Calculations by the Federal Institute for Vocational Education and Training

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Table A5.2-3: **Foreign nationals as a proportion of all trainees by areas of responsibility[1], Germany 2010 to 2021 (in %)**

Year	Total number of trainees	Trade and industry	Craft trades	Public sector	Agriculture	Liberal professions	Housekeeping
2010	5.1	4.5	5.9	1.7	0.7	9.1	4.6
2011	5.3	4.7	6.1	1.7	0.8	9.4	5.3
2012	5.5	4.9	6.3	1.9	0.9	10.0	5.8
2013	5.7	5.1	6.7	2.0	0.9	9.8	6.1
2014	6.1	5.4	7.2	2.0	1.2	11.4	5.6
2015	6.5	5.7	7.7	2.1	1.4	11.5	6.1
2016	7.3	6.3	8.8	2.4	1.7	12.5	6.7
2017	8.6	7.3	10.9	3.0	2.5	13.4	8.2
2018	9.9	8.3	13.1	3.3	3.1	14.5	8.5
2019	10.7	8.9	14.4	3.4	3.3	15.7	8.2
2020	10.9	8.8	14.6	3.3	3.1	18.3	7.5
2021	10.7	8.6	13.8	3.1	2.8	19.5	6.3

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training (with the exception of craft trades). Trainees who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades. The area of responsibility of trade and industry reports the housekeeping occupations for the federal states of Hesse and Schleswig-Holstein. The area of responsibility of maritime shipping is no longer part of the VET statistics since the 2008 reporting year.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2010 to 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). Calculations by the Federal Institute for Vocational Education and Training

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A5.3 Results of post-placement

The advisory and placement services continued their work beyond the cut-off date of 30 September 2022 for young people and companies still interested in VET in the 2022/2023 training year (as trainees or as training venues). A total of 84,200 training places were registered for immediate commencement of delayed training between 1 October and 31 December 2022, the post-placement period ("fifth quarter"). This is a rise of 5,100 places compared to the same period of the previous year (1 October 2021 to 31 December 2021: 79,100). The total of 84,200 registered training places included the 68,900 places which had been left unfilled on 30 September and a further 15,300 training places which were reported to the advisory and placement services at a later point. Just under 81,500 or 96.8% of the 84,200 places reported were company-based training places.

The 84,200 places reported contrasted with 62,600 applicants who had asked the advisory and placement services for support in commencing a training place before the end of 2022. The number of applicants registered in the "fifth quarter" decreased by 5,500 compared to the previous year (67,100).

Information Box – Post-placement activities in the "fifth quarter"

Even after 30 September, the end of the reporting year, numerous young people continue to seek training or an alternative to training at short notice. The aim of the post-placement activities, which take place between October and December ("fifth quarter"), is for applicants still to be offered training places, vocational preparation schemes, introductory raining or other alternatives. The main focuses of the post-placement statistics are on the current situation of applicants and on their destination as of the cut-off points of November, December and January. Since November 2018, the statistics of the Federal Employment Agency have also reported on registered vocational education and training places which commence prior to the year's end.

On the supply side and as in the previous year, more training places than applicants were registered for the "fifth quarter". In arithmetical terms, 134.4 training places were available for every 100 applicants (previous year: 117.9 places for every 100 applicants). There were also considerable regional differences.

Both sides of the training market, the young people and the companies, were forced to contend with these extreme imbalances. Placement activities in the "fifth quarter" are not just difficult because of the large regional imbalances. A further problem was that the occupational imbalances and disparities in characteristics between the supply to be filled and the demand to be placed which were already observable at the end of September were largely carried over into the "fifth quarter". 68,900 (81.8%) of the places registered in the "fifth quarter" and 45,300 (72.3%) of the applicants registered in this period were from the group of unsuccessful market participations already registered as of 30 September 2022 (unfilled places and unplaced applicants or applicants seeking a training place as of 30 September but who have an alternative destination opportunity).

In addition to this, the assumption must be made that many of the training places in the "fifth quarter" which do not originate from the subset of places already unfilled on 30 September are the result of contract dissolutions in the probationary period and that companies have an interest in quick post-recruitment. However, the occupations which are affected to a greater degree by premature contract dissolutions are occupations that suffer from recruitment difficulties anyway. For all of these reasons, the training market in the "fifth quarter" is once again significantly more characterised by matching problems than the training market situation during the regular placement period. In the wake of the post-placement endeavours, the national progression rate of applicants to a VET place was comparatively low (9.1% or 5,700 applicants), whereas 72.1% (45,200 applicants were still seeking a training opportunity). The remaining 18.8% (11,800 applicants) constituted "other former applicants", i.e. applicants who abandoned their wish to be placed prior to progressing to a VET place or whose destination remains unknown → **Table A5.3-1**. The progression rate is virtually unchanged compared to the previous year (-0.1 percentage points). There were also only slight changes compared to the previous year in the group of applicants still seeking a training place (2021: 71.7% as opposed to 2022: 72.1%) and in the group of other former applicants (2021: 19.0% as opposed to 2022: 18.8 %).

13,000 training places were still vacant at the end of the "fifth quarter". This represents a proportion of 15.5% related to all 84,200 places reported for post-placement between October 2022 and January 2023. The proportion was thus 2 percentage points lower than in the previous year, when 13,900 (17.5%) of a total of 79,100 registered places remained unfilled. Chances of success in the post-placement period were therefore also severely restricted for companies, too, especially as the difference between the total number of all places registered during the post-placement period and the number of places vacant in December was also likely to be due to cancellations (premature abandonment of wish to be placed) rather than merely due to the filling of places.

Table A5.3-1: **Registered training place applicants for commencement of training by the end of 2022 by placement status**

	Registered applicants total		of which: Placement status in January 2023									
			Placed applicants		Other former applicants		Applicants still looking		of which:			
									Applicants with an alternative		Unplaced applicants	
	Column 1		Column 2		Column 3		Column4		Column 5		Column 6	
	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Total	**62,634**	**100**	**5,683**	**9.1**	**11,795**	**18.8**	**45,156**	**72.1**	**19,787**	**31.6**	**25,369**	**40.5**
Gender												
Men	39,800	100	3,411	8.6	7,580	19	28,809	72.4	12,658	31.8	16,151	40.6
Women	22,834	100	2,272	10	4,215	18.5	16,347	71.6	7,129	31.2	9,218	40.4
Nationality												
Germans	48,624	100	4,624	9.5	9,028	18.6	34,972	71.9	15,359	31.6	19,613	40.3
Foreign nationals	14,010	100	1,059	7.6	2,767	19.8	10,184	72.7	4,428	31.6	5,756	41.1
Age												
Under 20 years	29,215	100	3,076	10.5	4,907	16.8	21,232	72.7	11,551	39.5	9,681	33.1
20 to 25 years	23,992	100	2,080	8.7	5,014	20.9	16,898	70.4	6,380	26.6	10,518	43.8
From 25 years	9,427	100	527	5.6	1,874	19.9	7,026	74.5	1,856	19.7	5,170	54.8
School-leaving year												
In 2022	26,284	100	2,731	10.4	4,182	15.9	19,371	73.7	10,977	41.8	8,394	31.9
In 2021	10,213	100	1,041	10.2	1,915	18.8	7,257	71.1	2,683	26.3	4,574	44.8
In 2020	6,832	100	664	9.7	1,408	20.6	4,760	69.7	1,828	26.8	2,932	42.9
Even earlier	18,335	100	1,195	6.5	4,071	22.2	13,069	71.3	4,162	22.7	8,907	48.6
No response	970	100	52	5.4	219	22.6	699	72.1	137	14.1	562	57.9
School-leaving qualification												
Without lower secondary school-leaving certificate	1,274	100	86	6.8	256	20.1	932	73.2	475	37.3	457	35.9
With lower secondary school-leaving certificate	19,330	100	1,585	8.2	3,891	20.1	13,854	71.7	6,303	32.6	7,551	39.1
Intermediate secondary school-leaving certificate	21,978	100	2,125	9.7	3,740	17	16,113	73.3	7,151	32.5	8,962	40.8
University of Applied Sciences entrance qualification	6,428	100	670	10.4	1,014	15.8	4,744	73.8	2,069	32.2	2,675	41.6
General higher education entrance qualification	6,237	100	614	9.8	1,221	19.6	4,402	70.6	1,766	28.3	2,636	42.3
No response	7,387	100	603	8.2	1,673	22.6	5,111	69.2	2,023	27.4	3,088	41.8
Previous status end of September 2022												
Placed applicants	7,519	100	1,061	14.1	1,012	13.5	5,446	72.4	3,410	45.4	2,036	27.1
Other former applicants	5,228	100	382	7.3	661	12.6	4,185	80	1,479	28.3	2,706	51.8
Applicants with alternative	9,917	100	562	5.7	1,526	15.4	7,829	78.9	7,102	71.6	727	7.3
Unplaced applicants	22,642	100	1,626	7.2	6,068	26.8	14,948	66	2,177	9.6	12,771	56.4
No registered applicants in 2021/2022	17,328	100	2,052	11.8	2,528	14.6	12,748	73.6	5,619	32.4	7,129	41.1

Source: Federal Employment Agency: Labor market in numbers. The training market. Training start until the end of the year 2022. Germany, January 2023; here: Tables 2 to 4.1; calculations by the BIBB.

A5.4 Newly concluded contracts in the Vocational Education and Training Statistics

Training contracts commenced in the calendar year and undissolved as of 31 December are recorded as "newly concluded training contracts" (see Information Box) by the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states. We will begin below by outlining newly concluded contract figures in the Vocational Education and Training Statistics by areas of responsibility and compared to the previous year.

Information Box – Newly concluded training contracts (also referred to in abbreviated form as new contracts)

Within the scope of the Vocational Education and Training Statistics, newly concluded contracts are defined as vocational education and training contracts entered into the Index of Vocational Education and Training Contracts pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO) in respect of which the training contract has begun within the respective calendar year and is still in existence on 31 December. Only training arrangements which are actually begun are recorded.

Note: this is the definition which was also used until 2006. Destatis applied a slightly amended definition for the reporting years from 2007 to 2020. This encompassed VET arrangements in the form of VET contracts entered into the Index of Vocational Education and Training Contracts pursuant to the BBiG/HwO which have commenced in the respective calendar year and which have not been dissolved by 31 December (definition from 2007 to 2020). Below, the definition reintroduced in the 2021 reporting year will be applied retrospectively for all years in order to ensure comparability of the data. For this reason, deviations from previous publications are possible.

The definition of new contracts within the scope of the Vocational Education and Training Statistics and in the BIBB survey of newly concluded training contracts as of 30 September do not correlate because of differences in design between the two surveys. The variance of terms in the two surveys does not merely relate to the time reference.

A total of 466,176 training contracts were in force in the 2021 training year → **Table A5.4-1**. This means that the number of new training contracts rose slightly by 0.6% compared to the previous year (463,311). In 2021, the number of new contracts increased in all federal states in eastern Germany compared to the previous year. Compared to the previous year, there were also different developments by area of responsibility. Whereas the number of new contracts in 2021 increased in the liberal professions (+8.6%), in agriculture (+2.5%) and in the craft trades (+1.1%), it fell in the areas of responsibility of housekeeping (-4.7%), the public sector (-3.5%) and trade and industry (-0.7%). In overall terms, these figures were insufficient to compensate for the sharp declines seen in the areas of responsibility of agriculture and the liberal professions in 2020. This meant that the number of new contracts in 2021 was lower than in 2019 in virtually all federal states and areas of responsibility.

Training-integrated dual higher education study

The dual programmes of higher education and study established by institutes of higher education and practice partners provide a format which links the imparting of academic and theoretical knowledge with the acquisition of practical occupational competencies in order to achieve a specific qualification profile for students (or graduates). For this purpose, organisationally and curricularly regulated vocational training programmes distributed across at least two learning venues (the institute of higher education and the company) are combined with higher education study (so-called training-integrated programmes of dual higher education study). For training contracts commenced in 2021, the Vocational Education and Training Statistics record whether the training arrangements are concluded within the scope of a training-integrated programme of dual higher education study. Only comparatively few training contracts, 3,537 (0.8%), have been reported as dual higher education study thus far (see Chapter A6.3 for the statistics from the TrainingPlus database).

Vocational education and training contracts which are primarily publicly funded

VET contracts which are primarily publicly funded are used to place young people who are at a disadvantage on the market (unable to find a training place despite displaying apprenticeship entrance maturity), young people who are socially disadvantaged, young people with learning difficulties and young people with a disability. Within the scope of the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states and for the purpose of the BIBB survey of newly concluded training contracts, training arrangements in which public funding accounts for more than 50% of overall costs in the first year of training are deemed to be primarily publicly funded. Vocational

Table A5.4-1: **Newly concluded training contracts[1] by areas of responsibility[2] , Germany 2020 and 2021**

	Total new training contracts		Trade and industry		Craft trades		Public sector		Agriculture		Liberal professions		House-keeping	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
Germany	463,311	466,176	263,862	262,083	129,033	130,398	14,307	13,809	13,341	13,680	41,031	44,553	1,734	1,653

[1] The definition of newly concluded training contracts was (also retroactively) changed back to the version used in the 2006 reporting year. Minor deviations to previous publications may therefore exist for the data on the reporting year 2020.

[2] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training (with the exception of craft trades). Trainees who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2020 to 2021. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values.

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education and training which is primarily publicly funded may take place in both extra-company and company-based form. Of all newly concluded training contracts for the 2021 reporting year, 18,929 or 4.1% were reported in the Vocational Education and Training Statistics as being primarily publicly funded. This proportion is thus virtually unchanged compared to the previous year. It has been constantly declining nationally since 2010 (2009: 8.4%). The proportion rose again slightly in 2020 (2020: 4.2%, 2019: 2.9%).

Part-time VET

The possibility of part-time vocational education and training was enshrined in the Vocational Training Act (BBiG) of 2005. Until the 2019 reporting year, part-time training contracts were VET contracts with shortened daily or weekly training pursuant to § 8 Paragraph 1 Clause 2 BBiG (in the version which was valid until 31 December 2019) and were also regulated in overall terms as shortened training programmes (i.e. duration of training in months was not automatically extended). Regulations relating to part-time training pursuant to § 7a BBiG (in the version applicable since 1 January 2020) underwent considerable change following the revision of the BBiG instigated by the Vocational Training Reform Act. Since 2020, there has been no requirement for a legitimate interest to be in place. This means that part-time vocational education and training is fundamentally possible for all trainees (if both contractual parties consent), and the calendar duration of training is automatically extended when part-time vocational education and training is agreed (although a shortening may also be agreed). Up until now, very few dual VET contracts pursuant to the BBiG or the HwO have been concluded in part-time form. Neither did the proportion of part-time contracts increase significantly in the 2021 reporting year. Only 2,148 new contracts, 0.5% of the national total, were reported to be part-time vocational education and training. The proportion of part-time contracts was not higher than 0.7% in any federal state. A differentiation of the figures by areas of responsibility shows that the proportions of part-time contracts are only somewhat higher in national average terms in housekeeping with 2.4% and in the public sector (1.3%) and liberal professions (1.0%) areas of responsibility.

New contracts with a shortening of duration of training of at least six months

The regular duration of training (as stipulated in the respective training regulations) and actual duration of training may differ for various reasons (see e.g. Information Box in → Chapter A2.2). Within the Vocational Education and Training Statistics for the 2021 reporting year, 18.2% of all newly concluded contracts were reported as being shortened by at least six months (not including follow-up contracts). In overall terms and as in previous years, these shortenings were disproportionately likely to be recorded in the area of responsibility of agriculture (31.7%), in individual federal states although also in other areas of responsibility.

Newly concluded contracts with previous vocational education and training

Alongside other reasons such as prior participation in basic vocational training or vocational preparation, previous VET may constitute a further cause for shorter training contracts. A total of 12.7% of newly concluded contracts were shortened because of previous dual VET pursuant to the BBiG/HwO or because of school-based VET which had been successfully or not successfully completed in each case. The majority of these cases involved

prior dual VET in the dual system which had either not been successfully completed (6.9% or 32,064) or had been successfully completed (4.4% or 20,709*). Prior school-based VET was reported for significantly fewer trainees with a newly concluded training contract (0.7% not successfully completed and 1.4% successfully completed). In most federal states, an above average proportion of trainees with dual VET either successfully completed or not successfully completed was recorded in the craft trades. The average proportion in the craft trades sector was 11.5%. Several federal states exhibited high proportions of trainees in the area of responsibility of the public sector who had already successfully completed dual VET prior to the conclusion of a new contract. Otherwise, the proportion of those with prior school-based VET (successfully completed or not) was comparatively low (1.4% and 0.7%, respectively).

Training entrants and other types of newly concluded training contracts

Not all new training contracts are concluded by training entrants in the dual system. The number of newly concluded training contracts can therefore not be equated with the number of training entrants to the dual system (pursuant to BBiG or HwO) → Information Box.

Information Box – Training entrants

Training contracts are not only concluded with new entrants to vocational education and training. They also arise when a change of occupation or company takes place and in the case of "follow-up contracts" and multiple instances of training within the dual system. BIBB records the number of entrants in the dual system both as a sub-group of new contracts and as a sub-group of training contracts commenced in overall terms. Reports regarding previous vocational education and training, notifications of the contractually agreed duration of training and of the year of birth of the trainees and further information on prior learning (potential reasons for shortening) are taken from the Vocational Education and Training Statistics and used for this purpose. Ideally, the basic parameter for calculating training entrants is the number of all training contracts commenced. However, because prior dual VET programmes are not completely reported and corrections can only be approximate, the number of new contracts is generally used as the basic parameter. Owing to the incomplete reporting of prior dual vocational education and training programmes, a not inconsiderable number of persons would be presumably counted twice if contracts commenced were used to determine training entrants. Using the number of newly concluded contracts largely avoids double counts. Nevertheless, the drawback here is that some persons (because of the condition that the contract must still be in force on 31 December) are never counted as entrants. This can only be corrected in some cases and leads to a tendency for an underestimation of the entrant rate calculated via the number of entrants as a sub-group. Training contracts reported as being associated with prior dual VET (successfully completed or not successfully completed) are not usually counted as training entrants. Exceptions in this regard are contracts with a slight shortening, where the first training contract may possibly have fallen into the same calendar year. Such an exceptional allocation only ever occurs if dual VET previously successfully completed is not also reported. This is only used in delineation regarding the new contracts because the definition of a newly concluded contract would otherwise mean that many trainees in the dual system are never counted as new entrants. Those without prior dual VET are normally deemed to be entrants. Exceptions are contracts with a significant shortening without any obvious reason for such a shortening. This allows the conclusion to be drawn that the prior VET was erroneously not reported.

→ **Chart A5.4-1** provides a summary of how newly concluded training contracts are distributed across training entrants and other types of contract (non-entrants). If training entrants (see Information Box) are also delineated by agreed duration of contract rather than merely by information regarding previous vocational education and training (whilst controlling for various reasons for shortening), then approximately 89% of new contracts can be identified as having been concluded by entrants.

Differentiated according to areas of responsibility, such multiple instances of training were disproportionately likely to be recorded in agricultural occupations (6.8%). They were also relatively frequent in dual training occupations in the public sector (4.8%) and in the craft trades (4.4%). It was 9.8% in the area of responsibility of the craft trades, significantly higher than in the other areas of responsibility. The lowest proportion of contract switches was in the training occupations of the public sector (0.3%). This delineation of training entrants as a sub-group of newly concluded contracts allows further indicators relating to the dual system to be improved. However, in the case of various issues, it makes sense to use all training contracts commenced in a calendar year as reference rather than merely the new contracts since, according to the definition of newly concluded contracts, contracts are only taken into account in this counting variable if they remain undissolved as of 31 December.

Chart A5.4-1: **Training entrants and other types of newly concluded training contracts, Germany 2021**

A No prior dual VET

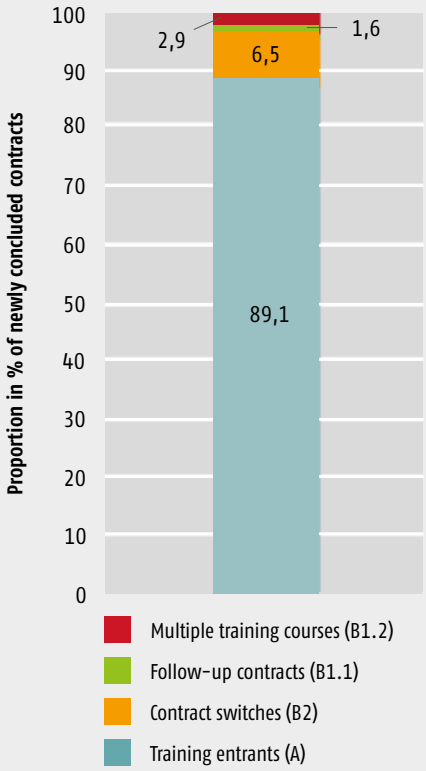
Training entrants

Newly concluded contracts ***without prior dual VET***

Note on recording: some persons reported as not having completed VET, albeit a slightly shortened programme. Some contract switchers were entrants in the same calendar year or in the previous year. Because of the definition of newly concluded training contracts, however, their first contract did not count as having been newly concluded. Switchers from a shortened programme must therefore be counted as entrants, otherwise they would never be recorded as such.

B With previous dual VET

which was successfully completed		which was not successfully completed
Follow-up contracts (B1.1) With credit for two-year VET previously completed (continuation in accordance with training regulations)	**Multiple training courses within the dual system (B1.2)** No follow-up contract	**Contract switches (B2)** Switchers of company and occupation (who were not also training entrants in the calendar year or in the autumn of the previous year) *Note on recording: some recorded without this prior training, albeit significant shortening or another potential reason for shortening*



Source: BIBB "Trainee Database" provided by the Federal Statistical Office based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), 2021 reporting year. Calculations and deductions made by the Federal Institute for Vocational Education and Training (characteristic follow-up contract registered)

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Information Box – Follow-up contracts (in continuation occupations)

Newly concluded contracts which represent a continuation of a two-year programme of dual VET successfully completed within a dual course of vocational education and training (BBiG/HwO, usually of three or three-and-a-half years' duration) are designated as follow-up contracts. In this case, the only continuations to follow-up contracts which are counted are those in which the training regulations explicitly provide for credit transfer of the two-year vocational education and training (§ 5 Paragraph 2 Clause 4 BBiG). Up until now, such continuations are exclusively stipulated in occupations in the areas of responsibility of trade and industry and the craft trades. The training regulations make mention of continuation/extension of vocational education and training, of cumulative training occupations, of credit transfer regulations. Older training regulations also (still) refer to staged training. Dual training occupations, for which the training regulations state a credit transfer may be given for a completed two-year VET programme, will be referred to as "continuation occupations" below. This characteristic has only been directly recorded within the scope of the Vocational Education and Training Statistics since the 2016 reporting year. Previously (from the 2007 reporting year), it was approximately determined on the basis of occupational information and on reports regarding duration of the training contract and prior learning. The previous vocational qualification for follow-up contracts has been recorded since the 2021 reporting year.

A5.5 Developments in occupational structure in dual vocational education and training

This chapter provides an analysis of selected developments in occupational structure within the dual VET system pursuant to the Vocational Training Act (BBiG and the Crafts and Trades Regulation Code, HwO) and shows how these are executed within the scope of permanent observations undertaken by the BIBB on the basis of the Vocational Education and Training Statistics (survey as of 31 December). Analyses of this nature are of interest in terms of evaluating the development prospects of the dual system and enable the chances of different groups of young people to be assessed. The main focus of the present observation is on the following occupational groupings: manufacturing and primary and secondary service occupations, STEM occupations, IT occupations, two-year training occupations and occupations in which training takes place in accordance with regulations for persons with a disability.

Tertiarisation of dual vocational education and training

Since the 1980s, the service sector has increasingly taken on a dominant role within the employment system of the Federal Republic of Germany. This is also reflected in the development of service occupations (see Information Box) in dual VET. Apart from a small number of exceptions, the proportion of newly concluded training contracts in the service sector rose virtually constantly in every year from the mid-1990s until 2010 (65.0%). It has declined slightly since this time and reached 61.4% in the 2021 reporting year, virtually the same level as the previous year (2020: 61.3%) → **Table A5.5-1**, → **Chart A5.5-1**. The overall conclusion that can be drawn from recent years is that the proportional ratios of newly concluded training contracts in service sector occupations have significantly shifted in favour of men → **Chart A5.5-2**. No comparable proportional shift is discernible with regard to the manufacturing occupations. In overall terms, figures for newly concluded training contracts show a slight increase in the manufacturing occupations in 2021 compared to the previous year (2020: 179,427 new contracts as opposed to 2021: 180,138; +0.4%). The rise in the secondary service occupations was significantly greater (2020: 80,079 versus 2021: 83,886; +4.8%), whereas the number of newly concluded contracts in the group of primary service occupations fell once more (2020: 203,805 versus 2021: 202,152; -0.8 %) → **Table A5.5-1**.

Dual vocational education and training in STEM occupations

The STEM occupations (see Information Box) have assumed much greater significance in the dual VET system over the past decades. A total of 155,271 new training contracts were concluded in dual STEM occupations in the 2021 reporting year. Although the number of newly concluded training contracts in STEM occupations in 2021remains considerably below the level recorded prior to the coronavirus pandemic in absolute terms (2019: 175,047; 11.3%), they have proportionally gained significantly in importance over recent years (2010: 28.1% as opposed to 2021: 33.3% of all newly concluded contracts). The containment measures instigated as a result of the coronavirus were not shown to have had any particular discernible impact on the STEM sector → **Table A5.5-2**.

Information Box – Manufacturing and service occupations

The (extended) occupational classification codes in accordance with the BA's 2010 Classification of Occupations (KldB 2010) were introduced into the Vocational Education and Training Statistics with effect from the 2012 reporting year to replace the KldB 1992, which had been used up until this point. The first version of the KldB 2010 was revised in 2020. "2010 Classification of Occupations – Revised Version" has been applicable since the 2021 reporting year. Any mention of KldB 2010 below refers in all cases to the revised version of 2020. The following analyses deploy a structure relating to manufacturing and service occupations which is based firstly on the KldB 2010 and secondly on information regarding main task focuses taken from the 2011 microcensus. Within the scope of the 2011 microcensus, respondents were asked to choose the tasks which were most significant for their daily work from a list of 20 options. The proportions of tasks were added up in accordance with their alignment to the respective sector. This procedure allowed each of the individual occupations to be allocated to an occupational sector.

Primary service occupations are delineated from manufacturing occupations "with regard to the main focus of 'extension' of the production route upstream and downstream. They maintain the macroeconomic 'production flow' and inform consumption directly". Primary service occupations include occupations in which the main task focuses are on commercial and office activities or on general services such as catering, storage, transportation, cleaning and security.

Table A5.5-1: **Newly concluded training contracts[1] in manufacturing and service occupations, Germany 2010 to 2021**

Year / Occupational group	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total, absolute terms												
Manufacturing occupations	193,668	200,340	195,537	187,068	185,997	186,069	185,313	191,283	196,173	194,070	179,427	180,138
Service sector occupations	360,189	360,759	348,819	334,386	328,011	326,619	322,251	321,987	323,391	316,797	283,884	286,038
of which:												
Primary service sector occupations	277,827	276,129	264,591	252,276	246,564	243,900	239,892	238,890	237,477	229,617	203,805	202,152
Secondary service sector occupations	82,365	84,627	84,228	82,110	81,447	82,719	82,359	83,097	85,911	87,180	80,079	83,886
Total	**553,857**	**561,099**	**544,356**	**521,454**	**514,008**	**512,688**	**507,564**	**513,270**	**519,564**	**510,870**	**463,311**	**466,176**
Men, absolute terms												
Manufacturing occupations	179,619	186,225	180,933	172,965	171,294	171,195	169,977	176,430	180,876	178,659	165,096	165,204
Service sector occupations	143,094	147,462	142,722	138,321	136,632	137,982	138,603	143,727	147,561	145,899	130,554	132,345
of which:												
Primary service sector occupations	114,348	116,667	112,221	108,390	106,785	107,829	108,627	112,461	114,453	111,456	99,366	100,461
Secondary service sector occupations	28,746	30,795	30,501	29,931	29,847	30,153	29,976	31,269	33,108	34,443	31,188	31,881
Total	**322,713**	**333,687**	**323,655**	**311,286**	**307,926**	**309,177**	**308,580**	**320,160**	**328,437**	**324,558**	**295,650**	**297,549**
Women, absolute terms												
Manufacturing occupations	14,049	14,115	14,604	14,103	14,703	14,874	15,336	14,853	15,297	15,414	14,331	14,934
Service sector occupations	217,095	213,297	206,097	196,065	191,379	188,637	183,648	178,260	175,830	170,898	153,330	153,693
of which:												
Primary service sector occupations	163,479	159,465	152,370	143,886	139,779	136,071	131,265	126,429	123,024	118,164	104,439	101,691
Secondary service sector occupations	53,619	53,832	53,727	52,176	51,600	52,566	52,383	51,831	52,806	52,737	48,891	52,002
Total	**231,144**	**227,409**	**220,701**	**210,165**	**206,082**	**203,511**	**198,987**	**193,113**	**191,127**	**186,312**	**167,661**	**168,627**
Total, in % of all newly concluded contracts												
Manufacturing occupations	35.0	35.7	35.9	35.9	36.2	36.3	36.5	37.3	37.8	38.0	38.7	38.6
Service sector occupations	65.0	64.3	64.1	64.1	63.8	63.7	63.5	62.7	62.2	62.0	61.3	61.4
of which:												
Primary service sector occupations	50.2	49.2	48.6	48.4	48.0	47.6	47.3	46.5	45.7	44.9	44.0	43.4
Secondary service sector occupations	14.9	15.1	15.5	15.7	15.8	16.1	16.2	16.2	16.5	17.1	17.3	18.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

[1] The definition of newly concluded training contracts was (also retroactively) changed back to the version used in the 2006 reporting year. Minor deviations to previous publications may therefore exist for the data on the reporting year 2020.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2020 and 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training

Secondary service activities encompass tasks which are not usually physically tangible and thus represent immaterial goods that are predominantly produced intellectually. They are also referred to as "knowledge work" and are characterised by the fact that they improve industrial production in qualitative terms via increased furtherance and use of the human mind or "human capital". They include occupations with main task focuses such as measuring, testing, researching, designing, applying laws, advising, nursing and treating.

Table A5.5-2: **Newly concluded training contracts[1] in STEM-occupations in the dual system (BBiG/HwO), Germany 2010–2021**

Year	Total	In % of all newly concluded training contracts	Of which: Women	Female share in STEM-occupations, in %
2010	155,394	28.1	16,536	10.6
2011	166,995	29.8	17,757	10.6
2012	165,756	30.4	18,177	11.0
2013	159,309	30.6	17,496	11.0
2014	159,285	31.0	17,928	11.3
2015	161,457	31.5	18,513	11.5
2016	162,462	32.0	18,984	11.7
2017	168,474	32.8	18,813	11.2
2018	175,224	33.7	19,752	11.3
2019	175,047	34.3	19,854	11.3
2020	156,045	33.7	17,595	11.3
2021	155,271	33.3	17,538	11.3

[1] The newly concluded training contracts has been changed (also retroactively) back to the version used until the 2006 reporting year. Minor deviations from previous publications may therefore occur.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2010 to 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). For reasons of data protection, absolute values are rounded to a multiple of three. Calculations by the Federal Institute for Vocational Education and Training. VET Data Report Gemany 2023

In the group of STEM occupations – as in previous years – just under nine in ten (around 85%) of new contracts were concluded in technical training occupations in 2021. The proportion of women was 10.6%. An above-average proportion of women was only found in the comparatively small area of healthcare technology (around 62%). This field includes occupations such as optician, audiologist, and dental technician. In production engineering, the most significant area within the STEM aggregate in quantitative terms, only 8.8% of new training contracts were concluded with women. Aside from the healthcare technology occupations, an above average proportion of women in the STEM sector is also revealed in mathematically and scientifically aligned training occupations which mainly comprise laboratory tasks (e.g. biological laboratory technician, chemical laboratory technician, chemical technician and pharmaceutical technician). The proportion of women in such occupations was about 35%. Women thus occupy gender-typical niches in the case of dual training occupations in the STEM sector, too.

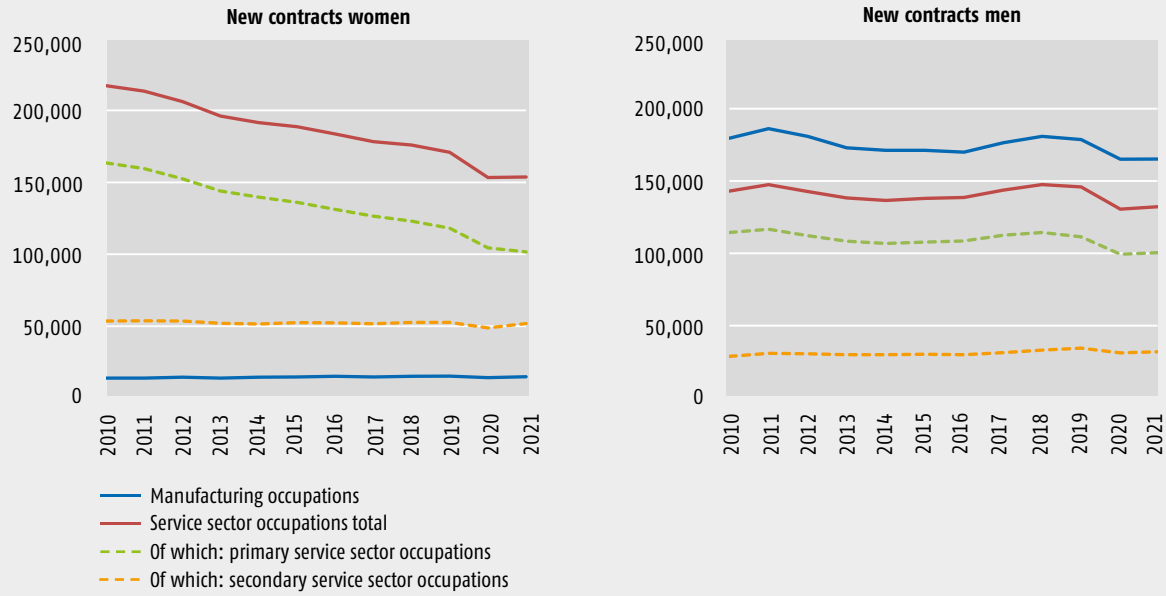
Information Box – STEM occupations in the dual system (BBiG/HwO)

Within the scope of analyses of developments in occupational structure, the BIBB occupational grouping of "technical occupations" has been abandoned. In accordance with the BA delineation, it has been replaced (including with retrospective effect) by the occupational group of "STEM occupations". The BA delineation takes the five-digit code in the 2010 Classification of Occupations as its starting point and also includes dual training occupations (pursuant to the BBiG or HwO). Because the occupational aggregate of the "STEM occupations" has been formed by the BA for all employment occupations rather than specifically for the dual training occupations (BBiG/HwO), problematic alignments occur for the dual training occupations in a small number of positions. These, however, were taken on board in the interests of the goal of a uniform basis. The objective of this switch is to create a standardised definition for data users and a standardised application of occupational groupings for training and labour market analyses. Within the scope of the revision of the 2010 Classification of Occupations, the BA also adjusted the specific occupational aggregate of the STEM occupations. As a result, 17 new occupational categories (KldB 2010 five-figure codes) were included in the aggregate whilst seven occupational categories were removed. Because of this realignment, figures which are divergent from the evaluations of STEM occupations in previous publications occur from the 2021 reporting year onwards (including with retrospective effect).

The "STEM occupations" occupational aggregate

According to the BA definition, the "STEM occupations occupational aggregate" encompasses all tasks which can only be exercised by those with a high proportion of knowledge and skills from the fields of mathematics, information technology, the natural sciences and/or engineering. The construction and maintenance of technical plants and

Chart A5.5-1: **Newly concluded training contracts[1] in manufacturing and service sector occupations by gender, Germany 2010 to 2021**



[1] The definition of a newly concluded contract was switched back to the version used up until the 2006 reporting year (including retrospectively). Slight deviations from previous publications may therefore occur.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2010 to 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values.

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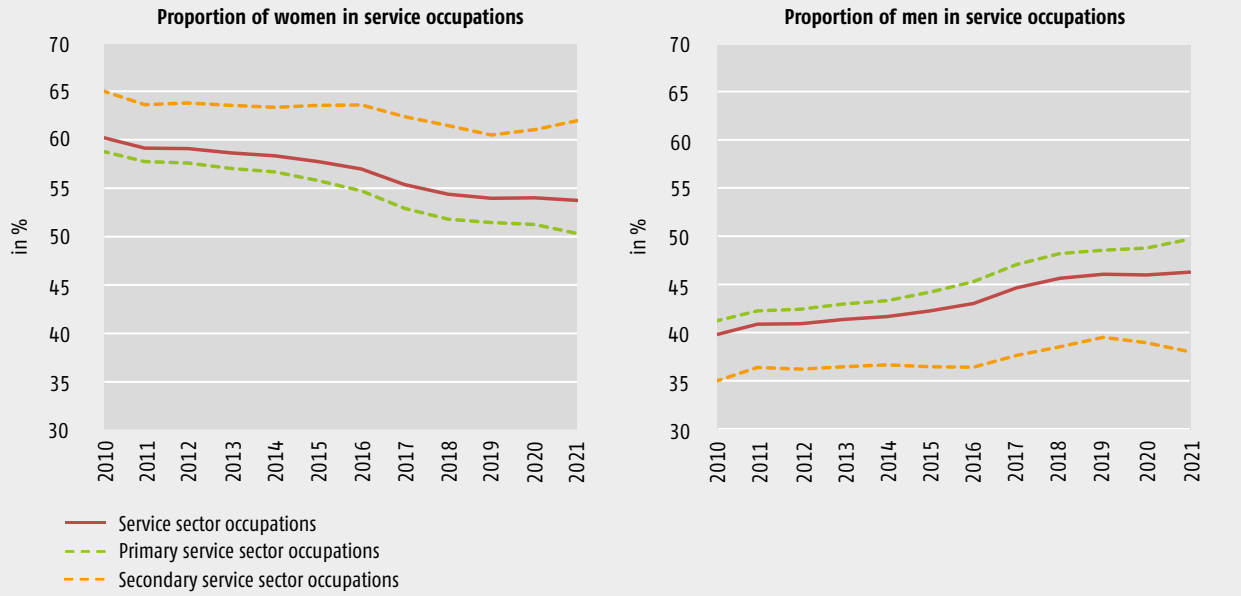
equipment are deemed to be part of the STEM occupations if these form the core component of a task, but not the mere operation of machines. The individual 5-figure codes of the KldB 2010 are aligned in a differentiated way to "mathematics", natural sciences", 'information' and 'technology' rather than to the overall STEM aggregate. Task content is crucial to the definition of STEM occupations. Form of training, such as skilled crafts occupation or industrial occupation, for example, is not decisive in this regard. The "STEM occupations" occupational aggregate includes both the highly qualified STEM occupations and the "medium-qualified" STEM occupations. This means, alongside complex specialist and specialist tasks, skilled worker tasks are also taken into account.

IT occupations in Industry 4.0

Digitalisation of the economy and of the employment and training system will continue to progress and gain in significance over the coming years. One of the accompanying aspects will be a growing demand for IT occupations. Analyses have shown that a significant proportion of this additional demand will arise in the manufacturing industry and not merely within the information and communication technology (ICT) sector itself. Even though the rising requirements will mainly relate to highly qualified skilled workers, an effect will also be felt at the intermediate qualification level (→ **Table A5.5-2**).

Chart A5.5-2: **Proportions[1] of women and men in service sector occupations, Germany 2010 to 2021 (in %)**



[1] The definition of a newly concluded contract was switched back to the version used up until the 2006 reporting year (including retrospectively). Slight deviations from previous publications may therefore occur.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2010 to 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). Calculations by the Federal Institute for Vocational Education and Training

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Information Box – Core IT occupations

In order to establish comparability with the occupational field analyses, the occupational field 38 "IT Core Professions" from the occupational field definitions of the BIBB was used to define IT professions. Occupational field 38 "Core IT occupations" is made up of the training occupations of information technology specialist (various specialisms), data management specialist, system management specialist, and mathematical-technical software developer alongside the predecessor occupations of data processing specialist (rescinded in 1997), information technology officer (rescinded in 2020), information and telecommunications system support specialist, (rescinded in 2020) and mathematical-technical (rescinded in 2007).

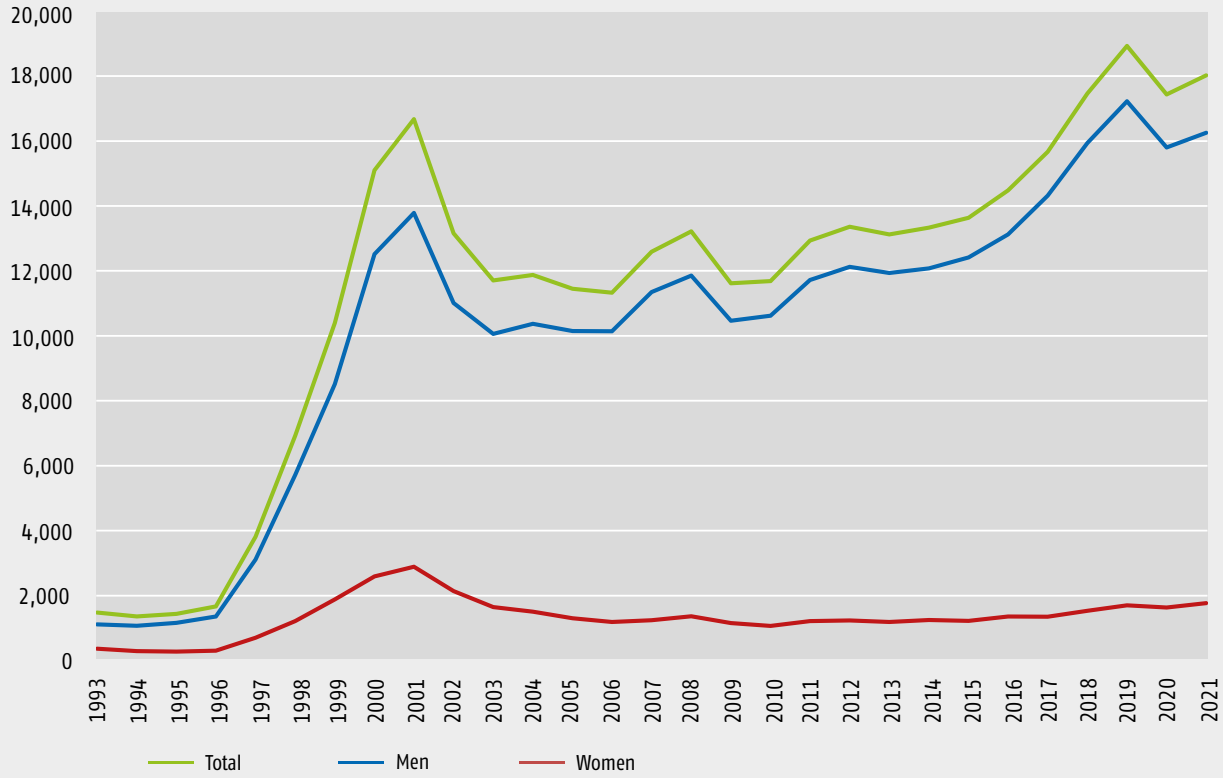
This delineation also correlates with main occupational group 43 "Occupations in computer science, information and communication technology" in the KldB 2010. In this case, the KldB 2010 brackets together occupations involving tasks in information technology, IT system analysis and application consultancy, sale of IT products, coordination, IT network technology, IT administration, IT organisation, software development and programming. Borderline cases always arise when classifications of this kind are used. The occupations of information technology and telecommunications system electronics technician and electronics technician for information and systems technology are, for example, included under occupational field 11 "Electrical occupations" rather than as core IT occupations. In the 2010 KldB, they are aligned to the main occupational group 26 "Occupations in mechatronics, energy electronics and electrical engineering".

The number of new training contracts concluded in the occupational field of "core IT occupations" has increased significantly, especially owing to the new IT occupations introduced in 1997→ **Chart A5.5-3**.

The development of two-year training occupations

Since the 1950s, cancellation, integration or conversion into three-year occupations have significantly reduced the number of two-year training occupations. However, greater attempts were once again made at the start of

Chart A5.5-3: **Development of newly concluded training contracts[1] in the dual IT occupations[2] by gender, Germany 1993 to 2021**



[1] The definition of a newly concluded contract was switched back to the version used up until the 2006 reporting year (including retrospectively). Slight deviations from previous publications may therefore occur.

[2] Occupations include predecessor occupations in the occupational field "Core IT occupations" as defined by the BIBB

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 1993 to 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values.

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the 21st century to use two-year[15] training occupations as a vehicle to create additional training place provision and thus to improve training opportunities for disadvantaged young people in particular. The potential offered by these occupations in terms of enhancing the chances of young people has, however, been an object of controversial debate in the educational discourse. In the 2021 reporting year, a total of 38,367 new training contracts were concluded in state-recognised occupations with a training duration of 24 months. Although this represents a significant decrease of -8.7% in the number of new contracts compared to the 2019 reporting year (2020: 39,273, 2019: 42,018), the proportion value of 8.4% in 2021 is at the same level as 2019 → **Table A5.5-3**. The reason for this is that the total number of new contracts declined to a similarly high degree during the same period. The most quantitatively significant two-year training occupation by far in the 2021 reporting year was once again sales assistant for retail services. Over half (around 52%) of all new contracts in two-year occupations were concluded in this training occupation. This occupation was followed at some distance by the occupations of warehouse operator (14.4%), machine and plant operator (9.7%), civil engineering worker (4.8%) and specialist in the hospitality services industry (4.5%). Those successfully completing a two-year programme of vocational education and training acquire a vocational qualification in a state-recognised training occupation which in most cases can be continued in a further training occupation (usually of three or three and a half years' duration). In the 2021 reporting year too, virtually all young people

15 Three-year training occupations make up the largest proportion within the dual system. Alongside the two-year training occupations, there are also occupations – especially in the metalworking and electrical sector – in which the regulations stipulate a duration of 42 months (three-and-a-half year training occupations).

Table A5.5-3: **Newly concluded training contracts[1] in two-year training occupations[2], number and proportion of all new contracts, Germany 2010 to 2021**

Germany	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Two-year occupations[3]	51,390	50,664	48,576	44,268	43,575	43,038	42,108	42,939	43,758	42,018	39,273	38,367
All state-recognised training occupations[3]	541,629	549,534	534,045	511,326	504,480	503,607	498,828	505,044	511,602	503,040	455,607	458,973
Proportion of two-year occupations, in %	9.5	9.2	9.1	8.7	8.6	8.5	8.4	8.5	8.6	8.4	8.6	8.4

[1] The definition of newly concluded training contracts was (also retroactively) changed back to the version used in the 2006 reporting year. This may therefore result in minor deviations to earlier publications.
[2] Occupations with 24-months training duration; without occupations for persons with a disability pursuant to § 66 BBiG/§ 42r HwO
[3] Not including occupations for persons with a disability pursuant to § 66 BBiG/§ 42r HwO, including training occupations being piloted pursuant to § 6 BBiG/§ 27 HwO.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2020 and 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training VET Data Report Gemany 2023

who completed a training contract in a two-year training occupation did so within an occupation in which the regulations provide for credit transfer of training. If we relate the number of registered follow-up contracts with the number of people completing two-year training, it is possible to obtain an approximation of the proportion of those who continue two-year training in a dual training occupation. In the 2021 reporting year, this represented around a fifth of those who had completed a two-year training programme.[16]

Development of training occupations for persons with a disability

In occupations for persons with a disability (pursuant to § 66 BBiG and § 42r HwO) (see Information Box), the number of newly concluded training contracts (7,203) decreased significantly in the 2021 reporting year compared to the previous year (2020: 7,704; -6.5%). Because the number of school leavers rose slightly compared to the previous year, there was a corresponding reduction in the percentage proportion of trainees in occupations for disabled persons → **Table A5.5-4**.

Information Box – Dual training occupations for persons with a disability

The general aim is for "disabled persons […] to be trained in recognised training occupations" (§64 BBiG). Persons with a disability should only be trained in accordance with special regulations if their disability means that training in a recognised training occupation is out of the question. These training occupations are occupations with separate training regulations issued by the competent bodies (§ 66 BBiG/§ 42r HwO; up until April 2005 § 48b BBiG/§ 42b HwO; up until December 2019 § 42m HwO). In the case of the data included in the Vocational Education and Training Statistics, it should be noted that no personal characteristic relating to the disability is recorded. The only aspects recorded are whether the respective training contracts reported are in state-recognised training occupations (or in dual training occupations being piloted) or whether the contracts involve training programmes pursuant to a regulation issued by the competent bodies for persons with a disability.

Methodologically speaking, consideration needs to be accorded to the fact that the actual training situation of persons with a disability in the dual system cannot be mapped on the basis of the Vocational Education and Training Statistics. No personal characteristic relating to an existing disability of trainees is collected in this survey. This means that only occupationally-related observations can be made. Nevertheless, it is possible to evaluate whether a special type of funding took place for training contracts in the first year of training. The following problems arise in assessing the group of trainees with a

16 The characteristic "follow-up contract" has been directly reported by the competent bodies since the 2016 reporting year. It was previously calculated on the basis of occupational information and reports relating to previous VET both at the beginning and the end of the training contract. From the 2021 reporting year onwards (for contracts commenced in 2021), information is also being collected on the occupation in which training was previously completed.

Table A5.5-4: **Proportion of new training contracts[1] concluded in occupations for persons with a disability[2], 2010 to 2021 (in % of newly concluded contracts)**

Year	Germany
2010	2.2
2011	2.1
2012	1.9
2013	1.9
2014	1.9
2015	1.8
2016	1.7
2017	1.6
2018	1.5
2019	1.5
2020	1.7
2021	1.5

[1] The definition of newly concluded training contracts was (also retroactively) changed back to the version used in the 2006 reporting year. This may therefore result in minor deviations to earlier publications.

[2] Occupations for persons with a disability pursuant to § 66 BBiG/§ 42r Hw0 (until April 2005 § 48b BBiG/§ 42b Hw0; until December 2019 § 42m Hw0); newly concluded contracts in these occupations were only recorded from 1987.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2020 and 2021 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). Calculations by the Federal Institute for Vocational Education and Training

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disability: the information regarding contracts concluded for persons with a disability in accordance with chamber regulations of the competent bodies does not cover all training contracts of disabled persons in the dual system. There are also not inconsiderable numbers of persons with a disability who are in state-recognised training occupations. The BBiG even stipulates that this should be the regular procedure (§ 64 BBiG). In the 2021 reporting year, 3,534 training contracts in state-recognised occupations received extra-company funding pursuant to German Social Security Code III, SGB III (extra-company training for persons with a disability) → **Table A5.5-5**. However, it is also revealed that not all training arrangements with trainees with a disability receive public funding. 651 of the 7,203 new training contracts concluded in accordance with chamber regulations of the competent bodies in the 2021 reporting year were primarily company funded. In overall terms, however, robust statements on the situation of trainees with a disability in the dual system are presently only possible via separate sample surveys.

Table A5.5-5: **State-recognised training occupations and training regulations of the competent bodies for persons with a disability (§ 66 BBiG/§ 42r Hw0) by type of financing, 2021 reporting year**

Newly concluded contracts[1]	Total	Primarily company financed	Primarily publicly financed	*of which:*		
				Special programme of the federal government/federal states (usually funding pursuant to SGB III for youths disadvantaged on the market (extra company training for persons who are socially disadvantaged or persons with learning impairments)	Funding pursuant to SGB III (extra-company training for socially deprived persons resp. slow learners)	Funding pursuant to SGB III (extra-company training for persons with a disability – rehabilitation)
Contracts in state-recognised training occupations	458,973	446,598	12,375	2,583	6,255	3,534
Contracts in occupations in accordance with training regulations of the competent bodies for persons with a disability (§ 66 BBiG/§ 42r Hw0)	7,203	651	6,555	225	825	5,505
Dual system total	466,176	447,246	18,930	2,808	7,080	9,039

[1] The definition of newly concluded training contracts was (also retroactively) changed back to the version used in the 2006 reporting year. This may therefore result in minor deviations to earlier publications.

Note: The characteristic "company funding" recorded especially for Brandenburg up to and including for the year 2020 will no longer be recorded as of the 2021 reporting year and is now reported for Brandenburg in the relevant category under funding type.

Quelle: BIBB "Trainee Database" provided by the Federal Statistical Office based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), 2021 reporting year. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values.

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A6 Training in the vocational school system, in the public sector and at institutes of higher education

A6.1 School-based vocational education and training

Vocational education and training at vocational schools, referred to in abbreviated form as "school-based VET", describes a highly heterogeneous field. This construct covers various forms of training, the common factor being that such training does not take place within the dual system pursuant to the BBiG/HwO. Most school-based VET lies within the area of cultural sovereignty of the federal states and is thus governed by federal state law. National framework agreements of the Conference of the Ministers of Education and Cultural Affairs (KMK) are in place for many training courses regulated by federal state law. Alongside training courses governed by federal state law there are, however, examples of training programmes in the healthcare sector which come under the jurisdiction of federal law (outside the BBiG/HwO).[17]

A6.1.1 Significance and development – systemic consideration

The significance and development of school-based VET will be outlined below on the basis of the iABE data. Presentation takes place in a way that is differentiated according to education and training accounts → **Chart A6.1.1-1**. In 2022, a total of around 218,700 young people commenced school-based vocational education and training. This figure represents around a third of all fully qualifying VET programmes. Developments in school-based VET programmes will be set out below, initially by means of a time comparison. This will be followed by a description with regard to the characteristics of gender, nationality and prior school learning.

Developments compared to 2019 and the previous year

There were around 186,600 entrants to training programmes in the healthcare, education and social sectors (GES, account I 05) in 2022. This makes it the most significant account by some distance. The GES account encompassed approximately 85% of all entrants to school-based VET programmes.

17 For more information, please see VET Data Report Germany 2021, p. 68.

Compared to the relatively sharp declines in dual vocational education and training pursuant to the BBiG/HwO (-8.1% between 2019 and 2022), the pandemic thus appears to have had a lesser impact on healthcare, education and social services occupations in the short term. Nevertheless, numbers in the most popular occupation in these sectors, qualified nurse, are currently falling significantly and are exerting an influence on the overall downward trend in the GES account. School-based vocational education and training pursuant to federal state law (account I 03) constituted around 5% of entrants to school-based VET programmes. A decrease of -7.9% was recorded compared to the previous year. School-based vocational education and training pursuant to the BBiG/HwO (account I 02) only represented about 2% of all entrants to school-based VET programmes and thus played a relatively minor role. Entrant figures are shown to be stable compared to the previous year. A significant decrease is, however, revealed vis-à-vis 2019. A similar development, albeit not quite as pronounced, applies in respect of the double-qualifying school-based VET programmes, in which both a vocational qualification and a higher education entrance qualification can be achieved (account I 04). Such programmes accounted for about 8% of entrants to school-based VET programmes. In this case, too, there was only a small decrease in the number of entrants compared to the previous year.

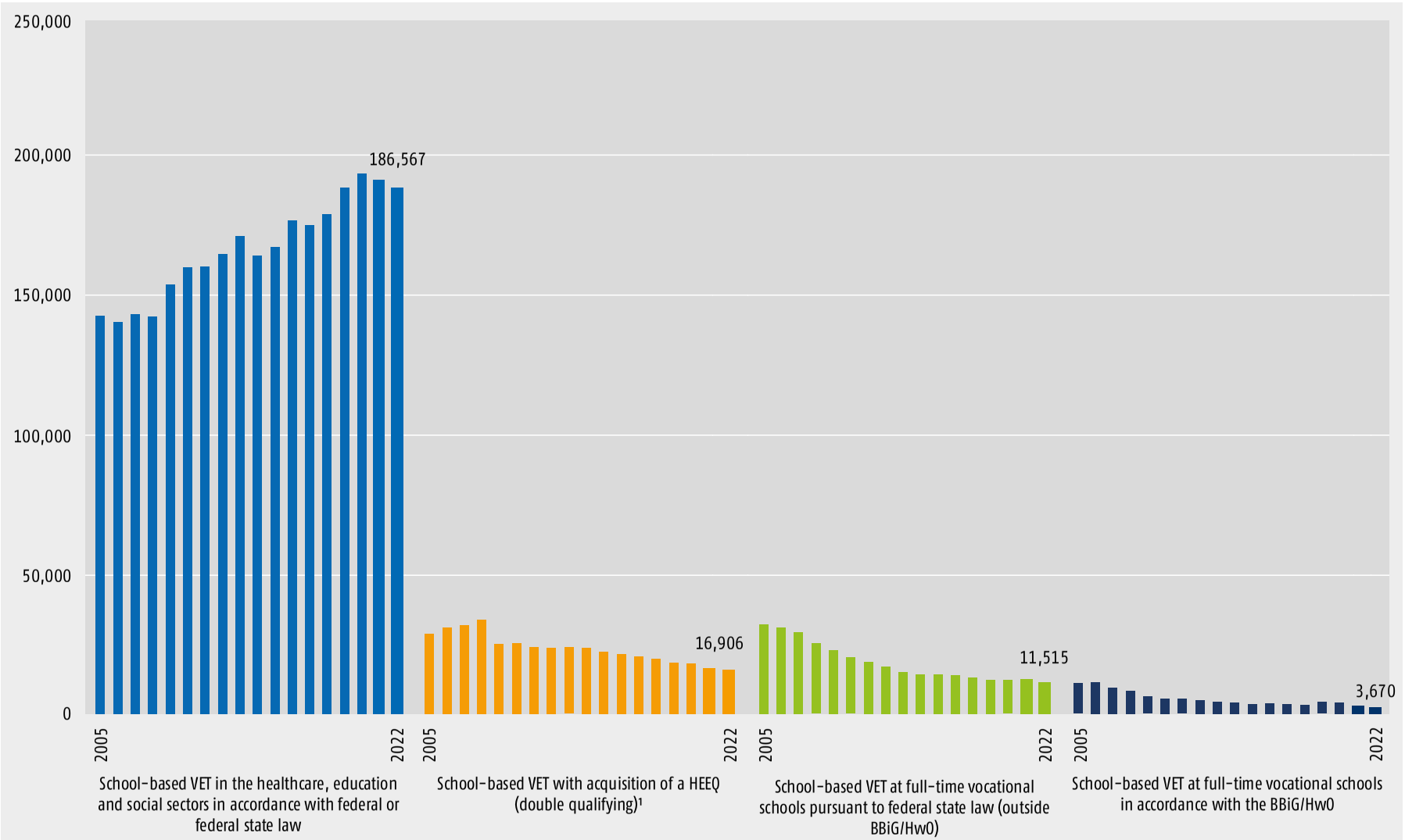
Entrants by selected characteristics

→ **Table A6.1.1-1** considers accounts of school-based VET in accordance with the characteristics of gender, nationality and prior school learning. The following evaluations on the characteristics of gender and nationality are based on preliminary data from the 2022 iABE Flash Report. Differentiated data relating to the prior school learning of entrants is not yet available for 2022. The year of reference is 2021 in each case.

Compared to other accounts of school-based VET, training programmes in healthcare, education and social occupations have traditionally tended to be exercised by females. The proportion of female entrants in 2022 was 75.3%. The proportion of foreign nationals was 16.8%. In 2021, just over half of entrants (55%) had achieved an intermediate secondary school-leaving certificate at the commencement of training. Around a quarter even held a university of applied sciences or general higher education entrance qualification. Only around a fifth of all entrants were in possession of a lower secondary school-leaving certificate (17%).

The proportion of women in double-qualifying training programmes was 43.1%, a fairly low figure compared to the other school-based VET accounts. Their representation in the school-based vocational education and train-

Chart A6.1.1-1: **Entrants in school-based VET accounts 2005 to 2022**



[1] At full-time vocational schools pursuant to federal state law (outside BBiG/HwO) and specialised upper secondary schools.

Source: Federal Statistical Office: Integrated Training Reporting System 2021; Integrated Training Reporting System 2022 (preliminary data) (data status: 02.02.2023 and 20.03.2023)

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Table A6.1.1-1: **Entrants to school-based vocational education and training by gender, nationality and prior school learning (in %)**

School-based VET	2022		2021				
	Proportion female[3]	Proportion non-German	Proportion without lower secondary certificate	Proportion with lower secondary certificate	Proportion with intermediate secondary certificate[4]	Proportion with university of applied sciences or general higher education entrance qualification	Proportion no information available/ other
	in %	in %	in %	in %	in %	in %	in %
▶ At full-time vocational schools pursuant to BBiG/HwO	59.5	22.0	1.5	37.6	45.5	14.3	1.1
▶ At full-time vocational schools pursuant to federal state law outside BBiG/HwO	52.2	16.5	0.7	12.6	64.8	20.7	1.2
▶ With acquisition of HEEQ (double qualification)[1]	43.1	16.3	0.0	1.1	94.6	4.3	0.1
▶ In healthcare, education and social sectors according to federal or federal state law[2]	75.3	16.8	1	17	55	25	1

For 2022, these are preliminary data from the iABE 2022. Differentiated data on school-based prior training are not available for 2022.
[1] At full-time vocational schools pursuant to federal state law (outside BBiG/HwO) and specialised upper secondary schools.
[2] Proportion of school-based prior training without North Rhine-Westphalia, Lower Saxony, Saxony Anhalt and Schleswig-Holstein due to incomplete data. The proportions are rounded (marked in colour).
[3] Persons signing under the gender "other" [German: "divers"] or "no response" are randomly assigned to the male or female gender or the categories "male" and "female" (without proportional quotation, with expected value of 0.5) depending on the possibilities of the federal states.
[4] Including school-based part of university of applied sciences entrance qualification

Source: Federal Statistical Office Integrated Training Reporting System 2021; Integrated Training Reporting System 2022 (preliminary data) (Data as of: 02 February 2023 and 20 March 2023) VET Data Report Gemany 2023

ing programmes governed by federal state law (outside BBiG/HwO) was slightly higher at 52.2%. With regard to prior school learning, the proportion in possession of a lower secondary school-leaving certificate is comparatively low (12.6%). School-based training programmes pursuant to BBiG/HwO were more female-dominated (59.5%). The proportion of foreign nationals in these programmes was 22.0%. Prior school learning of the young people was comparatively low.

A6.1.2 Significance and development – occupational structure consideration

The following presentation on occupational structure developments is firstly based on data from the vocational school statistics, which has previously been published by the Federal Statistical Office in Specialist Publications Series 11, Series 2, "Vocational schools". With effect from the 2021/2022 reporting year, this Specialist Publications Series was replaced by the publication: "Statistical Report: Vocational schools and healthcare sector schools". Secondly, the presentation is informed by the Nursing Training Statistics (PfleA) (see Information Box). In order to facilitate a categorisation in line with the previous chapter, occupational structure considerations are undertaken on the basis of the Integrated Training Reporting System (iABE). In the chapter on training programmes in the healthcare, education and social occupations, therefore, only developments in training programmes governed by federal and federal state law will be presented. The occupations in which training takes place in the dual system pursuant to the BBiG/HwO (e.g. medical assistant) will not be considered. In the case of the "assistant training programmes", and unlike in the iABE, the Specialist Publications Series does not permit distinctions to be drawn between simple training programmes (account I 03: vocational qualification only) and double-qualifying programmes (account I 04: vocational qualification and higher education entrance qualification. For this reason, they are jointly listed here under the heading of "Training programmes governed by federal state law (outside BBiG/HwO)".

The following remarks focus on the significance and development of occupations in the various education and training accounts. Firstly, we will look at pupils in

Table A6.1.2-1: **Popular training programmes in healthcare, education and social occupations according to federal state and federal law[1], pupils in the 1st school year or newly concluded training contracts over the course of time**

KldB 2010	Occupational title	2013/2014[3]		2014/2015[4]	2015/2016[5]	2016/2017[6]	2017/2018[7]	2018/2019[8]	2019/2020[9]	2020/2021[10]	2021/2022[11]		Change in female proportion 2021/2022 to 2013/2014 (% points)	Change 2021/2022 to 2013/2014 (in %)	Proportion of healthcare occupations (in %)[12]		Change to the healthcare proportion KldB (% points)
		Absolute	Proportion female (in %)	Absolute	Absolute	Absolute	Absolute	Absolute	Absolute	Absolute	Absolute	Proportion female (in %)			2013/2014 (total: 171.081)	2021/2022 (total: 186.567)	
In accordance with federal law																	
81302	General nurse[2]									53,610	56,259	75.6				30.2	
82102	Geriatric nurse	24,060	77.6	23,313	23,612	24,130	24,310	24,846	27,309								
81302	Registered general nurse	23,689	78.5	23,239	22,911	23,656	23,467	24,108	25,728								
81302	Registered children's nurse	2,603	94.2	2,606	2,510	2,643	2,717	2,922	3,081								
81713	Physiotherapist	7,931	62.9	8,265	8,346	8,176	7,970	7,836	8,799	8,901	9,347	58.0	-4.9	17.9	4.6	5.0	0.4
81723	Occupational therapist	3,744	88.2	3,670	3,610	3,720	3,645	3,537	4,122	4,362	4,746	87.1	-1.1	26.8	2.2	2.5	0.3
81822	Technical pharmaceutical assistant	3,664	90.1	3,636	3,756	3,747	3,856	3,702	3,936	3,735	3,889	83.7	-6.5	6.1	2.1	2.1	0.0
81342	Emergency paramedic[13]			288	1,257	2,244	2,301	2,634	2,772	2,901	2,982	36.9				1.6	
In accordance with federal state law																	
83112	Nursery school teacher[14]	30,299	82.1	30,772	31,655	31,207	32,128	33,282	34,956	39,894	41,104	80.5	-1.6	36	18	22	4
83142	Social assistant	17,075	79.0	17,093	17,055	17,320	17,397	17,988	18,582	17,799	18,858	75.3	-3.7	10.4	10.0	10.1	0.1
83112	Social education assistant, childcare assistant	12,167	85.0	12,446	12,743	12,446	12,553	13,032	13,497	12,906	11,822	84.1	-0.9	-2.8	7.1	6.3	-0.8
82101	Care assistant for the elderly[15]	7,577	79.4	7,849	7,728	8,010	8,130	8,484	9,147	7,611	7,273	71.4	-8.0	-4.0	4.4	3.9	-0.5
83132	Special needs care worker	5,748	72.7	5,356	5,653	5,588	5,605	5,421	6,471	6,171	6,276	69.2	-3.5	9.2	3.4	3.4	0.0

Note: The informative value for the values marked in dark green is limited (see the relevant footnotes).

[1] Only students who are not taking part in a training programme pursuant to the BBiG/HwO are depicted here.

[2] Newly concluded training contracts in the reporting year based on PflEA data 2021. The general training for the occupation of general nurse (German: "Pflegefachmann/-frau") replaces the training programmes "Nurse, geriatric nurse, and pediatric nurse".

[3] The occupational title or the distribution by occupation is not always available for Baden-Württemberg and Saarland (except healthcare sector schools). For Hesse, the distribution by gender and school-leaving year is estimated for the healthcare sector schools.

[4,5,6] For Baden-Württemberg, the occupational title is not always available (excepting healthcare sector schools), for Bremen, partially only data from previous years.

[7,8,9] For Baden-Württemberg, the occupational title is not always available (except healthcare sector schools).

[10,11] For Schleswig-Holstein there are no available data for students at healthcare sector schools. Occupational title not always available for Baden-Württemberg.

[12] Total from Integrated Training Reporting System (account I 05).

[13] The three-year training programme for the occupation of paramedic (German: "Notfallsanitäter/-in") entered into force on 1 January 2014 and replaced the two-year training programme "Rettungsassistent/-in". This is why in this case data on the students in the first school year is only available as of the 2014/2015 school year.

[14] The strong increase in the 2020/2021 school year compared to the previous year is largely due to the fact that, from the 2020/2021 school year onwards, data on the occupation of nursery school teacher for Baden-Württemberg is only shown by occupational title in the specialist series and the Statistical Report.

[15] The decline in the 2020/2021 and 2021/2022 school year compared to the previous year is, according to details from the Federal Statistical Office, due to the missing information for the healthcare sector schools in Schleswig-Holstein.

Source: Federal Statistical Office: Statistical Report: Vocational schools and healthcare sector schools – occupational titles, school year 2021/2022 (Data status 22/12/2022).
Special analysis Specialist Publications 11 Series 2, Table 2.9, Volumes 2013/2014 to 2020/2021 (Data status: 29.03.2022); statistics according to the healthcare occupations training funding ordinance 2021 (Data status: 26.07.2022); (Flash Report) Integrated Training Reporting System (Data status 02.02.2023 and 20.03.2023)

healthcare, education and social occupations in the first school year or at the newly concluded training contracts. The most popular occupations in the 2021/2022 school year are presented alongside their development since the 2013/2014 school year.

Training programmes in the healthcare, education and social occupations according to federal or federal state law

Training in the healthcare, education and social occupations generally takes place at healthcare sector schools or, in some federal states, at part-time vocational schools, full-time vocational schools and trade and technical schools. In approximately 50 occupations, around half of the pupils are trained in accordance with federal state law regulations. The education laws of the federal states form the statutory basis for this. National framework agreements of the Conference of the Ministers of Education and Cultural Affairs (KMK) are in place for some of these occupations. The aim is for the jointly agreed criteria and educational standards that these contain to secure the quality of the qualifications and thus create the prerequisite for mutual recognition in the federal states. In addition to this, there are occupations which are based on regulations in federal law. Prior to the reform of the nursing occupations, all occupations governed by federal law except geriatric nurse were regulated by the Federal Ministry of Health (BMG). The Federal Ministry of the Family, Senior Citizens, Women and Young People (BMFSFJ) was responsible for the occupation of geriatric nurse. The new generalist training leading to the qualification of qualified nurse is subject to the responsibility of both federal ministries. Most training courses governed by federal law are of a duration of 36 months. The duration of programmes regulated by federal state law varies between 12 and 36 months. At present, the field of healthcare, education and social occupations governed by federal law is exhibiting a particular momentum with many changes.

→ **Table A6.1.2-1** shows the absolute figures (pupils in the first school year or newly concluded training contracts) for the most popular training programmes healthcare, education and social occupations governed by federal and federal state law for the 2021/2022 school year and for changes since the 2013/2014 school year. The table also provides information on the relative significance of the occupations within the group of healthcare, education and social occupations.

The main focus of these programmes is in the areas of nursing and education. The most significant training programme by some distance in 2021 was qualified nurse, in which around 56,300 new training contracts were concluded. The second most significant training programme in the healthcare, education and social occupations was nursery school teacher with around 41,100 pupils in the first school year. Training programmes in the occupation of social assistant and social education support worker were also popular. In these cases, the numbers of pupils in the first school year were around 18,900 and around 11,800, respectively. A consideration of the healthcare, education and social occupations by gender proportion shows a strong female presence in almost every area. In the 2021/2022 the proportion of women ranged from 58.0% in training programmes for the occupation of physiotherapist to 87.1% in occupational therapist. One exception was training in the occupation of paramedic, where the female proportion was only 36.9%, significantly below the average. The proportion of women in all popular occupations has been slightly declining since 2013/2014.

Information Box – New data on the occupation of qualified nurse

The survey accompanying the Ordinance on the financing of training in the nursing professions (PflegeA) has been collecting data on the newly standardised occupation of qualified nurse since January 2020. Data or benchmarks now exist for three reporting years (2020, 2021, 2022). In the first survey year of 2020, 53,610 new training contracts were concluded and subsequently not dissolved across Germany as a whole. In the second survey year of 2021, this figure rose by around 5% to 56,259 newly concluded training contracts. The current (preliminary) figures for 2022 show a decrease of about 7% compared to the previous year to approximately 52,300 newly concluded training contracts. If the trainees with newly concluded training contracts are broken down by gender, it is clear that the occupation of qualified nurse is largely being embraced by women, as was the case with the previous nursing qualifications of geriatric nurse, registered general nurse and registered children's nurse. The proportion of women in 2022 was approximately 74%. The average age of young people with newly concluded training contracts in 2021 was 23.8 years. Around 25% of all new contracts were concluded with persons aged over 25.

§ 6 of the Nursing Professions Act (PflBG) offers the opportunity to complete training in the occupation of qualified nurse on a part-time basis. This mode allows the training to be extended up to a period of five years. Very little use was made of the opportunity of part-time training in the survey years of 2020 and 2021. The proportion of newly concluded part-time contracts was around 1% in each case. Two types of funding are possible for trainees within the scope of nursing training.

- Trainees may receive support with the costs of continuing training pursuant to § 81 A6 SGB. In 2021, around 6% of trainees with a newly concluded training contract were funded in this way.
- In addition to this, an application for funding may also be submitted under § 16 SGB II in conjunction with § 81 SGB III, which finance measures for the integration of job seekers. Very few trainees have availed themselves of these subsidies thus far (less than 1% in 2021). With regard to provision of the practical training, a distinction is drawn between public, private and non-profit providers. Data only exists for the year 2021 in this case since this characteristic was not included until the second reporting year. The proportion of nursing schools run by non-profit providers was 49% in 2021. Around 29% were operated by public providers. 22% of nursing schools had private sector providers.

Training programmes governed by federal state law (outside BBiG/HwO)

The following remarks concern only training programmes not included in the healthcare, education and social occupations described above which lead to a qualification pursuant to federal state law. These federal state-regulated training programmes mostly culminate in a "state certified assistant" qualification (sometimes referred to as "state-recognised") and are thus frequently designated as "assistant training". Such courses are usually aimed at pupils who have achieved an intermediate secondary school-leaving certificate. This field is characterised by a wide range of different training programmes. Classic areas of provision include laboratory technology, communication and design technology, secretarial work and foreign languages.

The precise number of training occupations under federal state law cannot be precisely identified because the titles used by the KMK for vocational qualifications governed by federal state law are not clearly reflected in the specialist series of publications relating to "Vocational schools" produced by the Federal Statistical Office. If the specialist publication series list of training courses governed by federal state law is adjusted for healthcare, education and social occupations at full-time vocational schools, around 90 occupations remain. VET is often designed in a way typical to the federal state and is only represented in that federal state. There are, however, also training programmes which are offered in the same way in more than one federal state, such as state-certified technical biological assistant (in eleven of the 16 federal states).

→ **Table A6.1.2-2** presents the ten most popular training occupations for 2021/2022 school year. Training in a rec-

Table A6.1.2-2: **Popular school-based training programmes pursuant to federal state law (LR)[1], pupils in the first school year 2021/2022**

KldB 2010	Occupational title	Total[2]	Proportion female (in %)	Proportion in LR occupations 2021 (%)[3]	Federal states (number)
23212	Design assistant	2,854	61.8	10.0	BE, BB, HB, HH, MV, NI, NW, RP, ST, TH (10)
43102	Assistant – IT (general IT)	2,827	6.1	9.9	BE, BY, NI, NW, RP, ST (6)
71302	Commercial assistant – business administration	2,632	42.7	9.3	BE, NW, RP, TH (4)
83212	Housekeeping assistant	1,712	72.8	6.0	BW, BY, BE, NW, RP (5)
43112	Commercial assistant – data processing	1,394	34.9	4.9	BE, HB, HE, NI, NW, ST (6)
41212	Biological technical assistant	1,302	57.3	4.6	BW, BY, BE, BB, HB, HH, HE, NI, NW, RP, TH (11)
41322	Pharmaceutical technical assistant	1,224	42.1	4.3	BW, BY, BE, HB, HH, HE, NI, NW, ST, TH (10)
71412	Commercial assistant – foreign languages	957	65.4	3.4	BE, HB, HH, HE, NI, NW, ST (7)
23222	Designer (training) – graphics	924	73.4	3.3	BW, BE, HB (3)
73332	Assistant – technical communication	803	14.7	2.8	BW (1)

[1] Does not include training courses in the healthcare, education and social sectors.
[2] Occupational title not always available for Baden-Württemberg. No allocation is possible for Schleswig-Holstein.
[3] Total of school-based training courses according to federal state law from the integrated Training Reporting System 2021 (accounts I 03 + I 04) = 28,421.

Source: Federal Statistical Office Statistical Reports: Vocational schools and healthcare sector schools – occupational titles, School year 2021/2022, Tables 21121-10 (Data status: 22.12.2022); Integrated Training Reporting System 2021 (Data status: 20.03.2023)

Table A6.1.2-3: **Popular school-based training programmes pursuant to BBiG/HwO, pupils in the first school year 2021/2022**

KldB 2010	Occupational title[1]	Total	Proportion female (in %)	Share of all school-based BBiG/HwO professions 2021[2] (%)	Federal states (number)
82322	Beautician	1,024	98.6	16.6	BW, MV, NI, NW, SN, ST, TH (7)
71402	Office manager	756	50.7	12.3	BY, BE (2)
72112	Bank clerk	623	54.4	10.1	BW (1)
71302	Industrial clerk	243	49.8	3.9	BW, BE (2)
28222	Tailor	235	80.0	3.8	HE, NW, RP (3)
72132	Insurance and financial services broker	187	54.5	3.0	BW (1)
28222	Textile and apparel sewers	180	81.7	2.9	BY, BE (2)
83212	Housekeeper	145	84.8	2.4	BY, HH, HE, NW (4)
25212	Motor vehicles mechatronics technician – automotive technology	133	14.3	2.2	BW (1)
93312	Wood sculptor	110	66.4	1.8	BY, HE, SH, TH (4)

[1] Occupational title not always available for Baden-Württemberg.
[2] Total of all school-based BBiG/HwO occupations in 2021 in = 6,155.

Source: Federal Statistical Office Statistical Reports: Vocational schools and healthcare sector schools – occupational titles, school year 2021/2022 (Tables 21121-09 (Data status: 22.12.2022).

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ognised training occupation pursuant to the BBiG/HwO is normally conducted in dual form, i.e. at the company and at a part-time vocational school. In addition to this, exceptions are included in both the BBiG and the HwO, which permit full-time school-based training at vocational schools where training contents are implemented according to the recognised general training plans. There are two regulations in place to facilitate full-time school-based training in accordance with BBiG/HwO.

1. The first of these is equivalence of examination certificates (§ 50 Paragraph 1 BBiG or § 40 Paragraph 1 HwO). The examination certificate acquired at the full-time vocational school is accorded equivalent status with a certificate attesting a pass in the final/journeyman examination in a recognised training occupation.
2. The second regulation concerns admission to the final examination (cf. § 43 Paragraph 2 BBiG). The vocational education and training concludes with an external final examination, which is conducted by a chamber of crafts and trades/chamber of commerce and industry. Persons who have completed training at a vocational school are admitted to the final examination if this programme is equivalent to vocational education and training in a recognised training occupation.

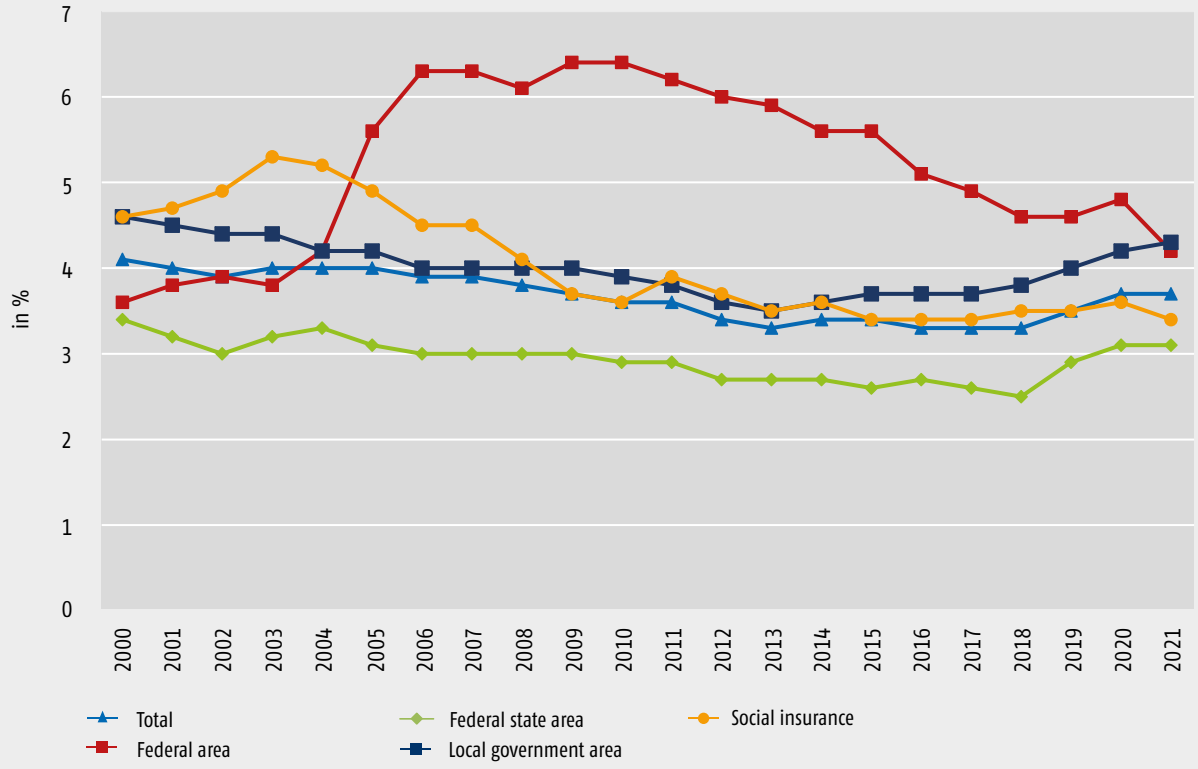
Vocational education and training at full-time vocational schools pursuant to BBiG/HwO is strongly characterised by the occupations depicted in → **Table A6.1.2-3**. Pupils in the occupations listed account for around 60% of all pupils in the first school year in 2021/2022.

A6.2 Training in the public sector

In the public sector, training takes place in special public sector occupations as well as, for example, in occupations which are registered with the chambers of commerce and industry and chambers of crafts and trades and in healthcare occupations. The human resources statistics of the Federal Statistical Office also count civil servants in preparatory training, candidates and aspirants as staff in training.

According to this extended delineation, around 272,400 persons were in training in the public sector as of the cut-off date of 30 June 2021 (Federal Government, federal states, local government, local government associations, social insurance providers, the Federal Employment

Chart A6.2-1: **Development of training rates[1] in the public sector 2000 to 2021 (in %)**



[1] Trainees not in civil service training and undergoing training within the scope of or subsequent to a course of higher education study as a ratio of the full-time equivalent of employed staff subject to mandatory social insurance contributions.

Source: Federal Statistical Office, special evaluation of the human resources statistics

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Agency (BA) and legally independent institutions under public law). 146,900 persons were completing civil service training. 24,400 had concluded a training contract within the scope of or subsequent to a course of higher education study without being taken on as a civil servant (e.g. trainee lawyers). 101,100 trainees were registered for the remaining training occupations. These primarily comprise training programmes for healthcare professions pursuant to the Vocational Training Act (BBiG) and for nursery school teachers. In the following remarks, the term "trainees" refers only to the group of persons mentioned above.

As a ratio of the full-time equivalent of employees in the public sector subject to mandatory social insurance contributions, these 101,100 trainees represent a training rate of 3.7% as of the cut-off date of 30 June 2021. There was a relatively high number of training contracts in the Federal Government sector and in the local government sector, where the training rate was 4.2% and 4.3%, respectively. The rate in the federal state sector was 3.1%, and the rate in the social insurance sector was 3.4%.

Although the training rate in the public sector has fallen in overall terms since the year 2000, it has risen in the most current three years up until mid-2021. Development has varied in the individual employment areas since 2000. Whereas a decrease was recorded for the federal states and for local government authorities, a recruitment campaign undertaken by the Federal Government led to a considerable rise in the training rate. After virtually doubling between 2000 and 2010, the training rate subsequently declined once more with the exception of the years 2020 and 2021. The social insurance training rate fell between the years 2004 and 2010. The main reasons for this were fewer training contracts at health and pension insurance companies and rising numbers of employees at the BA during this period. One major cause of the decline in the local government area was the disincorporation of local government hospitals from the public sector. As of mid-2021, 26,200 training places in the public sector were located at hospitals, sanatoriums and university clinics. The rise in the training rate in the local government and federal state areas, which has been observable over recent years, can be explained by increased training at child daycare centres and at university clinics.

Women made up 64.7% of trainees in the public sector and were thus in a clear majority. This proportion has fallen by 3.8 percentage points since 2007. A preceding decrease was also partially due to the disincorporation of hospitals.

A6.3 Dual courses of higher education study

The creation of new approaches to permeability between academic and vocational training is a highly topical issue. Combining higher education with occupational practice or vocational education and training with higher education contents is of great importance in this regard. More and more companies are actively offering dual courses of higher education study on the training market in order to provide young people and young adults with attractive career prospects and to secure their long-term loyalty as well-trained skilled workers. Dual higher education study is an appealing option within the German education and training system for those interested in training who wish their higher education study to relate more closely to practice.

The data for 2022 shows a constant upward trend in dual higher education study. A retrospective consideration of the figures from TrainingPlus (see Information Box) reveals a positive development in the number of courses of dual higher education study, in the number of registered students and in the number of cooperating companies involved. We see that, since data evaluations of courses of dual higher education study began in 2004, the number has more than trebled from an initial 512 registered programmes to 1,749 in 2022. In 2022, the institutes of higher education stated that they were cooperating with 56,852 practice partners. This figure also represents a trebling. The same applies in respect of students completing a course of dual higher education study. In this case, too, numbers have increased threefold over the 18 years. Current developments in the area of dual higher education study include the implementation of a new accreditation system with a particular "dual" profile objective derived from a resolution proposal submitted to the BIBB Board by the Bundestag and the recording of differentiated data in respect of the training contracts of dual trainees.

In its latest reporting, the BIBB has introduced a subject-based system which is aligned to the system of the Federal Statistical Office. This takes account of developments in the spectrum of provision of dual courses of higher education study and creates a system with connectivity to Destatis. According to this new subject-based system, the following picture is revealed for the number of dual courses of higher education study in the subject groups → Table A6.3-1.

Information Box – database of the specialist portal "TrainingPlus"

The BIBB's specialist portal "TrainingPlus", which the institute has been operating independently since 2015, offers a comprehensive information system for dual courses of higher education study and for additional qualifications in initial vocational education and training. The core of the portal is a database, which details provision from institutes of higher education and cooperating companies/practical institutions from all over the country. 1,749 dual courses of higher education study and around 2,300 additional qualifications are currently registered in the database (as of February 2022). TrainingPlus is a free information system. Changes to dual courses of higher education study and to additional qualifications are analysed annually, and reports containing facts and figures and data on specially selected main topic focuses are published on an ongoing basis.

The data recorded is based on the voluntary supply of information by the providers. For this reason, the data situation cannot be assumed to be reliable in every case.

Table A6.3-1: **Number of dual study courses by subject groups 2022 (absolute and in %)**

Subject group	Number	in %
Engineering sciences	805	46.0
Law, economics and social sciences	783	44.8
Health sciences	121	6.9
Agricultural, forestry and food sciences	16	0.9
Sport	9	0.5
Art, art sciences	9	0.5
Mathematics/natural sciences	5	0.3
Humanities	1	0.1
Total	**1,749**	**100.0**

Source: Training Plus database (status: February 2022)

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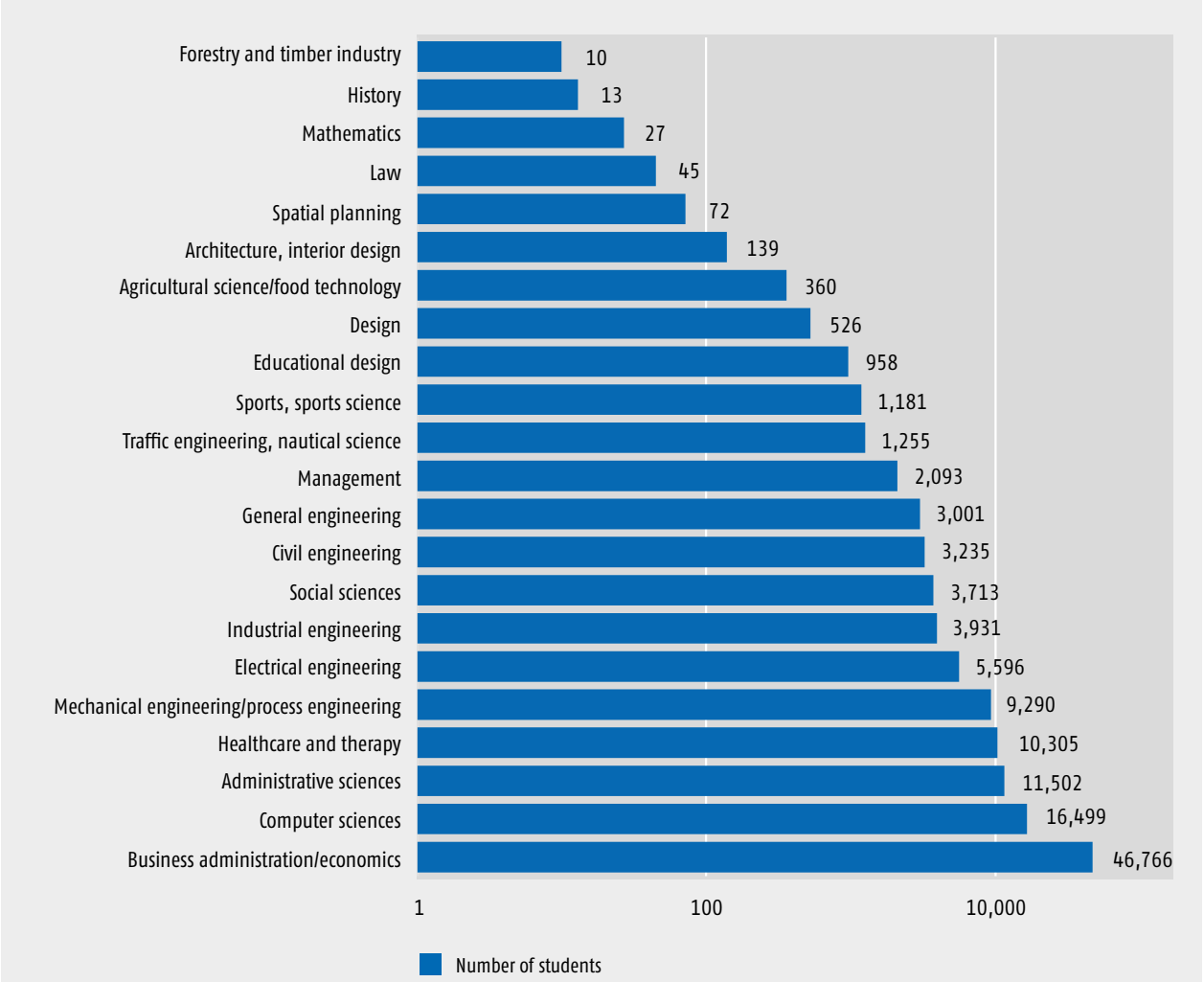
Chart A6.3-1: **Number of students in initial training by field of study in 2022**



Note: The values in the diagram are shown on a logarithmic scale.
Source: TrainingPlus database (as of February 2022)

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An evaluation of the entries in the TrainingPlus database by the criterion of the highest number of participating students shows a focus on two favourites which are placed closely together in the ranking of the subject groups. These are law, economics and social sciences and engineering → **Chart A6.3-1**.

A7 Company participation in training

A7.1 Company participation in training – results of the Employment Statistics of the BA

Participation by trade and industry in the company-based training of young people and young adults declined once more in the 2021 reporting year. Both the total number of companies providing training and the total number of trainees fell compared to the previous year. At the start of the coronavirus pandemic in the 2020 reporting year, decreases in numbers of companies and of employees were recorded. A slight rise then occurred in 2021. In overall terms, this seems to indicate a reinforcement of the trend of recent years for contrary developments in the labour market and the training market. However, this does not apply to all company size categories, economic sectors and federal states. As was also the case in the past years, losses in participation in training by companies are, for example, primarily occurring in the area of the smallest category of companies, whereas major companies are tending to expand their training activity.

Information Box – Definitions and indicators for company participation in training

Employees subject to mandatory social insurance contributions include all employees (including trainees) who are liable for health insurance, pension insurance, long-term care insurance contributions under the law of employment support or for whom the employer is required to make contributions.

Trainees encompass all employees in training who are subject to mandatory social insurance contributions and who have been reported to the BA via the groups of persons codes 102, 121, 122, 141 and 144. These are usually trainees whose training contract is governed by the provisions of the Vocational Training Act, BBiG, or the Craft and Trades Regulation Code, HwO, or who are completing vocational education and training on maritime ships sailing under a German flag. Relatively broadly defined alignment criteria mean that trainees in the healthcare sector whose training is not governed by the BBiG or HwO are also included. As a result, the total number of trainees on the basis of the Employee Statistics is usually higher than the total number of trainees in the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states. This is because the population of trainees only includes persons who have a training contract in force pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO) as of the cut-off date of 31 December each year.

The **rate of companies providing training** measures the number of companies providing training as a proportion of all companies with employees subject to mandatory social insurance contributions including companies providing training. In calculating the rate of companies providing training, no differentiation is made between companies entitled to provide training and companies not entitled to provide training.

The **training rate** denotes the proportion of trainees expressed as a percentage of all employees subject to mandatory social insurance contributions including trainees.

Participation in training by companies in Germany

According to the employment statistics of the Federal Employment Agency, around 416,700 companies out of just over 2.2 million companies in Germany with at least one employee subject to mandatory social insurance contributions (see Information Box) were participating in the vocational training of young people as of 31 December 2021. Similar to the previous years, the number of companies providing training decreased in 2021 and fell by around 3,000 (0.7%) compared to 2020. By way of contrast, the total population of companies rose in 2021 by approximately 18,000 (+0.8%) compared to the previous year. Following a one-off decrease in the number of companies in the wake of the coronavirus pandemic in 2020, the trend seen over previous years for the number of companies to increase continuously now seems to have resumed. In light of the contrary development of the numbers of companies and trainees, the rate of companies providing training (see Information Box) fell compared to the previous year by 0.3 percentage points to 19.1% → **Table A7.1-1**. Similar developments are revealed in the number of trainees and employees. The training rate (see Information Box) was 4.7%, a slight fall compared to the previous year (0.1 percentage points).

In national terms, there were 14,000 fewer trainees (-0.9%) in 2021 than in the previous year. By way of contrast, the number of employees subject to mandatory social insurance contributions increased by around 584,000 to 34.3 million (+1.7%) → **Table A7.1-2**. After the slight fall in 2020, the continuing increase in the employee figures resumed in 2021. In 2021, there were thus more employees subject to mandatory social insurance contributions nationally than prior to the start of

Table A7.1-1: **Companies, companies providing training, and rate of companies providing training by company size, Germany 2007, 2020 and 2021**

Company size categories	Companies				Companies providing training				Proportion of companies providing training			
	2007	2020	2021	2020-2021	2007	2020	2021	2020-2021	2007	2020	2021	2020-2021
	Absolute	Absolute	Absolute	in %	Absolute	Absolute	Absolute	in %	in %	in %	in %	In percentage points
1 to 4 employees	1,287,579	1,273,878	1,279,246	0.4	152,354	79,718	76,280	-4.3	11.8	6.3	6.0	-0.3
5 to 9 employees	346,210	385,983	389,527	0.9	122,903	97,497	96,245	-1.3	35.5	25.3	24.7	-0.6
Smallest category of company	**1,633,789**	**1,659,861**	**1,668,773**	**0.5**	**275,257**	**177,215**	**172,525**	**-2.6**	**16.8**	**10.7**	**10.3**	**-0.3**
10 to 19 employees	189,054	233,348	237,597	1.8	84,599	88,472	89,010	0.6	44.7	37.9	37.5	-0.5
20 to 49 employees	123,463	159,650	162,703	1.9	66,680	78,504	79,057	0.7	54.0	49.2	48.6	-0.6
Small companies	**312,517**	**392,998**	**400,300**	**1.9**	**151,279**	**166,976**	**168,067**	**0.7**	**48.4**	**42.5**	**42.0**	**-0.5**
50 to 99 employees	46,869	58,582	59,364	1.3	30,575	36,525	36,616	0.2	65.2	62.3	61.7	-0.7
100 to 249 employees	28,605	35,169	35,771	1.7	21,155	25,151	25,377	0.9	74.0	71.5	70.9	-0.6
Medium-sized companies	**75,474**	**93,751**	**95,135**	**1.5**	**51,730**	**61,676**	**61,993**	**0.5**	**68.5**	**65.8**	**65.2**	**-0.6**
Small/medium-sized companies overall	**2,021,780**	**2,146,610**	**2,164,208**	**0.8**	**478,266**	**405,867**	**402,585**	**-0.8**	**23.7**	**18.9**	**18.6**	**-0.3**
250 to 499 employees	8,661	10,545	10,793	2.4	7,146	8,369	8,536	2.0	82.5	79.4	79.1	-0.3
500 or more employees	5,070	6,339	6,516	2.8	4,478	5,447	5,572	2.3	88.3	85.9	85.5	-0.4
Large companies	**13,731**	**16,884**	**17,309**	**2.5**	**11,624**	**13,816**	**14,108**	**2.1**	**84.7**	**81.8**	**81.5**	**-0.3**
Total	**2,035,511**	**2,163,494**	**2,181,517**	**0.8**	**489,890**	**419,683**	**416,693**	**-0.7**	**24.1**	**19.4**	**19.1**	**-0.3**

Source: Revised employment statistics of the Federal Employment Agency, cut-off day 31 December in each case; Calculations by the Federal Institute for Vocational Education and Training

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the coronavirus pandemic in 2019, when the figure was around 33.7 million.

Development of company participation in training by company size categories

Developments in the total numbers of trainees or in training rates by company size categories confirm that training activity in the area of the smallest category of companies is declining more sharply than in other company size categories. In 2021, the number of trainees at the smallest category of company with up to nine employees fell from just under 238,000 to 232,000 (-2.5%) → **Table A7.1-2**. Medium-sized companies and large companies with up to 499 employees also trained fewer trainees in 2021 than in the previous year.

A comparison between the individual economic sectors reveals large differences in the rates of companies providing training and training rates and in the way these have developed. In national terms, the rate of companies providing training has only risen in the construction, education and teaching and nursing services sectors. It has either fallen or remained unchanged in all other economic sectors. With regard to changes in the total number of companies and of companies providing training, the most conspicuous aspect is the sharp fall in companies providing training in the accommodation and hospitality sector, in the metalworking and electrical industries and in other personal services (between -4.0% and -6.2%). This was accompanied by a significant decrease in the number of trainees in these economic sectors (between -6.4% and -8.0%). The training rate also fell by up to 0.5 percentage points in these economic sectors because employee numbers moved in the opposite direction to the number of trainees by developing positively in overall terms (with the exception of engineering and vehicle manufacture and agriculture/mining). On the other hand, the total number of trainees rose in 2021 compared to the previous year (by between +1.2% and +4.0%) in the construction industry, in education and teaching, in nursing and medical services and in the public sector. Training rates barely changed because changes to the number of trainees largely occurred in parallel to changes in the employee numbers.

Table A7.1-2: **Employees, trainees, and training rates by company size, Germany 2007, 2020 and 2021**

Company size categories	Employees				Trainees				Training rate			
	2007	2020	2021	2020-2021	2007	2020	2021	2020-2021	2007	2020	2021	2020-2021
	Absolute	Absolute	Absolute	in %	Absolute	Absolute	Absolute	in %	in %	in %	in %	in percentage points
1 to 4 employees	2,459,157	2.436,120	2,446,395	0.4	180,883	92,351	88,455	-4.4	7.4	3.8	3.6	-0.2
5 to 9 employees	2,256,110	2,534,755	2,559,321	1.0	199,591	145,420	143,407	-1.4	8.8	5.7	5.6	-0.1
Smallest category of company	**4,715,267**	**4,970,875**	**5,005,716**	**0.7**	**380,474**	**237,771**	**231,862**	**-2.5**	**8.1**	**4.8**	**4.6**	**-0.2**
10 to 19 employees	2,534,591	3,140,740	3,199,880	1.8	196,531	180,709	181,189	0.3	7.8	5.8	5.7	-0.1
20 to 49 employees	3,748,393	4,835,658	4,930,541	1.9	248,470	252,272	252,400	0.1	6.6	5.2	5.1	-0.1
Small companies	**6,282,984**	**7,976,398**	**8,130,421**	**1.9**	**445,001**	**432,981**	**433,589**	**0.1**	**7.1**	**5.4**	**5.3**	**-0.1**
50 to 99 employees	3,241,608	4,061,003	4,109,675	1.2	194,831	200,779	196,310	-2.3	6.0	4.9	4.8	-0.2
100 to 249 employees	4,327,987	5,325,558	5,395,928	1.3	255,781	243,156	236,924	-2.6	5.9	4.6	4.4	-0.2
Medium-sized companies	**7,569,595**	**9,386,561**	**9,505,603**	**1.3**	**450,612**	**443,935**	**433,234**	**-2.5**	**6.0**	**4.7**	**4.6**	**-0.2**
Small/medium-sized companies overall	**18,567,846**	**22,333,834**	**22,641,740**	**1.4**	**1,276,087**	**1.114,687**	**1,098,685**	**-1.5**	**6.9**	**5.0**	**4.9**	**-0.1**
250 to 499 employees	2,975,000	3,639,302	3,714,439	2.0	183,254	157,540	156,033	-1.0	6.2	4.3	4.2	-0.1
500 or more employees	5,922,466	7,727,148	7,928,188	2.5	314,993	344,098	347,545	1.0	5.3	4.5	4.4	-0.1
Large companies	**8,897,466**	**11,366,450**	**11,642,627**	**2.4**	**498,247**	**501,638**	**503,578**	**0.4**	**5.6**	**4.4**	**4.3**	**-0.1**
Total	**27,465,312**	**33,700,284**	**34,284,367**	**1.7**	**1,774,334**	**1,616,325**	**1,602,263**	**-0.9**	**6.5**	**4.8**	**4.7**	**-0.1**

ource: Revised employment statistics of the Federal Employment Agency, cut-off day 31 December in each case;
Calculations by the Federal Institute for Vocational Education and Training

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A7.2 Company participation in training – results from the BIBB Training Panel

Company-based training plays a key role in covering the skilled worker requirements of firms and companies in Germany. Despite a growing shortage of young qualified skilled workers, the number of companies providing training has been falling for years. This development continued and was exacerbated in some cases during the coronavirus pandemic. Only 416,700 companies out of a total of 2.2 million companies with employees subject to mandatory social insurance contributions were still training young people and young adults at the end of 2021. This meant that the proportion of companies providing training was 19.1%, a repeated fall compared to the previous year. This brief section uses the BIBB Establishment Panel on Training and Competency Development (see Annex – Data sources) to investigate and contrast company participation in training in the last two training years[18] 2020/2021 and 2021/2022.

The average proportion of companies which offered training places pursuant to the BBiG/HwO for the 2021/2022 training year was 20% → **Table A7.2-1**. This meant that one in five of the total of 2.2 million companies in Germany offered training places for young people and young adults in the 2021/2022 training year. In the second training year since the start of the coronavirus pandemic, company provision of training places thus rose slightly compared to the previous year (19%). A differentiation by structural characteristics shows that the proportion of companies with training provision compared to the previous year rose in particular amongst large companies with 200 or more employees (from 76% to 82%). Against the background that the proportion of large companies with training provision declined significantly (from 80% to 76%) at the beginning of the coronavirus

18 The indicators collected by the BIBB Training Panel relate to the supply of training places, new recruitments and unfilled training places for the respective training year. In the case of training places for the 2021/2022 training year, this includes, for example, training places which were commenced as of 1 August 2021 (or later).

Table A7.2-1: **Indicators of company participation in training by structural characteristics in 2020/2021 and 2021/2022 (in %)**

	Companies with training places on offer		Companies with new hires				Companies with (partially) unfilled training places			
	Proportion of all companies (in %)		Proportion of all companies (in %)		Proportion of companies with training places on offer (%)		Proportion of all companies (in %)		Proportion of companies with training places on offer (%)	
	2020/2021	2021/2022	2020/2021	2021/2022	2020/2021[1]	2021/2022	2020/2021	2021/2022	2020/2021[1]	2021/2022
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10
Company size classifications										
1 to 19 employees	14	15	6	6	38	41	7	8	51	53
20 to 99 employees	48	46	34	33	70	71	20	20	42	44
100 to 199 employees	65	66	55	59	86	89	19	22	29	33
200 or more employees	76	82	69	69	91	84	19	32	26	39
Economic sector										
Primary sector	18	19	11	11	59	59	8	8	43	41
Manufacturing industry	28	29	19	17	68	61	12	14	40	51
Construction	33	30	16	12	49	40	15	17	46	55
Trade and repairs	19	25	9	12	51	46	10	14	52	57
Company-related services	16	14	7	6	47	44	8	8	49	57
Personal services	13	13	6	6	47	50	6	7	49	55
Medical and nursing services	20	23	16	17	51	75	6	5	40	21
Public services	14	13	9	10	62	82	5	4	34	30
For information only: Chamber affiliation										
Chamber of commerce and industry	17	19	9	10	55	56	9	10	51	51
Chamber of crafts and trades	28	28	14	12	49	42	13	16	48	56
Other chambers total	20	23	14	13	54	58	6	8	38	37
Total	**19**	**20**	**10**	**10**	**52**	**52**	**9**	**10**	**47**	**50**

[1] Due to insufficient numbers of cases in the corresponding data layers, small companies (1 to 19 employees) in the field of "medical and nursing services" are not included in the analyses within the groups of companies with training places on offer.

Source: BIBB establishment panel on training and competence development survey waves 2021 and 2022, cross-sectionally weighted and extrapolated results

pandemic, i.e. in the 2020/2021 training year, the need for trainees within this group of companies seems to have stabilised once more or risen slightly. There was also a corresponding slight increase (by one percentage point in each case) in participation in training by small companies with up to 19 employees and medium-sized companies with between 100 and 199 employees. Differentiation by economic sectors (see Information Box) makes it clear from the outset that, as in the past, manufacturing industry (29%) and construction (30%) are more likely to have large numbers of companies providing training or with a requirement for a young skilled workforce which they have trained themselves.

Information Box – Classification of economic sectors in the BIBB Training Panel

- Primary sector (agriculture/forestry, mining, energy/water supply, waste industry)
- Manufacturing industry (manufacture of chemical and pharmaceutical products, electrical, metal working and engineering sectors, vehicle manufacture, manufacture of other goods such as wood, paper, foodstuffs, textiles)
- Construction sector (building and civil engineering, preparatory construction site and installation works)
- Trade and repairs (motor vehicles trade, wholesale and retail, repairs sector)
- Company-related services (financial, legal and housing sector services, research/development, architectural and engineering firms, advertising/market research, temporary employment, travel, security sector)
- Person-related services (accommodation, hospitality, information and communications, transport, warehousing sector, hairdressing, other personal services)
- Medical and nursing services (healthcare, social services, doctor's surgeries, clinics, homes)
- Public services (public administration, education, teaching, associations, lobbying groups, non-profit organisations)

Despite a willingness to provide training, companies have differing degrees of success in the recruitment of new trainees. Taking the total population of all companies in Germany as a basis, about one in ten companies recruited new trainees for the 2021/2022 training year, the same proportion as in the previous year. If just companies providing training are considered, it is revealed that only just over one in two (52%) companies with training provision succeeded in filling at least one training place.

In the 2021/2022 training year, the proportion of large companies with 200 or more employees rose sharply compared with the previous year's figure (from 26% to 39%). It now also exceeds the proportional value of companies with between 100 and 199 employees (33%). In the wake of the coronavirus pandemic, recruitment difficulties thus appear to have become exacerbated at large companies in particular.

In overall terms, the analyses show that companies are continuing to seek to cover their skilled worker requirements via their own company-based training by making relevant provision of training places available. Nevertheless, recruitment difficulties on the training market are increasing significantly and are now no longer merely affecting certain company groups such as small companies. These recruitment problems appear, instead, to be spreading to other company groups to a greater extent.

A7.3 Training staff in company-based training

The statutory provisions stipulate that trainers who are responsible for the planning and implementation of training in the dual system must be able to demonstrate their personal and professional aptitude. This applies both to occupational knowledge, skills and competencies and to occupational and vocational teaching qualifications. Evidence is mostly provided via an examination pursuant to the Ordinance on Trainer Aptitude (AEVO) (see 2019 Data Report, p. 45). Skilled workers providing training support are exempted from this regulation. The trainers responsible for training are registered with the competent bodies. At small and medium sized-companies, trainers will frequently deliver training in addition to carrying out their other tasks. Major companies are more likely to employ full-time trainers.

In 2021, a total of 92,685 persons took part in trainer aptitude examinations conducted in the areas of training of trade and industry, the craft trades, agriculture, the public sector and housekeeping, 60,777 men and 31,905 women. 83,880 candidates passed the examination, representing a pass rate of 90.5%. The proportion of women amongst the successful candidates was 35.1%. In the second year of the coronavirus pandemic, the number of AEVO examinations again increased significantly compared to the previous year by 9,660. 30,210 registered trainers were exempted from the AEVO examination and were thus not required to demonstrate their professional aptitude. 25,290 of these were from the area of trade and industry.

In the year 2021, 40,560 persons participated in master craftsman examinations in the areas of trade and industry, the craft trades, agriculture, the public sector and

Table A7.3-1: **Master craftsman examinations passed in 2019, 2020 and 2021 by training areas and gender**

Training area	Total						Gender											
	2019		2020		2021		2019				2020				2021			
							Male		Female		Male		Female		Male		Female	
	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Trade and industry	12,750	36.5	12,339	38.1	13,305	38.3	11,910	93.4	840	6.6	11,379	92.2	960	7.8	12,330	92.7	975	7.3
Craft trades	20,040	57.4	18,237	56.3	19,566	56.3	16,644	83.1	3,393	16.9	14,976	82.1	3,258	17.9	15,903	81.3	3,663	18.7
Agriculture	1,707	4.9	1.374	4.2	1,470	4.2	1,407	82.4	300	17.6	1,116	81.2	258	18.8	1,212	82.4	258	17.6
Public sector	306	0.9	291	0.9	285	0.8	273	89.2	33	10.8	249	85.6	42	14.4	237	83.2	48	16.8
Housekeeping	96	0.3	153	0.5	120	0.3	3	3.1	93	96.9	3	2.0	150	98.0	-	-	120	100.0
Total	**34,899**	**100.0**	**32,394**	**100.0**	**34,746**	**100.0**	**30,234**	**86.6**	**4,662**	**13.4**	**27,723**	**85.6**	**4,668**	**14.4**	**29,682**	**85.4**	**5,064**	**14.6**

Source: Federal Statistical Office, Specialist Publications 11, Series 3. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training. Gender: "Male, female, other" and "no gender entry in birth register" (due to the extremely low case numbers, the last two options are assigned to the category "male" for publications by the Federal Statistical Office for the 2021 reporting year; the BIBB follows this practice)

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Table A7.3-2: **Number of trainers from 2012 to 2021 by areas of training**

Training area	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Trade and industry	290,763	290,136	288,633	287,211	291,891	295,998	303,453	304,788	299,454	296,859
Craft trades	241,956	233,682	227,496	223,719	220,434	207,468	208,380	207,228	199,158	200,571
Agriculture	23,226	23,337	23,541	23,709	23,667	23,853	24,036	24,348	24,045	23,601
Public sector	20,709	20,349	19,077	19,176	19,503	19,776	19,287	19,008	18,087	18,219
Liberal professions	92,160	91,554	90,855	90,588	88,785	86,214	86,508	84,936	84,879	86,640
Housekeeping	3,168	3,090	3,012	2,919	2,868	2,769	2,772	2,715	2,274	2,388
Total	**671,985**	**662,148**	**652,617**	**647,322**	**647,148**	**636,078**	**644,436**	**643,023**	**627,897**	**628,281**
Women	162,447	162,123	160,983	162,534	164,205	163,281	166,608	166,650	163,179	162,975
Men	509,538	500,022	491,634	484,788	482,943	472,794	477,828	476,370	464,718	465,306

Source: Federal Statistical Office, Specialist Publications 11, Series 3. For reasons of data protection, absolute values are rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training. Gender: "Male, female, other" and "no gender entry in birth register" (due to the extremely low case numbers, the last two options are assigned to the category "male" for publications by the Federal Statistical Office for the 2021 reporting year; the BIBB follows this practice)

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housekeeping (86.3% men and 13.7% women). 34,746 candidates passed the examination. The pass rate was thus 85.7% → **Table A7.3-1**. In 2021, the total number of registered trainers in the training areas of trade and industry, the craft trades, agriculture, the public sector, the liberal professions and housekeeping in Germany was 628,281. 47.2% were in the area of trade and industry, 31.9% in the craft trades and a further 13.8% in the liberal professions. The figures for agriculture, the public sector and housekeeping were 3.8%, 2.9% and 0.4%, respectively. The overall number rose slightly by 384 compared to the previous year → **Table A7.3-1**.

The following picture emerges in respect of the age distribution of training staff. The largest group of training staff was made up by persons aged over 50 (50.6%), followed by persons aged between 40 to 49 (23.9%), and persons aged between 30 and 39 (20.3%). 5.2% were under 30. There were 162,974 registered female trainers, a proportion of 25.9%. The proportion of female trainers was higher than that of male trainers in the younger age groups. The proportion of male trainers was significantly higher in the group of those aged over 50.

A7.4 Use of technology at companies providing training and at companies not providing training – results from the BIBB Training Panel

In the early 2000s, the thesis was proposed that the deployment of new technologies would lead to an increase and an acceleration in technological change. However, current findings show that this assumption of an accelerated technological shift does not hold entirely true and that the changes in the world of work are less drastic than expected. Irrespective of the speed of the technological shift, it is nevertheless possible to ascertain that various technological developments have led to changes on the German labour market over recent years. A further factor is that, since the spring of 2020, the coronavirus pandemic has acted as a boost for some companies and employees but as a dampener of technological change for others. Large proportions of companies in Germany are certainly already using digital technologies for their work and business processes. In addition to this, the constantly advancing processes of the technological shift are not yet fully concluded and are leading to further innovations and expansions in the technological infrastructure. These ongoing technological changes are also associated with a need for employees who are prepared for such circumstances. One of the ways in which this requirement can be met is via continuing training. The company-based training system, which already aims to prepare trainees and those ultimately completing training for the digital world of work, is another important source of employees who have been made aware of how to deal with technological changes, especially with regard to the (impending) skilled worker shortage. Identifying the current status of digitalisation and the use of digital technologies can assist with the assessment of the further impacts of the technological shift. For this purpose, a special module of the BIBB Training Panel (see Information Box) has been surveying company use of various hardware and software components since 2016. This module was adjusted to the latest status of technology in 2020.

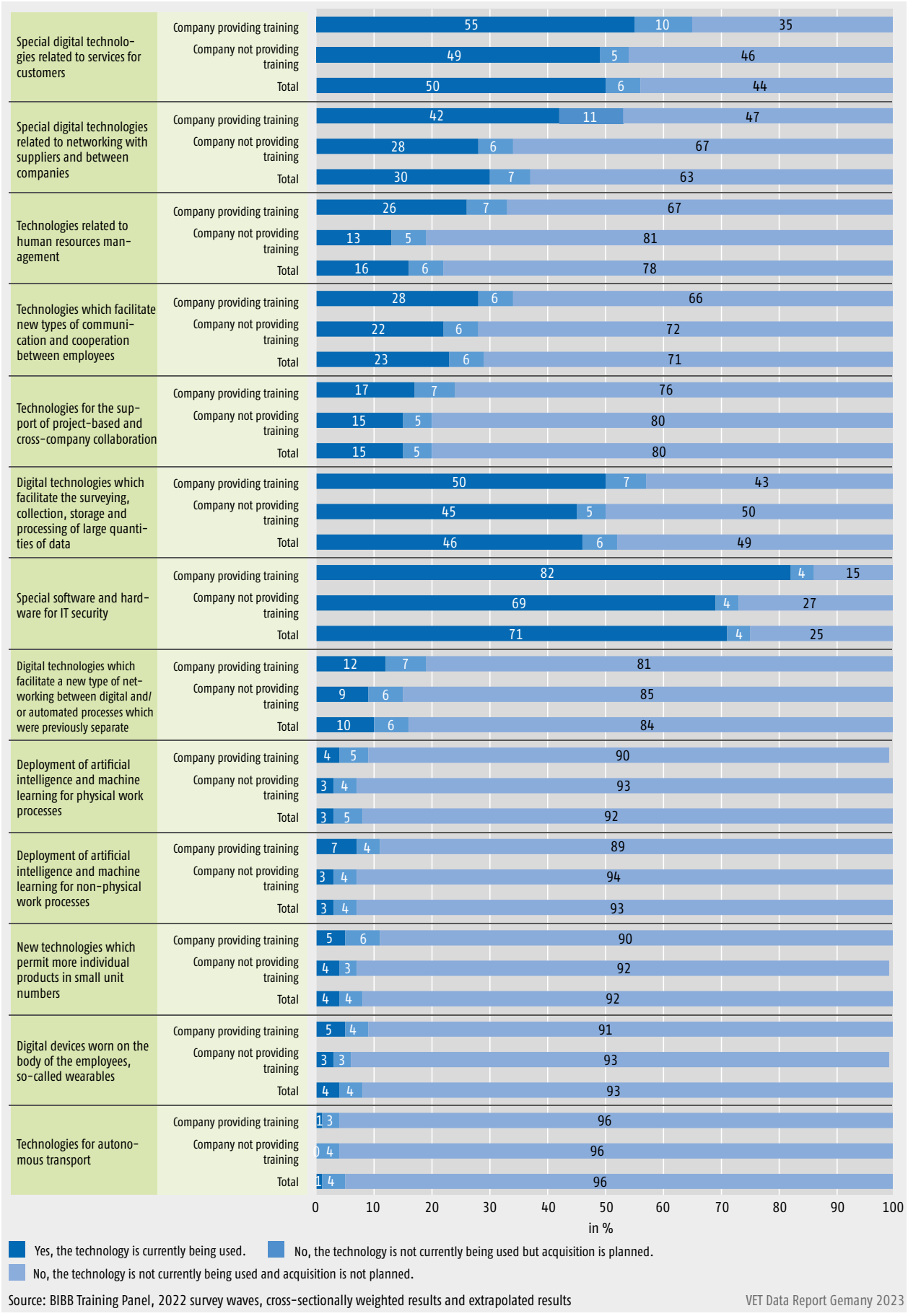
In order to provide an overview of the current status of digitalisation at companies providing training and companies not providing training, a comparison is made between use, non-use and planned use of digital technologies (software and hardware) → **Chart A7.4-1**. The figure shows that certain technologies, such as “special software and hardware for IT security” (71%) and “special digital technologies related to services for customers” (50%) are, similarly to last year, in place at a large number of companies. By way of contrast, the digital technologies frequently mentioned during the course of the digitalisation debate, such as AI, are rarely being deployed at companies, and only a small proportion of companies (4 to 5%) are planning the introduction of such technologies.

Information Box – Indicators for the measurement of digitalisation in the BIBB Training Panel

The BIBB Establishment Panel on Training and Competency Development (BIBB Training Panel – see Annex – Data sources) has been surveyed annually since its inception in 2011. This company survey is used to collect representative longitudinal data on the training activities of companies in Germany. Digitalisation of the world of work, involving a detailed recording of the current use of digital technologies, has been a main focus module of the survey since 2016. Since 2020, the measurement has encompassed the following technologies.

- Special digital technologies related to services for customers
- Special digital technologies related to networking with suppliers and between companies
- Technologies related to human resources management
- Technologies which facilitate new types of communication and cooperation between employees
- Technologies for the support of project-based and cross-company collaboration

Chart A7.4-1: **Deployment of digital technologies at companies providing training and at companies not providing training 2022 (in %)**



Source: BIBB Training Panel, 2022 survey waves, cross-sectionally weighted results and extrapolated results

Table A7.4-1: **Indicators of company participation in training by status of digitalisation of the company and structural characteristics 2022 (in %)**

	Company providing training			Training rate		
	Slight digitalisation	Average digitalisation	High digitalisation	Slight digitalisation	Average digitalisation	High digitalisation
1 to 19 employees	11	18	14	4	6	5
20 to 99 employees	41	55	61	5	6	7
100 to 199 employees	55	73	74	6	5	6
200 or more employees	89	78	80	4	4	5
Manufacturing industry, including:	21	35	30	5	7	4
Agriculture, forestry, mining	11	30	25	3	5	4
Manufacturing industry	24	39	73	5	5	6
Construction	22	34	17	6	8	3
Services, of which:	11	22	31	3	5	6
Trade and repairs	15	27	42	4	5	5
Company-related services	10	13	21	2	4	8
Personal services	8	15	19	4	4	5
Medical, nursing services	11	45	27	3	10	6
Public sector, education, teaching	7	19	31	3	3	2
Total	**13**	**24**	**31**	**4**	**6**	**5**

Sample interpretation: In 2022, in companies with average digitalisation, the share of companies providing training among all companies was 24%, and the share of trainees among all employees of the company was 6%.

Source: BIBB Training Panel, 2022 survey waves, cross-sectionally weighted results and extrapolated results VET Data Report Gemany 2023

- Digital technologies which facilitate the surveying, collection, storage and processing of large quantities of data
- Special software and hardware for IT security
- Digital technologies which facilitate a new type of networking between digital and/or automated processes which were previously separate
- Deployment of artificial intelligence and machine learning for physical work processes
- Deployment of artificial intelligence and machine learning for non-physical work processes
- New technologies which permit more individual products in small unit numbers
- Digital devices worn on the body of the employees, known as wearables
- Technologies for autonomous transport

The possible responses are whether the technology "is currently being used at the company", "is not currently being used but acquisition is planned", or "is not currently being used at the company and no acquisition is planned".

In overall terms, including when viewed by size categories, the main pattern displayed is that companies providing training are more likely to deploy digital technologies than companies not providing training. Major variances are also shown if technology use by companies is differentiated by sector. Technologies which tend to serve the purposes of networking and communication, such as "special technologies related to services for customers" and "technologies which facilitate new types of communication and cooperation between employees", are more likely to be used at companies in the service sector. On the other hand, "new technologies which permit more individual products in small unit numbers" and "technologies for autonomous transport" are more likely to be used at production companies (in particular in manufacturing industry). In overall terms, technologies associated with "deployment of artificial intelligence", with "digital devices worn on the body of the employees", and in particular with "autonomous transport" are not widespread in all companies and sectors.

Not all technologies are more likely to be deployed at companies providing training, although this was generally true. Increases and decreases vary widely between company size categories and sectors. Decreases

at companies providing training can be observed in the case of "new technologies which permit more individual products in small unit numbers" and "digital technologies which facilitate the surveying, collection, storage and processing of large quantities of data" (8 percentage points). On the other hand, "deployment of artificial intelligence and machine learning for physical work processes" rose significantly compared to 2021 at companies not providing training with at least 200 employees. These changes are interesting to the extent that these technologies in particular are often linked with the world of work of the future. A fundamental increase or decrease in the use of certain technologies cannot be excluded. In addition, the negative trends from 2021 to 2022 are different to those in earlier years. For this reason, developments should continue to be observed.

Company participation in training and status of digitalisation 2022

As in 2021 and the preceding years, a higher status of digitalisation (see Information Box) was shown to correlate with a higher rate of companies providing training. Large differences in the rate of companies providing training are revealed between companies with a low (13%), medium (24%) and high status of digitalisation (31%) → **Table A7.4-1**.

Information Box – Status of digitalisation 2022

In order to arrive at a quantitative estimation of the status of digitalisation of companies, the two possible responses regarding non-use of technologies surveyed in 2021 were firstly conflated in order to obtain a dummy variable. The number of technologies used per company were then aggregated. The third stage involved allocating the companies to a certain quartile depending on sectoral affiliation. The 25% of companies with the highest number of technologies are categorised as companies with "high digitalisation", whereas the category "low digitalisation" is composed of the 25% of companies with the fewest technologies compared to the rest of the sector. All companies in-between are allocated to the category of "medium digitalisation".

The training rate of companies with a medium status of digitalisation rose by one percentage point to 6% compared to the previous year and is the highest of the rates (companies with a high status of digitalisation: 5%). The values lie closely together in overall terms. Depending on company size category or sector, the highest training rate is at companies with a medium or high status of digitalisation. As in previous years, the data generally indicates a positive correlation between company participation in training and company status of digitalisation and use of digital technologies.

A8 Costs and financial funding of vocational education and training

A8.1 Training allowances in company-based training

Trainees in the dual system of vocational education and training have a legal right vis-à-vis their company providing training to receive an appropriate training allowance which rises at least annually (§ 17 of the Vocational Training Act, BBiG). The aims of this allowance are to support trainees and parents (who are required to provide maintenance) with their living costs, to remunerate the trainees for productive work performed during training at the company, and to secure the development of a sufficient supply of young qualified skilled workers. Part of the allowance may be paid in kind (e.g. for subsistence and accommodation), but at least 25% must be provided in monetary form. The amount of training allowance and its division into monetary payments and benefits in kind is stipulated in the training contract (§ 11 BBiG). It may be adjusted over the course of training, for instance, on the event of conclusion of a new collective bargaining agreement. Training allowances constitute the largest cost factor for the companies in terms of implementation of the training programmes. They thus represent a key parameter both for trainees and for companies providing training, and the aim of this chapter is to present this in differentiated form.

Various data sources and methodologies are available to measure the averages and developments of training allowances. Average training allowances based on collective bargaining agreements and the ways in which these have developed are illustrated on the basis of around 500 collective bargaining agreements for various segments of the training market. The average contractually agreed allowances in the 2020 and 2021 reporting years and the proportions of contracts offering remuneration in the amount of the respective minimum training allowance as amended are presented on the basis of the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states. The precise methodology used for the calculations is set out in each chapter. Both approaches have specific advantages and drawbacks. The values calculated are not directly comparable for various reasons. Training allowances based on collective bargaining agreements only apply at companies bound by such a collective bargaining agreement, where they set a minimum level. Calculation of training allowances based on collective bargaining agreements does not permit any statements in respect of the total population of all trainees. The data is, however, relatively up-to-date because it is calculated as of 1 October each year. This data particularly provides a basis for the relatively timely documentation of training allowances based on collective bargaining agreements.

A8.1.1 Development of training allowances based on collective bargaining agreements

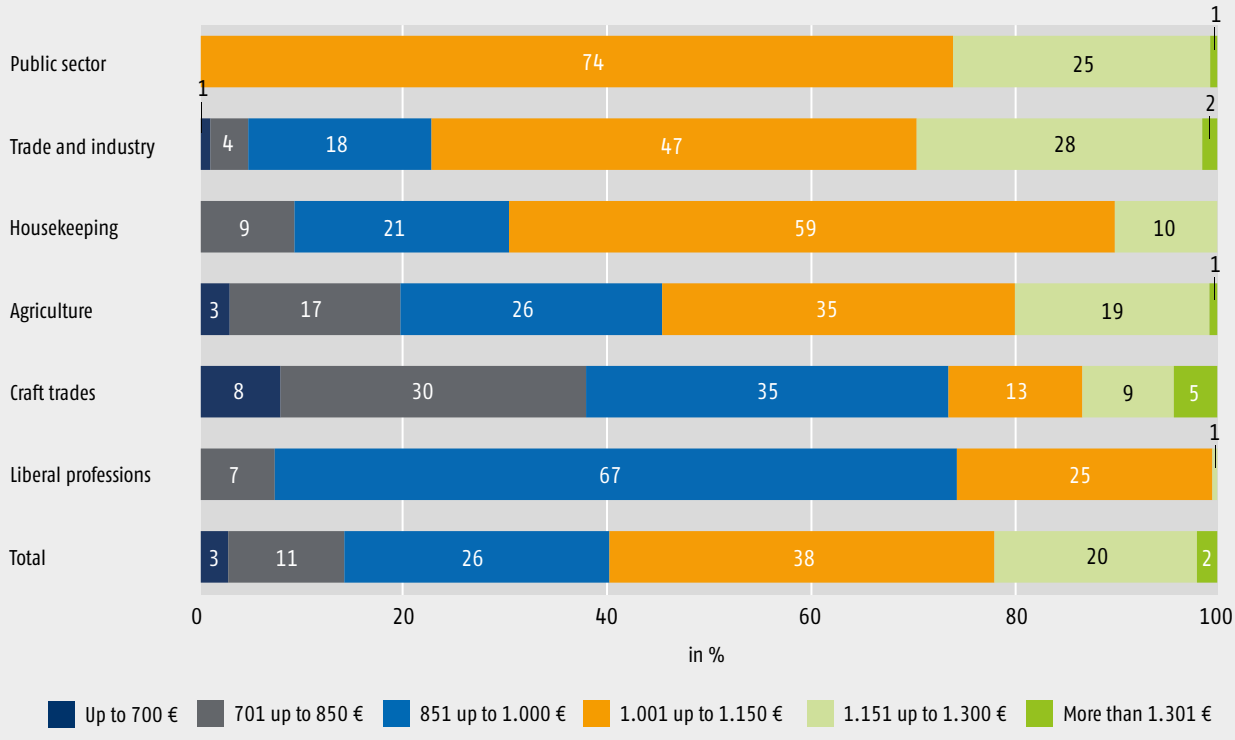
Collective bargaining agreements on the amount of training allowances are concluded between the collective bargaining partners (employer associations and trade unions) and generally apply to individual sectors in certain regions. There are also agreements which are struck at a company level (in-house collective agreements). The scope of application of a collective bargaining agreement is referred to as collective agreement area. The agreements do not normally differentiate between training occupations. This means that the amount of the allowance paid within a sector does not depend on the occupation in which trainees undergo training. Allowances may vary widely within an occupation in accordance with the sector in which the company providing training operates and the region in which it is located. Companies which are bound by a collective bargaining agreement are sub-

Table A8.1.1-1: **Training allowances based on collective wage agreements 2022 (average gross monthly amounts in €) and percentage increase compared to 2021 by various characteristics**

Characteristics	Total	
	Training allowance based on collective wage agreements 2022	Increase with regard to year 2021
	in €	in %
Training area		
Trade and industry	1,081	4.0
Craft trades	930	5.4
Agriculture	1,002	7.1
Public sector	1,114	1.7
Liberal professions	946	3.8
Housekeeping	1,034	6.4
Gender		
Women	1,017	4.0
Men	1,034	4.2
Year of training		
1. Year of training	930	4.4
2. Year of training	1,018	4.2
3. Year of training	1,112	3.8
4. Year of training	1,135	3.2
Total	**1,028**	**4.2**

Source: BIBB database of training allowances based on collective agreements, calculations by the Federal Institute for Vocational Education and Training VET Data Report Gemany 2023

Chart A8.1.1-1: **Collectively agreed training remuneration – Distribution of apprentices by remuneration categories and areas of training in 2022 (share in %)**



Source: BIBB database of collectively agreed training allowances, calculations by the Federal Institute for Vocational Education and Training. Totals may vary due to rounding.

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ject to a minimum requirement to pay their trainees the sums stipulated within their collective agreement area. This means that lower allowances are impermissible. Extra allowances above and beyond the collectively agreed rates are, however, possible. The minimum amounts to be paid in the years of training are stipulated in law until 2023. The minimum amounts applicable from 2024 will be announced by the BMBF in the Federal Law Gazette on 1 November of the respective preceding year. Nevertheless, provisions made under collective bargaining agreements are excluded from the minimum training allowance. If a collective bargaining agreement stipulates a training allowance which is below the minimum training allowance, then companies bound by such a collective bargaining agreement may be guided by it.

The BIBB has been observing and analysing the development of training allowances based on collective bargaining agreements since 1976. These evaluations are based on agreements on training allowances as amended in around 500 collective agreement areas in Germany. Current information on remuneration rates is compiled by the Federal Ministry of Labour and Social Affairs (BMAS) from the Tariff Registry held at the ministry on an annual basis as of 1 October. This is supplemented by data researched by the BIBB on contracts which have not yet been lodged with the Tariff Registry but which are already valid. This collective wage data informs the Vocational Education and Training Statistics. The evaluation for the year 2022 identified that a total of 82% of trainees were subject to a collective bargaining agreement and to the training allowances stipulated in such an agreement. In the remaining cases, either no collective bargaining agreement was in place or else was not contained in the BMAS list or included amongst the collective bargaining agreements additionally researched.

The Vocational Education and Training Statistics do not contain any information as to whether companies providing training are bound by a collective bargaining agreement. For this reason, too many trainees tend to be allocated to a collective bargaining agreement. However, because not all collective bargaining agreements can be included, there may also be branches in which more trainees are being trained at companies bound by a collective bargaining agreement than it was possible to identify by means of the procedure used. In order to compensate for these differences, data relating to the

Table A8.1.2-1: **Average allowances among newly concluded training contracts in the 2020 and 2021 reporting years (Monthly gross amounts in €)**

Characteristics	Germany				
	2020		2021		
	Training allowance in €	Underlying newly concluded training contracts	Training allowance in €	Underlying newly concluded training contracts	Change to the average allowance compared to 2020 in %
1. Year of training					
Total	**828**	**399,348**	**849**	**404,187**	**2.5**
Training area					
Trade and industry	874	232,557	892	232,077	2.1
Craft trades	707	105,690	737	106,371	4.2
Agriculture	805	8,385	813	8,685	1.0
Public sector	1,017	14,016	1,033	13,482	1.6
Liberal professions	822	38,349	843	43,203	2.6
Housekeeping	850	354	859	372	1.1
Gender					
Women	829	145,857	848	148,509	2.3
Men	828	253,494	849	255,681	2.5
Further years of training					
2. Year of training	908	421,464	929	430,686	2.3
3. Year of training	995	391,467	1,019	401,820	2.4
4. Year of training	1,032	104,826	1,049	104,637	1.6

Note: The basic population is formed by all newly concluded training contracts of the 2020 and 2021 reporting years. This excludes primarily publicly financed training contracts, part-time training contracts, and training contracts without information on allowance.

Source: The Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (survey on 31 December), reporting years 2020 and 2021. For reasons of data protection, all absolute values are in each case rounded to a multiple of 3.

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proportion of trainees at companies bound by a collective bargaining agreement collected by the IAB Establishment Panel is included in the calculation of average training allowances based on collective bargaining agreements. In overall terms in 2021, a sectoral or in-house collective bargaining agreement was in force for 25% of companies in Germany. 52% of employees worked at these companies.

In 2022, the average training allowance based on a collective bargaining agreement was €1,028[19] per month. This was the first occasion on which the figure of €1,000 was exceeded → **Table A8.1.1-1**. The rise compared to the previous year was 4.2%.

A consideration of the overall average development in training allowances based on collective bargaining agreements across Germany as a whole showed increases of significantly above 3.0% for most years. Lower growth rates were only recorded for 2021 with 2.5% as well as 2020 and 2017, when the rises were both 2.6%. The last increase of more than 4.0% as seen in 2022 occurred in 2014, when average training allowances based on collective bargaining agreements went up by 4.5%. Collective bargaining negotiations in 2020 and 2021 were affected by the coronavirus pandemic and its resulting economic impacts. For this reason, they tended to be characterised by wage restraint and the goal of securing employment. In 2022, however, factors such as price rises in the wake of the war in Ukraine, supply bottlenecks, and expansive national and international fiscal policy aimed at alleviating the consequences of the pandemic led to high wage demands in many sectors. These also led to high collective bargaining agreements in some cases. The Institute of Economic and Social Research (WSI) identified an average rise of 4.2% for newly concluded wage agreements in 2022. This was higher than the increases negotiated in collective bargaining agreements concluded in 2021 or earlier to take effect in 2022 (2.6%). Increases in training allowances are normally agreed as part of the collective bargaining negotiations for the wages and salaries of employees. The high inflation rate, which in Germany had

19 Training allowances based on collective bargaining agreements are gross amounts which are subject to social insurance contributions. Income tax may also be deducted if overall income (training allowance and any other income) exceeds the tax-free allowance threshold.

Table A8.1.3-1: **Newly concluded contracts in the 2020 reporting year and proportions of allowances meeting the minimum training allowance (MAV) (in %)**

Characteristics	Total	
	Training contracts total 2020	Share of contracts meeting the MAV (in %)
1. Year of training		
Total	**399,348**	**3.0**
Training area		
Trade and industry	232,557	1.7
Craft trades	105,690	7.0
Agriculture	8,385	4.2
Public sector	14,016	0.0
Liberal professions	38,349	0.8
Housekeeping	354	2.0
Gender		
Women	145,857	3.8
Men	253,494	2.6
Year of training		
2. Year of training	421,464	2.9
3. Year of training	391,467	2.8
4. Year of training	104,826	3.3

Note: The basic population is formed by all newly concluded training contracts of the 2020 reporting year with a valid information on allowance for each training year. Primarily publicly financed training contracts and part-time training contracts are excluded.

Source: The Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (survey on 31 December), reporting years 2020 and 2021. For reasons of data protection, all absolute values are in each case rounded to a multiple of 3. VET Data Report Gemany 2023

Table A8.1.3-2: **Newly concluded contracts in the 2021 reporting year and proportions of allowances meeting the minimum training allowance (MAV) (in %)**

Characteristics	Total		
	Training contracts total 2021	Share of contracts meeting the MAV 2021 (in %)	Change to 2020 in percentage points
1. Year of training			
Total	**404,187**	**3.5**	**0.5**
Training area			
Trade and industry	232,077	2.1	0.4
Craft trades	106,371	7.8	0.8
Agriculture	8,685	6.8	2.6
Public sector	13,482	0.1	0.1
Liberal professions	43,203	1.0	0.2
Housekeeping	372	7.3	5.3
Gender			
Women	148,509	4.4	0.6
Men	255,681	3.1	0.5
Year of training			
2. Year of training	430,686	3.6	0.6
3. Year of training	401,820	3.7	0.9
4. Year of training	104,637	4.5	1.1

Note: The basic population is formed by all newly concluded training contracts of the 2020 reporting year with a valid information on allowance for each training year. Primarily publicly financed training contracts and part-time training contracts are excluded.

Source: The Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (survey on 31 December), reporting years 2020 and 2021. For reasons of data protection, all absolute values are in each case rounded to a multiple of 3. VET Data Report Gemany 2023

been above 4.5% in every month since October 2021 and exceeded the 10% mark for the first time in September 2022, also ensured that trainees in companies bound by collective bargaining agreements were forced to accept average wage losses in real terms despite the significant increases in training allowances based on collective bargaining agreements in many sectors.

Training allowances based on collective bargaining agreements of less than €850 were identified for 19 training occupations. These included 14 craft trade occupations, the occupation of commercial employee in the pharmaceutical sector (€841) from the training area of the liberal professions, and the agricultural occupations of farmer (€840), agricultural services specialist (€832), animal caretaker (€812) and wine grower (€801).

All occupations with a training allowance of under €800 were in the craft trades. The occupations in question were optician (€796), baker (€782), floor layer (€755), interior decorator (€751), sign and luminous advertisement maker (€741), parquet layer (€740), chimney sweep (€723), hairdresser (€657), and makers of orthopaedic footwear (€652). The range of training allowances based on collective bargaining agreements is particularly broad in the craft trades. High training allowances are paid in the main construction trades in particular, whilst allowances are low in areas such as the food sector or personal services.

The level of training allowances is generally high for training occupations in trade and industry. In this area, the average allowance based on a collective bargaining agreement was below €1,000 in only 13 of the 103 training occupations for which an average allowance was calculated. As in previous years, the lowest allowance was in the occupation of florist (€852).

In 2022, around 60% of trainees at a company bound by a collective bargaining agreement received a training allowance of more than €1,000 → **Chart A8.1.1-1**.

A8.1.2 Development of contractually agreed training allowances in the Vocational Education and Training Statistics

Following the entry into force of the revised BBiG on 1 January 2020, the training allowances stipulated in newly concluded training contracts were recorded in the Vocational Education and Training Statistics for the first time in the 2020 reporting year (the agreed gross monthly allowance for each year of training set upon conclusion of the VET contract). This figure includes the contractually agreed offsetable non-monetary remuneration values for subsistence, accommodation and residential costs pursuant to § 2 of the Social Security Remuneration Ordinance and as set out in § 17 Paragraph 6 of the Law for the Modernisation and Strengthening of Vocational Education and Training. Adjustments to the training allowance which take place after the conclusion of the contract do not need to be reported. To this extent, the training allowance reported does not necessarily reflect the allowance actually paid. Consideration of the allowance data takes account of all training contracts in which training takes place in accordance with the BBiG or the HwO in the dual system, i.e. at a company and at a vocational school, and which have been newly concluded in the respective reporting year. No account is taken of training arrangements which are primarily publicly funded via state programmes or on a statutory basis (e.g. extra-company training programmes) because training allowances are not reported in the vast majority of such cases. Part-time training contracts and contracts for which no information regarding allowances is available are also excluded.

Training allowances 2020 and 2021

In the 2020 reporting year, the overall average nationally of contractually agreed allowances for newly concluded contracts in the first year of training was €828 per month. The highest average allowance, €1,017, was received by trainees in the public sector. This was around €300 higher than the average allowance paid in the craft trades, where the corresponding figure was €707.

A8.1.3 Prevalence of the minimum training allowance

Trainees commencing training between 1 January 2020 and 31 December 2020 had the right to receive a training allowance of at least €515 in the first year. This minimum level rose to €550 in 2021, to €585 in 2022, and to €620 in 2023. In addition to this, the law stipulates that the amount payable must increase in comparison to the first year as training progresses – by 18% in the second year, 35% in the third year, and by 40% in the fourth year. Provisions made under collective bargaining agreements are excluded from the minimum training allowance. If a collective bargaining agreement stipulates a training allowance which is below the minimum training allowance, then companies bound by such a collective bargaining agreement may be guided by it.

This chapter presents the proportions of contracts with a training allowance that meets the minimum training allowance. The Vocational Education and Training Statistics form the database for this. The object of consideration comprises all training contracts pursuant to the BBiG or HwO that are newly concluded in the respective reporting year, which are not primarily publicly funded, which are executed on a full-time basis, and for which valid information regarding allowances is available.

Allowances meeting the minimum training allowance in 2020 and 2021

In the 2020 reporting year, a training allowance exactly corresponding to the minimum training allowance in the amount of €515 was agreed in a total of 3.0% of newly concluded training contracts for which valid information regarding allowances is available for the first year of training → **Table A8.1.3-1**.

A8.2 Public expenditure on vocational education and training

→ **Table A8.2-1** documents spending from public budgets on VET from 2001 to 2022. It takes account of all expenditure which can be allocated in a source-specific manner in connection with the development, improvement, implementation and support of training programmes pursuant to BBiG § 1 Paragraphs 1 and 2. Items of spending which may relate to vocational education and training but cannot be clearly allocated to the VET system in accordance with the costs-by-cause principle

Table A8.2-1: **Public expenditure on vocational education and training (Part 1)**

	2001	2015[16]	2016	2017	2018	2019	2020	2021	2022	DS	SBS	ÜS	Contains Continuing education[17]
	in € billion	in € billion	in € billion	in € billion	in € billion	in € billion	in € billion	in € billion	in € billion				
Ministry of Education and Research (BMBF)[1]													
Inter-company vocational training centres[2]	0,043	0,042	0,056	0,072	0,072	0,072	0,070	0,058	0,072	X		X	
"Schüler-BAFög" grant for full-time school pupils (BFS, BAS, FS and FOS without BB)[3]	0,227	0,435	0,423	0,434	0,416	0,399	0,399	0,371	k. A.		X	X	
International exchange and cooperation in vocational training	0,007	0,011	0,009	0,013	0,014	0,015	0,013	0,011	0,016	X	X		X
Innovations and structural development of vocational training	k. A.	0,075	0,076	0,064	0,056	0,058	0,068	0,077	0,096	X	X	X	X
BIBB (operation and investments)	0,028	0,036	0,042	0,038	0,040	0,052	0,051	0,055	0,056	X	X	X	X
Support for gifted students in vocational education and training[4]	0,014	0,046	0,049	0,052	0,053	0,061	0,061	0,066	0,067				X
Measures to improve career orientation	-	0,066	0,061	0,065	0,066	0,077	0,064	0,055	0,097			X	
Ensuring training[5]	-	-	-	-	-	-	0,025	0,166	0,185	X			
Cancelled measures[6]	0,291	-	-	-	-	-	-	-	-	X	X		X
BMWi[1]													
Vocational education and training for the SME sector – trainee instruction	0,042	0,044	0,045	0,047	0,050	0,052	0,048	0,058	0,070	X			
Securing a supply of skilled workers for small and medium-sized companies[7]	-	0,014	0,017	0,021	0,022	0,020	0,019	0,020	0,025	X		X	
Ministry of Labour and Social Affairs (BMAS)[8]													
Special measures for younger people under the jurisdiction of SGB II[9]	k. A.	0,127	0,121	0,122	0,121	0,117	0,117	0,113	0,105	X		X	
Federal states, municipalities, special purpose associations[10]													
Vocational schools[11]													
▶ Part-time vocational schools	3,080	2,821	2,848	2,983	3,097	3,227	3,344	3,404	3,465	X			
▶ Full-time vocational schools	1,848	2,119	2,166	2,221	2,307	2,396	2,493	2,586	2,660		X	X	
▶ Basic vocational training year, pre-vocational training year	0,515	0,428	0,479	0,608	0,616	0,584	0,575	0,561	0,565			X	
▶ Other vocational schools (except trade and technical schools)	0,865	1,627	1,664	1,726	1,762	1,796	1,840	1,903	1,953		X		
Training programmes of the federal states[12]	0,173	ca. 0,5	k. A.	k. A.	k. A.	k. A.	k. A.	k. A.	k. A.	X	X	X	
Federal Employment Agency[8]													
Vocational education and training subsidies (BAB, company-based vocational education and training, vocational preparation schemes) including BAB secondary training	0,405	0,310	0,290	0,287	0,263	0,258	0,291	0,254	0,218	X		X	
Course fees for pre-vocational training measures	0,388	0,203	0,198	0,193	0,184	0,180	0,174	0,174	0,183			X	
Extra-company vocational education and training (BaE), in-training support measures (abH)[13]	0,811	0,303	0,269	0,249	0,230	0,220	0,216	0,193	0,119	X		X	
Assisted training (AsA)	-	0,004	0,238	0,040	0,046	0,041	0,035	0,047	0,103	X			
Introductory training	-	0,026	0,028	0,037	0,034	0,027	0,023	0,021	0,018			X	
Career orientation measures[14]	k. A.	0,033	0,037	0,046	0,052	0,059	0,052	0,059	0,069			X	
Cancelled measures[15]	0,862	0,000	0,000	0,000	-	-	-	-	-	X		X	
Support with transition into the labour market for young people	-	0,088	0,135	0,167	0,191	0,186	0,145	0,108	0,072			X	
Funding for young people's residential homes	0,044	0,001	0,003	0,009	0,007	0,005	0,004	0,004	0,003	X	X	X	X

Table A8.2-1: **Public expenditure on vocational education and training (Part 2)**

[1] Actual values in accordance with Federal Government budgetary calculations, budget appropriations for 2022.
[2] The responses included the expenses for investments and ongoing purposes.
[3] Funding in accordance with the Federal Training Assistance Act (BAFöG) for pupils at specialised upper secondary schools (BFS), vocational preparatory schools (BAS), trade and technical schools (FS) and in vocational upper secondary school grades (FOS) which do not require completed vocational education and training (BB). Actual values for all mentioned calendar years in accordance with BAFöG statistics of the Federal Statistical Office without offsetting of loan repayments. Up until the year 2014, only 65% of this expenditure was allocated to the Federal Government and 35% to the federal states. The Federal Government bears the financing costs alone since 2015. From 2011 onwards, funding for students at trade and technical schools that do not require completed VET are considered. Payment coverage of loan defaults and interest rates is not included here.
[4] For this reason, this position instead contains the expenses for continuing vocational education and training (continuing training grant) and the funding of academic education (advancement grant).
[5] Temporary corona assistance for training contracts that began up until February 2022.
[6] This includes the special programme "apprenticeship place development and VET regional networks" in the eastern German states (including eastern Berlin), the future initiative for vocational schools (ZIBS), and the special programme of the federal government, the eastern German states and Berlin for the creation of additional training places in the eastern German states.
[7] Within the scope of "Securing the availability of skilled workers", various programmes and initiatives are funded that predominantly have a close connection to vocational education and training, e.g. the programme "supporting SMEs with the tailored filling of training places and the integration of foreign workers", despite the fact that SME-funding is the focus.
[8] Actual spending for the respective budgetary year. Not precisely quantifiable: the subsidies paid by the parents of vocational school pupils within the scope of the ALG II for school supplies. This is likely in the lower double-digit millions. Not included: training services of authorised municipal providers that are not recorded within the financial system of the Federal Employment Agency.
[9] Included: extra-company vocational education and training (BaE), in-training support measures (abH), assisted training (AsA). introductory training (EQ)
[10] Actual values for 2001, target values for 2022. All other years: preliminary actual values
[11] Basis for the estimation of expenses in the mentioned calendar years: number of hours taught per type of school in the school years ending and beginning in the respective calendar year and expenditure on vocational schools. The basis of the estimation for the year 2022 is the number of hours taught per type of school in the 2021/2022 school year and expenditure on vocational schools in the 2022 calendar year. Until the 2014 Data Report, estimation took place on the basis of pupil days. Since the 2015 Data Report, however, only values estimated on the number of hours of teaching are presented, including with retrospective effect.
[12] The values shown from 2010 onwards are based on a BIBB survey. However, the survey has no longer been carried out since 2016, see notes in the text.
[13] Shown as "vocational education and training of disadvantaged young people" until 2016 Data Report. Also contains expenditure on support of disadvantaged persons for persons with a disability (2013 approx. 0,013 million €) until 2013.
[14] Participation of third parties in the funding to the amount of at least 50% pursuant to § 33 SGB III is a requirement of the funding. There are, however, no figures for the proportion of public and private financial means in the scope of this co-financing.
[15] Contains: the training bonus which is cancelled as of 01.04.2012, the social pedagogical accompaniment for VET preparation and the emergency programme for reducing youth unemployment.
[16] Due to a lack of space, not all years are depicted. Responses for the missing years since 2001 can be found in earlier editions of the Data Report.
[17] Items which also contain a significant scope of expenditure on continuing vocational training are marked with a cross.

Source: Federal Ministry of Finance, federal budget plans; Federal Ministry of Finance, budget calculation of the federal government; Federal Statistical Office, Statistics Report: Vocational schools and healthcare sector schools – basic data; Federal Statistical Office, specialist Publications 11, Series 7 –BAFöG; Federal Employment Agency, monthly accounting results (SGB II and SGB III); Information from the Federal Statistical Office (February 2023)

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are not included. The latter encompass examples such as the children's and youth service measures provided by the Federal Ministry of the Family, Senior Citizens, Women and Young People (BMFSFJ). Although the intention of some of these programmes is to facilitate transition to the labour market, it is highly likely that they would be implemented in an identical or similar way were a VET system not to exist.

The crosses included in → **Table A8.2-1** indicate whether a spending item is mainly caused by recognised VET programmes within the dual system (DS), by measures delivered in the transitional system (TS) and/or by the school-based occupational system (SBS). The division is, however, not always precise. One position may contain expenditure for one or more areas. In addition to this, no definitive delineation exits for the transitional system. A number of individual items continue to relate expenditure on continuing training, to a considerable extent in some cases. Because of these difficulties of delineation, totalling the marked lines in the table only allows us to arrive in each case at an upper limit for overall public spending on VET in DS, TS and SBS. The supposition is that the volumes of spending attributable to the respective sectors are actually lower. The following further indications should be taken into account in interpreting the table and in conducting comparisons with previous years. With regard to the federal ministries, all items of expenditure are recorded which are attributable to vocational education and training in accordance with objective considerations. Although the functions plan means that these are mostly allocated to the areas of continuing training and labour market policy in the annual financial statistics and in the Educational Financing Report produced by the Federal Statistical Office, the positions shown in → **Table A8.2-1** effectively also relate to training funding to a significant extent. They are aligned to the budgetary areas of the ministries and in some cases

collate several funding programmes and measures. Because changes of delineation frequently occur, it is difficult to interpret the development of individual budgetary areas over the course of time. In overall terms, however, federal expenditure has increased slightly of late (particularly by the Federal Ministry of Education and Research, BMBF). This has been largely due to measures for the integration of refugees into vocational education and training. Maintenance benefits paid to full-time pupils at vocational schools in accordance with the Education and Training Assistance Act (BAföG) constituted the largest spending item at federal level by some distance. 100% of these payments were made as grants. Up until the year 2014, 65% of this expenditure was allocated to the Federal Government and 35% to the federal states. The Federal Government has been responsible for the entire funding since 2015.

During the coronavirus pandemic, the Federal Government's "Securing training places" programme supported small and medium-sized companies and institutions providing training in maintaining their training place provision. Spending by the federal states and by local government authorities on vocational schools (part-time and full-time vocational schools, vocational preparatory schools, specialised upper secondary schools, vocational upper secondary schools, vocational grammar schools) is taken from the annual financial statistics of the Federal Statistical Office. Because the intention is to present expenditure incurred by the public budgets, net spending is offset against direct revenues received by the public purse. Preliminary actual spending in 2021 was just over €9.3 billion. Expenditure has thus risen continuously since 2015. During the same period, spending per pupil at vocational schools (including trade and technical schools) has grown to €6,415.[20]

This represents an increase in real terms of 23.5% according to the Consumer Prices Index for the education system in Germany calculated by the Federal Statistical Office. Costs to the public purse for 2022 are estimated at just over €9.5 billion. If the number of hours taught per type of school in the 2021/2022 training year is used as an allocation formula, the estimate is that part-time vocational schools will account for €3.5 billion of the budgetary funding made available for 2022. The remaining €6 billion are used to finance further types of school in the VET system, such as full-time vocational schools, specialised upper secondary schools, vocational upper secondary schools, the vocational preparation year, the basic vocational training year, and the trade and technical schools. The dedicated training funding programmes of the federal states cannot be precisely quantified. Like the federal programmes, most of these may possibly ascribed to the areas of continuing training, labour market policy or economic policy in the annual financial statistics.

Until 2015, the funding in the individual programmes was identified via a survey of the ministries responsible commissioned by the BIBB. However, this permitted only a very rough estimation of the total volume. Firstly, information was not available for all programmes. Secondly, the survey also encompassed programmes which related to vocational education and training but which were not necessarily causally attributable to the VET system. Funding volume of the federal states was of the order of €0.5 billion up until the year 2015. This figure is likely to include financing from the European Social Fund. VET-related expenditure of the BA encompasses both vocational education and training itself and vocational orientation and preparation. → **Table A8.2-1** does not include funding for integration at the second threshold. This represents an employment policy measure. A large part of BA funding is used to support trainees who are particularly disadvantaged (and therefore flows in turn into extra-company training). Assisted training (AsA), a support measure for companies to train young people who would otherwise find it hard to obtain a training place, has been in existence since 2015. Benefits provided by the BA for persons with a disability are not taken into account in → **Table A8.2-1**. Although these are partially connected with training activities, it is likely that most are not causally attributable to the vocational education and training system. The same applies to the benefits paid by the BA to persons with a disability in accordance with the provisions contained within German Social Security Code II (SGB II) and to the programme operated by the BMAS since 2014 for fast-track integration and guidance for disabled persons.

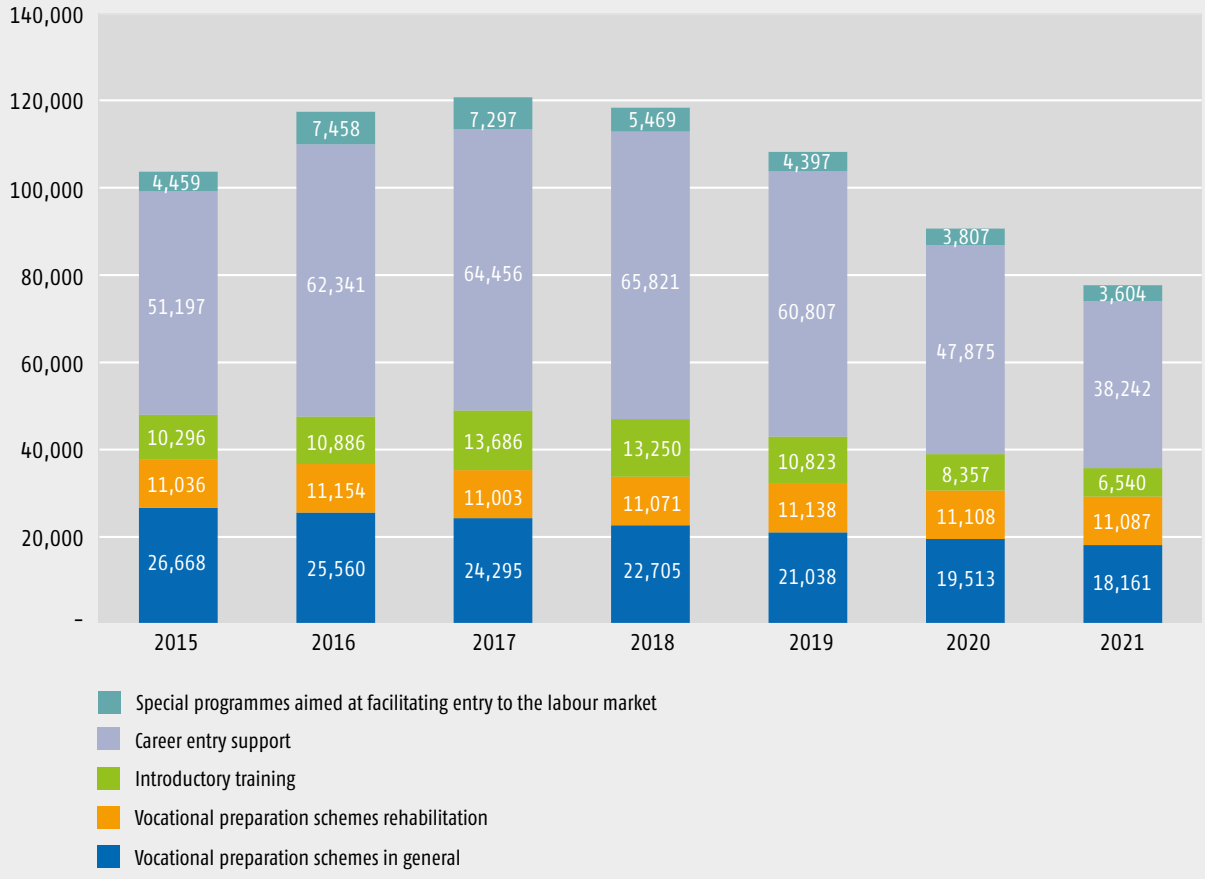
The financial contribution made by the public purse is supplemented by the contribution made by companies providing training in the private and public sectors. This expenditure is traditionally estimated by the BIBB.

A8.2.1 Measures pursuant to German Social Security Code (SGB)

National provision is stipulated in the German Social Security Code and is put out to tender by the Federal Employment Agency or the job centres for implementation by education and training organisations. In overall terms, it can be established that the number of participants was in decline across all measures in 2020, a year marked by the coronavirus pandemic. An all-time low in average total numbers was even recorded in career entry support measures, in introductory training, in vocational preparation schemes, in the special "activation" programmes

20 The calculation is in each case based on weighted pupil numbers for the two years of training relevant to the respective calendar year. Part-time pupil figures have also been converted into full-time equivalents.

Chart A8.2.1-1: **Participants in various vocational preparation measures 2015 to 2021 (annual average total numbers)**



Note: BvB = Berufsvorbereitende Bildungsmaßnahmen – vocational preparation schemes
Source: Federal Employment Agency, funding statistics; depiction by the Federal Institute for Vocational Education and Training

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aimed at facilitating entry to the labour market, and in vocational education and training in extra-company institutions, all measures under SGB III. The number of participants in these measures[21] had never previously fallen so far. Figures for vocational preparation measures of the BA had been significantly declining since 2010. This trend continued across all measures in the 2021 reporting year → **Chart A8.2.1-1**. Participation numbers in general vocational preparation measures (BvB) pursuant to § 51 SGB III once again decreased. Over the course of the years, only the number of participants in special rehabilitation schemes remained constant. The number of participants in special programmes aimed at facilitating entry to the labour market ("activation") and in introductory training also fell in 2020. This followed an increase in the participation figures between 2016 and 2018, largely because of the entry of young refugees. The impacts of the coronavirus pandemic may also be an explanation of the significant falls in 2020 and 2021.

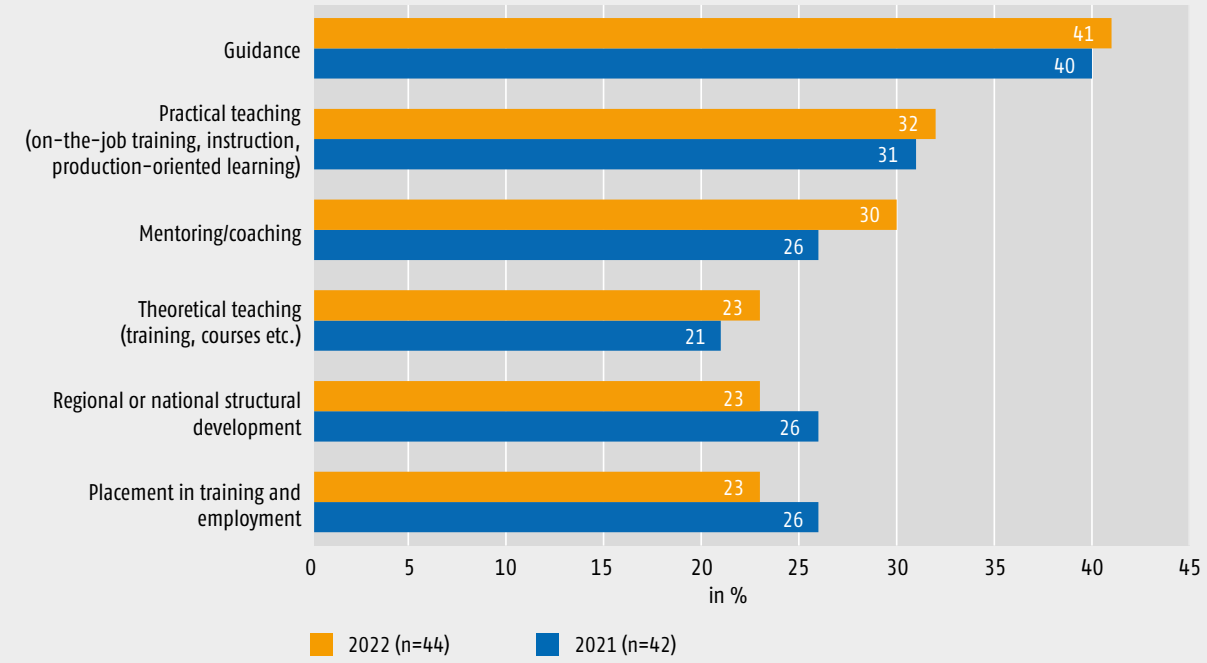
A8.2.2 Federal Government and federal state programmes for the funding of vocational education and training

The data records of the Office for Transitions to Training and Work (*"überaus"*) contained a total of 44 federal programmes in December 2022. Over the past ten years, this figure has fluctuated between 40 (in 2013) and 54 (in 2016). Although no continuous fall in the figures was observed after the peak in 2016, a downward tendency is discernible between 2015 and 2022. The complete development of programme numbers for both federal and federal state programmes is depicted in → **Chart A8.2.2-1**.

If we consider the specific provision and measures implemented within the scope of funding programmes

21 For details of measures pursuant to the SGB, see Chart A8.3.1-1 in the VET Data Report Germany 2021, pages 86 to 88.

Chart A8.2.2-1: **Planned/realised provision for the funding of vocational education and training within the scope of federal programmes 2021 and 2022 (multiple allocations, in %)**



Note: The most frequent responses are presented.
Source: Data records of the Office for Transitions to Training and Work (*"überaus"*) on federal and federal state programmes for the promotion of vocational education and training, as of: December 2022

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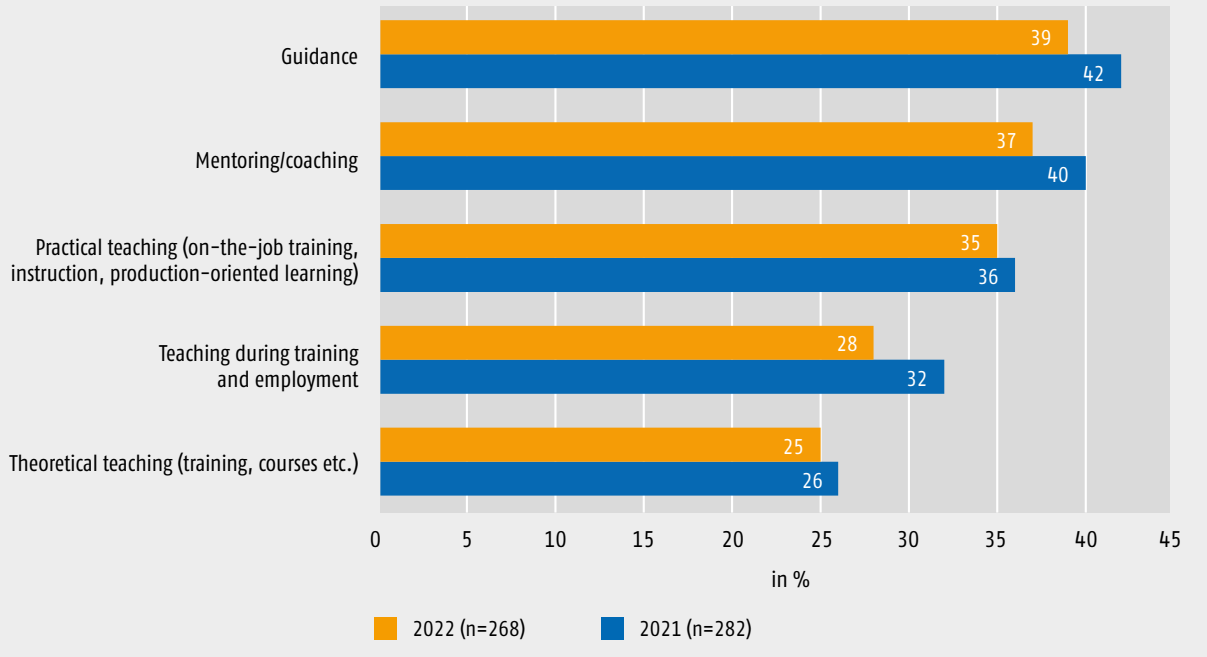
Chart A8.2.2-2: **Planned/realised provision for the funding of vocational education and training within the scope of federal state programmes 2021 and 2022 (multiple allocations, in %)**



Note: The most frequent responses are presented.
Source: Data records of the Office for Transitions to Training and Work (*"überaus"*) on federal and federal state programmes for the promotion of vocational education and training, as of: December 2022

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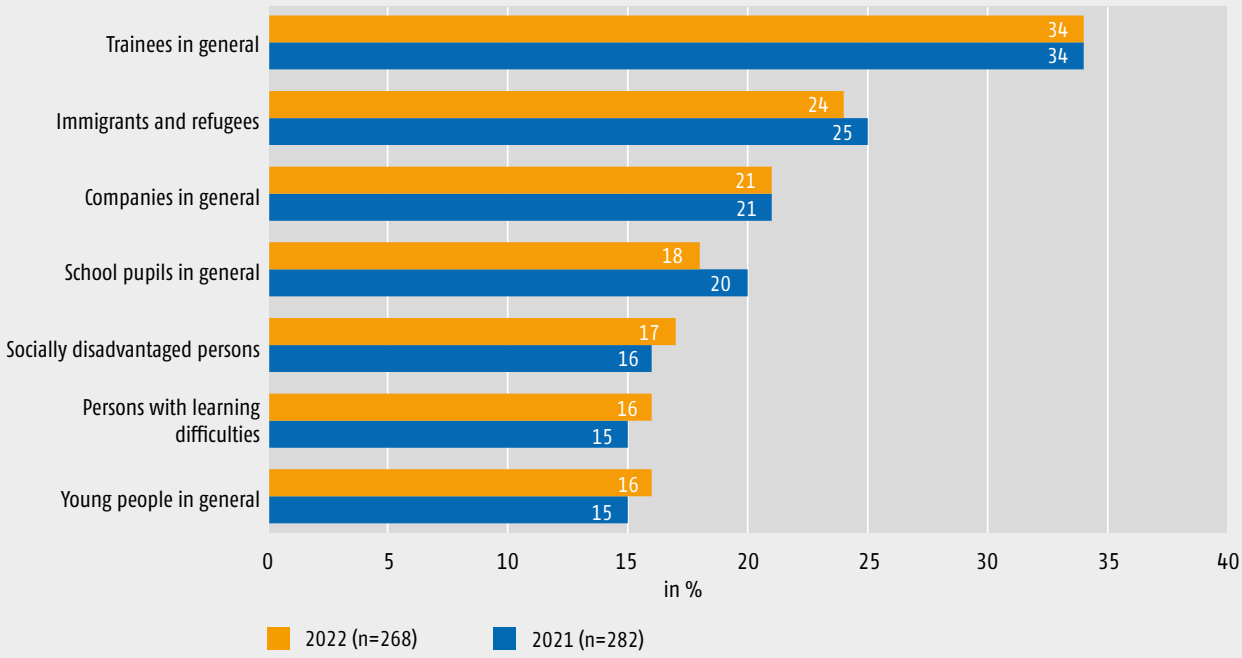
Chart A8.2.2-3: **Target groups for provision in federal state programmes for the funding of vocational education and training 2021 and 2022 (multiple allocations, in %)**



Note: The most frequent responses are presented.
Source: Data records of the Office for Transitions to Training and Work (*"überaus"*) on federal and federal state programmes for the promotion of vocational education and training, as of: December 2022

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→ **Chart A8.2.2-2**, it is revealed that funding providers continue to see good advice from stakeholders as the key to successful vocational education and training. Just under half of the provision from the funding programmes was aimed at trainees directly. About one in three funding programmes is targeted at the group of immigrants or refugees. In December 2021, the data records of überaus contained a total of 268 federal state programmes. This constituted a sharp decline compared to the previous year. The downwards tendency which has been apparent in the federal programmes over recent year is more significant in the federal state programmes. Nevertheless, peak provision in the case of the latter was not reached until 2017 and 2018, when there were 294 programmes. This followed a very rapid, very stark and continuous increase in the number of programmes between 2013 and 2017 → **Chart A8.2.2-2**.

As was the case with the federal programmes, the field of activity of vocational education and training formed the predominant aspect of federal state programmes, and second-chance training tended to play a subordinate role. Although vocational preparation did not form the strongest field of activity in the federal state programmes, the main focus – albeit to an extent which was slightly weaker in percentage terms than in the previous year – was on objectives which very much have a vocational preparation function. The most pursued goals at the federal state level were preparation for training and support for career choice processes. As is also the case with the federal programmes, funding providers at the federal state level are very keen (20% of the programmes) to be able to offer young people more and better matching training places. At the federal state level, too, the most frequently targeted group was the group of trainees in general (→ **Chart A8.2.2-3**). The most frequently mentioned groups of persons with specific placement difficulties were refugees and persons from a migrant background followed by disadvantaged persons and persons with learning difficulties.

A8.3 Youth Employment Agencies

The great diversity of advisory and support provision at the transition from school to training and work constantly leads to confusion and stress for young people and young adults in this phase of life. For this reason, employment agencies, job centres and youth welfare services in many places in Germany have opted to engage in cooperation which extends across legal spheres and are pooling their services for young people within a

"youth employment agency". This generally takes place with the involvement of further stakeholders such as schools, independent providers of youth services, education and training providers and chambers. The aim of this collaboration is the formation of a local community of responsibility which seeks to assist young people and young adults more effectively in their individual, social and occupational development by offering coordinated advice and support between the various stakeholders. The term "youth employment agency" has become established over recent years as an overarching designation for the differing models of cooperation across legal spheres. Other names are, however, chosen in some places. Examples of these include School-Work Alliance, youth job centre, youth career centre, or youth service.

The Service Centre of the Youth Employment Agencies, which is funded by the Federal Ministry of Labour and Social Affairs and based at the BIBB, has been providing information, support and advice on every aspect of the topic of cooperation between social services providers, employment agencies, job centres, youth welfare services and further partners at the transition from school to work since the beginning of 2020. In 2021, the Service Centre of the Youth Employment Agencies conducted a quantitative online survey (see Information Box) to investigate where in Germany youth employment agencies have been founded and how they are organised. The key results of this survey are presented below.

Information Box – Survey on youth employment agencies

In order to be able to perform its work for youth employment agencies in a data-based and therefore more matched way, the Service Centre of the Youth Employment Agencies carried out a national online survey from 21.05.2021 to 07.07.2021.

The cooperation alliances were identified using standardised criteria which the Service Centre had drawn up in conjunction with the BMAS, the BA and the local government umbrella organisations. The survey recorded cooperation alliances as youth employment agencies regardless of whether they used a different term to designate themselves if the following circumstances applied.

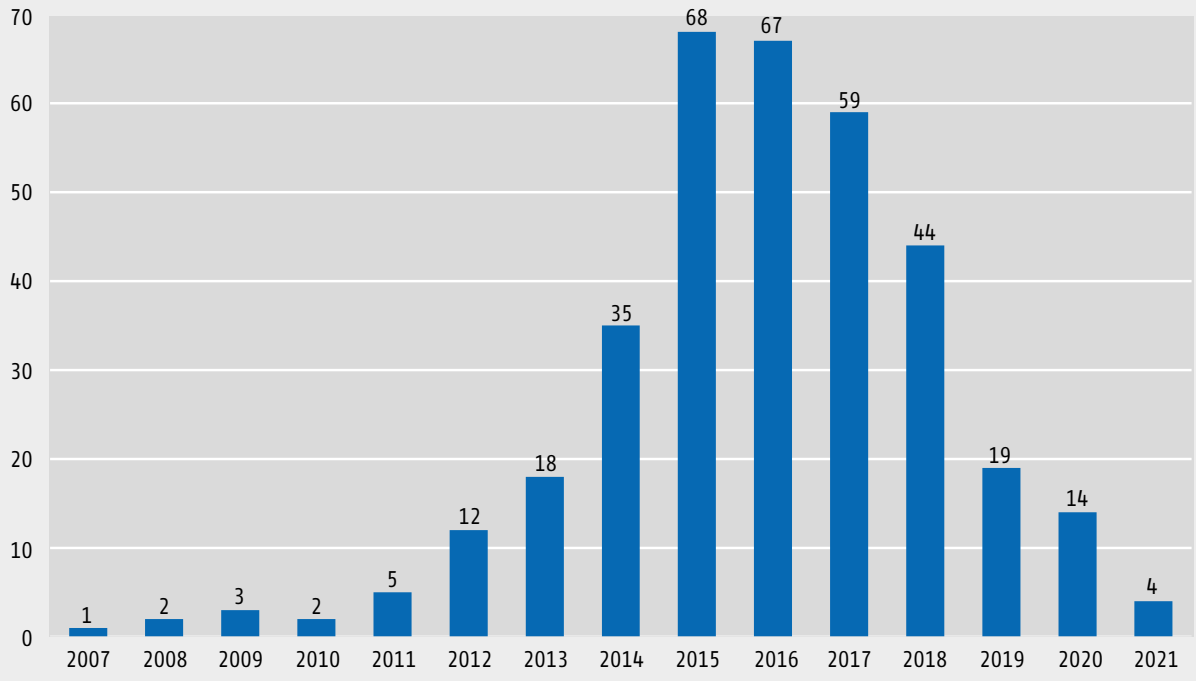
- They were comprised of at least the three cooperation partners of the employment agency, job centre, or local provider of public youth services.
- Within the scope of their responsibilities, they dealt with young people or at least one joint group of young people in a long-term and structured way.
- The nature and scope of their cooperation had been bindingly agreed.

The primary purposes of the survey were to create visibility of cooperation arrangements across legal spheres at the transition from school to work and to provide an initial overview with regard to various aspects such as collaboration with further stakeholders or accessibility. The data basis does not permit any statements to be made in respect of the intensity or quality of cooperation in youth employment agencies. The survey took place at the level of local government districts and independent municipalities. Two aspects were to the fore with regard to deciding on the specific approach to be adopted. Firstly, endeavours were undertaken to receive a widespread response from all 400 districts and independent municipalities in order to obtain reliable figures on the prevalence of youth employment agencies right across Germany. A further objective of the Service Centre of the Youth Employment Agencies and its partners was to invite all legal spheres to participate equally in the survey wherever possible and to receive a response that had been agreed amongst the institutions participating in the respective youth employment agency. The BA facilitated a national and full response by issuing a binding instruction to all employment agencies and by providing information on the survey and on the approach to all job centres which are organised as joint institutions. The local government umbrella organisations used their mailing lists to transmit the invitation to take part to the districts and independent municipalities together with a request to forward this to the persons responsible at the job centres and at the local providers of public youth services. This enabled the greatest possible dissemination of information regarding the survey to all social services providers involved.

By the end of the survey period in July 2021, 353 cooperation alliances across legal spheres meeting the survey criteria had been reported nationally. These were distributed across 348, or 87%, of the 400 districts and independent municipalities in Germany. No youth employment agency existed in 52 districts and independent municipalities at the time of the survey (13%). The cooperation alliances across legal spheres differed with regard to their areas of responsibility. Three variances were revealed.

The most frequent of these, the existence of a youth employment agency as such, was found in 314 or independent municipalities. Seven districts had several youth employment agencies operating independently of one another, and a total of 26 of the youth employment agencies

Chart A8.3-1: **Number of formations of youth employment agencies during the period from 2007 to 2021**



Note: 2021 until status of survey in July
Source: Service Centre for Youth Employment Agencies at the Federal Institute for Vocational Education and Training (n=353)

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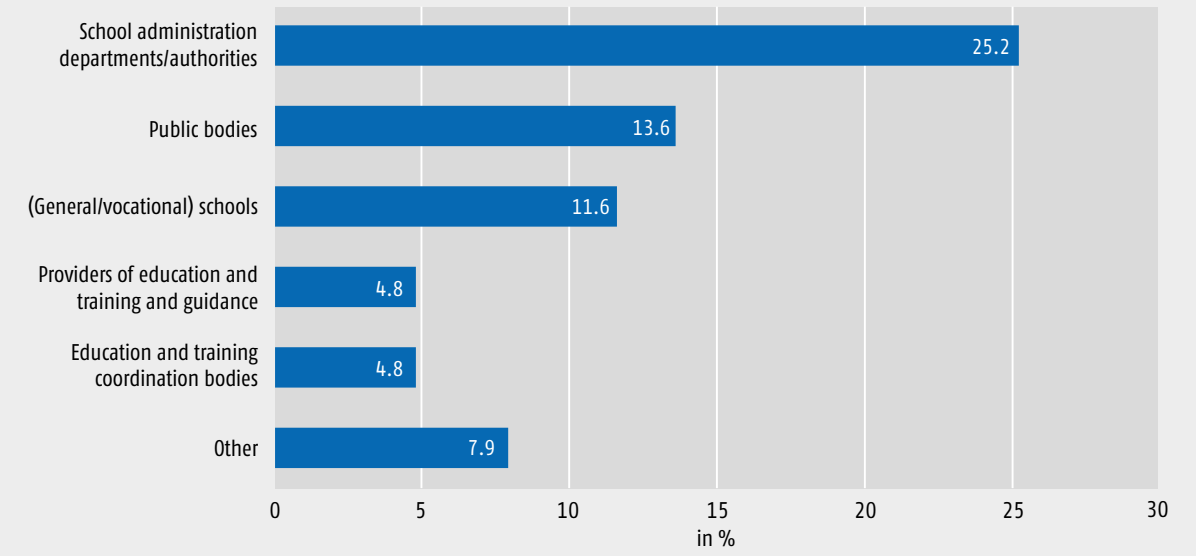
Chart A8.3-2: **Further cooperation partners in youth employment agencies in 2021 (multiple responses in %)**



Note: a further cooperation partner is an institution which, beyond the providers within the legal spheres of SGB II, III and VIII, participates in a youth employment agency. It also co-determines the strategic alignment of the youth employment agency and uses its own resources to help achieve the agency's goals.
Public bodies = bodies which were not clearly defined with regard to their technical responsibility, e.g. regional or district councils.
Source: Service Centre for Youth Employment Agencies at the Federal Institute for Vocational Education and Training (n=353)

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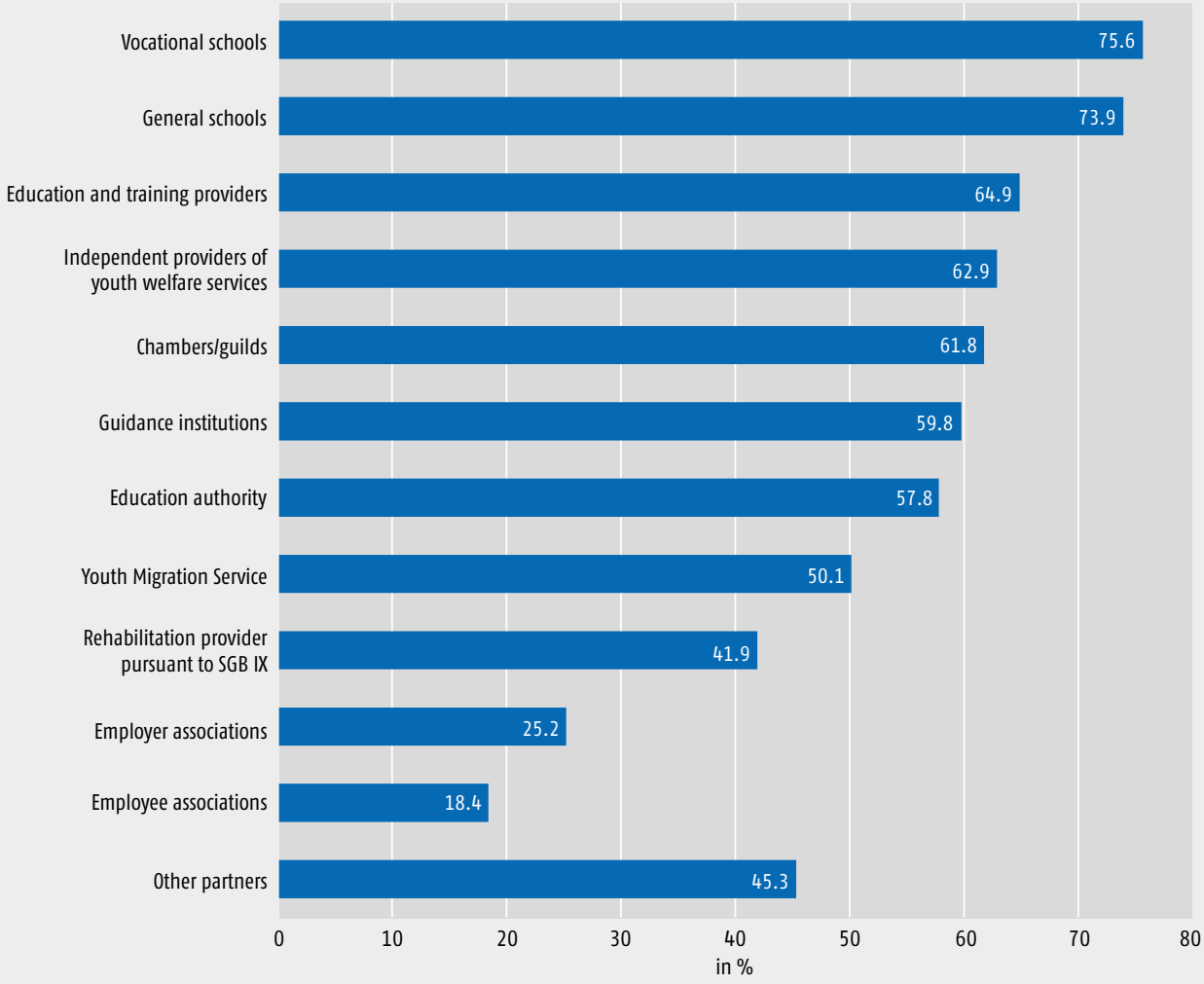
Chart A8.3-3: **Network partners of youth employment agencies in 2021 (multiple responses in %)**



Note: Network partners are stakeholders or institutions supporting youth employment agencies in the achievement of their objectives. Unlike cooperation partners, however, network partners do not co-determine the strategic alignment of a youth employment agency and do not deploy their own resources to help achieve the agency's goals. The youth employment agency cooperates with these network partners as required.

Source: Service Centre for Youth Employment Agencies at the Federal Institute for Vocational Education and Training (n=353) VET Data Report Gemany 2023

recorded in the survey were distributed across these. This variance was particularly common in North Rhine-Westphalia. In the relevant districts, the tasks of the local provider of public youth services were performed by a district youth welfare services office and by the youth welfare services of the independent municipalities. In these cases, the youth employment agencies were established in accordance with the area structure of the youth welfare services. In 27 districts or independent municipalities, a cooperation alliance across legal spheres had been implemented in conjunction with another district or independent municipality. A total of 13 of the youth employment agencies surveyed were allocated to this third structural form.

The first youth employment agency was founded in 2007 and was followed by two others in 2008. However, development steadily increased until 2014. A peak of 68 newly formed youth employment agencies was achieved in 2015. Just over two thirds (67.4%) of the 353 youth employment agencies recorded up until July 2021 were established in the period from 2015 to 2018 → **Chart A8.3-1**.

Information on further cooperation partners was collected in the form of an open question based on the following definition: a further cooperation partner is an institution which, beyond the providers within the legal spheres of SGB II, III and VIII, participates in a youth employment agency. It also co-determines the strategic alignment of

the youth employment agency and uses its own resources to help achieve the agency's goals. The results show that no further cooperation partners apart from an employment agency, job centre and youth services were involved in 53.8% of youth employment agencies. At least one further cooperation partner was integrated in 46.2% of the cases. Participation of more than one further cooperation partner was reported for 19.3% of the youth employment agencies.

Just over a quarter (25.2%) of stated further partners of youth employment agencies were school administration bodies. Just under 12% of the youth employment agencies also indicated that general or vocational schools were involved as further cooperation partners → **Chart A8.3-2**.

The network partners were surveyed by means of a multiple-choice question comprising twelve possible responses.[22] Network partners were defined as being stakeholders or institutions supporting youth employment agencies in the achievement of their objectives. Unlike cooperation partners, however, network partners do not co-determine the strategic alignment of a youth employment agency and do not deploy their own resources to help achieve the agency's goals. Youth employment agencies cooperate with these partners as required. 95.8% of the 353 youth employment agencies reported collaboration with at least one network partner. Of these, 75.6% and 73.9%, respectively, stated that they were working with network partners that were vocational and general schools. Together with the 57.8% of responses which mentioned the option "education authority" and in conjunction with the results regarding cooperation with further cooperation partners (see above), this result underlines the significant role of cooperation with schools and school administration bodies → **Chart A8.3-3**.

A8.4 Funding of inter-company vocational training centres (ÜBS) and centres of excellence

Inter-company vocational training centres have an important role to play as partners of both dual vocational education and training and of advanced and continuing training. They supplement company-based training by delivering more detailed practical training in particular. This means that support provision to secure training can be made available to small and medium-sized enterprises (SMEs). Inter-company vocational training centres make a particular contribution towards securing the ability of small and medium-sized enterprises to provide training. Increasing specialisation means that SMEs often find it difficult to impart all the competencies relevant to an occupational profile. The BMBF has been supporting inter-company vocational training centres since the 1970s by making relevant funding available. The aim of the funding is to maintain VET at the same high level in accordance with the latest status of technology right across Germany. The Federal Institute for Vocational Education and Training works on behalf of the BMBF to finance projects within the area of initial VET. Operating on the basis of joint guidelines, the Federal Office for Economic Affairs and Export Control (BAFA) also acts on behalf of the Federal Ministry for Economic Affairs and Climate Action (BMWK) to fund investment projects in connection with advanced and continuing training measures.

Funding is geared towards relevant input factors appertaining to quality development of company-based or inter-company training but may also be aligned to related process factors. In order to achieve the goal of quality development and quality assurance, the funding of inter-company vocational training centres is focused on three main objects of funding. These are equipment, structure and further development of inter-company vocational training centres into centres of excellence.

In order for trainees to be able to expand their learning experiences in the area of digitalisation, the BMBF initiated a "Special programme for the promotion of digitalisation in inter-company vocational training centres and centres of excellence" in 2016. This was transferred into a second phase of funding in 2019, in which €30 million per year will be available until 2023. Inter-company vocational training centres receive support with integrating digital technologies into inter-company training and with the further didactic and methodological development of course provision → **Table A8.4-1**.

Provision of inter-company training at inter-company vocational training centres is distributed right across Germany. The scope of action of inter-company vocational training centres is concentrated on the respective chamber area in many cases and is thus regionally focused. This means that a training infrastructure operating at a regional level is available to regional trade and industry in the various areas of training. However, provision of inter-company training in the individual areas of training varies according to factors such as how the regional economy is structured.

The regional distribution of inter-company vocational training centres across Germany in the period from 2012 to 2021 will be presented below. The basis of consideration is BIBB funding data from the inter-company vocational training centre funding programmes described

22 Multiple responses were also possible. All other possible responses were automatically deactivated if the option "None" was chosen.

Table A8.4-1: **Distribution of expenditure within the scope of regular funding for inter-company vocational training centres and as part of the "Special programme for the promotion of digitalisation in inter-company vocational training centres" – Federal Institute for Vocational Education and Training (€ million rounded figures)**

Budget year	Inter-company vocational training centres (UBS)	Competence centres (Komzet)	Special programme UBS digitalisation (SOP)		Total expenditure (UBS + Komzet+ SOP)
			Equipment	Development and experimental projects	
2013	39,00	1,00			40,00
2014	38,85	1,15			40,00
2015	40,50	1,50			42,00
2016	44,21	0,87	10,46	0,46	56,00
2017	43,39	0,67	25,52	2,42	72,00
2018	42,31	0,24	27,87	1,58	72,00
2019	41,62	0,46	29,39	0,53	72,00
2020	45,78	1,67	21,46	0,92	69,83
2021	30,71	1,55	19,18	6,56	58,00
2022	35,50	1,36	27,04	8,10	72,00

Note: The amounts contain – distributed percentagewise– the necessary review costs and company financial means for the SOP.
Source: Federal Institute for Vocational Education and Training (BIBB) VET Data Report Gemany 2023

Table A8.4-2: **Number of funded projects from 2012 to 2021 by training area**

Training area	Approved funding projects
Craft trades	1,080
Industry	270
Agriculture	36
Other	2
Total	**1,388**

Source: Federal Institute for Vocational Education and Training (BIBB) VET Data Report Gemany 2023

above. It must, however, be assumed that some inter-company vocational training centres in Germany have not availed themselves of this funding provision thus far and for this reason do not form part of the analysis. During the funding period from 2012 to 2021, 403 different inter-company vocational training centres in Germany were funded by the BIBB. Total funding volume was €546 million across 1,388 projects. These inter-company vocational training centres are essentially distributed across the areas of training of the craft trades, industry (including one inter-company vocational training centre from trade) and agriculture → **Table A8.4-2**.

A9 Training and employment

A9.1 Transitions to employment

Vocational education and training makes a major contribution to integration into working life and to securing the future opportunities of young people. Successful entry into the world of work is a fundamental prerequisite for the realisation of individual occupational and work chances. This "second threshold" marks the interface between VET and the labour market which is fundamental in establishing the direction of travel for later occupational development. The transitional phase from training to the employment system does not, however, run smoothly for all those completing vocational education and training and may well be accompanied by interruptions and uncertainties.

A9.1.1 Entry points into unemployment after completion of dual training

The number of persons completing training is taken from the Vocational Education and Training Statistics produced by the Federal Statistical Office and the statistical offices of the federal states. The rates thus calculated differ considerably from the general labour force unemployment rate for young people who have completed dual VET. Extrapolations based on figures from the BA showed that around 81,000 persons registered as unemployed following completion of dual vocational education and training in the year 2021.[23] This represents an unemployment rate of 21.3% in relation to the total number of persons completing dual training (around 379,000 persons). In 2021, the unemployment rate fell once more compared to the previous year (22.9%). The fall was 1.6 percentage points (→ **Chart A9.1-1**). This means that unemployment has been falling almost continually since 2009, when the rate was more than 17 percentage points higher. The rate even decreased in 2020 despite the coronavirus pandemic and an otherwise contrary trend.

Chart A9.1-1: **Unemployment rate after successful completion of dual training by gender, Germany 2009 to 2021 (in %)**

Source: Federal Employment Agency, Federal Statistical Office, Federal Institute for Vocational Education and Training
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A9.1.2 Labour force unemployment rates of young adults with different vocational qualifications in comparative terms

Based on data from the microcensus (MZ[24]), the labour force unemployment rate (see Information Box) in 2021 for persons aged between 18 and 24 who had completed dual training was 3.6%. Labour force unemployment rates amongst young people generally fell in 2021, and part of the rise in 2020 was offset. Labour force unemployment rates were at a low level for all persons with a formal qualification. They were, however, significantly higher for those not in possession of a formal qualification (→ **Table A9.1.2-1**).

23 No distinction can be drawn between extra-company training and company-based training in the BA dataset.

24 The microcensus was methodologically restructured in 2020. For this reason, comparisons with previous years are only possible to a limited extent.

Table A9.1.2-1: **Persons aged 18 to 34 in private households by vocational qualification and employment status in 2021 (extrapolations in thousands) and unemployment rate (in %)**

Employment status		18 to 34-year-olds, not in vocational training and with valid information about their vocational qualifications						
		Total	of which					
			Non-formally qualified	Formally qualified				
				Total	of which with highest vocational qualification			
					Apprentice-ship in the dual system	Vocational school qualification[1]	Master's/ technician's qualification[2]	Applied uni-versity/uni-versity degree doctorate
Total	2021	**10,576**	**2,806**	**7,770**	**3,630**	**709**	**1,087**	**2,343**
	2020	**10,548**	**2,477**	**8,071**	**4,004**	**739**	**1,074**	**2,254**
	2019	**10,705**	**2,307**	**8,398**	**4,582**	**430**	**1,076**	**2,310**
	2018	**10,698**	**2,277**	**8,422**	**4,782**	**418**	**992**	**2,230**
	2017	**10,825**	**2,278**	**8,547**	**4,924**	**433**	**990**	**2,200**
	2016	**10,866**	**2,224**	**8,642**	**5,056**	**454**	**1,000**	**2,132**
	2015	**10,473**	**2,023**	**8,451**	**5,088**	**443**	**925**	**1,994**
Employed	2021	8,641	1,618	7,023	3,257	624	1,003	2,139
	2020	8,631	1,412	7,218	3,573	644	983	2,019
	2019	8,988	1,349	7,638	4,133	386	1,005	2,115
	2018	8,907	1,281	7.626	4,305	372	926	2,024
	2017	8,921	1,222	7,699	4,397	380	923	1,999
	2016	8,936	1,190	7,746	4,478	404	928	1,936
	2015	8,664	1,092	7,572	4,489	396	867	1,821
Unemployed	2021	454	242	211	116	22	16	57
	2020	503	265	237	128	24	(15)	71
	2019	422	224	198	127	12	11	49
	2018	461	244	217	141	12	12	52
	2017	503	266	238	164	16	12	46
	2016	550	277	272	197	11	12	52
	2015	580	284	295	219	13	12	51
Inactive	2021	1,481	945	536	257	64	68	147
	2020	1,415	800	615	302	72	77	165
	2019	1,295	734	562	322	32	61	147
	2018	1,330	752	578	336	34	54	154
	2017	1,401	790	611	363	38	56	155
	2016	1,381	757	624	381	39	60	144
	2015	1,230	647	584	380	34	47	122
Unemployment rate	2021	**5.0%**	**13.0%**	**2.9%**	**3.4%**	**3.4%**	**1.6%**	**2.6%**
	2020	**5.5%**	**15.8%**	**3.2%**	**3.5%**	**3.6%**	**1.5%**	**3.4%**
	2019	**4.5%**	**14.2%**	**2.5%**	**3.0%**	**2.9%**	**1.0%**	**2.3%**
	2018	**4.9%**	**16.0%**	**2.8%**	**3.2%**	**3.2%**	**1.3%**	**2.5%**
	2017	**5.3%**	**17.9%**	**3.0%**	**3.6%**	**3.9%**	**1.3%**	**2.3%**
	2016	**5.8%**	**18.9%**	**3.4%**	**4.2%**	**2.7%**	**1.3%**	**2.6%**
	2015	**6.3%**	**20.7%**	**3.8%**	**4.7%**	**3.1%**	**1.4%**	**2.7%**

[1] Including completion of preparatory service for the middle service in public administration.

[2] Including completion of a technical school in the GDR and completion of a university of applied sciences or a vocational academy. Overall, the information is limited, as the numerical value is statistically relatively uncertain.

Since **2020**: Case numbers are no longer published by the Federal Statistical Office. Instead, statistically relatively uncertain numerical values with limited information value are shown in parentheses. Values with very high uncertainty are not displayed.

Case numbers **2019**: Completed dual training n=40,100; vocational school qualification n=3,718; master craftsman or technician qualification n=9,482; university of applied sciences degree, university degree or doctorate possible n=19,615; non-formally qualified n=18,652.

Case numbers **2018**: Completed dual training n=43,166; vocational school qualification n=3,669; master craftsman or technician qualification n=8,766; university of applied sciences degree, university degree or doctorate possible n=18,739; non-formally qualified n=18,371.

Case numbers **2017**: Completed dual training n=43,101; vocational school qualification n=3,775; master craftsman or technician qualification n=8,782; university of applied sciences degree, university degree, or doctorate possible n=18,683; non-formally qualified n=18,353.

Case numbers **2016**: Completed dual training n=43,144; vocational school qualification n=3,888; master craftsman or technician qualification n=8,655; university of applied sciences degree, university degree, or doctorate possible n=17,668; non-formally qualified n=17,552.

Case numbers **2015**: Completed dual training n=40,707; vocational school qualification n=3,528; master craftsman or technician qualification n=7,506; university of applied sciences degree, university degree or possible doctorate n=15,598; non-formally qualified n=15,388.

Source: Microcensus 2015 to 2021. The microcensus was methodologically redesigned in 2020.

Information Box – Labour force unemployment rates versus general unemployment rates

Labour force unemployment rates and general unemployment rates are based on different survey concepts. The general unemployment rate relates to the total of registered unemployed persons. Labour force unemployment, on the other hand, is determined via surveys. A person is deemed to be unemployed under the latter definition if they are aged between 15 and 74, work for less than one hour per week but were actively engaged in looking for a job in the four weeks preceding the survey and are available to start work within two weeks. Indeed, these two rates usually differ sharply from one another. The labour force unemployment rate in Germany in 2021 was 3.3%, whereas the general unemployment rate was 5.7%.

A9.2 Qualifications and occupational projections: Seventh wave of the QuBe basic projection Design concept and context

The seventh wave of the BIBB-IAB qualifications and occupational projections (QuBe Project) was published in autumn 2022. The QuBe basic projection reflects labour market development if existing trends and modes of behaviour continue to apply in the economy and in the education and training system. To this extent, it makes a consistent pathway of development visible. Alternative scenarios are regularly modelled alongside the basic projection. Alternative scenarios include topic-specific assumptions. "MoveOn", for example, modelled a sustainable mobility system and also enabled the elaboration of relevant labour market effects compared to the basic projection.

Information Box – BIBB-IAB qualifications and occupational field projections (QuBe Project)

The QuBe projections, which have been developed in conjunction with the Institute of Economic Structural Research (GWS), use model calculations to show how the supply of and demand for qualifications and occupations may develop in the long term. The microcensus (last survey conducted in 2019), an official representative statistic produced by the Federal Statistical Office in which one percent of all households in Germany participate each year and which provides information on the population and labour market, serves as the database. The National Accounts serve as the foundation for a projection of the macro economy.

Register data supplied by the BA on employees subject to mandatory social insurance contributions (SVB) and on employees solely working in part-time jobs subject to flat-rate deductions (AGB) delivers additional information on the labour demand by occupation and by the relevant wages paid. Results are differentiated in up to 141 occupational groups (three-digit codes with combined military occupations) of the 2010 Classification of Occupations (KldB).

The present results are based on the basic projection of the seventh projection wave. The basic projection pursues an empirically-based concept. Only types of behaviour previously demonstrable are projected into the future. Changes in behaviour not identifiable in the past thus do not form part of the basic projection.

As well as updating trends and modes of behaviour, the basic projection also includes a medium-term consideration of current measures and behaviours if the realisation or occurrence of these can be assumed to be extremely unlikely. In the case of the seventh wave, this particularly concerns the economic consequences of the war in Ukraine. Aspects here include the short-term rises import prices for metals, for fossil fuels (assumption: +80%) and for foodstuffs (assumption: +50%). The expectation is that these prices will not fall until 2030. An increase in net immigration by 600,000 persons in 2022 and by 150,000 persons in 2023 continues to be modelled. A rise in defence spending to around 2% of gross domestic product (GDP) and an accelerated energy transition as structured by the "Easter Package" of the Federal Government are also taken into account.

Information Box – QuBe Data Portal and QuBe Dossiers

The QuBe Data Portal (**www.qube-data.de**) illustrates the results of the QuBe projections and shows possible development pathways for labour supply and demand. The results of the basic projection can be accessed for the years 2015 to 2040 and are differentiated according to 141 occupational groups and 37 main occupational groups or by qualifications (supply) or by requirements levels (needs). On the supply side, labour supply is shown in terms of number of persons and work volume potential is indicated at the level of hours. The demand side lists labour demand or the work volume requirement which is needed for production of goods or for the provision of services sought after. The results of the interactive database enquiries are presented in the form of tables, diagrams and maps and can be downloaded for further use in various file formats (SVG, PNG, HTML, CSV).

Expected population development

Population development is key to the future development of labour supply and labour demand (see Information Box). The QuBe Population Projection differentiates between age, gender and persons with and without German citizenship (Germans and non-Germans). It is thus possible to directly record the considerable differences between these two population groups in respect of birth figures, migration behaviour and employment propensity. All migration streams, i.e. inflows and outflows from and to abroad, are also endogenously determined. Age, gender and formal qualification are all crucial to employment behaviour and therefore also to the labour market.

Information Box – Labour supply and labour demand

The labour demand includes all persons who exercise an activity for economic gain, regardless of the scope of such an activity. They may be employees (hourly-paid workers, salaried employees, civil servants, workers who work only a few hours per month, members of the military), self-employed or persons helping out in family businesses. Labour demand pursuant to the domestic concept is defined as all persons involved in economic activity with place of residence in Germany (place of residence concept). Labour demand pursuant to the national concept is defined as all persons involved in economic activity in Germany regardless of place of residence (place of work concept). The labour supply is people who are in active employment or are actively seeking employment and are directly available to the labour market. The labour supply thus constitutes persons who are in employment and persons who are not in employment according to the concept of the Labour Organisation (ILO).

The current QuBe Population Projection for the seventh projection wave considers the population size at the end of the year 2021 and projects this to subsequent years whilst taking account of migration patterns.

Labour supply by qualifications

Labour supply by qualifications comprises the number of persons leaving working life, net new supply from the domestic education and training system, and net new supply from abroad. These three values and the change in the total labour supply by qualifications are illustrated in → **Table A9.2-1**. The number of persons leaving working life will rise constantly up until 2035. After the transition of the baby boomer generation, the number of persons leaving working life will fall once more in overall terms to around 4.8 million persons in the period from 2035 to 2040.

This decline occurs across all qualification levels. It continues to be clear that cohorts departing working life increasingly exhibit a higher formal qualification. Because lower success rates for foreign trainees and students are displayed historically, an increasing number of non-German trainees and students also lead to a slight rise in the number of those leaving the education and training system without a full qualification. To the extent that the success rates of foreign trainees do not converge with the success rates of Germans, the supply of persons without a full vocational qualification will fall only slowly. The number of persons leaving the education system with a vocational qualification rises over the period of the projection and remains significant relative to other leavers. At both qualification levels, however, the small rise in net new supply from the education and training system is not sufficient to compensate for the persons leaving working life. This also applies in the case of those with upgrading training, a bachelor's qualification or a degree from a university of applied sciences. Around 3.6 million new persons at this qualification level will enter the labour market by 2040. This figure contrasts with approximately 5.1 million persons at the same qualification level who will leave working life. By way of contrast, an increase is revealed in the case of persons with a higher education (not including a bachelor's qualification or a degree from a university of applied sciences). Around 3.5 million such persons will progress from the education and training system to working life up until the year 2040 whilst only about 2.4 million will depart from working life.

The qualification structure of the labour supply will stabilise in overall terms. From 2035, around 38% of the labour supply has a vocational qualification (2021: 40%), and the proportion of low-skilled workers will fall steadily to 9% by 2040 (2021: 11%). The proportion of persons with upgrading training, a bachelor's qualification or a degree from a university of applied sciences also rises to 26% in 2040 (2021: 27%), whereas the proportion of higher education graduates (not including a bachelor's qualification or a degree from a university of applied sciences) increases to 18% (2021: 13%).

Labour supply and demand at the occupational level

Whereas the generations emerging onto the labour market are qualified in service activities to an increased extent, the generations leaving the labour market are comparatively more likely to be specialised in manufacturing occupations. Labour force supply and demand can be compared at an occupational level in order to obtain a

Table A9.2-1: **Net new labour supply and persons leaving working life by qualification level (ISCED) in the years 2021 to 2040**

Year/period	Without a full vocational qualification (ISCED 010-344)	With a vocational qualification (ISCED 351-444, 454)	Upgrading training, bachelor's qualification or degree from a university of applied sciences (ISCED 453, 554-655)	Higher education qualification (not including a bachelor's degree or a degree from a university of applied sciences) (ISCED 746-844)	In training	Total
Total labour supply in thousands						
2021	5,296	18,667	12,726	5,969	3,652	46,310
2025	5,230	18,580	12,745	6,445	3,751	46,751
2030	4,879	17,905	12,539	6,997	3,831	46,152
2035	4,462	17,231	12,161	7,513	4,004	45,372
2040	4,111	17,053	11,950	8,030	4,046	45,189
Persons leaving working life in thousands						
2022 to 2025	438	1,997	882	512	-	3,828
2026 to 2030	604	2,673	1,308	629	-	5,214
2031 to 2035	615	2,641	1,507	639	-	5,402
2036 to2040	571	2,223	1,391	607	-	4,792
2022 to 2040	2,228	9,535	5,087	2,387	-	19,236
Net new offers to working persons in Germany in thousands						
2022 to 2025	348	2,025	693	630	-	3,697
2026 to 2030	389	2,324	953	934	-	4,599
2031 to 2035	391	2,316	953	968	-	4,629
2036 to 2040	417	2,448	960	975	-	4,800
2022 to 2040	1,545	9,113	3,559	3,507	-	17,725
Net new offers to working persons abroad in thousands						
2022 to 2025	24	-115	207	357	-	473
2026 to 2030	-136	-326	150	247	-	-65
2031 to 2035	-194	-349	176	187	-	-180
2036 to 2040	-196	-403	219	149	-	-232
2022 to 2040	-502	-1,193	752	940	-	-3

Source: QuBe Project, basic projection, seventh wave VET Data Report Gemany 2023

perspective of matching issues. However, developments in supply and demand are subject to exchange processes and are by no means static and independent from one another. The first thing to play a role with regard to the labour demand requirements within an occupation is the sector-specific change in the macro-economy. Jobs in a sector are filled by persons with a specific mix of occupations. Growth within the sector determines the need to expand a certain occupation. The composition of occupations within may, however, also alter over the course of time. An influence may be exerted by aspects such as technological changes or wage development in an occupation. Wage levels correlate in turn with the occupationally-specific labour demand. In the case of occupation-specific bottlenecks, wage rises are therefore modelled for the relevant task in accordance with em-

pirically identified effect mechanisms. Labour demand may therefore decrease in these occupations because production costs are rising in overall terms, resulting in reactions to final demand domestically and abroad. There continues to be an incentive for persons in possession of an occupationally-specific qualification to remain for a longer period of time in the occupation in which they have been trained or to return to such an occupation because remuneration opportunities rise in comparison to other occupations that they could possibly exercise.

→ **Table A9.2-2** contrasts labour demand and labour supply for the years from 2021 to 2040 across 37 main occupational groups (2-digit code in the KldB 2010) whilst taking account of these exchange processes.

Skilled worker shortages

The comparison of labour supply and demand at an occupational level undertaken above is insufficient in respect of formulating robust statements on shortages on the labour market. The relevant summaries disregard the fact that persons do not necessarily work in the occupation in which they have been trained. As already explored, occupational flexibility actually gives rise to employment opportunities outside the occupation learned, especially as classification-related restrictions may constitute an obstacle to recording a valid summary of occupation in which training took place and occupation exercised. Neither is any consideration accorded to contrasting working hours on offer and working hours in demand. Employees often wish to have more work, particularly in occupations with a high proportion of part-time employment. To this extent, a per capita consideration underestimates the labour supply. Finally, both the personal search for employment and the recruitment chances of companies depend on ancillary conditions such as attractiveness of jobs or production processes. These are not taken into account in a simple summary assessment.

For these reasons, adjusted search durations (see Information Box) have been shown since the sixth wave of the QuBe Project. Although the resultant skilled worker situation is clearly revealed to be generally tight from a company point of view, there are occupationally-specific variances. There are adjusted search durations of over 90 days in 10 out of 36 main occupational groups and in 40 of 140 occupational groups (albeit not including military occupations). This indicates that the search for relevantly qualified skilled workers is more likely to be unsuccessful. On average across all occupations, the median adjusted search duration in 2021 was 79 days.

Information Box – Adjusted search durations

Adjusted search durations are a measurement figure for the skilled worker situation in an occupation. They express the median number of days needed by a company to fill a job vacancy. The longer the mean adjusted search duration in an occupation, the more difficult recruitment will prove to be. For example, the risk of abandonment of a search without success virtually trebles (factor of 2.8) if the search duration rises by one percent. If a company searches for longer than three months (90 days), the risk of failing to recruit is higher than the likelihood that the search will be successfully concluded. This is shown by current analyses based on around 45,000 successful and just under 9,000 unsuccessful recruitments (not including jobs involving semi-skilled tasks) taken from IAB Job Surveys conducted between 2012 and 2020.

In 2021, the tightest recruitment situation for skilled tasks within this context is 108 days in “mechatronics, energy and electrical occupations”. Bottlenecks continue to be evident in “construction scheduling, architecture and surveying” (103 days), in “information and communication technology” (101 days), and in “non-medical healthcare, body care and health and beauty occupations, medical technology”. Because of the overall scarcity of labour supply, the skilled worker situation in most occupations will continue to deteriorate in the long term from a company point of view. The sharpest increases in search durations of eleven days occurred in “medical healthcare professions” and “food production and processing”. The only areas in which the recruitment situation is slightly alleviating are “occupations in financial services, accountancy and tax consultancy” and “law and administration”. In these cases, labour demand is falling more than labour supply is rising. In “occupations in cleaning services”, the recruitment situation for skilled tasks is comfortable despite a lack of numbers. This is due to the high proportion of part-time work in the occupation and the favourable opportunities for lateral entry. Search duration in 2021 was 56 days, followed by “occupations in traffic and logistics (not including vehicle driving)” (61 days). However, adjusted search duration will rise in these areas in the future, too. Despite labour scarcities and surpluses at the level of occupational groups, occupational development in the subordinate occupational groups may vary. More detailed results data is also available in the QuBe Data Portal (see Information Box).

Table A9.2-2: **Labour supply and labour demand from 2021 to 2040 by main occupational groups**

Main occupational group (2010 Classification of Occupations)		Labour demand			Labour supply		
		2021	2030	2040	2021	2030	2040
1	Members of the regular armed forces	176	178	175	182	188	187
11	Occupations in agriculture, forestry, and farming	568	531	511	583	552	524
12	Occupations in gardening and floristry	407	400	387	425	417	399
21	Occupations in production and processing of raw materials, glass and ceramic making and processing	140	123	105	146	133	115
22	Plastics manufacture and processing, wood production and processing	635	602	563	659	619	563
23	Occupations in paper making and processing, printing, and in technical media design	386	360	338	400	382	360
24	Occupations in metal making and metal working, and in metal construction	1,309	1,222	1,129	1,362	1,264	1,153
25	Technical occupations in the engineering and the automotive industry	2,055	1,954	1,834	2,128	1,996	1,832
26	Mechatronics, energy and electrical occupations	1,185	1,152	1,098	1,220	1,176	1,110
27	Occupations in technical research and development, construction, and production planning and scheduling	1,218	1,215	1,189	1,250	1,250	1,221
28	Occupations in textile and leather making and processing	160	146	130	167	157	142
29	Occupations in food-production and processing	1,054	1,053	1,019	1,103	1,096	1,036
31	Occupations in construction scheduling, architecture and surveying	413	418	405	422	416	410
32	Occupations in building construction above and below ground	768	742	685	804	759	690
33	Occupations in (interior) construction	575	549	504	602	569	512
34	Building and supply technology occupations	1,049	1,029	982	1,083	1,032	971
41	Occupations in mathematics, biology, chemistry and physics	454	445	430	468	477	473
42	Occupations in geology, geography and environmental protection	72	74	75	74	81	87
43	Occupations in computer science, information and communication technology	1,068	1,180	1,280	1,095	1,191	1,257
51	Occupations in traffic and logistics (not including vehicle driving)	2,730	2,722	2,686	2,859	2,782	2,685
52	Drivers and operators of vehicles and transport equipment	1,473	1,498	1,485	1,533	1,493	1,472
53	Occupations in safety and health protection, security and surveillance	785	790	778	808	800	785
54	Occupations in cleaning services	1,501	1,510	1,479	1,572	1,528	1,445
61	Procurement, sales and commercial occupations	1,263	1,236	1,198	1,294	1,312	1,292
62	Sales occupations in the retail trade	2,923	2,809	2,699	3,034	2,935	2,778
63	Tourism, hotel and restaurant trade	1,241	1,350	1,395	1,296	1,376	1,366
71	Occupations in business management and organisation	5,573	5,487	5,350	5,708	5,753	5,667
72	Occupations in financial services, accountancy and tax consultancy	1,671	1,590	1,525	1,703	1,705	1,684
73	Legal and administrative occupations	1,878	1,798	1,694	1,912	1,884	1,797
81	Medical and healthcare occupations	3,406	3,699	3,931	3,468	3,617	3,759
82	Non-medical healthcare, body care and health and beauty occupations, medical technology	1,299	1,366	1,438	1,340	1,421	1,453
83	Education, social and housekeeping occupations, theology	2,434	2,538	2,556	2,490	2,512	2,512
84	Occupations in teaching and training	1,729	1,839	1,878	1,761	1,861	1,986
91	Occupations in philology, literature, humanities, social sciences, and economics	151	159	163	154	155	158
92	Occupations in advertising and marketing and in commercial and editorial media design	753	790	822	773	811	840
93	Occupations in product design, artisan craftwork, fine arts and the manufacture of musical instruments	155	149	140	161	166	168
94	Occupations in the performing arts and entertainment	262	262	267	272	285	299
	Total	**44,920**	**44,964**	**44,319**	**46,310**	**46,152**	**45,189**

Source: QuBe Project, basic projection, seventh wave

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Competency requirements

Skilled worker shortages on the basis of occupationally-specific adjusted search durations have been set out above. Occupational profiles are characterised by formalisation. Vocational certificates attest which contents have been imparted in a formal training programme. From the standpoint of competency orientation, however, the point of interests is the skills which individuals actually possess. To this extent, the inclusion of competency requirements can expand perspectives of shortages. The imparting of competencies is indeed increasingly being viewed as a goal of education and training. A forecast of competencies which will be in demand is significant in terms of being able to organise education and training in an appropriately foresighted manner. A separate QuBe competency classification has been developed against this background. Not the least of the benefits of the QuBe competency requirements (see Information Box) is the fact that they facilitate a compressed view of the structural shift occurring in the wake of digitalisation.

The QuBe competency classification primarily maps cross-cutting competencies used in the workplace rather than all conceivable professional skills. These modelled competency requirements are derived from the 2011/2012 and 2017/2018 Labour Force Surveys (ETB) and measure the extent to which a competency is in demand in a specific occupation. The measurement figures range from 0 (no competency requirement) to 1 (very high competency requirement). The full spectrum is usually only exhausted at the level of the entire labour demand. The breadth of the scales is reduced if groups or occupations are considered at a specific aggregation level. At the level of the initial data source, it becomes apparent that competency requirements of an intellectual nature (2.a. to 2.d.) rise in relative proportional terms both in line with the requirements level and the qualification level. The opposite applies in the case of competency requirements of a physical nature (1a. to 1.b.). The QuBe competency requirements do not merely show cross-cutting requirements. They also pool and abstract professional requirements to a certain degree.

It has not been possible thus far to predict internal occupational changes to the QuBe competency requirements because of the classification-specific limitations of the initial ETB data source. This does not apply to changes to competency demand occasioned by occupational structure. QuBe competency requirements can be alluded to and updated accordingly via occupations and requirements levels.

Information Box – QuBe Data competency requirements

The QuBe Data competency requirements are based on self-assessments by employees. They are derived from information provided to the BIBB/BAuA 2011/2012 and 2017/2018 Labour Force Surveys (ETB) on tasks performed, occupational requirements and working conditions. The system positions of QuBe competency are based on the task classification used in Eurofound.

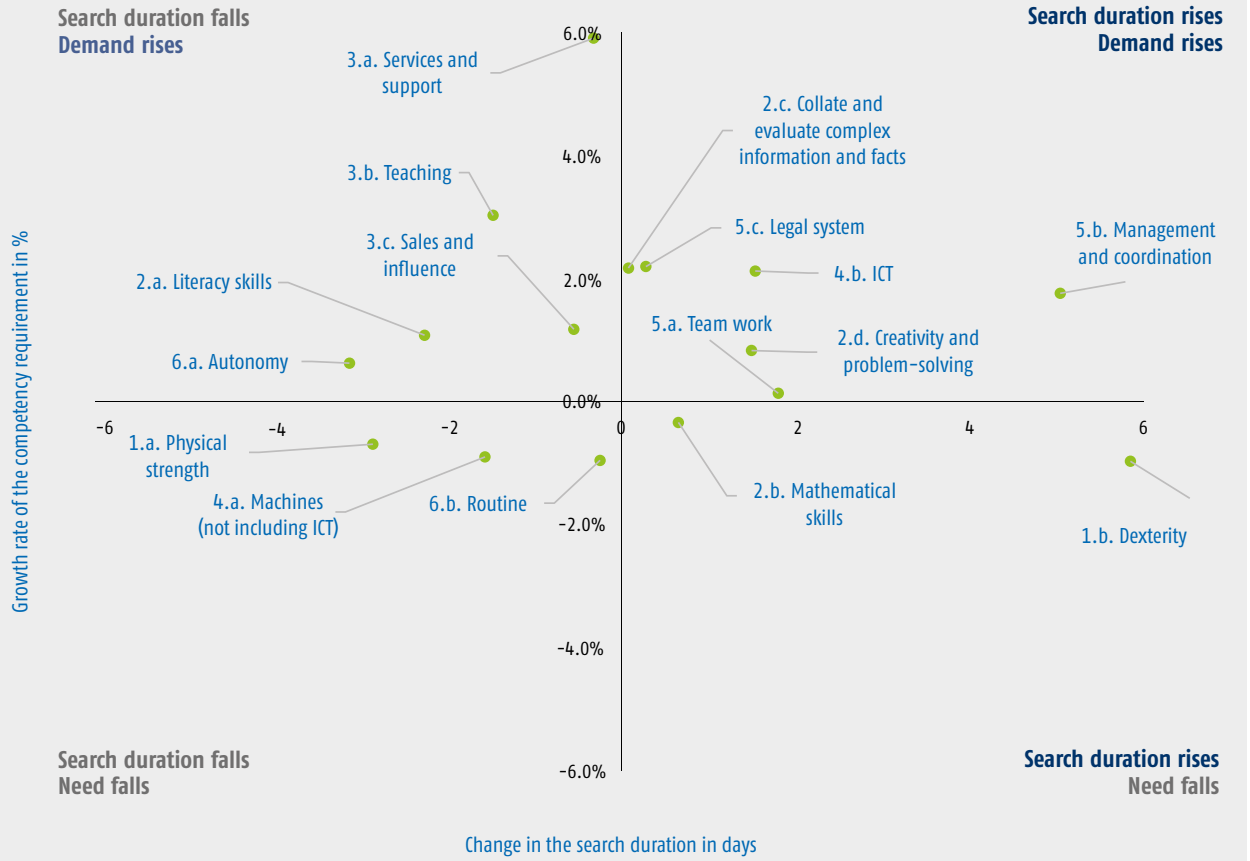
The various system positions are operationalised differently depending on the ETB data basis. Individual initial variables are used as a sole approximation for some of the competency requirements. The other competency requirements, those which are capable of association with more than one initial variable, are all pooled into the respective scales. This takes place via the dimension-reducing procedure of polychoric main component analysis.

All scales are recoded across the spectrum from 0 (no competency requirement in the occupation) to 1 (very high competency requirement in the occupation). Group averages with an accordingly lower breadth are shown in the consideration of occupations. The values presented are measurement figures for how great a specific competency requirement is in a given occupation.

The seventh wave of the QuBe basic projection once again shows that the need for higher requirements levels will increase because the shift from an industrial to a services-based society is continuing. → **Chart A9.2-1** provides a graphical presentation of the growth rates for all competency requirements in connection with the competence-specific identification of adjusted search duration changes between 2020 and 2040. In the latter case, regressions of the competency requirements have been calculated for the search duration changes. This permits an analysis of how QuBe competency requirements and which QuBe competency requirements affect the recruitability of skilled workers.

These are characterised by prominent receptions of digitalisation, particularly via the substitutability of routine tasks. In the case of "3.a. Services and support", however, a distinction needs to be drawn with regard to the nature of the service and support. Whereas the rise in the adjusted search duration between 2020 and 2040 could be due to a catch-up effect in gastronomic experiences and therefore also in hospitality and cleaning, including in the wake of the consequences of the coronavirus pandemic, recruitment difficulties in nursing tasks increase throughout. Adjusted search duration declines somewhat in overall terms during the period from 2030 to 2040

Chart A9.2-1: **Change in competency requirements and the skilled worker situation from 2020 to 2040**



Source: QuBe Project, basic projection, seventh wave

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despite rising requirements. A differentiated consideration is also necessary with regard to "2.b. Mathematical skills" and "1.b. Dexterity". The work object and therefore also the occupation in respect of which mathematics and dexterity in particular need to be applied are significant. When arriving at an interpretation, account must be taken of the fact that the generations emerging onto the labour market are, as described above, qualified in service activities to an increased extent, whereas the departing (baby boomer) generations are more likely to be specialised in manufacturing occupations and therefore also more likely to deploy competencies in mathematics and dexterity in the workplace.

A9.3 Employment and formal education and training decisions of young people following initial training – results from the National Educational Panel Study (NEPS)

Various formal education and training pathways are open to young people after completion of vocational education and training. Firstly, the German education system offers different opportunities for formal continuing training which leads to higher level qualifications and creates new career prospects. The traditional route for persons with a vocational qualification is higher VET such as upgrading training leading to the qualification of master craftsman or technician. An alternative option is higher academic training in the form of a programme of higher education study at a university of applied sciences or university. Higher vocational and academic training are characterised by factors such as differing returns during later

employment, e.g. with regard to income achieved, professional status, occupational tasks and health aspects. On the other hand, persons completing training may decide against formal higher training and either pursue employment in the occupation in which training has taken place or else commence further VET, e.g. in another occupation.

This section looks at these various education and training options and investigates possible reasons and motivations why persons completing training opt for or against the different possibilities. The object of consideration is young people who have concluded initial VET in the dual or school-based system. We begin by presenting which options are chosen after initial training. The article further aims to provide initial indications as to which factors may influence the decision to adopt a certain education or training option. The data source is the National Educational Panel (see Annex – Data sources). This offers detailed education and training and employment histories which permit differentiation to be made between aspects such as the education and training options forming the object of investigation and also contains a multitude of measurements of training-related characteristics.

Information Box – National Educational Panel Study (NEPS)

The findings presented relate to 3,879 persons who had completed initial training in the dual or school-based system and who were aged between 18 and 23 at the time when training was concluded. Owing to the fact that the respective training programmes were completed at different points, many of the variables used relate to different measurement times. For this reason, the results presented are based on unweighted data. The education and training option chosen was identified on the basis of the first 36 months following completion of training in order to be able to map the education and training decisions taken by those who initially pursued employment in their training occupation. A differentiation was made between the following five groups.

a) Persons who mainly pursued employment of at least ten hours per week, including after 36 months.

b) Persons who have progressed within the 36 months to higher vocational training (e.g. master craftsman or technician, other trade and technical school training, or chamber of commerce and industry training).

c) Persons who have progressed to higher academic training (in the form of a bachelor's programme of study).

d) Persons who commenced a further programme of vocational education and training (in another occupation) in the stated period.

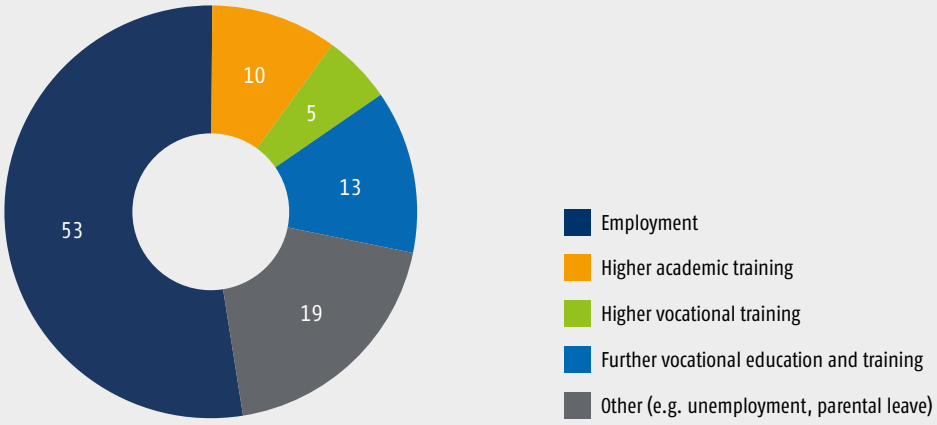
e) Persons who had embarked upon a different pathway (e.g. parental leave, military service, unemployment). This report will not consider such persons any further.

→ **Chart A9.3-1** presents which education and training options were chosen by the persons forming the object of investigation in the first 36 months after completion of their initial VET. More than half were still mainly in employment, including after 36 months. About 10% of respondents had embarked on higher academic training in the form of a bachelor's programme of study, double the figure of those commencing higher VET.

→ **Table A9.3-1** provides information on the socio-structural distribution of the persons with completed VET forming the object of the investigation, differentiated by education and training option chosen. The highest level of educational qualification was exhibited by persons who progressed to higher academic training. The majority of persons in higher VET, two thirds, were in possession of an intermediate secondary school-leaving certificate. The gender ratio was relatively balanced across the various groups, although women seemed slightly less likely to remain in employment (42%) and tended to opt for further VET (59%). The proportion of persons from a migrant background was below the sample mean value of 30% in the case of both forms of higher training. Persons in employment and in other training programmes displayed average values in this regard. Significant differences were revealed between the groups under consideration with regard to social origin. Persons in higher academic training came from homes with a significantly higher social status. They were followed by persons in higher VET, who despite the lower level also displayed significantly higher values in statistical terms than persons who remained in employment or progressed to further vocational education and training.

We set out below how certain objective and subjective characteristics of initial vocational education and training correlate with the education and training option chosen. → **Table A9.3-2** initially focuses on a key objective characteristic, the occupational sector in which initial training was completed. Participants in higher VET are predominantly composed of persons who had competed initial training in a manufacturing occupation (66%). This proportion is twice as high as for persons in higher academic training, the largest part of whom (42%) had completed their vocational education and training in the commercial and business-related sector. Only 30% had

Chart A9.3-1: **Destination in the first 36 months following completion of initial vocational education and training (in %)**



Source: NEPS, start cohort 4, doi:10.5157/NEPS:SC4:12.0.0, n = 3,789, unweighted responses
Calculations by the Federal Institute for Vocational Education and Training

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Table A9.3-1: **Education and training decisions after completion of initial training, socio-structural characteristics**

	Employment[1]	Academic higher qualification[2]	Vocational higher qualification[3]	Further vocational education and training[4]	Other[5]
Highest school-leaving qualification (in %)					
Max. lower secondary school-leaving certificate	23	1	11	29	28
Intermediate secondary school-leaving certificate	53 (52.5)	26	68	60	47
University (of applied sciences) entrance qualification	25	73	22 (21.5)	11	25
Share of women (in %)	42	47	25	59	51
Persons with a migration background (in %)	31	24	23	31	33
Social status of the parents (ISEI points)	46	59	50 (49.5)	46	47
Training Final mark	2.5	2.0	2.2	2.4	2.5
N (unweighted)	2,041	384	210	495	749

[1] Weekly working time of min. ten hours
[2] Academic higher qualification (bachelor's degree course at a university, university of applied sciences, occupational, management or business academy or specialist administration college)
[3] Vocational higher qualification (master, technician, "other university of applied sciences training" or "IHK training"), only occupations with requirements level 3 or 4 (according to KldB 2010)
[4] Dual and full-time school vocational education and training (without vocational higher qualification) which are taken up after the initial VET.
[5] Other status, e.g. parental leave, unemployment, military service

Source: NEPS, starting cohort 4, doi:10.5157/NEPS:SC4:12.0.0, N=3.879, unweighted responses;
Calculations by the Federal Institute for Vocational Education and Training

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completed training in manufacturing occupations. A further conspicuous aspect is that a majority of the persons commencing another programme of vocational education and training (53%) hold an initial training qualification in an occupation in personal services.

Table A9.3-2: **Education and training decisions after completion of initial training, differentiated by occupational sector (S1 to S5) of the training occupation (in %)**

	Employment[1]	Academic higher qualification[2]	Vocational higher qualification[3]	Further vocational education and training[4]	Other[5]
	in %	in %	in %	in %	in %
S1 Manufacturing occupations	37	30	66	23	27
S2 Personal-related service occupations	24	18	10	53	39
S3 Commercial and company-related service occupations	29	42	18	18	25
S4 Service occupations in the IT sector and in the natural sciences	4	8	5	3	5
S5 Other business service occupations	6	2	2	3	4
	100	100	100	100	100
N (unweighted)	2,041	384	210	495	749

[1] Weekly working time of min. ten hours
[2] Academic higher qualification (bachelor's degree course at a university, university of applied sciences, occupational, management or business academy or specialist administration college)
[3] Vocational higher qualification (master, technician, "other university of applied sciences training" or "IHK training"), only occupations with requirements level 3 or 4 (according to KldB 2010)
[4] Dual and full-time school vocational education and training (without vocational higher qualification) which are taken up after the initial VET.
[5] Other status, e.g. parental leave, unemployment, military service
DL = Service occupations

Source: NEPS, starting cohort 4, doi:10.5157/NEPS:SC4:12.0.0, N=3.879, unweighted responses;
Calculations by the Federal Institute for Vocational Education and Training

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A10 Young adults who have not completed vocational education and training

The number of young adults without a formal vocational qualification is a significant labour market policy indicator. Those without a professional or vocational qualification bear a higher risk of unemployment even given a healthy prevailing economic environment. In 2020, the unemployment rate of persons without a professional or vocational qualification was 20.6%. This contrasts with an overall unemployment figure for Germany of only 5.7%. They also earn significantly less on average than employees who have completed vocational education and training. A reduction in the rate of young adults without a formal qualification (nfQ) (see Information Box) thus materially improves their chances on the labour market.

Information Box – Persons without a formal qualification (nfQ)

nfQs or "unskilled persons" are deemed to be all persons (of working age) who are not able to demonstrate successful certified participation in formal (standardised, state-regulated or recognised) education and training courses, i.e. who have not completed dual or school-based vocational education and training or a course of study at a university of applied sciences or institute of higher education (or an equivalent qualification). Those who have undergone semi-skilled training or completed an internship are considered to be not formally qualified. Especially in the age cohorts forming the object of investigation, the nfQs include a considerable number of persons who have not yet finished their vocational training or else are completing voluntary military service, the Federal Voluntary Service or a voluntary social or ecological year. For this reason, pupils, students, trainees and persons performing voluntary service were not counted as persons who had failed to complete VET in the evaluation of the microcensus data. The proportion of those not in possession of a formal qualification relates to all persons in the relevant age cohort.

Amended survey method deployed in the microcensus from 2020

The evaluations in this chapter are based on the 2011 microcensus (MZ) conducted by the Federal Statistical Office (see Annex – Data sources).

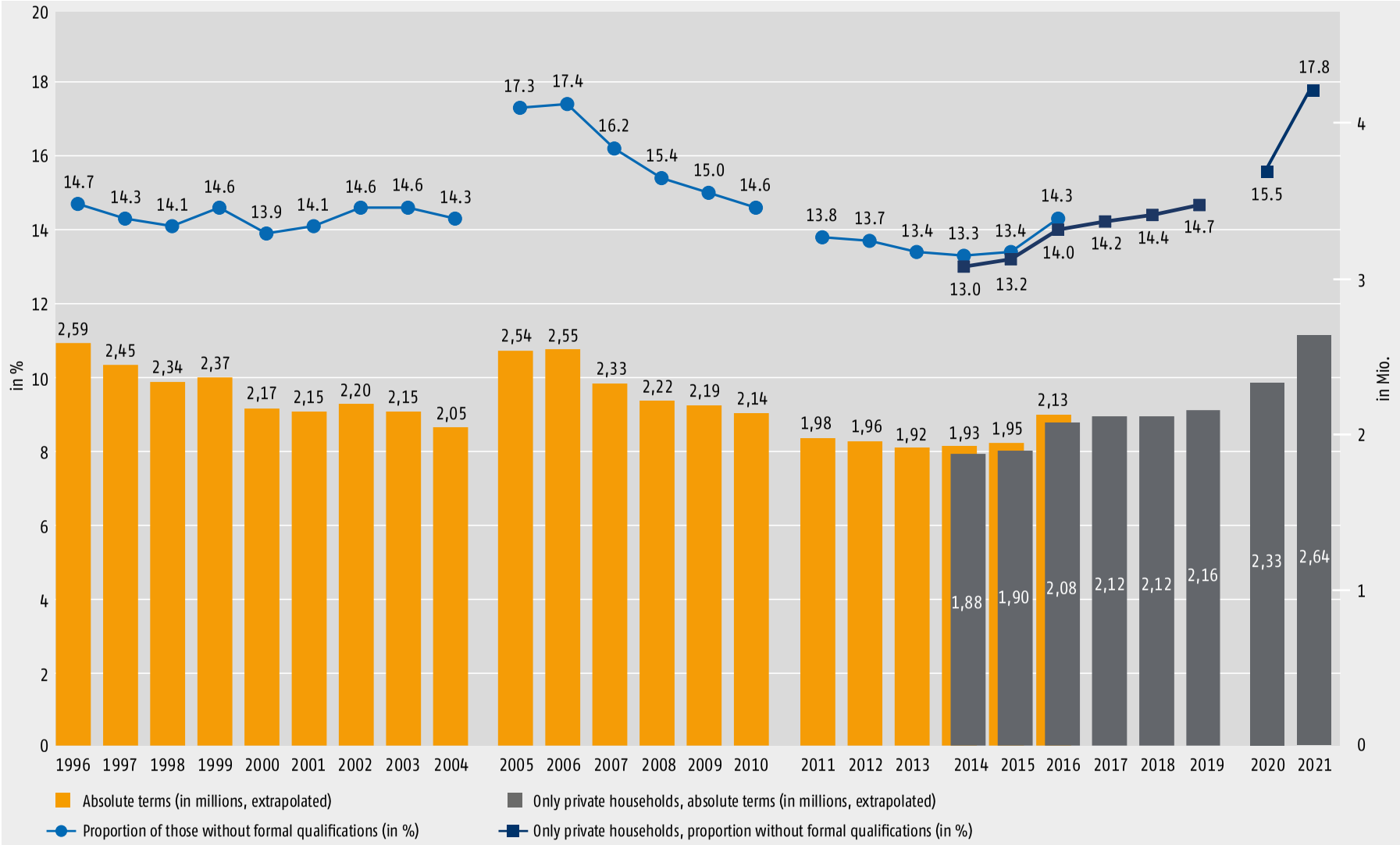
When interpreting results from the year 2020 onwards, account needs to be taken of the switch in survey methodology in the MZ as a result of the introduction of new IT systems and the integration of other surveys. This means that comparability of the results of the MZ with previous years is severely restricted or indeed impossible from 2020. Comparability over the course of time was also adversely affected due to the pandemic situation in 2020 because the response rate fell dramatically. From the 2021 MZ, the Federal Statistical Office has not made any evaluations on the number of standard errors available. This means that confidence intervals can no longer be indicated. The results presented for 2021 are based on the final result of the 2021 MZ.

In 2021, data relating to the population in private households indicates that the proportion of young adults aged between 20 and 34 who had not completed vocational education and training was 17.8% (2020: 15.5%). The extrapolated figure indicated 2.64 million (2020: 2.33 million) young adults without a formal qualification. The development over a longer period from the year 1996 is presented in → **Chart A10-1**.

In the younger sub-group of those aged between 20 and 24, the proportion of unskilled workers was 16.1% (2020: 13.9%). The corresponding proportion amongst 25 to 34-year-olds was 18.5% (2020: 16.2%). The rate for the 25 to 34 age group is 2.4 percentage points because large parts of the younger cohorts are still in the education system.

The proportion of nfQs varies widely by school qualification. In 2021, 7.4% of persons aged between 20 and 34 with a higher education entrance qualification were without a formal qualification. This is the lowest nfQ rate in their cohorts by some distance. 73.8% of 20 to 34-year-olds without a school qualification were also not in possession of a vocational qualification. This shows that a higher level of school education clearly exerts a positive impact on the chances of achieving a formal vocational qualification. The proportion of women not in possession of a formal qualification was 44.1% in 2021. The nfQ rate of women aged between 20 and 34 was 16.2%. This was three percentage points lower than the figure for men of the same age. Compared to the previous year, the

Chart A10-1: **Development in the number and proportion of young adults aged between 20 and 34 who have not completed vocational education and training from 1996 to 2021**



Note: because of a change to the survey method, results from the microcensus from 2005 onwards are only partially comparable with those of the previous years (cf. 2011 BIBB Data Report, Chapter A8). Results from 2011 onwards are based on data from the 2011 census. Caution should thus be exercised in comparing data with data from previous years. The 2015 BIBB Data Report only shows proportions of young adults without a formal qualification for 2013 on the basis of the 2011 census (cf. 2015 BIBB Data Report, Chapter A8.3). Results from 2017 onwards are only available on the basis of the population in private households. Results based on the population in private households therefore need to be used for comparison with previous years. Because of a change to the survey method, results from the 2020 microcensus are not comparable with those from previous years.

Source: Research data centres of the statistical offices, microcensuses 1996 to 2021, calculations by the Federal Institute for Vocational Education and Training

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nfQ rate increased significantly both for women (2020: 14.3%, 2021: 16.2%) and for men (2020: 16.6%, 2021: 19.2%) in this age group by 1.9 percentage points and 2.6 percentage points, respectively.

Clear differences in nfQ rates by nationality are visible on the basis of the 2021 data relating to the population in private households. Whereas only 11.7% of young adults aged between 20 and 34 who held German nationality were not in possession of a formal qualification, the corresponding figure for foreign nationals of the same age was 37.4%, more than three times higher. The proportion of nfQs amongst German nationals aged between 20 and 34 was 10.7% for women and 12.7% for men. The nfQ rates for foreign nationals in this age group was 35.5% for women and 39.0% for men. In the case of young men with Turkish nationality, the overall nfQ rate was 41.6%. The rate for women (39.7%) in this group of persons was lower than that for men (43.2%) for the first time since 2018. The nfQ rate for Turkish nationals was thus higher than the overall rate for foreign nationals.

The rate for migrants with no personal experience of migration was 19.9%. By way of contrast, the proportion of unskilled workers amongst migrants with personal experience of migration, i.e. persons from a migrant background who had migrated themselves, was 38.1%. The rate for men (39.4%) was higher than that for women (36.5%). Over the course of time, it is discernible that the nfQ rates for persons with personal experience of migration rose steadily during the period from 2017 to 2021. The nfQ proportion amongst women with personal experience of migration has been lower than that of men in the same group since 2017. It is also revealed that the nfQ rate for young men with personal experience of migration has risen more sharply than for women with personal experience of migration.

In summary, the growing nfQ proportion for migrants with personal experience of migration is the key driver of the rise in the overall rate in the population in private households aged between 20 and 34. This development was reinforced by the refugee migration that took place in 2015 and 2016. However, the results continue to show that a high nfQ proportion is not merely localised in this group. In order to bring about a sustainable decrease in the nfQ rate of young adults, the overall focus needs to be on the difference with regard to acquisition of an education and training qualification between persons from and not from a migrant background. Finally, in interpreting these results in light of the increased refugee migration over recent years, it is necessary to draw attention to the fact that new migrants in particular are under-recorded in the microcensus.

A11 Young people from a migrant background and young refugees

Around 23.8 million people in Germany are currently from a migrant background (28.7% of the total population). According to the 2022 microcensus, around one in three young people and young adults in Germany has a migrant background. The majority (58.4%) of persons aged between 15 and 25 who are from a migrant background were born and grew up in Germany. German is the predominant language spoken in around half (48.5%) of households with a migrant background in which children and young people (aged under 25) are growing up. 62% of persons in Germany from a migrant background originate from a different European country.

Cross-border mobility and migration movements can only be planned and predicted to a limited extent. Around 1.1 million people have arrived in Germany from Ukraine since February 2022. Both the integration of immigrants and refugees from regions affected by war and crisis and the integration of persons from a migrant background who have grown up in Germany continue to pose major challenges for the German (vocational) education and training system. VET participation is preceded by important upstream stages of integration such as completion of integration and language courses.

A11.1 Young people from a migrant background

Participation in training by the resident population who commence dual VET pursuant to the BBiG or HwO, i.e. the training entrant rate, continues to differ sharply by nationality and has fallen compared to 2019. The training entrant rate for foreign young people was 35.1% in 2021. As was also the case prior to the pandemic (2019: 38.4%), this figure was significantly lower than the 52.7% recorded for young Germans (2019: 56.3%). Male training entrants are more severely affected by the fall in the training entrant rate, particularly those who hold a foreign passport. The difference between male training entrants with a German and with a foreign passport remains significantly higher than the difference between female training entrants. In 2021, the training entrant rate for young males with a German passport was 65.8% (2019: 69.3%), which was once more around 25 percentage points higher than the rate for young males with a foreign passport (39.0%; 2019: 45.1%). The difference between female training entrants was again smaller, the figure for 2021 being around 9 percentage points. Whereas the training entrant rate of females with a German passport fell slightly compared to 2019 (2021:

38.9%, 2020: 38.1%, 2019: 42.7%), the rate for female training entrants with a foreign passport decreased by a small amount in 2021 following moderate rises in the period from 2018 to 2020 (30.2%; 2020: 30.7 %, 2019: 29.4%, 2018: 28.2%).

Taking all educational sectors into account, the Integrated Training Reporting System indicated that education and training entrants without German nationality were underrepresented in "vocational education and training" (13.7%) and in "acquisition of a higher education entrance qualification" (8.5%) in 2022. In 2022, quite a large proportion (33.9%) of entrants to the education (and training) system without a German passport were in the transitional sector. The proportion of education and training entrants without German nationality in the "vocational education and training" sector was virtually unchanged compared to 2021 (14.0%). There was a slight rise in the proportion in the "acquisition of a higher education entrance qualification" sector (2021: 7.4%) and a significant increase in the transitional sector (2021: 29.8%). With regard to newly concluded training contracts, therefore, training entrants with a foreign passport (10.6%) were more likely to have participated in a measure in the transitional sector than those in possession of a German passport (7.7%).

Information Box – Migrant background

The Vocational Education and Training Statistics, the school statistics and the Integrated Training Reporting System record nationality rather than a migrant background. The nature of this database means that statements made on persons can only be differentiated by nationality. The term "migrant background" permits differentiation of persons by migration context. The characteristics recorded in empirical surveys (including refugee and migrant background) are mostly constructs from several variables, which are each operationalised differently. The criteria respectively used for the definition or the justification for their selection need to be disclosed. The empirical investigations conducted by the Federal Institute for Vocational Education and Training (BIBB) mostly record current nationality and native language (or first language(s) learned). Information in respect of country of birth, periods of time spent in Germany and refugee migrant background is also sometimes collected.

Because official statistics are unable to provide any answers to questions regarding the transition to vocational education and training by young people from a migrant background, sample surveys are used for this purpose. According to the 2021 BA/BIBB Applicant Survey, applicants from a migrant background were considerably less likely than those not from a migrant background to be in a company-based training place at the end of 2021. Around 29% of applicants from a migrant background registered by the BA were in company-based vocational education and training pursuant to the BBiG/HwO at the end of 2021. 30% of the applicants were from a migrant background without experience of being a refugee, and 26% were from a refugee background. In contrast, the proportion of applicants not from a migrant background was 43%. As in previous years, extra-company training did not help to compensate persons from a migrant background for their lower rates of transition to company-based training (destination in extra-company training: without migrant background 4%, with refugee background 3%, with migrant background and without refugee background 3%). At the time of the survey, 36% of applicants from a refugee background and 42% of applicants from a migrant background but not from a refugee background were in fully qualifying training (dual, full-time school-based or higher education study). These figures were considerably lower than in the comparison group without a migrant background (57%). Some applicants progressed to the transitional sector. Applicants from a migrant background (around 18%) were slightly more likely than applicants not from a migrant background (15%) to be in provision in the transitional sector that does not lead to full qualification (from a refugee background 17%, from a migrant background but not from a refugee background 18%). In comparative terms, migrant applicants were significantly more likely to be outside the education and training system at the end of the year. At the end of 2021, they were significantly more likely than applicants not from a migrant background (8%) to be in employment subject to mandatory social insurance contributions or to be in casual work (from a refugee background: 13%, from a migrant background but not from a refugee background: 11%) and were slightly more likely to be not working or to be unemployed (from a refugee background: 12%, from a migrant background but not from a refugee background: 13% as opposed to 10% for not from a migrant background). According to the BA's training market statistics, applicants from a migrant background were in 2021 once again much more likely to be amongst those whose destination is unknown than to be included in the group with a known destination (50% as opposed to 37%). According to the statistics of the BA, around 34% of applicants from a refugee background had progressed to dual, i.e. company-based and extra-company VET, as of 30 September 2022. This compares with a figure of around 33% in 2021. Young persons from a refugee background are considerably more reliant on institutional support. The opportunity to receive support via institutional assistance during this phase only goes a small way towards providing compensation. In 2021, it was, comparatively speaking, once

again (very) rare (2.8%) for career entry support or for help from a mentor or sponsor to lead to progression into training. Applicants from a refugee background were more likely (8%) to receive support in obtaining a training place via mentoring. Nevertheless, the proportion of those able to avail themselves of this provision compared to the time prior to the pandemic (2018: 14%) decreased considerably. Just under two in three respondents from a refugee background (64.5%) and 44.5% of those from a migrant background but not from a refugee background accordingly stated that they need greater support in the transitional process. This was considerably higher than the figure for respondents not from a migrant background (27.5%). The experiences described are reflected in the concerns and anxieties young people feel at the transition from school to training. Young people from a migrant background are, for example, much less likely to progress into their preferred occupation, and the general conditions governing their company-based training are frequently shown to be less favourable. They are more likely to undergo training in occupations with a higher contract dissolution rate. This is reflected in the contract dissolution rate of trainees holding a foreign passport. In 2021, this rate was 22.5% in the probationary period, around 6 percentage points higher than the contract dissolution rate for trainees with a German passport (16.2%). In the case of foreign nationals, the contract dissolution rate in the probationary period was 12.9%. The corresponding rate amongst those holding German nationality was 9.3%. If due consideration is accorded to the less favourable school-leaving certificates of foreign trainees, to the training occupations and to other characteristics, then virtually no differences are any longer shown with regard to the number of contract dissolutions amongst dual trainees with a foreign passport as compared to those holding German nationality.

A vocational qualification is of outstanding importance, especially with regard to long-term integration into working life. Young adults from a migrant background are, however, significantly less likely to acquire a vocational qualification. In 2021, the proportion of young adults (aged between 20 and 34) from a migrant background who had grown up in Germany and had not achieved a vocational qualification, i.e. held no formal qualification, was 19.1%. This figure was twice as high as that for the comparison group of Germans not from a migrant background (10.0%). The proportion of those without a vocational qualification was even higher (24.6%) amongst young adults without personal experience of migration whose families originate from Turkey. Young women from a migrant background but without personal experience of migration are less likely than the male comparison group to remain without a formal vocational qualification (16.8% as opposed to 21.1%). This also applied to the group of young women of Turkish origin without personal experience of migration (22.2%; males 26.9%). In the case of the group of young adults with personal experience of migration, i.e. those who emigrated to Germany themselves, the proportion of persons without a formal qualification was even higher (36.8%). This particularly applied in respect of origin from Turkey (47.3%). In 2021, just under half (47.5%) of young women of Turkish origin and with personal experience of migration had no vocational qualification. A similar figure was recorded for the male comparison group (47.0%). This indicates that there is still a great need for support. 62.3% of young adults with foreign nationality who moved to Germany in 2020 and 2021 from countries affected by war and crisis had no formally recognised vocational qualification. Even before the pandemic, the status of integration in the area of VET of young people from a migrant and refugee background could already be viewed as unsatisfactory. This statement also applies to young people from a migrant background who grew up in Germany. If account is taken of important personal, social or institutional influencing factors such as prior school learning, application behaviour, the transitional process or the training market, data from both the BA/BIBB Applicant Survey and the NEPS shows that applicants from a migrant background (with or without a refugee background) and school leavers from a migrant background without a higher education entrance qualification who are interested in training are significantly less likely to progress to company-based vocational education and training. Unlike in the case of those not from a migrant background, this situation mostly persists for 20 months following the end of general schooling. Young people of Turkish or Arab origins are particularly affected. Despite committed search activities and longer transitional processes, young people from a migrant background are less likely to progress to company-based or fully qualifying training. Even if school qualifications, final marks, training or occupational preferences, application activities, characteristics of relevance to the training market, social origin and social integration are all the same, school leavers from a migrant background who do not have a higher education entrance qualification have a lesser chance of obtaining a training place if they are from a migrant background than if they are not. An effect is being exerted by further cause variables which lie beyond the factors taken into account, which are connected with a migrant background and which indicate structural exclusion. Chances of progression only begin to equalise amongst the (small) group of third-generation school leavers.

Even before the coronavirus crisis, disadvantage with regard to access to initial training was in particular making it more difficult for young people from a migrant and refugee background to participate in VET. Because of the pandemic, trainees from a migrant and refugee back-

ground met with more frequent difficulties and encumbrances than their counterparts not from a migrant background, both in training itself and with regard to their professional future. As a result, applicants from a migrant and refugee background were more likely to suffer from additional drawbacks and unfavourable experiences in vocational orientation, in the transition from school to training and in the application process both during and in the wake of the pandemic. They had, for example, rarer opportunities to participate in vocational orientation and vocational preparation provision. In the case of these two groups in particular, this contributes towards engendering a perception greater than that experienced by applicants not from a migrant background that the phase of seeking a training place in the pandemic and the ensuing phase are burdensome. Results from the 2021 BA/BIBB Applicant Survey again confirmed that this persisted in the second year of the pandemic, 2021.

Despite the decline caused by the pandemic, young refugees have become a more significant force in company-based training over recent years. The proportion of companies providing training to young refugees rose from 3% to 10% in the period from 2017 to 2021. The corresponding proportion amongst medium-sized companies and larger companies with 20 employees or more was twice as high, around 20% in terms of all trainees. The strains and hurdles created by the pandemic and its consequences must now be rapidly overcome, and the focus needs to be on using the potential of young people from a migrant and refugee background in vocational education and training. As far as integration into training is concerned, tried and tested provision which has been shown to be conducive to facilitating access to company-based training should be further developed in a target group-specific manner. In light of the experiences with online provision that have emerged in the transitional sector as a result of the pandemic, attention must be paid to delivering face-to-face implementation of the necessary closer interlinking and of the ongoing execution of vocational preparation and training support measures. The BA/BIBB Applicant Surveys also contain indications that young people from a migrant and refugee background particularly benefit from continuous and individual assistance and support in the transitional process and during the course of training and from multifarious and early contacts with companies, e.g. via introductory training, practical placements or work on a trial basis. These make a crucial contribution to a successful transition to company-based training. Key results from the BA/BIBB Applicant Survey and from the 2018 BA/BIBB Forced Migration Survey further suggest that provision which offers young people ongoing transitional support, such as mentoring programmes, sponsorships or career entry support, have also proved to be particularly effective in terms of facilitating a successful transition to company-based training for young people from a migrant and refugee background.

Support is also necessary during vocational education and training so that this can be successfully completed, especially in light of the experience of difficulties caused by the pandemic during training or with regard to new migrants and refugees. Continuing support and individual assistance should extend to encompass vocational preparation, the transitional phase and the whole of the course of training. A change of provision and persons always brings the inherent risk of (avoidable) frictions. Programmes which support trainees at the transition to vocational education and training and through the course of training have been shown to be promising, as are measures which are directed towards the trainees and the company providing training. A recommendation by the Research Council of German Foundations for Integration and Migration states that: “Even more consistent advisory services and support for persons interested in training or structurally secured ‘training preparation from a single source’ can be of great assistance, especially for young people who are new migrants”. The requirement here is for ongoing and widespread continuation and further development of vocational orientation, vocational preparation and training support measures on which young people from a migrant or refugee background are particularly reliant, which are then delivered in a target group-differentiated manner and on a face-to-face basis. The language course system developed over a number of years also needs to be further developed into national target group-specific provision that offers rapid and straightforward accessibility. This should encompass general and occupationally-specific language and integration courses (integrated wherever possible) which are localised in vocational training and in the occupational context and are closely related to the workplace.

A11.2 Integration of refugees into training

The number of people seeking protection and submitting an asylum application to this end has risen since 2021 following previous significant decreases. According to data from the Federal Office for Migration and Refugees (BAMF), the number of asylum applications submitted reached 217,800 in 2022. Only limited conclusions regarding forced migration to Germany, which has risen sharply following the start of the Russian war of aggression against Ukraine in early 2022, may be drawn on the basis of this data. From a residence law point of view, this forced migration to Germany and to other countries within the European Union is proceeded in a different way compared to in past years, for example, in the wake

Table A11.2-1: **Characteristics of registered training place applicants of the 2016 to 2022 reporting years with and without a refugee migration context (absolute and in %)**

	Applicants for vocational training places with forced displacement background													
	2016		2017		2018		2019		2020		2021		2022	
	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Total	**10,253**	**100.0**	**26,428**	**100.0**	**38,299**	**100.0**	**38,040**	**100.0**	**33,134**	**100.0**	**31,019**	**100.0**	**28,788**	**100.0**
Gender														
Men	8,146	79.4	22,516	85.2	32,296	84.3	30,415	80.0	24,995	75.4	22,371	72.1	19,762	68.6
Women	2,107	20.6	3,912	14.8	6,003	15.7	7,625	20.0	8,139	24.6	8,648	27.9	9,016	31.3
Age														
Under 20 years	3,809	37.2	8,815	33.4	13,103	34.2	12,554	33.0	11,386	34.4	11,328	36.5	11,810	41.0
20 to under 25 years	4,054	39.5	10,470	39.6	15,225	39.8	16,023	42.1	13,908	42.0	13,051	42.1	11,386	39.6
25 Aged and above	2,389	23.3	7,143	27.0	9,971	26.0	9,463	24.9	7,840	23.7	6,640	21.4	5,582	19.4
School-leaving qualification														
Without lower secondary school-leaving certificate	353	3.4	1,143	4.3	1,507	3.9	1,342	3,5	950	2.9	767	2.5	710	2.5
With lower secondary school-leaving certificate	3,987	38.9	9,357	35.4	14,495	37.8	14,182	37.3	12,428	37.5	12,118	39.1	11,377	39.5
Intermediate secondary school-leaving certificate	2,069	20.2	4,392	16.6	6,579	17.2	8,103	21.3	8,044	24.3	8,287	26.7	8,231	28.6
University of applied sciences entrance qualification	491	4.8	1,050	4.0	1,473	3.8	1,842	4.8	2,068	6.2	2,256	7.3	2,438	8.5
General higher education entrance qualification	1,573	15.3	5,046	19.1	7,137	18.6	6,358	16.7	4,720	14.2	3,649	11.8	2,808	9.8
No response	1,780	17.4	5,440	20.6	7,108	18.6	6,213	16.3	4,924	14.9	3,942	12.7	3,214	11.2
	Applicants for vocational training places without forced displacement background													
	2016		2017		2018		2019		2020		2021		2022	
	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Total	**537,475**	**100,0**	**521,396**	**100.0**	**497,324**	**100.0**	**473.666**	**100.0**	**439,797**	**100.0**	**402,462**	**100.0**	**393,622**	**100.0**
Gender														
Men	310,885	57.8	305,435	58.6	294,566	59.2	282,582	59.7	265,665	60.4	246,107	61,2	241,799	61.4
Women	226,589	42.2	215,952	41.4	202,736	40.8	191,091	40.3	174,114	39.6	156,316	38.8	151,725	38.5
Age														0.0
Under 20 years	355,452	66.1	345,398	66.2	330,844	66.5	317,350	67.0	290,993	66.2	255,730	63.5	260,198	66.1
20 to under 25 years	149,846	27.9	144,735	27.8	136,660	27.5	128,206	27.1	121,401	27.6	118,671	29.5	107,101	27.2
25 Aged and above	32,138	6.0	31,250	6.0	29,815	6.0	28,120	5.9	27,401	6.2	28,058	7.0	26,321	6.7
School-leaving qualification														0.0
Without lower secondary school-leaving certificate	7,920	1.5	7,662	1.5	7,401	1.5	7,189	1.5	6,638	1.5	6,116	1.5	5,706	1.4
With lower secondary school-leaving certificate	141,177	26.3	134,436	25.8	128,717	25.9	124,031	26.2	115,007	26.2	109,815	27.3	105,386	26.8
Intermediate secondary school-leaving certificate	223,571	41.6	216,686	41.6	205,583	41.3	195,958	41.4	183,589	41.7	165,355	41.1	163,948	41.7
University of applied sciences entrance qualification	75,167	14.0	74,327	14.3	70,468	14.2	66,115	14.0	59,601	13.6	53,802	13.4	52,133	13.2
General higher education entrance qualification	70,950	13.2	70,116	13.4	66,022	13.3	61,888	13.1	54,676	12.4	46,515	11.6	45,879	11.7
No response	18,690	3.5	18,169	3.5	19,133	3.8	18,485	3.9	20,286	4.6	20,859	5.2	20,570	5.2

Note: The numbers for applicants with forced displacement background for the years 2019, 2020 and 2021 may deviate from the numbers in earlier data report chapters. The reason for this is that residence information regarding forced displacement for applicants with Ukrainian nationality is strongly under-recorded, and it can therefore be excluded retroactively from the overall number of "persons in the context of forced displacement" for the above-mentioned time frame.

Source: Training market statistics of the Federal Statistical Office 2022, special analyses for the preparation of the Vocational Training Report; calculations of the Federal Institute for Vocational Education and Training

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Table A11.2-2: **Destination status of applications with forced displacement background on 30.09.2022 – with differentiations by gender, school-leaving qualification and residence status (absolute and in %)**

	Placed applicants		Applicants still looking at 30.09						Other former applicants						Total	
			of which:		Applicants with an alternative		Unplaced applicants		of which:		With known destination		With unknown destination			
	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Total	**9,869**	**34.3**	**5,228**	**18.2**	**3,002**	**10.4**	**2,226**	**7.7**	**13,681**	**47.5**	**7,083**	**24.6**	**6,598**	**22.9**	**28,778**	**100.0**
Gender																
Men	6,402	32.4	3,694	18.7	2,152	10.9	1,542	7.8	9,666	48.9	5,099	25.8	4,567	23.1	**19,762**	**100.0**
Women	3,467	38.5	1,534	17.0	850	9.4	684	7.6	4,015	44.5	1,984	22.0	2,031	22.5	**9,016**	**100.0**
School-leaving qualification																
Not achieved lower secondary school-leaving certificate	237	33.4	177	24.9	83	11.7	94	13.2	296	41.7	122	17.2	174	24.5	**710**	**100.0**
Lower secondary school-leaving certificate	4,296	37.8	1,950	17.1	1,127	9.9	823	7.2	5,131	45.1	2,318	20.4	2,813	24.7	**11,377**	**100.0**
Intermediate secondary school-leaving certificate	3,162	38.4	1,512	18.4	957	11.6	555	6.7	3,557	43.2	2,043	24.8	1,514	18.4	**8,231**	**100.0**
University of Applied Sciences entrance qualification	659	27.0	430	17.6	314	12.9	116	4.8	1,349	55.3	1,053	43.2	296	12.1	**2,438**	**100.0**
General higher education entrance qualification	661	23.5	581	20.7	286	10.2	295	10.5	1,566	55.8	877	31.2	689	24.5	**2,808**	**100.0**
No response	854	26.6	578	18.0	235	7.3	343	10.7	1,782	55.4	670	20.8	1,112	34.6	**3,214**	**100.0**
Residence status																
Residence permit	8,186	34.0	4,459	18.5	2,564	10.6	1,895	7.9	11,464	47.6	6,117	25.4	5,347	22.2	**24,109**	**100.0**
Leave to remain	1,030	36.1	503	17.6	288	10.1	215	7.5	1,317	46.2	598	21.0	719	25.2	**2,850**	**100.0**
Tolerated stay	653	35.9	266	14.6	150	8.2	116	6.4	900	49.5	368	20.2	532	29.2	**1,819**	**100.0**

Source: Training market statistics of the Federal Statistical Office 2022, special analyses for the preparation of the Vocational Training Report; calculations of the Federal Institute for Vocational Education and Training

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of the civil war in Syria. Ukrainian citizens are able to enter Germany without a visa. Following entry, they are permitted to remain in the country legally without a residence permit for up to 90 days up until a latest date of 29 August 2023. Data from the Central Register of Foreign Nationals (AZR) shows that around 1.1 million refugees from Ukraine have been registered in Germany since the start of the war of aggression in February 2022 (cf. Integration Media Service 2023, status March 2023). The training market data of the Federal Employment Agency (BA) does not permit any response as to the extent to which Ukrainian applicants sought to enter the German dual training system within the context of refugee migration in the 2022 reporting year. Applicants within the context of refugee migration are only listed in the BA statistics if they are in possession of a residence permit pursuant to § 3 Paragraph 1 of the Asylum Act (AsylG) or § 4 Paragraph 1 AsylG. For this reason, Ukrainian nationals are excluded from the total number of "persons" in the context of forced migration' and from all statistical values relating to "residence status".

Training place applicants from a refugee background

Even though the asylum statistics data from the Federal Office for Migration and Refugees shows that the number of persons has increased once more in both of the last two years, fewer young people from a refugee back-

Table A11.2-3: **Destination of registered applicants in the 2022 reporting year in the context of refugee migration (cut-off date: 30.09.2022, absolute and in %)**

Nature of destination	Total		Status of the placement remit							
			Placement remit ongoing				Placement remit concluded			
			In the case of alternative destination		No alternative destination (unplaced applicants)		Through progression to VET		Alternative or unknown destination	
	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
Progression to VET	**9,869**	**100.0**					**9,869**	**100.0**		
of which: Unfunded VET	8,577	86.9					8,577	86.9		
Funded VET	1,292	13.1					1,292	13.1		
Alternative destination	**10,085**	**100.0**	**3,002**	**100.0**					**7,083**	**100.0**
of which: School-based training	4,648	46.1	1,390	46.3					3,258	46.0
Higher education study	241	2.4	28	0.9					213	3.0
Internship	98	1.0	55	1.8					43	0.6
Employment	3,484	34.5	709	23.6					2.775	39.2
Charitable social services	110	1.1	37	1.2					73	1.0
Remain in previous VET	**840**	**8.3**	**375**	**12.5**					**465**	**6.6**
of which: Unfunded VET	484	4.8	149	5.0					335	4.7
Funded VET	356	3.5	226	7.5					130	1.8
Funding measures	**664**	**6.6**	**408**	**13.6**					**256**	**3.6**
of which: Vocational preparation schemes	464	4.6	283	9.4					181	2.6
Introductory training (EQ/EQJ)	192	1.9	*	*					*	*
Other funding	4	0.1	*	*					*	*
No information regarding destination	**8,824**	**100.0**			**2,226**	**100.0**			**6,598**	**100.0**
Total	**28,778**	**100.0**	**3,002**	**10.4**	**2,226**	**7.7**	**9,869**	**34.3**	**13,681**	**47.5**

*Due to reasons of data protection and statistical non-disclosure, number values from 1 or 2 and data from which such a number value can be calculated are anonymised.

Source: Federal Employment Agency 2022, Federal Statistical Office, Federal Institute for Vocational Education and Training VET Data Report Gemany 2023

ground were using the employment agency or job centre in 2022 in order to try to obtain a dual training place. In the 2022 reporting year, the number of registered applicants from a migrant background fell compared to the previous year by around 2,200 persons (-7.2%) to 28,788 → Table A11.2-1.

As is the case with all registered applicants, refugees are only registered and counted as applicants if they are deemed by the BA to display "apprenticeship entrance maturity", i.e. they fulfil the language and other prerequisites for commencement of training. The number of refugees who sought to enter training without support from the advisory and placement services is unknown. Registered applicants from a refugee background are significantly older on average than applicants not from a refugee background. Around one in five applicants within the context of refugee migration (19.4%) was 25 or older. The corresponding proportion amongst applicants not from a refugee background was only 6.7%.

Placement status of applicants from a refugee background

→ Table A11.2-2 shows the destination status of applicants from a refugee background differentiated by gender, school qualification and residence status. Of the 28,778 applicants from a refugee background registered with the BA, a total of 9,869 had been able to conclude a training contract by the cut-off date of 30 September 2022. Female applicants from a refugee background ex-

hibit a higher progression rate than male applicants from a refugee background. Refugee applicants in possession of a lower secondary school-leaving certificate (37.8%) or an intermediate secondary school-leaving certificate (38.4%) were most likely to progress to vocational education and training. The vast majority (86.9%) of the 9,869 applicants from a refugee background who progressed to VET as of 30 September 2022 obtained a company-based training place.

→ **Table A11.2.2-3** shows that most refugee applicants who had progressed to an alternative destination were in school-based training (46.1%) or in employment (34.5%). 6.6% of the applicants in this group progressed to a vocational preparation support scheme funded by the BA, and 8.3% remained in their existing training arrangements. Other destinations such as higher education study (2.4%), practical placements (1.1%) and charitable social services played only a minor role.

Part B: Continuing training

Continuing vocational education and training is an important factor for individual career development and for the competitiveness of companies. For this reason, it is very important to obtain detailed information and data on continuing vocational education and training in Germany. Well-founded knowledge of the current status in this area permits the highlighting of weak points and areas of potential and the initiation of appropriate measures to improve the continuing VET situation.

B1 Participation structures

B1.1 Continuing training and continuing training rate

The Data Report sets out results for these indicators every two years. The next update took place in the 2024 edition and will accordingly be included in the next issue of the English version of the Data Report. Interested readers may either refer to the data contained in the German version of the 2024 Data Report or to the most recent data presented in the English version of the 2021 Data Report.

B1.2 BIBB Training Panel results on company-based continuing training

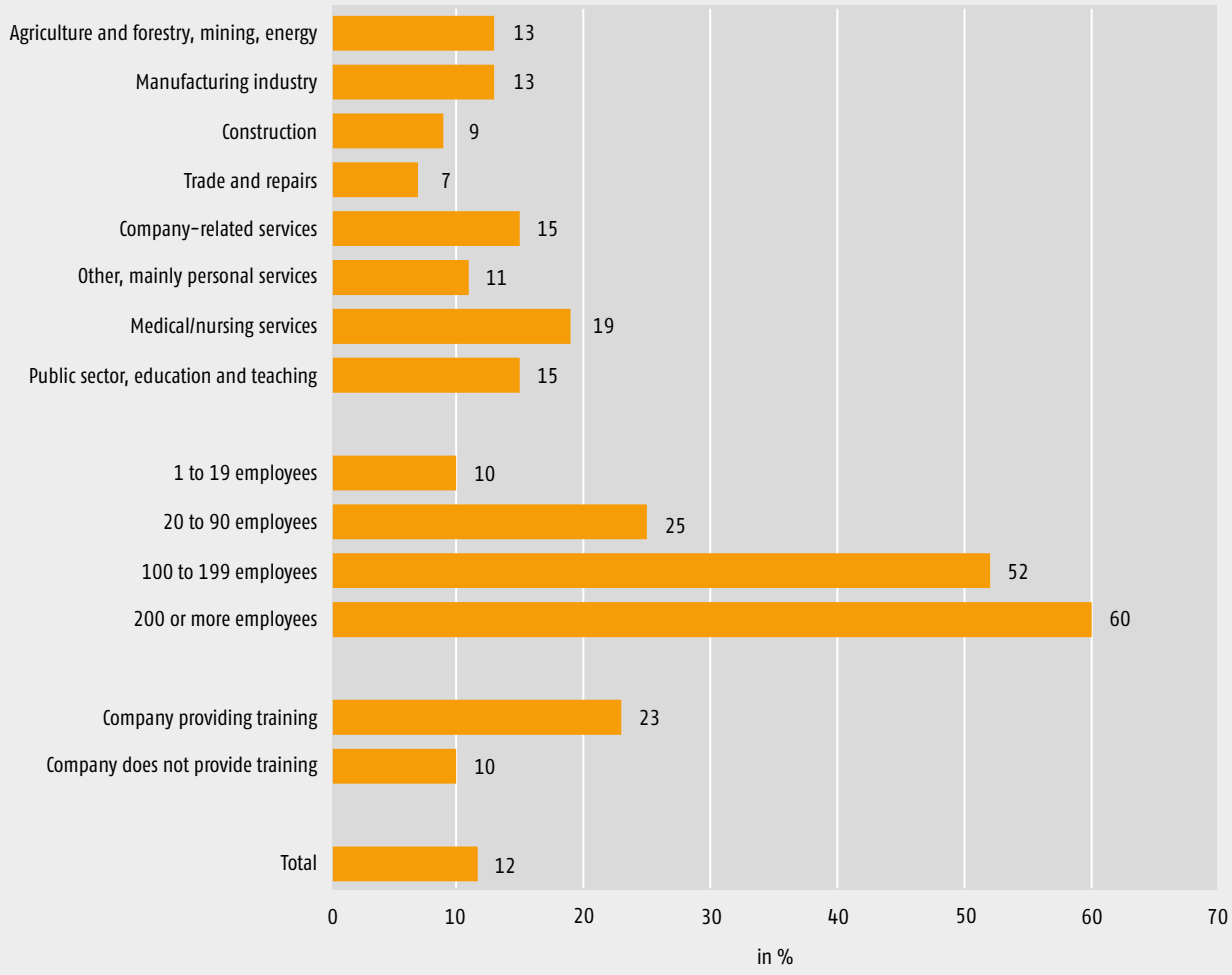
In the light of changed task requirements and skilled worker shortages, company-based continuing training is being accorded an increasing degree of importance in terms of covering company-specific skills needs. Within the company context, continuing training may take place via various routes. It may be delivered via participation in courses, programmes and seminars but also frequently occurs outside formal courses as part of the work process. Upgrading training, which leads to the acquisition of a recognised advanced training qualification by employees, is a highly formalised form of advanced and continuing training. For employees from the dual system, upgrading training programmes at level six of the DQR constitute higher VET which the DQR equates with a bachelor's degree. They thus create career prospects for employees who have completed vocational education and training and open up opportunities for professional advancement and for the assumption of responsible technical and management tasks. The funding of upgrading programmes is a chance for companies to cover the growing need for specialised skilled workers.

Forms of company-funded advanced and continuing training

The BIBB Training Panel differentiates company-funded advanced and continuing training measures as (1) general continuing training measures in the form of courses and seminars, (2) continuing training measures which do not form part of a course and which take place at the workplace directly outside organised course provision such as induction in the workplace or self-directed learning using computer programmes, and (3) upgrading training. Continuing training measures are deemed to be company-funded if companies release their employees to take part for all or some of the time or if they pay the costs of participation in continuing training measures in whole or in part. Upgrading training differs from other continuing training measures in that employees gain a recognised advanced training qualification such as master craftsman or technician, which enables them to raise their formal qualification level. The examination regulations governing advanced training qualifications are stipulated either by legal ordinances issued by the Federal Government or federal states or by legal regulations put in place by the competent bodies.

According to the results of the BIBB Training Panel, 54% of companies supported continuing training measures for their employees in the form of courses and seminars in the 2021 reference year. Employees took part in non-course based continuing training at more than half of companies (56%). As expected, the proportion of companies with participants in upgrading training was significantly lower. About one in eight companies (12%) funded at least one employee to take part in upgrading training.

Chart B1.2-1: **Proportion of companies funding upgrading training in 2021 by selected characteristics (in %)**



Source: 2022 BIBB Training Panel; extrapolated data

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Participation of companies in upgrading training by structural characteristics

→ **Chart B1.2-1** presents the proportion of companies offering upgrading training in the 2021 reference year by selected structural characteristics. A comparison across economic sectors shows that upgrading training programmes are receiving an above-average level of funding at companies which provide medical and nursing services (19%) and in the public sector, education and teaching (15%).

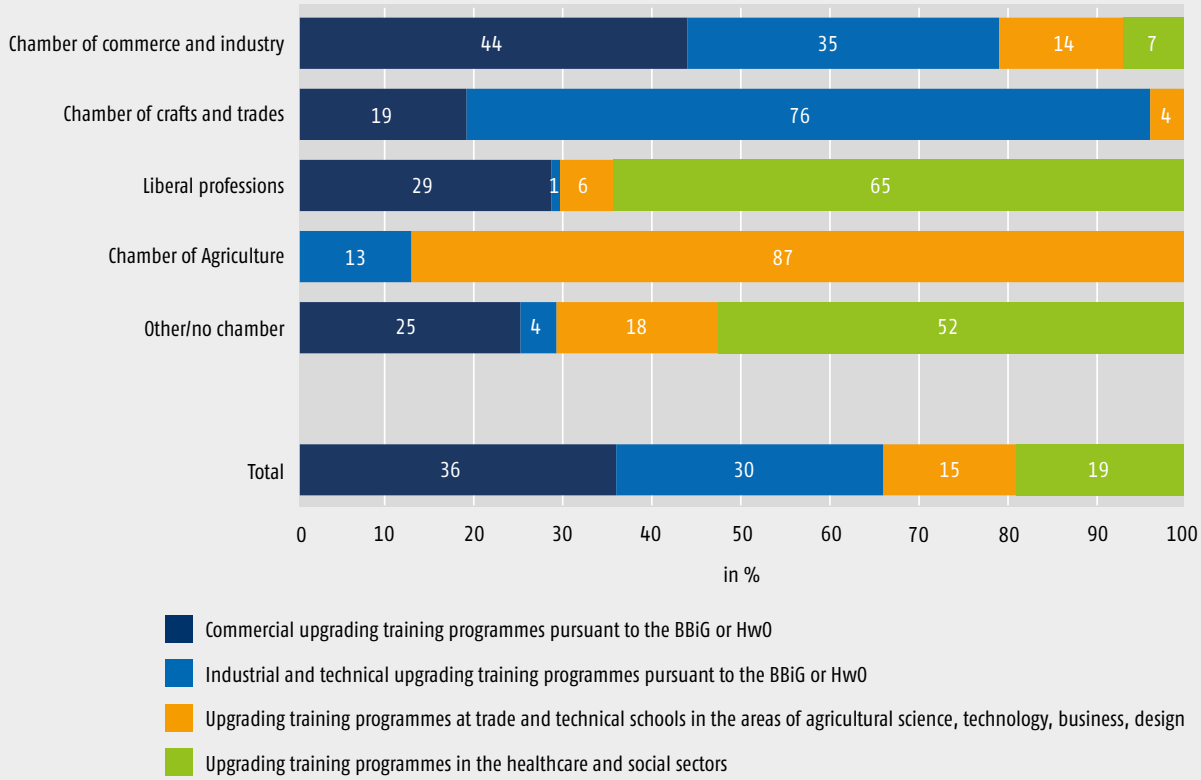
The proportion of companies offering upgrading training also rose in line with company size. 60% of major companies funded upgrading training, whereas the corresponding figure for the smallest class of companies and small companies was only one in ten. This is because the probability that such funding will be provided for at least one employee rises in line with the number of employees.

Significant differences also exist between companies currently providing training and companies which do not employ any trainees. Just under one in four companies providing training (23%) supported upgrading training for its employees. By way of contrast, the figure for companies without trainees was only one in ten.

Participants in company-funded upgrading training programmes by specialisms

As well as looking at the question of whether companies fund upgrading training, the BIBB Training Panel also identifies the participant rate in individual specialisms. A distinction is drawn between four specialisms of upgrading training (→ **Chart B1.2-2**). Participation rates can be calculated for the individual specialisms. For this purpose, the total number of participants in upgrading training programmes per specialism (numerator) is di-

Chart B1.2-2: **Distribution of participants in upgrading training programmes by specialisms in 2021 by chamber area/chamber membership (in %)**



Source: 2022 BIBB Training Panel; extrapolated data

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vided by the total number of all participants in upgrading training programmes in 2021 (denominator). Because this section only deals with company-funded upgrading training programmes, statements relate to persons who were in company employment during the course of the advanced training. → **Chart B1.2-2** presents the participation rates differentiated by chamber membership. Commercial upgrading training in accordance with the Vocational Training Act (BBiG) and the Crafts and Trades Regulation Code (HwO) accounts for the highest proportion of participants (36%). This leads, for example, to management qualifications at the Bachelor Professional or Master Professional level.

As expected, clear differences are revealed in the distribution of participation rates across specialisms depending on the area of chamber membership of the companies. Commercial upgrading training programmes predominate at companies with chamber of commerce and industry membership, for example. Companies which are members of chambers of crafts and trades mainly offer industrial and technical programmes.

B2 Continuing education and training providers

B2.1 Continuing training providers – results of the 2022 Continuing Training Monitor

Against the background of accelerated digitalisation brought about by the pandemic, the main thematic focus of "The continuing training market in flux" included in the Continuing Training Monitor of 2022 (see Annex – Data sources) investigated issues relating to the current market situation of continuing training providers and to strategies and innovations adopted in this regard. As every year, the survey also reviewed the economic climate in the continuing training sector and collected fundamental structural data on continuing training providers. The results presented below are based on weighted and extrapolated data from 1,805 institutions.

Economic climate and provider structures within the focus of the Continuing Training Monitor

The economic mood in the continuing training sector was muted in the summer of 2022. The Continuing Training Monitor Climate Index (see Information Box) for all providers was +9 (on a scale from -100 to +100), 6 points below the value for the previous year (Climate Index 2021: +15) → **Chart B2.1-1**. This was the third year in succession that the economic climate in continuing training remained below the high level recorded in the pre-crisis period (Climate Index 2019: +44). The two components making up the Climate Index – assessment of the current economic situation and expectation for the coming twelve months – were both only slightly positive in 2022 (+10 for assessment of the situation and +7 for expectation). It is likely that the crises of 2020 have exerted a key influence on the moderate economic situation of the continuing training providers. Firstly, it is conceivable that additional financial expenditure and losses of revenue during the coronavirus pandemic have continued to cloud many providers' assessment of the current economic situation. The second supposition must be that the impacts of the energy crisis, such as cost increases and falling purchasing power of budgets, are reflected in the evaluations. However, when interpreting the 2022 expectation value, it is necessary to consider the high degree of uncertainty that existed at the time of the survey with regard to the economic consequences of rising energy prices in the autumn/winter of 2022/2023. In addition to this, a further role in respect of the reticent economic mood may have been played by other current challenges such as shortage of skilled workers including amongst continuing training staff or by the digital shift at institutions.

Information Box – Continuing Training Climate Index

The **Continuing Training Monitor Climate Index** maps the way in which the continuing education and training providers assess the economic situation. It is calculated on the basis of the geometric mean of the differences between positive and negative verdicts of the current business situation and expectation in one year. The information given by the providers is weighted on the basis of the volume of training hours delivered in the previous year. Values may lie between −100 and +100. The Continuing Training Monitor Climate Index is a conceptual adaptation of the Institute for Economic Research (ifo) Business Climate Index.

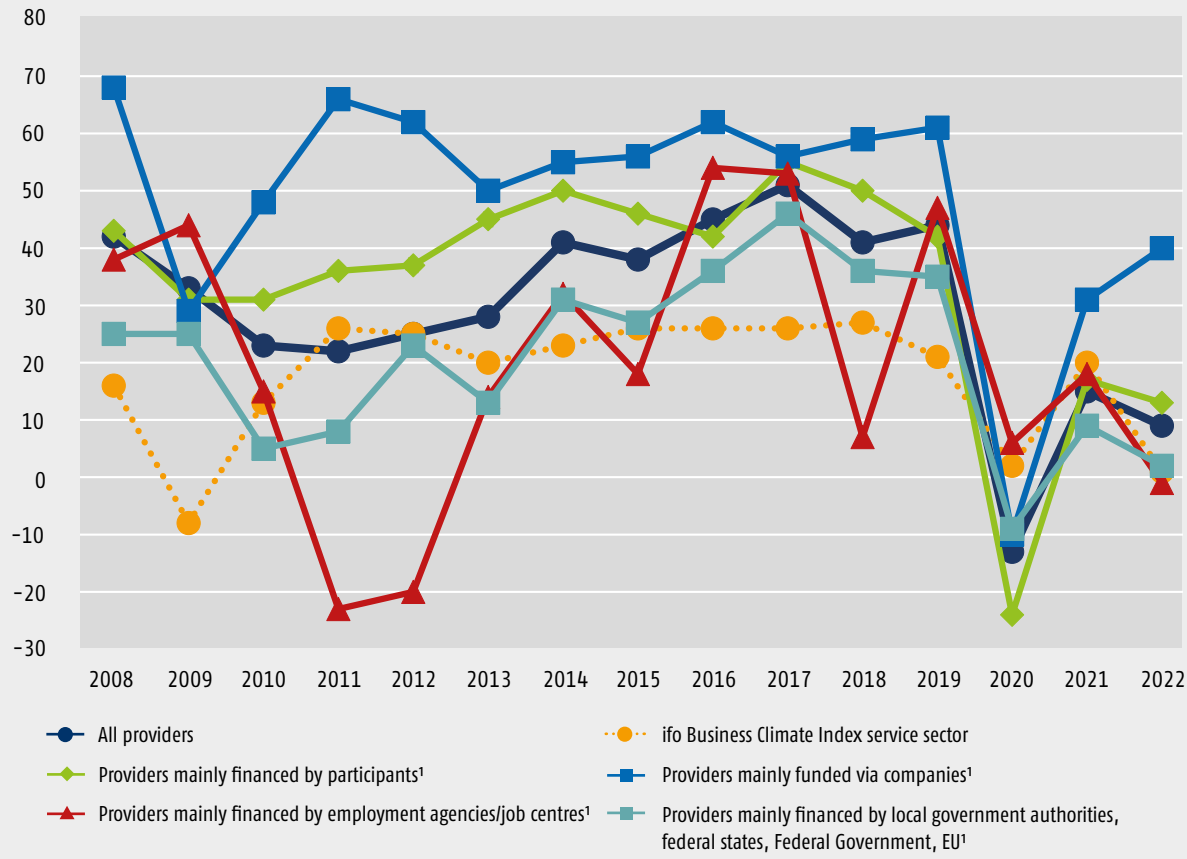
The Climate Index value (→ **Chart B2.1-1**) of both components combined was +1 for the whole of the service sector. This was the first time for two years that it has been lower than that of the continuing training providers (+9).

A differentiated consideration by the various main financing sources shows that only providers which predominantly operated on behalf of companies saw an improvement in their economic mood (Climate Index +40, plus 9 points compared to 2021). Values declined between a slight and noticeable level in the other financing segments. These include providers which are primarily financed by participants or self-payers (Climate Index +13; minus 4 points), providers which main implemented labour market services funded by the employment agencies or job centres (Climate Index -1; minus 19 points) and institutions drawing most of their funding from political bodies (local government authority, federal state, Federal Government) and/or the EU (Climate Index +2; minus 7 points).

Structural information from the 2022 Continuing Training Monitor Survey

Continuing training is characterised by a broad spectrum of private and public or state sector organisations. The private sector segment makes up the largest proportion of the total number of providers. In 2022, 22% of all providers were commercially run in the private sector and 18% privately operated on a non-profit basis. A further 5% were company-based training institutes belonging to a company with a different main alignment. Cooperative

Chart B2.1-1: **Development of Continuing Training Monitor Climate Index values from 2008 to 2022**



¹ 50% or more of revenues in continuing training originate from the financing sources stated.
The climate values are informed by evaluations of the current and future situation. They may fluctuate between -100 and +100. Higher values indicate a better climate.
Source: BIBB/DIE Continuing Education and Training Monitor 2008 to 2022; ifo Business Climate Index service sector 2008 to 2022 VET Data Report Gemany 2023

institutions, which are generally characterised by values-oriented or interest-led provision, constitute a further relevant segment. Just under one in five providers (18%) were funded by a non-organisation such as a church, political party, trade union, association or society. 14% of providers were adult education centres. One tenth (10%) of continuing training providers consisted of professional associations, other similar organisations with close ties to trade and industry or occupationally-related institutions and training centres funded by such organisations and institutions. There were comparatively low proportions of vocational schools and trade and technical schools responsible for advanced vocational training pursuant to federal state law (7%), research institutions providing continuing training, universities of applied sciences, institutes of higher education and universities of cooperative education (4%) and other state institutions (2%).

93% of continuing training providers offered occupationally-related continuing training in 2022. Continuing vocational training was a main task focus of the activities of 64% of these. In 29% of cases, continuing vocational education and training was one field of business or organisational purpose alongside others. A differentiated consideration by the various types of provider shows that private sector commercial providers (main task in 81% of cases), chambers, guilds, professional association or similar and their training centres (80%) and company-based training institutions (78%) were most likely to pursue continuing VET as their main focus. This was also true of more than two thirds of non-profit private sector institutions (69%) and of research institutions, universities of applied sciences, institutes of higher education and universities of cooperative education (67%). Continuing training was also the main task of the provision offered by a majority of other state institutions (65%) and vocational schools (59%). Continuing vocational training was least likely to be accorded this status at adult education centres (43%) and in the case of cooperative institutions operated by churches, political parties, trade unions, foundations, associations and societies (41%). With regard to the categorisations of the adult educa-

tion centres, 46% of which offer continuing training as an ancillary task and thus constitute the largest group in this respect, consideration should be accorded to the fact that, although "Skills for working life – IT – organisation/management" is the only programme area which is explicitly occupationally-related, other areas may also include provision that may impart occupationally utilisable competencies.

In terms of total turnover and budget in 2021, the spectrum of continuing training providers was very broad and ranged from small-scale providers to large organisations earning considerable revenues. In 2021, a small minority of 3% of providers generated an annual turnover of no more than €10,000. 17% of continuing training providers had a total turnover/budget of between €10,000 and €100,000. These figures were between €100,000 and €1 million for 40% of providers. Just over a third of continuing training providers (35%) exceeded the €1 million mark in terms of total turnover/budget. 4% even achieved in excess of €10 million. There are also institutions which do not conduct their own financial administration and thus had no stand-alone turnover/budget (5%). It was frequently the case that providers were not solely involved in continuing training but derived a large part of their revenues from it. Across all providers, continuing training accounted for an average of 64% of total turnover/budget in 2021. Revenues from continuing training activities only constituted a minority of income (35%) for the companies with the largest revenues (annual turnover/budget of over €10 million in 2021).

Because of the different natures of the services rendered, revenues or expenditure in the area of continuing training originated both from private customers and from the public purse. In overall average terms, providers drew 31% of revenues from individual participation fees and 25% from training activities for companies. 14% of funding received was from SGB labour market services financed by the employment agencies or job centres. A further 23% came from political bodies (local government authority, federal state, Federal Government) or from the EU within the scope of basic institutional financing or for the execution of certain measures or projects. Expenditure by non-public providers (3%) and other revenues (4%) were comparatively less significant.

B2.2 Continuing vocational education and training services from adult education providers

B2.2.1 Continuing vocational education and training at adult education centres

In accordance with the relevant federal state laws, adult education centres play a particular role in the provision of continuing training to the population in many federal states. Fundamental responsibility for continuing vocational education and training lies with the Federal Government, whilst the federal states have charge of general and political continuing training. Nevertheless, the continuing training laws of the federal states normally stipulate that continuing VET is an area eligible for funding. Adult education centres are publicly financed continuing training institutions which exist in all federal states. They offer educational provision which exhibits a broad thematic range, many parts of which are open to the whole of the population without any limitations to access.

Review of the adult education centre statistics and current data situation

The adult education centre statistics (see Annex – Data sources) are national statistics provided on a voluntary basis by the German Association of Adult Education Centres (DVV) and its member institutions.

Table B2.2.1-1: **Courses offered in the programme area of "Skills for working life – IT – organisation/management" at adult education centres, 2018 to 2021**

Year	Courses	Of which in commissioned and contracted measures	Teaching hours	Of which in commissioned and contracted measures	Take-up	Of which in commissioned and contracted measures
2018	45,321	5,943	1,205,225	397,077	371,223	65,404
2019	45,362	6,400	1,128,239	324,903	360,183	64,545
2020	29,353	3,645	772,439	220,633	205,865	32,218
2021	24,473	3,932	675,992	201,704	163,321	34,541

Source: Data basis adult education centres statistics (DIE); 2018: 873 VHS; 2019: 879 VHS; 2020: 852 VHS; 2021: 846 VHS VET Data Report Gemany 2023

Continuing vocational training provision at adult education centres

24,473 courses in the programme area of "Skills for working life – IT – organisation/management" were executed at adult education centres in 2021 → **Table B2.2.1-1**. Compared to the 2020 reporting year, the absolute number of courses recorded (-16.6%), the number of teaching hours (-12.5%) and the number of individual participations (-20.7%) all fell sharply once more.

In relation to total course provision at adult education centres, 8.2% of courses in 2021 took place in the programme area of "Skills for working life – IT – organisation/management". This represented 7.3% of teaching hours and 6.4% of individual participations. This means that the number of courses and individual participations in this programme area as a proportion of total provision rose slightly compared to 2020.

In terms of content, almost half (48.7%) of the courses were assigned to the specialist area of IT media basic principles/general applications. Large numbers (45.3%) of course participations were located here, too. This specialist area accounted for a proportion of 22.0% of teaching hours in the programme area of "Skills for working life – IT – organisation/management" because shorter courses mainly took place here. The largest specialist area by teaching hours (32.4% of the programme area) was "Cross-cutting/other courses", which accounted for 13.2% of courses and 16.8% of individual participations. The high average number of teaching hours in these courses occurs because they include many commissioned and contracted measures with cross-cutting content alignment. Further major specialist areas in the programme area were "Basic and specialist commercial/accountancy courses" and "Sector-specific specialist courses", which accounted for 10.4% and 7.1% of teaching hours, respectively. The specialist area of "Soft skills/application training" attracted a comparatively large circle of participants making up 6.2% of individual participations. However, its relatively short course duration meant that this specialist area accounted for only 4.5% of teaching hours in the programme area.

B3 Publicly funded continuing training

B3.1 Continuing vocational education and training measures funded pursuant to SGB III and SGB II

Training within the scope of labour market policy instruments is funded via the employment agencies in accordance with German Social Security Code III (SGB III) with the aim of helping to compensate for the discrepancy between the labour demand skills requirements and the qualifications held by job seekers. It thus makes a contribution towards covering the skilled worker requirement. Support provided by the job centres for persons who are capable of work but require assistance takes place pursuant to German Social Security Code II (SGB II) (see Information Box).

As of 1 January 2019, the Skills Development Opportunities Act expanded the possibilities for the funding of continuing vocational education and training for employees. Guidance provision for workers (continuing training guidance) and for employers (labour market consultancy) were also extended by dint of this law. The aims of these measures are to help improve employability in a timely and preventative way, to counter the occurrence and reinforcement of unemployment and to make companies aware of their adjustment and training needs. These approaches were developed further via the Act for the Promotion of Continuing Training in Times of Structural Change and for the Further Development of the Funding of Training ("Work of Tomorrow Act") of 20 May 2020.

Information Box – Conditions of funding

Funding of continuing vocational education and training is governed by §§ 81 ff. SGB III. The prerequisite for funding by the BA is an assessment that continuing training will help achieve occupational integration or avert impending unemployment. Unemployed workers may also be funded in order to improve individual employability via the expansion of their occupational competencies if this is "appropriate given the situation and development of the labour market" (§ 81 (1) SGB III). Employees can receive funding for the acquisition of a vocational qualification via the second-chance route if they are not in possession of such a qualification (or if there is a prospect that they will no longer be employed in their occupation after a period of several years of unskilled or semi-skilled work) and provided that they are suited to the occupation and that

there is an expectation that the vocational qualification will improve employment opportunities. Guidance from the employment agency also needs to have taken place, and both the measure and the provider must be authorised for the funding.

Conditions relating to the acquisition of a lower secondary school-leaving certificate or of basic skills via the second chance route are also stipulated.

If the prerequisites for funding are in place, a training voucher will be issued to guarantee that continuing training costs will be met. The training voucher may be time-limited or restricted regionally or to certain training objectives.

Funding for employed workers is governed by § 82. Prerequisites here include a requirement that the skills, knowledge and competencies imparted should extend beyond short-term upgrading training which is exclusively workplace related and that the measure must also be conducted outside the company or by an authorised provider and must be of a duration of more than 120 hours. Numerous factors determine the amount of continuing training costs and of any grants to supplement pay that will be met by the BA or the company. These particularly include company size, characteristics of the employee and the existence of a company agreement or of a collective wage agreement that covers continuing training. In 2021, the application process for employers was simplified by making it possible to submit collective applications for employees with comparable continuing training needs.

Persons eligible for funding include both employees who are funded by the employment agencies pursuant to SGB III and persons who are capable of work but require assistance pursuant to SGB II. Within the legal scope of SGB II and as a departure from the usual training voucher procedure, continuing training measures may be assigned if the suitability and personal life circumstances of job seekers require this and if no appropriate measure is available. The aim here is to facilitate participation in continuing training by groups of persons who are detached from the labour market.

Separate funding conditions apply to special programmes of the BA.

Funding statistics of the BA (see also Annex – Data sources)

The funding statistics collect data on instances of funding or participations by persons in active labour promotion measures. Instances of funding or participations are recorded rather than persons. This means that someone who receives more than one funding benefit during a period or at a point in time will be counted more than once.

The labour market policy instruments which facilitate training for persons covered by the legal spheres of SGB II and SGB III include continuing vocational education and training and continuing vocational education and training for disabled persons → **Table B3.1-1**.

Funding of continuing vocational education and training

The funding of continuing vocational education and training measures pursuant to SGB III (labour promotion) and in accordance with SGB II (provision of basic benefits to job seekers) is one of the key elements of active labour promotion. The aim is to improve both individual opportunities for people on the labour market and the competitiveness of companies. Qualifications can also be adapted to meet changed requirements, and vocational qualifications previously not acquired can be obtained. The BA differentiates between different types of measures and sub-types → **Chart B3.1-1**.

Entry figures for funded continuing VET have been relatively stable over recent years. In 2020, however, the number of entries to continuing VET measures fell significantly compared to the previous year (-17.5%). Restricted opportunities to carry out face-to-face measures within the scope of the coronavirus pandemic are also likely to be one of the reasons for this. The number of entries to funded continuing VET measures decreased once again in 2021, by about 1.9%. Average annual total numbers have also remained relatively constant over the past years, during which time the tendency has been for a growth in participants within the scope of the legal sphere of SGB III. In the reporting period, the proportion of participations funded pursuant to SGB III varied between a minimum of 49.4% (2012) and a maximum of 70% (2021).

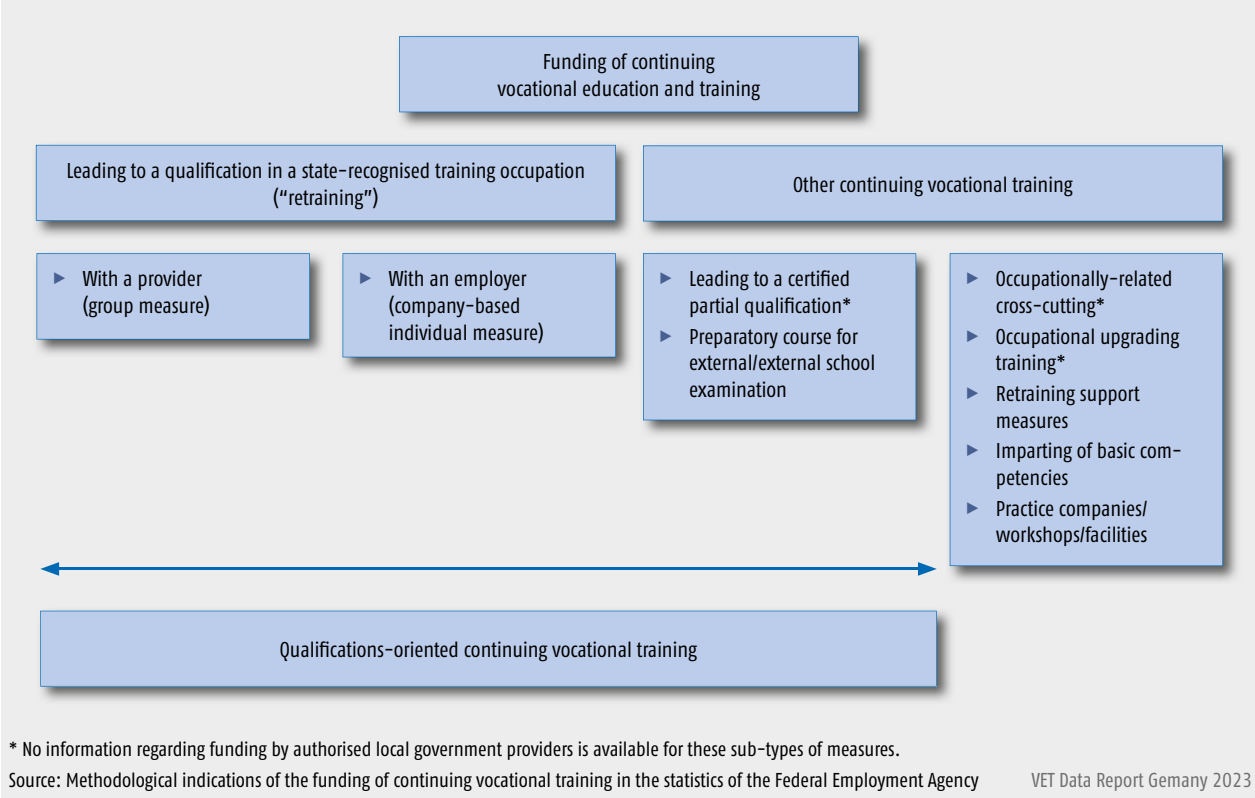
In 2021, the proportion of entries accounted for by persons aged under 25 remained virtually unchanged at 6.6%. The focus of support given to persons under 25 with skills requirements is on placement in vocational education and training. The number of foreigners as a proportion of entries to continuing VET rose further from 27.1% to 27.5%. The proportion of female entrants to funded continuing vocational education and training measures increased slightly compared to the previous year. The proportion of entries to measures leading to a qualification in a recognised training occupation remained virtually unchanged. It should be remembered that the figure for “continuing VET leading to a qualification” encompasses both groups and company-based individual retraining programmes. Measures which offer preparation for participation in an external examination and certified partial qualifications are counted as “qualifications-oriented continuing training”. Entries to these

Table B3.1-1: **Participation in continuing vocational education and training under the legal sphere of SGB III and SGB II in the year 2021**

	Participant population (Annual average)			Accesses/Entries/Approvals (Annual total)		
	Total	SGB III	SGB II	Total	SGB III	SGB II
Continuing vocational education and training 2021 of which:	178,137	132,409	45,729	294,641	203,550	91,091
Funding of continuing vocational education and training	150,268	105,007	45,261	267,641	177,029	90,612
including: general measures for continuing training rehabilitation	4,975	3,732	1,243	4,831	3,260	1,571
Grant to supplement the pay of employees for continuing vocational education and training	27,869	27,401	468	27,000	26,521	479

Source: Federal Employment Agency 2022: The Training Market in Germany 2021 VET Data Report Gemany 2023

Chart B3.1-1: **Funding of continuing vocational and training – types and sub-types of measures**



* No information regarding funding by authorised local government providers is available for these sub-types of measures.

Source: Methodological indications of the funding of continuing vocational training in the statistics of the Federal Employment Agency VET Data Report Gemany 2023

measures accounted for a proportion of around 23% over the last three years. Persons without a VET accounted for 40.3% of entries to funded continuing vocational education and training (2020: 39.6%).

Funding can be provided for training courses in occupations for which a training duration of at least two years is stipulated in accordance with regulations under federal or federal state law. Since 1 August 2016, continuing training grants of €1,000 or €1,500 have been payable for the successful completion of intermediate or final examinations following continuing vocational education and training. Data is only currently published for funding within the legal sphere of SGB III. During the period from August 2016 to December 2021, 4,293 continuing training grants were recorded as being paid for exits to an intermediate examination. 46,525 continuing training

grants were paid for exits to a final examination, and 26,474 continuing training grants were paid for exits to an intermediate and to a final examination.

Funding of workers employed at companies

The aim of the WeGebAU programme, which was initiated in 2006 and extended for an indefinite period in 2012, was the continuing training of employees at small and medium-sized companies in particular in order to provide them with additional qualifications for the labour market that would retain or expand their employment opportunities and employability. The financial support options offered by the WeGebAU programme consisted of grants for continuing training costs, a grant to supplement the pay of employees released from work duties to pursue continuing training measures and a flat-rate subsidy to social insurance contributions. The Act for the Promotion of Continuing Training in Times of Structural Change and for the Further Development of the Funding of Training of May 2020 modified the Skills Development Opportunities Act of 1 January 2019 by introducing regulations for funding the continuing training of employed workers. The aim of the funding is to facilitate the adaptation and further development of the occupational competencies of workers exercising tasks which may be replaced by technologies or which are affected in another way by the structural shift.[25] The amount of basic funding depends on company size and has been increased by the Act for the Promotion of Continuing Training in Times of Structural Change and for the Further Development of the Funding of Training → **Table B3.1-2**.

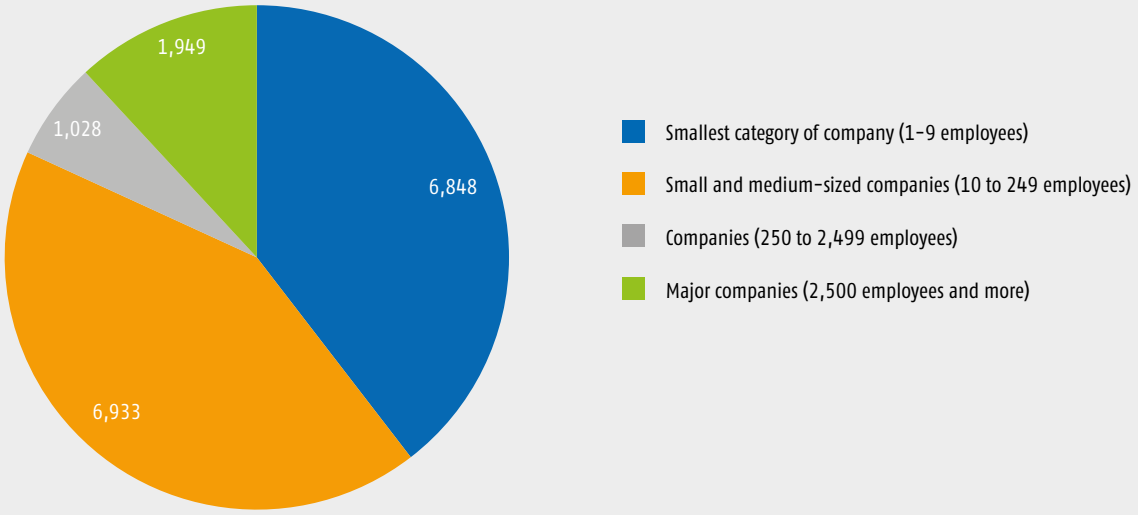
Table B3.1-2: **Continuing training for employed workers – basic funding**

	Assumption of learning course costs	Grant to supplement employee pay (during continuing VET)
Micro-enterprises <10	up to 100%	up to 75%
Small and medium-sized enterprises <250	up to 50%	up to 50%
Larger enterprises >250	up to 25%	up to 25%
Large enterprises >2.500	up to 15%	up to 25%

Source: SGB III § 82 (2), (3) VET Data Report Gemany 2023

→ **Chart B3.1-2** provides information on the number of instances of funding of employed workers (entries) in 2021 by company size.

Chart B3.1-2: **Funding of employed workers 2021 (entries)**



Source: Federal Employment Agency statistics: Funding and support of continuing vocational training, March 2022 VET Data Report Gemany 2023

25 The prerequisites for payment of continuing training costs by the BA are listed on page 13 of the 2020 VET Data Report

B3.2 Funding and take-up of upgrading training

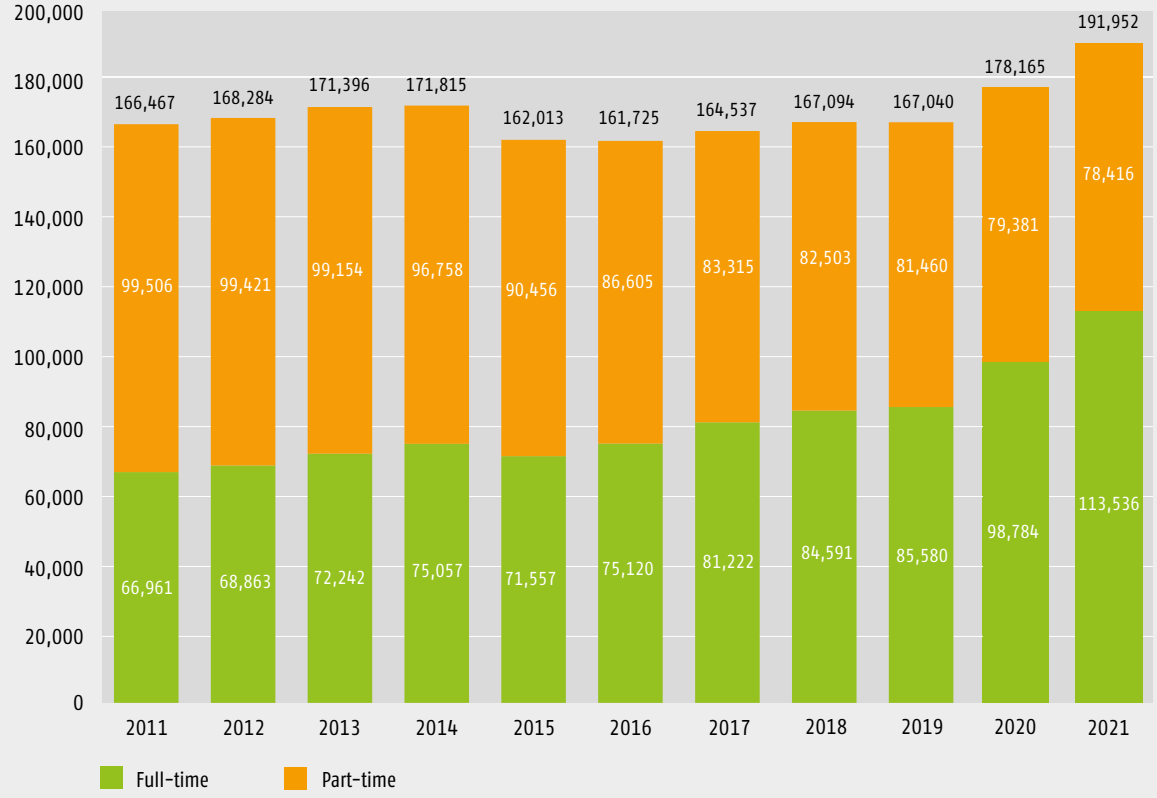
The Upgrading Training Assistance Act (AFBG) is jointly financed by the Federal Government and the federal states and has been in existence since 1996. It provides for an individual right, irrespective of age, to funding of upgrading training courses – i.e. courses leading to a master craftsman qualification or other programmes to prepare for a comparable advanced training qualification (see Information Box).

Information Box – Upgrading Training Assistance Act (AFBG)

The AFBG supports the expansion and extension of vocational qualifications in order to use higher level training as a vehicle to counter the shortage of skilled workers, to secure Germany's competitiveness and to make advancement opportunities in practice-related career pathways more attractive. The AFBG is a comprehensive funding instrument for advanced vocational education and training which fundamentally extends across all occupational areas regardless of the form in which the advanced training is completed (full-time, part-time, school-based, extra-school, media-aided, distance learning). A loan waiver scheme is used to create an incentive to enter self-employment after successful completion of the advanced vocational training.

According to the upgrading training statistics published by the Federal Statistical Office, funding for 191,952 persons was approved in 2021. These comprised 113,536 (59.1%) instances of funding for persons who had applied for a full-time measure and 78,416 (40.9%) instances of funding for persons who had applied for a part-time measure → **Chart B3.2-1**. This represented an increase in approvals of 7.7% compared to the previous

Chart B3.2-1: **Approvals in accordance with the Upgrading Training Assistance Act (AFBG), full-time and part-time 2011 to 2021**



Source: Federal Statistical Office (Destatis), GENESIS-Online database (code: 21421)

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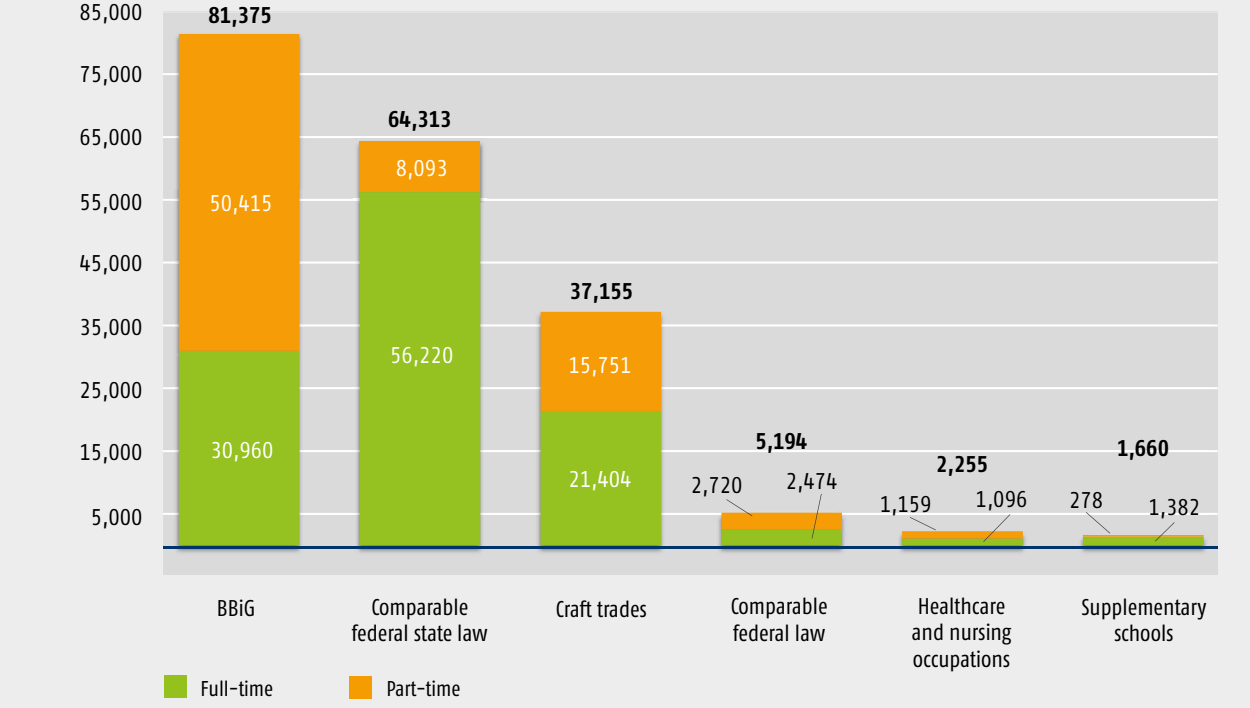
Chart B3.2-2: **Approvals in accordance with the Upgrading Training Assistance Act (AFBG), by advanced training objective, full-time and part-time 2021**



Source: Federal Statistical Office (Destatis), GENESIS-Online database (code: 21421) VET Data Report Gemany 2023

year, when funding was approved for a total of 178,165 persons.

In 2021, women accounted for 42.7% of approvals (82,032; previous year: 40.3% or 71,773). Their proportion rose by 14.3% compared to the previous year, and almost all of this increase occurred in the full-time area. 48.4% of participants in full-time measures were female. The proportion of women in part-time measures was 34.5%.

There were 81,375 funding approvals (42.4%) in the trade and industry sector (for advanced training objectives pursuant to the Vocational Training Act). As in the previous years, this area occupied the top position in 2021. It was followed by the advanced training objective of comparable federal state law (64,313 or 33.5%) and by the craft trades sector, in which 37,155 funding approvals took place (19.4%) → **Chart B3.2-2**. The highest increase compared to the previous year was recorded for additional funding approvals for full-time measures in the areas of comparable federal state law (10,583 or 19.7%).

In terms of advanced training venues, 46.8% (89,699) of approvals in 2021 were for schools. 46.9% (90,041) related to courses at institutes, and 6.4% (12,202) concerned distance learning courses at institutes. At schools, a total of 91.8% of funding approvals (82,337) were for full-time provision. The corresponding proportions for courses at institutes and for distance learning courses were 34.5% (31,107) and 0.7% (90), respectively.

As in previous years, the vast majority of persons who received funding approvals in 2021 were aged between 20 and 34 (152,466 or 79.4%). As was the case in the previous year, the group of those aged between 20 and 24 made up the greatest proportion of approvals amongst persons funded (40.5%). They were followed by the 25 to 29 age group (26.4%). Those aged from 30 to 34 were the third largest group (12.5%). The 20 to 24 age group was most frequently represented in the case of both women and men. As in the previous year, the largest group in part-time advanced training programmes was the group aged between 25 to 29, followed by the 20 to 24 age group. The opposite applied to full-time measures.

54.3% (previous year: 52.4%) of instances of funding approved in 2021 (104,298, previous year: 93,444) were aimed at one of the ten most popular advanced training occupations. Advanced vocational training leading to the qualification of state-recognised nursery school teacher

has seen strong increases in the numbers of approvals in recent years and occupies a particular position. The background to this is that the updating of the AFBG in 2020 now offers better funding conditions for those attending a trade and technical school than was previously the case under the pupil grants system (Schüler-BAföG). The result was that the 50,056 funding approvals for this qualification represented 26.1% (previous year: 39,646 or 22.3%) of all funding approvals in 2021. At the same time, approvals for this qualification accounted for 50.6% of all approvals for women in 2021 (previous year: 46.0%).

A consideration of the type of vocational qualification already acquired shows that persons who had completed training in a training occupation pursuant to the BBiG accounted for just under half (49.8% or 95,517) of all approvals. They were followed by persons who had completed training pursuant to the HwO (just under 22%, 42,208). Persons with a vocational training qualification under federal state law made up 17.9% of approvals (34,316).

In 2021, total funding benefits of €951.548 million were approved (previous year: €783.432 million). This figure includes grants in the amount of €787.822 million (previous year: €482.932 million) and loans in the amount of €163.725 million (previous year: €300.500 million). In overall terms, financial expenditure approved thus increased by 21.5% compared to the previous year. In 2021, total financial spending in respect of funding taken up was €910.022 million (previous year: €688.690 million). The proportion of grants was €787.822 million (previous year: €482.932 million), and loans accounted for €122.200 million (previous year: €205.758 million).

B3.3 Continuing training scholarship programme and advancement grant

B3.3.1 Continuing training scholarship programme

The continuing training scholarship programme run by the Federal Ministry of Education and Research (BMBF) supports talented career entrants with further training following the successful completion of initial vocational education and training. This scholarship funds participation in professional continuing training courses leading to qualifications such as master craftsman, technician, and certified senior clerk. It also covers demanding interdisciplinary continuing vocational education and training programmes such as IT courses, intensive language courses and higher education study pursued on an in-service basis. Funding is available for the scheme, for travel and accommodation costs and for expenditure on necessary equipment. Scholarship recipients may apply for grants up to a total of €8,700 for an unlimited number of continuing training courses eligible for funding within the three-year funding period. The scholarship holder makes a self-contribution in the amount of 10% of costs eligible for funding per measure.

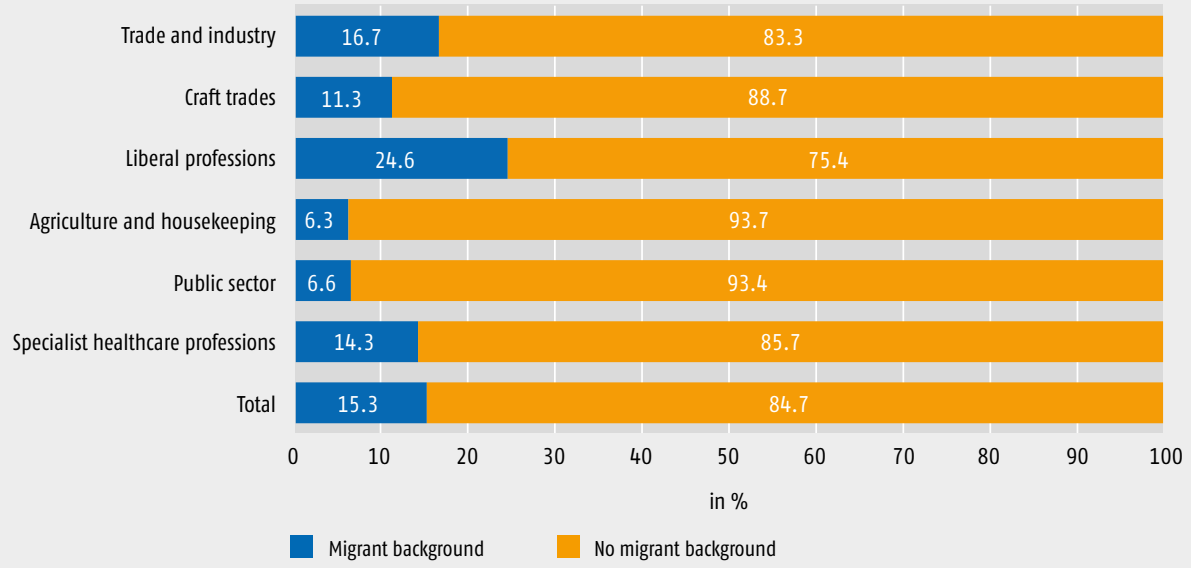
Inclusion in the continuing training scholarship programme requires above average vocational ability and motivation. Evidence of this can be provided via a very good result in the final vocational training examination (at least 87 percentage points), via particularly successful participation in a national vocational performance competition or via a justified proposal made by the employer or vocational school. The competent bodies/chambers responsible for vocational education and training largely implement the funding programme independently at a local level and without cost reimbursement.

The continuing training scholarship began life in 1991 as a programme entitled “Support for Gifted Trainees” and initially took on 1,713 particularly able young employees who had completed dual training. Since this time, more than 164,000 young people have received a continuing training scholarship. Whereas 192 VET competent bodies took part at the outset, this figure has now grown to include almost 300 chambers and other competent bodies. Between 1991 and the present day, the Federal Government has made over €590 million available for the continuing training scholarship. In 2022, the participating chambers and competent bodies admitted 6,050 new persons who had completed training in 269 different occupations to the funding programme. This meant that the target of 6,000 set by the BMBF was once again met.

Persons with a lower secondary school-leaving certificate completing training and persons from a migrant background receive special consideration. 15.3% of new entrants in 2022 were from a migrant background. This represents a rise of 0.6% compared to the previous year. This group of persons is traditionally most strongly represented in the liberal professions, where one in five of the new entrants had foreign roots → **Chart B3.3.1-1**.

A consideration of the distribution of this target group from a migrant background across the various occupations reveals that one occupation is particularly conspicuous in the liberal professions. 37.4% of qualified dental employees accepted onto the programme were from a migrant background. The next highest proportions of new scholarship recipients in other occupational areas in 2022 were bank clerks (27.4%) and registered general nurses (17.1%).

Chart B3.3.1-1: **Proportions of scholarship recipients from a migrant background by area of training (in %)**



Source: Vocational Training Support for Gifted Pupils Foundation, status: 31.01.2023; entry cohort 2022, not including the maritime sector and German chambers of commerce abroad, n = 6,045

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B3.3.2 Advancement grant programme

The advancement grant, which is funded by the BMBF and implemented by the "Training Support for Gifted Pupils" Foundation (SBB), creates higher education incentives for persons with occupational experience with or without a higher education entrance qualification. It is the only talent programme to support occupationally-talented persons who wish to achieve an academic qualification whilst continuing to work and support their families. The commencement of higher education study is tied to age insofar as it must be possible to enter working life upon successful completion of the study programme.

The upgrading training scholarship was launched in July 2008. Since this time, 14,956 scholarship recipients have been admitted to the programme. 1,016 new entrants joined in 2022 alone. Just over a quarter of all applicants have been awarded a scholarship since the commencement of the programme.

Over 8,700 scholarship holders have successfully completed their course of higher education study since the funding programme began. More than eight in ten funding recipients completed their first course of study by obtaining a bachelor's or master's degree (continuing training). About one in seven embarked on an initial course of higher education study leading to a "Diploma" or a State Examination.

Particularly successful scholarship holders who have completed a bachelor's degree may receive ongoing funding for a subsequent master's course of study. Around one in seven have benefited from this thus far. More than two thirds have now successfully completed this second course of higher education study.

B3.4 Funding for acquisition of a vocational qualification via the second-chance route

Vocational education and training qualifications may be acquired via the second-chance route within the scope of retraining pursuant to §§ 58 ff. BBiG, § 42j-§ 42n HwO or via admission to the examination pursuant to § 45 (2) BBiG or § 37 (2) HwO (external examination). **Retraining** programmes are used to prepare employees who have given up their previous task for a new occupational task. The duration of funded retraining programmes is generally at least a third shorter compared to regular training. The **external examination** allows persons to acquire a recognised school-leaving certificate for an occupation in which they are working. Preparation for participation in the regular final examination may take place in various ways. The skills, knowledge and competencies required may be acquired during the work process via autodidactic means or be obtained within the scope of company-based training provision in special courses. Preparation meas-

ures for the external examination are usually funded by the BA over a period of six months.

Continuing training measures are deemed to be qualifications-related **second-chance training** if they prepare candidates for the subsequent acquisition of a vocational qualification and if they build on existing competencies where relevant, e.g. competencies obtained at work, via training completed in the transitional system or in discontinued training programmes. The aim of training provision structured in the form of **partial qualifications** which cover the contents of a recognised training occupation when taken in their entirety is to expand employability skills on a step-by-step basis. In the same way as qualifications-related second-chance training programmes, they may lead to a vocational qualification via admission to the external examination.

The data situation (see Information Box) regarding the second-chance acquisition of a vocational qualification is heterogeneous and incomplete.

The target group of qualifications-oriented continuing training provision comprises persons whose occupational integration is jeopardised due to a lack of vocational qualifications, e.g. young adults who have not completed vocational education and training.

Information Box – Data situation on qualifications-oriented continuing training

Qualifications-oriented continuing training programmes form a subset of participants in the external examination (plus occupations governed by provisions under federal state law) and of funding numbers of the qualifications-oriented measures of the BA which is not precisely quantifiable.

The Vocational Education and Training Statistics records the annual number of external participants in final examinations in occupations governed under the BBiG and HwO. A differentiation is drawn with regard to whether admission has taken place on the basis of relevant practical occupational experience or on the basis of a school-based course which is recognised as being equivalent to the training occupation.

The BA's funding statistics indicate access numbers and total average annual numbers for continuing vocational and training measures. This data is available in a form which is differentiated by age, gender, employment status and legal sphere. Continuing VET is fundamentally separated into "continuing vocational education and training leading to a qualification" and "other continuing vocational education and training". Group-organised and company-based individual measures which offer a qualification in a recognised training occupation are counted as "continuing vocational education and training leading to a qualification". Measures which aim to impart skills in an occupation in which training has taken place or in an occupation which is being exercised, measures for second-chance final, external examinations and continuing training measures leading to a certified partial qualification are aligned to "other continuing vocational education and training". Partially qualifying measures, preparations for the external examination and retraining programmes are collated within the BA as "qualifications-oriented continuing training".

Persons who have failed to obtain a vocational qualification or a utilisable vocational qualification, and who for different reasons probably cannot be guided towards a vocational education and training qualification via the vehicles of retraining or preparatory courses, may be funded by the BA in qualifications-related measures in the form of **partial qualifications**. For this reason, the BA developed standardised partial qualifications providing occupational connectivity for the first time in the project "Optimisation of training provision for the low-skilled unemployed". These were then piloted from 2010 onwards. The objectives are to facilitate quick integration into the labour market and to make competencies acquired usable along a gradual route to a vocational qualification. Training modules developed within the JOBSTARTER CONNECT are also being used by the BA for partial qualifications.

Following the evaluation of their pilot initiative "Certification of partial qualifications" (term 2013 to 2016), the chambers of commerce and industry (IHKs) have been offering competency assessments nationally for partial qualifications with an IHK certificate. The target group comprises adults (aged over 25) without a vocational qualification or without a utilisable vocational qualification. Provision by the German employers' associations and vocational education and training institutes of German trade and industry is also structured via partial qualifications in the "Employer partial qualification initiative". Within the scope of the National Continuing Training Strategy, the BMBF cooperates with the Association of German Chambers of Commerce and Industry and the training institutes of German trade and industry to promote "the quality-assured development and nationally standardised implementation in occupations which are in particular demand". In its Recommendation of 15 March 2018 – "Qualifications-oriented training of adults: conditions and factors governing success" – the BIBB Board formulated education and training policy recommenda-

tions for various types of continuing training provision which offer preparation for the acquisition of a vocational qualification. Qualifications-related continuing training programmes may be funded by the BA as retraining or via the imparting of partial qualifications both for the unemployed and for employed workers.

The law to reinforce unemployment insurance coverage and CVET (AWStG) has introduced new elements to strengthen qualifications-oriented continuing training and has modified the priority given to placement stipulated in § 4 SGB III. Placement in work does not take precedence over continuing VET funding if continuing VET can achieve permanent occupational integration.

B3.5 Public spending on continuing vocational education and training

Continuing vocational education and training is funded by the Federal Government, the federal states, local government authorities and the Federal Employment Agency (BA). → **Table B3.5-1** documents spending from public budgets on continuing VET from 2001 to 2022. Although expenditure on general, political, cultural and scientific continuing training is fundamentally not presented, the latter cannot usually be precisely delineated in the public budgets and is included in some cases.

The main contribution made by the Federal Government to the financing of continuing vocational education and training is the funding of living costs for persons participating in such programmes. This includes provision of support pursuant to the Upgrading Training Assistance Act and upgrading training assistance for pupils at trade and technical schools who have completed VET. There are also funding programmes offered by various ministries. Spending on such programmes is consolidated within budgets to form headings which are allocated to the area of continuing vocational education and training funding in the annual financial statistics of the Federal Statistical Office. However, some of these budgets mainly relate to the general or tertiary educational system or contain spending items which are more closely connected with funding of vocational education and training. By the same token, there are also budgets which clearly serve the funding of continuing vocational education and training although their functional indicators suggest otherwise. The latter particularly applies in respect of special schemes for younger persons offered by the Federal Ministry of Labour and Social Affairs within the scope of SGB II. For this reason, → **Table B3.5-1** indicates the budgetary areas which can be allocated in a source-specific manner to continuing vocational education and training rather than making reference to the annual financial statistics. Federal Government budgetary areas (and table items relating to the federal states, local government bodies and the Federal Employment Agency) which contain a significant extent of training expenditure are marked with a cross at the end of the line. Nevertheless, no full presentation of the continuing training-related expenditure of the federal departments can be assumed. Departments other than those recorded here also fund continuing training in their area of responsibility (e.g. transport). This expenditure is generally not allocated by function to continuing training funding in the annual financial statistics. Ultimately, spending on general continuing VET cannot be exactly delineated. The BMBF budget "Digital shift, education area, education platform and INVITE" has, for example, been allocated to continuing training funding since 2022. It is not, however, limited to vocational education and training. Nevertheless, it is included in → **Table B3.5-1**.

The federal states participate in the financing of continuing training in a similar way to the Federal Government via programmes conducted by the different ministries. The delineation problem described also applies here. In light of the multitude of federal state budgets, however, it is practically impossible to identify which of these should actually be aligned to continuing training spending. For expenditure by the federal states, use is therefore made of the annual financial statistics of the Federal Statistical Office. For 2022, these indicate a planned contribution by the federal states for other continuing training purposes (functional indicator 153) in the amount of €523 million. There is also a contribution of €102 million from the municipal associations and local government authorities. However, as described above, funding programmes are only included if the functional indicator explicitly shows that they are allocated to the field of continuing vocational education and training within the function plan. It is likely that many programmes that relate to continuing VET are also included in the area of labour market policy. For this reason, the annual financial statistics may underestimate the actual contribution made by the federal states to continuing vocational education and training funding.

Acting together with local government and municipal associations in some cases, the federal states continue to finance adult education centres and teacher training institutes. The relevant spending can also be gleaned from the annual financial statistics. Because the intention is to present expenditure incurred by the public budgets, the concept of basic funding needs to be applied. This involves setting off net spending against direct revenues received by the public purse, such as participant fees for courses at adult education centres. However, the annual financial statistics do not permit a differentiation to be

made between CVT and non-CVT in respect of spending for adult education centres.

In addition to this, the federal states are involved in the funding of upgrading training. Their proportion is statutorily fixed at 22% and can be calculated on the basis of information provided in the budget of the BMBF, which bears the whole Federal Government proportion of 78%. The BMBF budget sets off the repayment of loans from previous periods against the monies paid out to recipients of funding in the respective period. For this reason, it provides no information regarding the actual amount of funding in the respective period. However, this contribution essentially comprises the actual cost to public budgets anyway. Funding (from the Federal Government and federal states) for the AFBG has been considerably extended since 2019 in the wake of the National Continuing Training Strategy. Account should also be taken of the contributions made by the federal states to benefits paid in accordance with the Federal Education and Training Assistance Act to pupils at trade and technical schools who have completed VET. 100% of this funding is paid in the form of a grant, and its full cost has been borne by the Federal Government since 2015.

Finally, the federal states finance the trade and technical schools and institutes of higher education. However, spending by institutes of higher education for the purposes of continuing vocational education and training are not taken into account in the federal state spending listed in → **Table B3.5-1**. A study into the structure and organisation of continuing vocational education and training at institutes of higher education comes to the conclusion that large parts of the costs are covered by fees paid by participants.

Mention should be made of the fact that public employers also naturally support the continuing vocational education and training of their own staff. This takes place via assumption of direct costs of continuing vocational education and training and via continued payment of wages during such continuing training.

Funding of continuing vocational education and training by the Federal Employment Agency (BA) on the basis of German Social Security Code III (SGB III) essentially includes the costs of the continuing training itself, unemployment benefit paid during continuing training and grants to supplement pay during such training. According to the BA, unemployment benefit is designated as "unemployment benefit during continuing training" as soon as it is granted for participation in a continuing vocational education and training measure. Usually, however, persons have a right to receive unemployment benefit by dint of the fact that they are unemployed. Strictly speaking, this means that not all of the costs should be interpreted as educational spending in accordance with the costs-by-cause principle. Because the duration of the right to receive unemployment benefit increases by half of the duration of continuing training in the case of participation in a continuing vocational education and training measure, it is likely that the proportion to be allocated to educational spending is at least 50%. → **Table B3.5-1** does not take account of benefits provided by the BA to persons with a disability. In accordance with its purpose, associated expenditure should not presumably be largely interpreted as educational spending even if it is in some cases incurred within the context of continuing training activities.

Spending by the BA initially declined sharply from 2001 and fell to a minimum in 2012 because of a deterioration in leeway within labour market policy. Over recent years, it has been rising slightly but continuously. However, a stagnation has become apparent in 2021.

Alongside initial and continuing training funding on the basis of SGB III, the BA is also responsible for the implementation of measures funded by the BMAS on the basis of SGB II. The criterion for funding pursuant to SGB II is a phase of unemployment which lasts for longer than one year. For this reason, the vocational training promotion schemes within the scope of the legal sphere of SGB III are similar to those covered within the legal sphere of SGB II. Mention should be made of the fact that spending by the BMAS on the funding of continuing vocational education and training within the legal sphere of SGB II is not recorded to the extent that such expenditure is incurred by authorised local government providers.

In some cases, the funding made available by federal ministries, the BA and the federal states is supplemented by EU funding. The relevant programmes have hitherto been co-financed by the ESF, which will be replaced by ESF Plus for the funding period from 2021 to 2027. Around €750 million of the €6.3 billion received by the Federal Government and federal states (not including funds for "technical assistance") are earmarked for objectives and intervention areas which directly relate to continuing VET, whereby programmes which are allocated to other objectives or intervention areas may also be of relevance to continuing training. For this reason, it is not readily possible to make a precise determination of the ESF Plus funding which flows into continuing vocational education and training. In any case, however, it is not likely to exceed €200 billion per year and is already included in the positions in → **Table B3.5-1**.

Table B3.5-1: **Public expenditure on continuing vocational education and training (Part 1)**

	2001	2015[13]	2016	2017	2018	2019	2020	2021	2022	Course of training[14]
	€ billion	€ billion	€ billion	€ billion	€ billion	€ billion	€ billion	€ billion	€ billion	
Federal Ministry of Education and Research (BMBF)[1]										
International exchange and cooperation in vocational training	0,007	0,011	0,009	0,013	0,014	0,015	0,013	0,011	0,016	X
Innovations and structural development of vocational training	k.A.	0,075	0,076	0,064	0,056	0,058	0,068	0,077	0,096	X
BIBB (operation and investments)	0,028	0,036	0,042	0,038	0,040	0,052	0,051	0,055	0,056	X
Support for gifted students in vocational education and training	0,014	0,046	0,049	0,052	0,053	0,061	0,061	0,066	0,067	X
Upgrading Training Assistance Act (AFBG)[2]	0,045	0,182	0,200	0,252	0,261	0,264	0,408	0,675	0,786	
Continuing training and lifelong learning	k. A.	0,038	0,047	0,079	0,094	0,074	0,063	0,055	0,059	
Digital training space, training platform, INVITE									0,193	
Upgrading training assistance for pupils at trade and technical schools who have completed VET[3]	0,081	0,124	0,117	0,112	0,098	0,088	0,072	0,039	k. A.	X
Federal Ministry of Economic Affairs and Energy (BMWi)[1]										
Vocational education and training – institutes for advanced VET[4]	0,027	0,029	0,025	0,018	0,018	0,029	0,029	0,033	0,038	
Federal Ministryof Labour and Social Affairs (BMAS)[5]										
Funding of continuing vocational training (FbW) within the legal scope of SGB II[5]	k. A.	0,565	0,569	0,546	0,510	0,566	0,485	0,508	0,529	X
Innovative measures for organising the world of work and […] Continuing training						0,006	0,006	0,020	0,030	
Federal states, municipalities, special purpose associations[6]										
Trade and technical schools[7]	0,566	0,746	0,820	0,811	0,762	0,786	0,813	0,837	0,863	X
Upgrading Training Assistance Act (AFBG)[2]	0,013	0,051	0,056	0,071	0,074	0,074	0,115	0,190	0,222	
Adult education centres (funding code 152), occupationally-related continuing training[8]	0,088	0,036	0,035	0,035	0,044	0,077	0,094	0,100	k. A.	
Other continuing training (funding code 153)[9]	0,485	0,363	0,389	0,425	0,457	0,482	0,528	0,525	0,625	X
Advanced and continuing training for teaching staff (funding code 155)	0,130	0,119	0,130	0,136	0,138	0,155	0,143	0,141	0,185	
Federal Employment Agency[5]										
Funding of continuing vocational education and training (FbW)[10]	6,982	1,068	1,149	1,235	1,287	1,482	1,539	1,445	1,312	
Unemployment benefits whilst undertaking continuing vocational training[11]		1,060	1,093	1,126	1,107	1,217	1,269	1,307	1,129	
Funding for young people's residential homes	0,044	0,001	0,003	0,009	0,007	0,005	0,004	0,004	0,003	X
Training while receiving short-time compensation[12]	-	0,000	-0,000	-0,000	-0,000	-0,000	-0,000	0,002	0,003	

Table B3.5-1: **Public expenditure on continuing vocational education and training (Part 2)**

[1] Actual values in accordance with Federal Government budgetary calculations. Budget appropriations for 2022.
[2] The values presented do not provide any information on funding actually paid out to recipients in the respective period, cf. note in text.
[3] Funding for pupils at trade and technical schools requiring completed VET (BB). Actual values for all mentioned calendar years in accordance with BAFöG statistics of the Federal Statistical Office without offsetting of loan repayments. Up until the year 2014, only 65% of this expenditure was allocated to the Federal Government and 35% to the federal states. The Federal Government bears the financing costs alone since 2015. Payment coverage of loan defaults and interest rates is not included here.
[4] It records funding for extra-company vocational training centres which focus on advanced and continuing training activities.
[5] Actual spending for the respective budgetary year. Not included: Expenditure of the BMAS in the case of authorised municipal providers that are not recorded via the financial system of the BA. Since 2019, continuing vocational training and grants to supplement pay for the continuing training of unskilled workers and employees threatened by unemployment (AEZ-WB) are no longer shown separately.
[6] Actual values for 2001, target values for 2022. All other years: preliminary actual values.
[7] Basis for the estimation of expenses in the respective calendar years: number of hours taught per type of school in the school years ending and beginning in the respective calendar year and expenditure on vocational schools. Basis of the estimation for the year 2022: the number of hours taught per type of school in the 2021/2022 school year and expenditure on vocational schools in the 2022 calendar year. Until the 2014 Data Report, estimation took place on the basis of pupil days. Since the 2015 Data Report, however, only values estimated on the number of hours of teaching are presented, including with retrospective effect.
[8] Estimated with the assistance of public spending on adult education centres according to the Federal Statistical Office and the proportionate volume of teaching of "occupationally-related courses" according to the adult education centre statistics (2018: 9.1%, 2019 15.3%, 2020: 17.2%, 2021: 18.4%). The characteristic of occupational relation is available since 2018 and replaces the previous approach using programme areas (break in the series from 2018 onwards).
[9] The position also includes expenses for general and political continuing education. In addition, it is unclear as to what extent the continuing training programmes of the federal states are taken into account here. In the annual calculation statistics, these are, where possible, sometimes assigned other function areas, cf. notes in the text.
[10] This item collates BA expenditure on the funding of continuing vocational training (FbW) and grants to supplement pay for the continuing training of persons in employment (AEZ-WB) from 2014. Includes, inter alia, expenditure on the "Initiative to support structural change (IFlaS)" and "Training for persons in employment (WeGebAU)".
[11] See notes in text.
[12] Includes receipt of seasonal short-time work compensation or transfer short-time work compensation. Qualification provision co-funded by ESF funds are also included.
[13] Due to a lack of space, not all years are depicted. Responses for the missing years since 2001 can be found in earlier editions of the Data Report.
[14] Items containing a relevant amount of expenses for initial vocational education and training are marked with a cross.

Quelle: Source: Federal Ministry of Finance, federal budget plans; Federal Ministry of Finance, budget calculation of the federal government; Federal Statistical Office, Statistics Report: Vocational schools and healthcare sector schools – basic data; Federal Employment Agency, monthly accounting results (SGB II and SGB III); German Institute for Adult Education, Adult education centres statistics; Information from the Federal Statistical Office (Status: February 2023)

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B3.6 The Federal Government's Continuing Education Grant programme

The Continuing Education Grant was instigated in December 2008 and used a voucher system to support participation in individual occupationally-related continuing vocational education and training by workers in receipt of low incomes. The programme was funded by the BMBF and the ESF and ceased to operate at the end of 2022. This meant that the final vouchers were issued on 31/12/2021. Vouchers could no longer be redeemed as of 31/12/2022. The Continuing Education Grant scheme was structured into three funding phases (12/2008 to 11/2011; 12/2011 to 06/2014; 07/2014 to 12/2021) (see Information Box).

Information Box – Continuing Education Grant programme

The Continuing Education Grant could be used to support continuing training measures which imparted occupationally-specific knowledge or skills and to support continuing training programmes which aimed to reinforce general employability skills.

The Continuing Education Grant encompassed two financing instruments which were applicable cumulatively.

Training grant voucher: The Federal Government used the training grant voucher to support the continuing training interests of workers by paying 50% of courses fees. The maximum amount which could be funded, however, was €500. The voucher could be received by persons who were in employment for at least 15 hours a week and whose annual taxable income did not exceed €20,000 (or €40,000 in the case of joint assessment).

Saving voucher: Continuing training saving was available to those who had used an employee savings bonus to build up a savings credit in accordance with the Capital Accumulation Act (VermBG). A saving voucher issued under the Continuing Education Grant Programme permitted early access to capital saved without loss of the employee savings bonus.

Participation in a face-to-face consultation in one of about 500 advisory centres located all over Germany was obligatory for receipt of the voucher. The issuing of training grant vouchers ended on 31 December 2021. The vouchers were valid for six months. Continuing training needed to have begun within this period. The continuing training measures funded needed to be concluded by the end of 2022, which was also the deadline for submission of the vouchers for redemption.

Table B3.6-1: **Continuing Education Grant Programme – core indicators over the course of time (proportion in % of programme participants)**

	1st funding phase (12/2008 to 11/2011)			2nd funding phase (12/2011 to 06/2014)			3rd funding phase(07/2014 to 12/2021)			Total
Gender										
Male		26			25			23		25
Female		74			75			77		76
	Total	**Men**	**Women**	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**	
Age										
Fewer than 25	10	10	10	11	11	11	5	6[1]	5	9
25 to under 35	33	34	32	33	36	32	33	38	31	33
35 to under 45	30	30	29	27	28	27	28	28	28	28
45 to under 55	23	20	24	24	19	25	25	20	26	24
55 and older	5	6	5	5	6	5	9	9	10	7
Migration background										
Without migration background	85	83	85	82	79	83	78	72	80	82
With migration background	16	17	15	18	21	17	22	28	20	18
Employment status										
Employed full-time	42	64	34	35	55	28	25	45	19	34
Employed part-time	32	12	39	42	20	49	50	29	56	41
Self-employed persons	19	21	18	22	25	21	23	26	21	21
Unemployed persons eligible for funding	7	3	8	2	0	3	3	0	3	4
Industry of origin of the participants (Top 6)										
Healthcare, veterinary and social services	38	20	45	43	25	49	43	25	48	41
Education and teaching	11	6	13	11	7	13	11	7	12	11
Company-related services	12	15	10	11	16	9	10	15	9	11
Other services	6	6	6	6	6	7	7	7	6	6
Trade and repairs	7	8	6	6	7	5	6	7	6	6
Manufacturing industry	6	12	4	5	10	3	4	7	3	5

[1] The group of under 25-year-olds has only been eligible for funding in the 3rd funding phase since 1 July 2017.

Source: Administrative data of the Federal Institute for Vocational Education and Training

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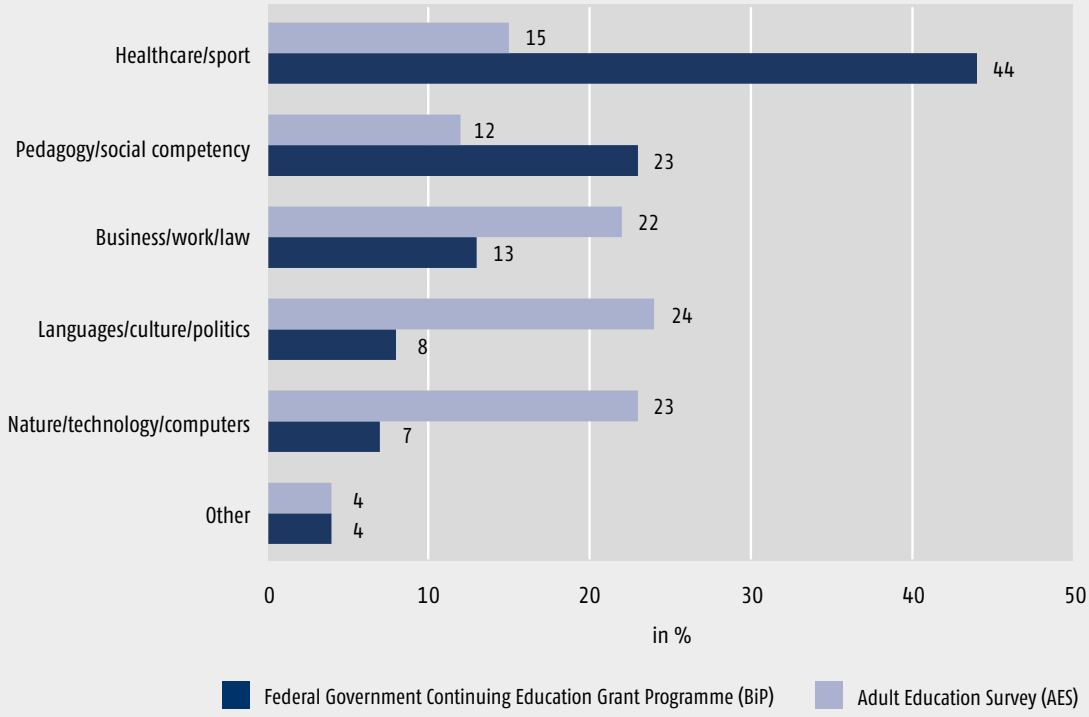
Around 402,000 training grant vouchers and 30,000 saving vouchers were issued between the beginning of the programme in December 2008 and its end in December 2021. Both in 2020 and 2021, the coronavirus pandemic led to a decline in annual demand for vouchers of about 10%. A total of 76% of the training grant vouchers were used for continuing training programmes. No figures are available for the redemption of saving vouchers.

Viewed over the whole of the term of the programme, participant structure changed only slightly in terms of socio-demographic characteristics, thus reflecting overall societal developments → **Table B3.6-1**. One aspect which should be stressed is that the number of female participants was disproportionately high throughout. The fact that women are overrepresented amongst low earners may go some way to explaining this. Women are also significantly more likely to work in healthcare and social services and in education and teaching, the sectors which are most prominent in the Continuing Education Grant. In terms of age structure, an increase in participants in the 55 plus group is discernible across all the phases of funding. This reflects both the general ageing trend in employees subject to mandatory social insurance contributions in Germany and their generally rising tendency to take part in occupationally-related continuing training.

Chart B3.6-1: **Continuing Education Grant programme/AES – topics of continuing training funded (proportion of respondents in %)**



Data for the period 2016/2017

Source: 2017 survey of participants for the 2016/2017 reporting period by Kantar Public, 2021 Adult Education Survey Trend Report, p. 54

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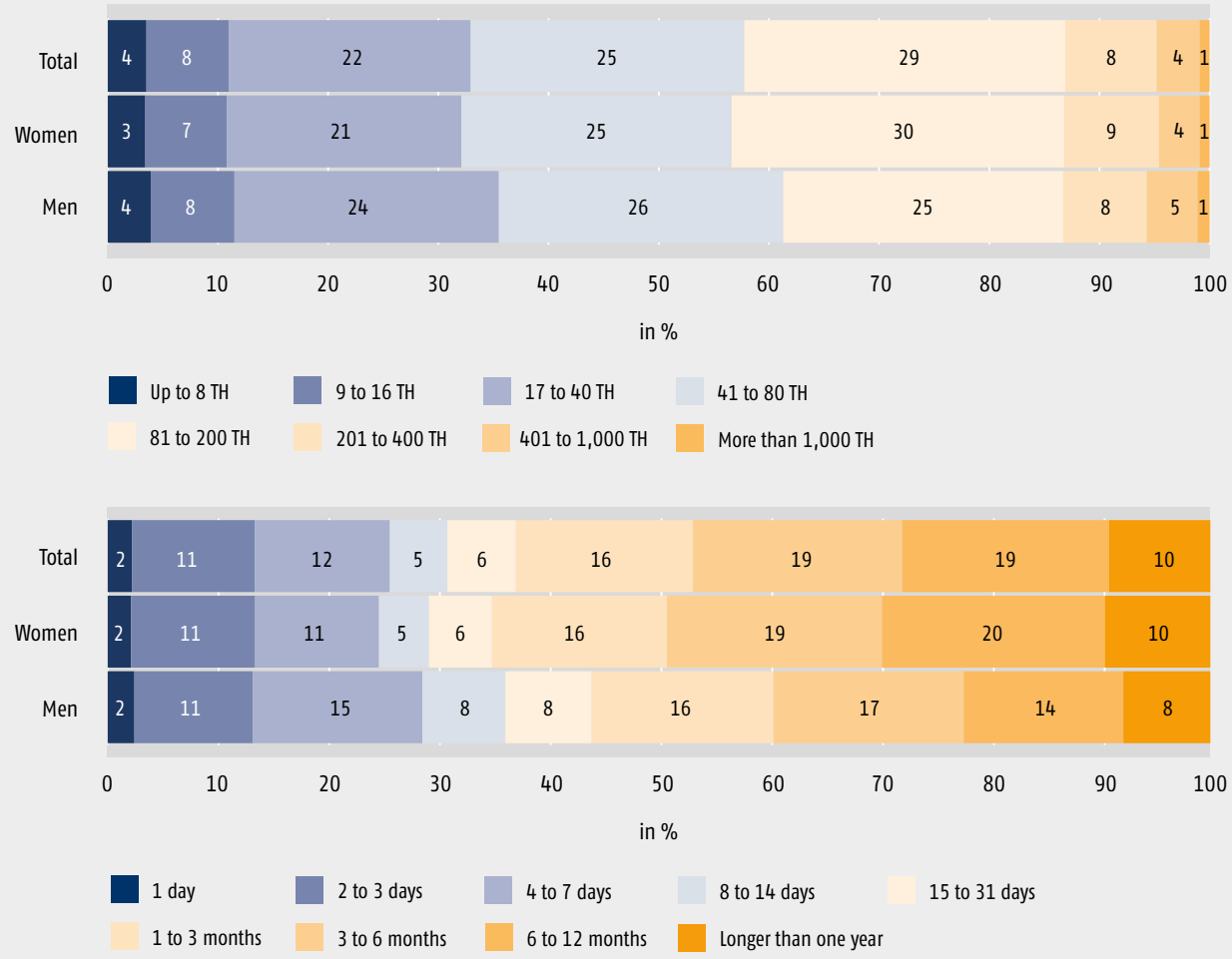
The proportion of persons from a migrant background to whom a voucher was issued rose during the project term and reflects the general increase in the labour demand in Germany from a migrant background, which went up by a similar amount during the programme term – 5.5 percentage points between 2008 and 2019.

Across the funding period, employment status was the only aspect which saw significant changes in the composition of the participants which deviated from the general development. The proportion of full-time employees declined constantly over the course of time, whilst the proportion of part-time workers rose just as steadily. There was a slight rise in the proportion of self-employed persons.

Although a general increase in part-time employment was also observed in Germany, this rise was significantly lower (2 percentage points between 2011 and 2019). Development in income may therefore have been the crucial factor. Rising incomes are likely to have removed eligibility for funding for many full-time employees. With the exceptions of 2010 and 2011, the income limit for the Continuing Education Grant remained constant, whereas the nominal wage index rose by over 27 percentage points from 2009 onwards. Records as to whether voucher recipients had a fixed-term contract of employment were kept from 2016. From that time onwards, employees with a fixed-term contract of employment accounted for a largely constant proportion of 18% of all participants, whereas across Germany as a whole, only 8% of workers were employed on a fixed-term basis.[26] This difference may be connected with the higher qualification pressure for employees on fixed-term contracts. The Continuing Education Grant is mainly used by employees and self-employed persons in sectors in which there is a high degree of pressure for continuing training accompanied by low levels of income and/or in sectors in which employers are unlikely to contribute to the continuing training costs of their employees. This is, for example, the case in the field of therapy. Healthcare, veterinary services and social services account for 41% of grants and are the most frequently represented sector across the whole of the funding period.

26 Data on part-time employment and fixed-term contracts is taken from the GENESIS Online database of the Federal Statistical Office.

Chart B3.6-2: **Duration of the continuing training programmes funded in teaching hours (TH) and days/months (in %)**



Source: Administrative data from the Continuing Education Grant Programme, 1st to 3rd phase of funding, calculations by the Federal Institute for Vocational Education and Training

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Table B3.6-2: **Continuing Education Grant programme – average amount of funding of vouchers issued in € (average values)**

	1st funding phase (12/2008 to 11/2011)			2nd funding phase (12/2011 to 06/2014)			3rd funding phase (07/2014 to 12/2021)			Total		
	Funding and support	Own share	Event costs	Funding and support	Own share	Event costs	Funding and support	Own share	Event costs	Funding and support	Own share	Event costs
Total	345	746	1,091	368	684	1,052	371	592	963	359	679	1,038
Gender												
Male	345	757	1,103	378	720	1,097	376	592	968	362	696	1,059
Female	345	742	1,087	365	673	1,038	369	592	961	358	674	1,032

In the 3rd funding phase, there was generally a limit of event costs to maximum 1,000€ until July 2017 and after that in individual federal states. The event location was the decisive factor. The regional distribution by place of residence is listed here.

Source: Administrative data of the Federal Institute for Vocational Education and Training

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The composition of the continuing training programmes funded is very wide ranging in terms of content → **Chart B3.6-1**. Common individual focuses include the Trainer Aptitude Examination, German as a foreign language, fitness trainers, healing practitioners, nursing support staff, physiotherapy and psychotherapy techniques, professional writing skills and legal topics. There is a conspicuously strong cluster of continuing training courses in the areas of health and sport, pedagogy/teaching and social competency.

In 92% of cases, the duration of the continuing training programmes funded was between 9 and 400 teaching hours → **Chart B3.6-2**. This meant that they were longer than the maximum one-day duration of short-term courses and below the limit of 400 hours, which is relevant for AFBG funding.

The average scope of individual occupationally-related continuing training programmes funded is considerably greater than the values for the population as a whole identified in the AES. Scope exceeded 40 teaching hours in 67% of all instances of funding. In the 2020 AES, the duration of individual occupationally related continuing training programmes was only 29%.

The average amount paid out for Continuing Education Grant vouchers over the whole of the programme term was €359 (median: €420). Persons participating in the programme paid €679 (median: €435) as a self-contribution to the continuing training funded → **Table B3.6-2**. The current status,[27] therefore, is that €103 million in funding has been deployed. This has been supplemented by about €195 million in self-contributions made by persons participating in the programme. The 3rd funding phase of the Continuing Education Grant placed a maximum limit of €1,000 on the cost of continuing training measures.

27 Processing of the funding applications has not yet been concluded.

B4 Regulated advanced training qualifications and retraining programmes

The two main pathways for regulated professional advancement in Germany are higher VET governed by G and HwO and training courses under federal state law held at trade and technical schools and universities of cooperative education which lead to qualifications such as technician. These education and training pathways are available to persons who are seeking professional advancement and who fulfil the access prerequisites, generally completion of a relevant programme of vocational education and training followed by occupational experience. There are also further regulations under federal state law, e.g. in the healthcare sector, and opportunities for advancement via employee programmes and training pathways relating to civil service careers in the public sector. As well as governing upgrading training programmes, the BBiG and the HwO also serve as a basis for the regulation of updating training and retraining. The BMBF has also issued a regulation regarding the suitability of trainers in the form of the Ordinance on Trainer Aptitude (AEVO) pursuant to § 30 Paragraph 5 BBiG.

B4.1 Regulations of the Federal Government and of the competent bodies for advanced vocational training

Pursuant to § 1 Paragraph 4 BBiG, the objectives of advanced VET are “1. to retain and adapt employability skills via updating training and 2. to expand employability skills via advanced higher vocational education and training and to advance in an occupation”.

Information Box – Ways in which higher level vocational education and training is regulated pursuant to the BBiG and HwO

The BBiG and the HwO set out three possible ways of governing higher-level VET in Germany.

- Advanced training regulations constituting nationally valid legal ordinances of the Federal Government pursuant to § 53 BBiG and § 42 Paragraph 1 HwO.
- Advanced training examination regulations of the competent bodies pursuant to § 54 BBiG or § 42f HwO. These may be enacted by the competent bodies for their respective scope of application insofar as no nationally valid regulation exists for the advanced training qualification.

The master craftsman examination regulations set out as legal ordinances pursuant to § 45 Paragraph 1 and § 51 a Paragraph 2 HwO relating to master craftsman examination requirements in an occupation listed in Annex A or Annex B to the Crafts and Trades Regulation Code.

Unlike initial training regulations and their general training plans, the advanced training regulations under federal law and the advanced training examination regulations of the competent bodies (see Information Box) essentially only govern examination requirements.

There are currently 219 Federal Government regulations in place relating to advanced vocational training (as of 31/12/2022). These encompass the following.

- 95 legal ordinances relating to master craftsman examinations in the craft trades pursuant to § 45 Paragraph 1 and § 51 Paragraph 2 HwO
- Six existing regulations relating to master craftsman examinations in the craft trades pursuant to § 122 HwO
- 47 legal ordinances on the requirements of master craftsman examinations pursuant to § 53 BBiG/§ 42 Paragraph 1 HwO
- 71 further legal ordinances relating to advanced vocational training pursuant to § 53 BBiG/§ 42 Paragraph 1 HwO

The updating training qualification of "certified international management accountant", which has been contained within the "Ordinance for the examination leading to the recognised advanced training qualification of certified management accountant/Bachelor Professional in Accountancy" since 2020, is also the first example of a nationally valid updating training qualification pursuant to § 53e BBiG.

In 2022, the Federal Government enacted the following legal ordinances relating to higher VET:

Master craftsman examination regulations

- Master audiologist
- Master maker of woodwind musical instruments
- Master sign and luminous advertisement maker

The following Federal Government advanced training regulations were in the process of being drawn up or updated in 2022:

- Certified Professional Specialist for Sales,
- Certified Professional Specialist for Foreign Language Communication
- Certified Professional Specialist for Motor Vehicle Engineering
- Bachelor Professional in Road Operations Management

The following advanced training regulations were undergoing revision with the aim of altering the title of the qualification in question:

- Certified specialist clerk for commercial management pursuant to the HwO,
- Certified senior clerk for foreign trade
- Certified senior clerk for energy management
- Certified senior clerk for freight transport and logistics
- Certified senior clerk for logistics systems
- Certified senior clerk for marketing
- Certified senior media production specialist for images and sound

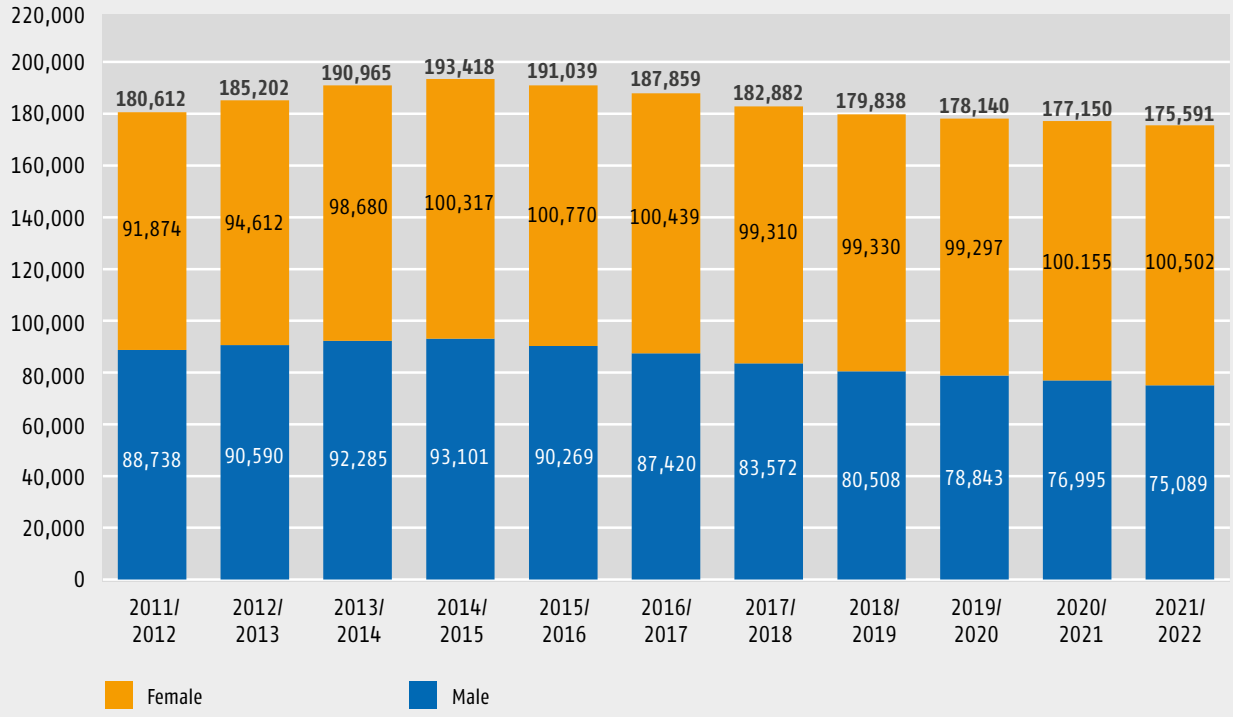
The competent bodies currently have 1,430 legal regulations in place. These relate to 540 advanced training examinations. The following new advanced training examination regulations were added in 2022.

- Certified Professional Specialist for Industrial Parts Cleaning (IHK)
- Certified Orthodontics Technician in the Craft Trades

B4.2 Advanced training occupations pursuant to BBiG/HwO

Advanced vocational education and training forms part of vocational education and training within the meaning of the BBiG or HwO. An advanced training examination in accordance with the BBiG/HwO is usually sat after completion of dual VET and following relevant subsequent occupational experience, usually of several years' duration. The aim of advanced vocational education and training pursuant to § 1 Paragraph 4 BBiG is to retain and adapt employability skills (updating training) or to expand employability skills via advanced higher vocational education and training and thus to facilitate advancement in an occupation (upgrading training). In order to create a standardised basis for higher VET in Germany, the Federal Government may enact state-recognised higher vocational training qualifications pursuant to § 53 BBiG or § 42 HwO and may also draw up relevant applicable examination regulations (so-called advanced training regulations). Further to this, the competent bodies may themselves stipulate advanced training examination regulations for their regional area of responsibility pursuant to § 54 BBiG or § 42F HwO in circumstances where no nationally standardised regulations apply.

Chart B4.2-1: **Development of the number of students at technical schools from 2011/2012 to 2021/2022**



Source: Federal Statistical Office: Specialist Series 11; Statistical Report - Vocational Schools and Health Care Schools - Job Titles - School Year 2021/2022; Presentation by the Federal Institute for Vocational Training

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Pursuant to § 6 Paragraph 2 of the Ordinance on Trainer Aptitude (AEVO), persons who have demonstrated their professional and vocational teaching aptitude by passing a master craftsman examination or another advanced training examination in accordance with the BBiG/HwO are deemed to be professionally and pedagogically suitable to provide training in recognised BBiG/HwO training occupations.

Selected results from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states are reported below (see Annex – Data sources).

Information Box – Examination success

The Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (referred to in abbreviated form as the Vocational Education and Training Statistics) also record aspects such as participation and passes in advanced training examinations pursuant to the BBiG/HwO. The competent bodies report advanced training examinations (including master craftsman examinations) they have conducted during the calendar year (reporting year is the calendar year, cut-off date 31 December). In the case of advanced training examinations that consist of several parts (e.g. courses, modules), examinations and participants are not recorded until the last stage is reached which, when successfully completed, will permit use of the new occupational title. Examinations which were not passed are also counted insofar as there is no further possibility of a resit. Information is also collected as to whether the respective examination is a resit or not. Examination success is differentiated by whether the examination has been passed or not passed.

During the period from 1992 to 2006, there was a fall in the number of passed advanced training examinations pursuant to the BBiG/HwO. This downward trend did not initially continue in the subsequent years. A continuous decline in the number of advanced training examinations passed then became discernible. In 2020, coronavirus and the measures instigated to stem the pandemic led to a huge decrease in the number of advanced training examinations. In the 2021 reporting year, the number of registered advanced training examinations rose again to a total of around 100,400 examinations. However,

Table B4.2-1: **Advanced training examinations passed pursuant to the BBiG/HwO by specialism 2011 to 2021**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Change 2021	
												To 2011 in %	To 2020 in %
Commercial advanced vocational training examinations	**54,894**	**55,404**	**53,067**	**51,177**	**50,772**	**48,921**	**48,699**	**46,557**	**46,248**	**38,247**	**39,993**	**-27.1**	**4.6**
Business clerk	8,586	8,106	8,946	9,150	8,799	7,116	5,340	4,581	4,881	3,633	3,978	-53.7	9.5
Business administrator	29,850	31,353	28,842	27,360	28,398	27,534	27,342	26,289	25,029	18,690	19,425	-34.9	3.9
Business economist	3,588	3,663	3,282	3,681	3,936	4,332	4,314	4,458	4,350	3,942	4,077	13.6	3.4
Other commercial advanced vocational training examinations	12,870	12,282	11,997	10,986	9,639	9,939	11,703	11,229	11,988	11,982	12,513	-2.8	4.4
Master craftsman examinations	**35,250**	**36,777**	**36,591**	**37,050**	**36,798**	**37,167**	**35,307**	**34,854**	**34,899**	**32,394**	**34,743**	**-1.4**	**7.3**
Industrial supervisor	9,240	9,966	10,071	10,374	10,611	11,073	10,077	10,116	10,332	9,945	10,749	16.3	8.1
Specialist supervisor	2,085	2,049	1,782	2,292	2,649	2,898	2,778	2,598	2,412	2,346	2,487	19.3	6.0
Craft trades supervisor	22,236	22,674	22,749	22,260	21,450	20,847	20,373	19,941	20,040	18,237	19,566	-12.0	7.3
Other master craftsman examinations	1,689	2,088	1,989	2,124	2,088	2,349	2,079	2,199	2,115	1,866	1,941	14.9	4.0
Other advanced vocational training examinations	**12,015**	**10,806**	**10,863**	**10,509**	**10,260**	**10,029**	**10,203**	**9,627**	**9,126**	**7,647**	**8,244**	**-31.4**	**7.8**
Specialist assistant in healthcare services	2,502	2,505	2,565	2,565	2,616	2,667	2,574	2,556	2,457	2,031	2,235	-10.7	10.0
Other advanced vocational training examinations in service occupations	591	504	612	570	570	354	345	411	348	360	354	-40.1	-1.7
Other industrial and technical advanced VET occupations	8,922	7,797	7,686	7,374	7,074	7,008	7,284	6,660	6,321	5,256	5,655	-36.6	7.6
Total	**102,159**	**102,987**	**100,521**	**98,736**	**97,827**	**96,117**	**94,212**	**91,038**	**90,276**	**78,285**	**82,983**	**-18.8**	**6.0**

Source: Federal Statistical Office 2022a, Specialist Publications 11, Series 3; calculations of the Federal Institute for Vocational Education and Training. For reasons of data protection, all data (absolute values) is rounded to a multiple of three. Therefore, the overall value may deviate from the total of the individual values

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this does not (yet) represent a return to the level of 2019 → **Chart B4.2-1**.

Most advanced training examinations were conducted in the areas of training of trade and industry and the craft trades. 58,602 examinations were sat in the area of trade and industry. 43,044 of these were passed. The number of examinations in this area in 2021 had thus almost returned to the level prior to the pandemic. In 2020, the largest collapse in the number of advanced training examinations occurred in the craft trades. Both the number of examinations registered and number of examinations passed declined by around 22%. Although the number of advanced training examinations sat in this area rose to 31,455 in 2021, the second year of the pandemic, the figure still fell far short of the level recorded in 2019 (38,022). The number of examinations passed (30,819) was accordingly lower than the figure for 2019 (37,128). We can only speculate as to the causes of this sharp fall in the craft trades in particular. It may be the case that preparation courses, examination arrangements and dates for advanced training examinations in the craft trades were more severely affected by the coronavirus pandemic than other areas in 2020 and to some extent in 2021, too.

The area of the public sector appears to have been barely impacted by the coronavirus pandemic. Comparatively small changes took place in 2020, both with regard to number of examinations sat and number of examinations passed. A new peak was then reached in 2021, when 3,153 advanced training examinations were sat, 2,934 of which were passed. This represents the continuation of an upward trend that has been discernible since 2011.

In the liberal professions, the number of examinations sat rose to 4,998, following a fall of around 10% in 2020. The number of examinations passed also increased to 4,392. The number of examinations in this area went up between 2011 and 2018, but this trend was not continued from 2019 onwards.

The area of agriculture was also affected by the impacts of the coronavirus pandemic. After decreases in 2020, more advanced training examinations were once again sat in this area in 2021 (1,986), and more were passed (1,668). However, this was not sufficient for a return to the level of 2019 (total of 2,247 examinations, of which 1,995 were passed).

Unlike in the other areas, the number of examinations in housekeeping, the smallest area by volume, decreased in 2021 compared to 2020. Nevertheless, very significant fluctuations and deviations between individual years can be observed over the course of time. This makes it more difficult to interpret the data.

The total examination pass rate in the first year of the pandemic was 81.8%. It rose to 82.7% in 2021, thus approximately returning to the pre-pandemic level (82.9%). This figure has been in constant slight decline since 2012 (86.9%). These decreases are evident for both genders. In 2021, men (82.8%) were again slightly more successful than women (82.4%). The higher pass rates achieved by men on each occasion can be consistently observed since 1992.

In the area of trade and industry, the examination pass rate was 73.5% in 2021. This figure was even somewhat higher than in 2019. The highest pass rate achieved thus far in this area was 78.7% in the 2012 reporting year. A continuous decline has been discernible since. The highest examination pass rate compared to all other areas of training, 98.0%, was once an achieved in the craft trades. This rate was higher than any recorded in all previous years since 2011.

The examination pass rate also rose in the areas of the public sector (93.1%) and agriculture (84.0%) in 2021. However, these figures remained lower than those for 2019 (95.0% and 88.8%, respectively). In contrast to the other areas, a small increase in pass rates was recorded in the liberal professions in both 2020 (87.0%) and 2021 (87.9%) (2019: 85.6%).

A breakdown by specialisms reveals a dominance of commercial advanced training occupations → **Table B4.2-1**. In 2021, 39,993 of 82,983 examinations passed (48.2%) led to a qualification in a commercial occupation (the corresponding proportion for 1992 was only 40%).

B4.3 Continuing vocational education and training at trade and technical schools

Trade and technical schools exist in the specialist areas of agriculture, design, technology and business and social studies. Education and training programmes at trade and technical schools usually follow on from initial VET and occupational experience and conclude with a state examination. The final certificate confers the right to use the occupational title of “state certified” or “state recognised”. The federal states may allow for the designation “Bachelor Professional” to be added to the professional title in brackets together with an indication of the relevant specialist area.

The annual analyses of continuing training at trade and technical schools are updated below on the basis of data from the Federal Statistical Office. In order to permit better categorisation of the data, the present Data Report will for the first time supplement population information by nationality and federal states in → **Table B4.3-1**.

In the 2020/2021 school year, there were 1,462 trade and technical schools in Germany comprising 9,219 classes and 175,591 pupils. Women were overrepresented in national terms (57.2% compared to 56.5% in the previous year). The proportion of foreign trade and technical school pupils was 6.5% nationally (previous year 6.2%).

Information Box – Database for trade and technical schools

Data relating to pupils and to completion of programmes is taken from the Federal Statistical Office's Specialist Publications 11, Series 2, “Education and culture –vocational schools” (various volumes). From the 2021/2022 reporting year, the publication “Statistical Report – vocational schools and healthcare sector schools – occupational titles – 2021/2022 school year” is used.

Consideration should be accorded to the fact that data relating to pupils and persons completing qualifications sometimes extends beyond the continuing training programmes to include the trade and technical school proportion of individual training programmes (e.g. geriatric nursing assistants, geriatric nurses, special needs care assistants).

Account also needs to be taken of the circumstance that the data for the federal states of the Saarland and Schleswig-Holstein relating to the 2021/22 school year is not complete.

Table B4.3-1: **Persons successfully completing training at trade and technical schools by main occupational group, legal status of the school, and gender 2021 (selection; the five most popular occupational groups)**

Main occupational group	Graduates		Of which			
			Public schools		Private schools	
	Total	Female (in %)	Total	Female (in %)	Total	Female (in %)
Education, social and housekeeping occupations, theology	30,220	79.1	14,491	81.6	15,729	76.7
Technical occupations in the engineering and the automotive industry	6,414	5.4	5,815	5.5	599	4.3
Mechatronics, energy and electrical occupations	3,880	3.2	3,465	3.2	410	3.6
Occupations in agriculture, animal husbandry and forestry	2,031	14.8	2,031	14.8	0	
Non-medical healthcare, body care and health and beauty occupations, medical technology	1,414	73.5	1,081	73.4	333	72.1

Source: Federal Statistical Office Statistical Report: – Vocational schools and healthcare sector schools – occupational titles – school year 2021/2022; calculations by the Federal Institute for Vocational Education and Training

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Decreases are also reflected in the numbers of persons completing qualifications in the most popular main occupational groups. A total of 56,969 persons completed a training programme at a trade and technical school in the 2021 school year. This represents a decrease of 3.1% compared to the previous year. As in the previous year, around 77% completed a training programme in one of the five most popular main occupational groups. Falling numbers of persons completing programmes were recorded in each of these five popular main occupational groups.

53.9% of persons completing training in 2021 were female. As in the previous year, differentiation by main occupational groups shows that the highest proportion of women (around 80%) was in "education, social and housekeeping occupations, theology". Also as in the previous year, the lowest female proportion was in the area of "mechatronics, energy and electrical occupations" (3.2%, previous year 3.1%) → **Table B4.3-1**.

Part C Special focus: Innovations in vocational education and training via programmes

C1 Introduction

The German Industry Standard (DIN) 69909 defines a programme as a group of interlinked projects which have a common overarching goal and which end as soon as the objective has been achieved. German vocational education and training policy uses programmes to counter current problem situations, for the fostering in practice of structural developments which are desirable under educational policy and for the stimulation of innovations. With regard to the complex social contexts of vocational education and training, on the one hand, and in the light of far-reaching dynamic transformations in society and in the world of work, on the other, programmes are gaining in relevance as flexible instruments that are able to initiate changes and support regional or sector-oriented innovation and adaptation processes. Their common aim is for the targeted financial funding of projects to increase demand for measures which are viewed as entirely necessary but which are not automatically implemented per se. Programmes which are structured as initiatives, competitions or main funding focuses are increasingly becoming a central part of educational policy and have long ceased to be a peripheral phenomenon. A consideration of programmes thus offers an insight into which challenges and innovation requirements are viewed as being important and urgent in vocational education and training.

This chapter will present programmes which are intended to exert an innovative effect in vocational education and training together with their objectives, specific features and results. The spectrum of topics addressed by the programmes is broad. The agenda includes the rising requirement for skilled workers in many sectors, solutions to fitting and matching problems between companies and trainees, global topics such as the socio-ecological and digital shift in training and internationalisation. Topics relating to initial training and vocational orientation have been accorded particular consideration over the past two decades. More recently, however, programmes are increasingly focusing on innovation in continuing vocational education and training. The developments in the educational policy discourse are reflected in main funding focuses and are linked to policy initiatives (the BMBF innovation competition INVITE, the continuing training associations funded by the BMAS).

One further relevant development is the alignment of the programmes. Whereas the previous focus in many cases had been on quantitative aspects, especially on the training places market, qualitative issues relating to the structuring of vocational education and training are now increasingly gaining in significance (example of the BMBF innovation competition). Programmes are generally designed to run over the medium to long-term so as to be able to address educational policy topics in a wide-ranging way rather than merely considering aspects individually. The pilot project main funding focus “Vocational education and training for sustainable development”, for example, has been in existence since as long ago as the 1990s. It offers a platform for cooperation between academic research and practice upon which a multitude of innovations for the integration of sustainability into VET have been developed and trialled. On this basis, the results of the respective funding lines both yielded impetuses and delivered relevant contributions to the development and implementation of the extended standard occupational profile position in the area of “Environmental protection and sustainability”, which entered into force in October 2021. In addition to this, some programmes are aligned to long-term processes in order to be able to pursue the further development and constant realignment of requirements in an environment that is undergoing dynamic change (one example being the Vocational Orientation Programme).

Programmes are transmitters between educational policy and practice. They interlink educational policy goals with the execution of vocational education and training at companies, at educational establishments and in regional contexts. Depending on their size, they are able to act as governance instruments by creating sufficient (financial) incentives to bring about desired changes in practice. Programmes may precede legal regulations via vehicles such as the development and trialling of new concepts in pilot projects. They may also usher in, supplement or help with the implementation of statutory updates, as has been the case with the vocational orientation programmes. They can also be put in place instead of regulations. JOBSTARTER, one of the key projects of the BMBF, would not have been conceivable without the critical debate in the 2000s on how to counter the considerable shortage of training places. However, transmission also occurs in the opposite direction. This facilitates a

bottom-up approach which enables policy structure to be informed by requirements and experiences from practical implementation. The demands that arise and the work that takes place within the scope of the projects permits the relevance of general educational policy principles to be tested in practice and allows their operationalisation. It is perfectly possible for this to result in adaptation of policy notions to the prevailing conditions in practice or for further requirements at a practical level to become evident in the first place (an example here being part-time vocational education and training).

Programmes enable policy makers to react on a one-off basis to problems in practice which may not require longer term action. The 1990s, for instance, saw a series of innovations in vocational education and training which were only instigated for the new federal states of eastern Germany (RegioKom, for example). Regulatory work is ultimately also closely connected with programmes. Firstly, results from funding measures inform the development of training regulations or overarching regulations. Secondly, programmes serve the purpose of transporting innovations from regulatory work into practice.

Programmes can be used as vehicles of innovation which are politically positioned in order to prepare VET practice for dynamic changes in work, education and society. In strategic terms, programmes can be instigated across various phases of innovative processes. Funding approaches such as pilot projects mostly tend to be small with regard to volume. They have a lesser reach and are more reliant on cooperation between education and training practice and academic research. However, this category also includes major programmes such as InnoVET and INVITE. Both encompass projects which act as development workshops in which new ideas are piloted, academic research findings are applied and, ideally, innovative concepts are introduced into practice. Programmes are generally geared towards transfer. The aim is to instigate the above-mentioned imitation processes which allow VET innovations to be consigned into practice more broadly. Questions arise in respect of how the desired development can be achieved and with regard to which pathways or approaches will lead to the objectives aspired to. As far as implementation is concerned, this mostly involves facilitating strategies which are adapted to the regional or thematic conditions and which enable the long-term establishment of the activities. Programmes are also set up as a supplement to existing (routine) funding streams so as to drive forward modernisations in a targeted way within established contexts (the special programme for the digitalisation of inter-company vocational training centres is a case in point).

Other programmes aim to achieve wider implementation, the further development or longer-term securing of tried-and-tested measures and concepts in education and training practice. The challenge of these programmes lies in completing the step from innovation to establishment and in realising any expansions or adaptations that may be necessary for this purpose. There needs to be a particular focus on forming longer-term cooperation arrangements and on securing (infra) structures in VET practice so that stakeholder provision can be taken up. In this case, the usual objects of funding are specific costs of measures or the support of networks (e.g. The Digital Shift Training Initiative – Q 4.0 for the training of company-based training staff).

Although programmes in the area of vocational education and training primarily serve practice, they also exhibit multifarious references to academic research at the same time. There are now virtually no programmes without academic research involvement. This, in turn, opens up new areas of practice for research. As the ideas of the individual programmes make clear, academic research support and evaluation are fixed and essential components. The correlations between programmes and research range from the direct collaboration of academic research as a project partner to external research support and attendant evaluations. Sometimes, the programmes themselves are an object of research. The aim of the ASCOT + programme, for example, is to make academic findings on competency orientation and measurement utilisable for practice. Responsive research makes it possible for results and findings to be put into context in a dialogue between academic research and practice and allows the effectiveness of such results and findings to be investigated. By way of contrast, summative evaluations, which survey the success and dissemination of the projects funded, are more distanced.

Evaluations directly aimed at the transfer potential of projects have been less evident up until now. This applies both in respect of the structuring of systematic implementation programmes, such as those established in European funding projects in the form of road maps, and with regard to how successful measures can be enshrined in law, e.g. via statutory amendments. In educational policy terms, the approach is much more directed towards installing “beacon projects”, which aim to act as good examples by disseminating themselves into education and training practice. However, the presentation of the selected programmes makes it clear that much persuasive effort and specific implementation guides are necessary for practice in order to use good examples as a vehicle for securing the continuing further development of important societal and educational policy objectives in vocational education and training. Transfer has very many facets within this context, and practice shows that public

relations work plays a key role in this regard. Results are documented, prepared in a manner suitable for the target audience and disseminated via a multitude of channels. The tasks of public relations extend across the entire time span of the programmes. As part of the implementation process, there is frequently a preference to put the findings and interim results achieved up for discussion by policy-makers, researchers and practice.

Administratively and technically competent management is a key prerequisite for a successful programme. The structuring of the content processes and legal securing of funding are an equal and inseparable object of quality-assured programme work. One key task within this context is to ensure internal and external networking processes. The project participants in the programmes form a community of practice which can achieve material results beyond the scope of the individual projects by engaging in a mutual exchange of views and joint development processes. Support within the area of VET policy is also an important programme management task. The contents to be processed by the respective funding streams form part of policy negotiations. In addition to this, the principle of consensus applies in vocational education and training. This means that, in order to gain acceptance of the programmes, it is advisable to integrate the social partners into the implementation processes, preferably via advisory councils or similar committees. For this reason, professional management of programmes includes a deeper understanding of contents and their educational policy implications and the ability to shape participation processes in which the various stakeholders and perspectives in VET can be expressed.

Implementation of the programmes usually takes place within the scope of the law regulating public grants. Administration encompasses know-how of legally secure procedures and processes and offers project participants, authorities responsible for approval and funding providers a structured awarding and control system.

C2 Programmes for dissemination, further development and securing

C2.1 Vocational Orientation Programme (BOP)

The starting point of the Vocational Orientation Programme (BOP) occurred around 15 years ago as a result of the resolutions adopted at the Dresden Educational Summit in 2008. At the time, the Federal Government and the federal states agreed upon joint objectives in the various educational sectors. These included an expansion of nursery school places, a reduction in the number of young people without a school or full VET qualification, and an increase in the higher education study entry rate and in participation in continuing training.

Profile of the "Vocational Orientation Programme (BOP)"

- Funding provider: Federal Ministry of Education and Research (BMBF)
- Funding aim: strengthening of career choice competency of pupils leading to support for well-considered, informed and self-determined career choice decisions
- Target group: inter-company and comparable training centres
- Term: since 2008
- Facts and figures; annual funding volume of around €77 million annually, approximately 1.8 million pupils since 2008, around 3,000 schools, over 300 vocational training centres
- Website: **www.berufsorientierungsprogramm.de**

If we look back to the aims proclaimed in the Dresden Summit Declaration, it is possible to ascertain that a considerable development has taken place at the structural level of vocational orientation since 2008.

- Measures for more detailed vocational orientation are enshrined in all federal state concepts for the transition from school to work.
- Analyses of potential are offered to all Year 7 pupils right across the country, or at least endeavours are undertaken to do so.
- Federal state-specific analyses of potential have been introduced in some cases. These are conducted by the teaching staff themselves and are closely linked with individual support.

- A pilot project created a digital version of the Career Choice Pass – the "berufswahlapp". This was introduced as an alternative to the paper version in some initial federal states in the autumn of 2022.

The ministries of education and cultural affairs of the federal states have once again expressly declared the significance of vocational orientation. In a joint recommendation on vocational orientation in 2017, they define objectives and measures to enshrine vocational orientation as an integral component at schools and stipulate the further development of these measures.

Both the BOP and the Educational Chains Initiative have contributed to this positive development. Although the elements of the BOP are not new and had their models in various federal state programmes, the analysis of potential, the workshop days or comparable instruments did not become established as a fixed component of vocational orientation in almost all federal states until the BOP had been disseminated nationally and agreements had been put in place between the Federal Government, the federal states and the Federal Employment Agency within the scope of the Educational Chains initiative. Evaluation research for the BOP programme conducted between 2012 and 2017 attests that it is performing the role of a national beacon programme, providing a structure for vocational orientation at schools, and initiating questions relating to vocational orientation being addressed at an early stage.

As well as demonstrating the programme's structural impact, the evaluation research also shows positive effects with regard to the content objective of "career choice competency development". The evaluation also makes it clear that the programme is exerting a positive influence on downstream vocational orientation activities. Pupils interested in training who have completed the workshop days in the BOP feel better prepared to select their work experience. The programme thus reinforces the success of work experience. It is also revealed that the effects of the programme are heavily dependent on the individual prerequisites and goals of the young people. Young people interested in training and young people whose parents are not well educated tend to derive the greatest benefits from the BOP. The evaluation identifies particular potential with regard to the impact of the programme on young people who do not primarily aspire to dual VET and with regard to girls, who benefit less than boys from the programme.

It is now clear that long-term funding programmes such as the BOP need to transport development processes and adjust to altered general conditions. The consequence of the structure-forming effect described, which helped lead to the establishment of separate BO programmes in federal states, is that it is no longer being implemented in all federal states. In 2008, the BOP was represented in every federal state. Now, only schools from about half of states are participating. The BOP has also undertaken numerous adjustments with regard to content of the course of its 15-year existence and has reacted both to recommendations in the evaluation and to further developments. The analysis of potential, for example, became a fixed component of the programme as far back as 2010. The introduction of quality standards for the execution of analyses of potential is, in turn, not the least of the drivers for the national establishment of this instrument. Additional quality standards for the implementation of practice-related vocational orientation days were introduced when the programme's funding guidelines were updated in December 2022. The focus here is on closer alignment to practical occupational application and on addressing the changes in the world of work, the keywords in this regard being digitalisation and future competencies.

One important stage in the further development of the programme was its expansion beyond schools offering lower secondary qualifications to encompass upper secondary schools, which traditionally offer scarcely any vocational orientation provision. Supplementary pilot projects at upper secondary schools have further opened up the project to this type of school. The experiences from these pilot projects informed the updating of the funding guidelines of the BOP. The aim is that opportunities for flexibilisation of the measures in terms of time and for the equivalent imparting of academic and vocational education and training pathways will initiate an expansion of vocational orientation at upper secondary schools. The programme is thus also contributing to the BMBF's Excellence Initiative.

C2.2 Skills Analysis Network (NetQA)

The Skills Analysis Network (NetQA) has supported networking between competent bodies responsible for recognition of foreign professional and vocational qualifications for the purpose of conducting skills analyses within the scope of the recognition procedure set out in the Professional Qualifications Assessment Act (BQFG). The aim was the sustainable establishment of the skills analysis as an instrument in the recognition practice of the chambers.

Profile of the "Skills Analysis Network (NetQA)"

- Funding provider: Federal Ministry of Education and Research (BMBF)
- Funding aim: establishment of a network between competent bodies for the implementation of skills analyses, permanent knowledge transfer from the prior projects "Prototyping" (2011 to 2014) and "Prototyping Transfer" (2015 to 2018) and from NetQA. Sustainable securing of project results, stabilisation of the number of skills analyses conducted
- Target group: competent bodies from chambers of crafts and trades and commerce and industry, further competent bodies and applicants for a recognition procedure for foreign professional and vocational qualifications
- Term: 01/01/2019 to 31/12/2022
- Facts and figures: Total funding volume: approx. €2.3 million (project funding), ten grant recipients, special fund for the conducting of skills analyses (€90,000 per year)

NetQA was instigated as a follow-up to "Prototyping Transfer" (2015 to 2018), because this predecessor project had made it clear that the knowledge developed on competency assessment via skills analyses would need a sustainable network of interlinked competent bodies in order to secure the results achieved thus far and to secure the skills analysis as an instrument. NetQA has been addressing this since 2019. Networks between competent bodies strengthen the transfer of knowledge relating to the execution of skills analyses. The goals of comprehensive application of skills analyses and transfer of knowledge on skills analyses was achieved via the participation of chambers, competent bodies and education and training stakeholders as project partners and multipliers in the field of professional and occupational recognition. Implementation of the objectives of NetQA was pursued via various instruments and routes.

- A pool of expertise and knowledge was established on the Recognition in Germany information portal to act as a knowledge platform on skills analyses for the competent bodies. This encompasses numerous guidelines, sources of information and brochures which offer assistance with the conducting of skills analyses.
- Information material on skills analyses has been developed for various target groups such as applicants or further advisor groups, and will continue to be made available by BIBB after the end of the project.
- Extensive online training provision has been created for the use of advisors at the competent bodies. Training documentation is also made available to professional experts in the expertise and knowledge pool.
- Financial funding for skills analyses has been put in place via the skills analysis special fund, a subordinate financing instrument within the scope of the project term.

C2.3 Digital Shift Training Initiative – Q 4.0

The Digital Shift Training Initiative – Q 4.0 is a joint programme instigated by the BMBF in conjunction with the German Institute for Business Research (IW) and many regional partners. It helps to provide trainers with methodological and content-related tools which take account of the increasing digitalisation and networking of the economy. Digitally competent education and training staff are a key to digital competencies in training and therefore also to an increase in training quality.

Profile of the "Digital Shift Training Initiative – Q 4.0"

- Funding provider: Federal Ministry of Education and Research (BMBF)
- Funding aim: development and piloting of more precisely matched training for VET staff with a focus on media education knowledge and technical and social competencies in order to structure the contents and processes of dual training in an appropriate way during the digital shift
- Target group: VET staff with a focus on company-based training staff
- Term: 01/10/2019 to 31/12/2023
- Facts and figures: the "Digital Shift Training Initiative – Q 4.0" comprises two projects.
  - "MIKA – Media and IT competency for training staff" (grant recipient: Federal Institute for Vocational Education and Training; funding volume: €1.5 million)
  - "NETZWERK Q 4.0" (grant recipient: German Institute for Business Research in Cologne and 16 regional project partners, education and training institutes of German trade and industry and further education and training institutions; funding volume: €36.5 million)

The Digital Shift Training Initiative – Q 4.0 encompasses the two projects "MIKA – Media and IT competency for training staff" and "NETZWERK Q 4.0". Both projects create training for training staff, albeit with differing complementary main focuses. The "MIKA" project concentrates on fostering media education competencies for the use of digital media in training. The objective of the

"NETZWERK" Q 4.0" project is to strengthen sector-specific and cross-cutting technical, methodological and social competencies in order to structure the contents and processes of training in an appropriate way during the digital shift. Together, both projects help provide trainers with the requisite tools to shape training in an attractive and future-proof way. The projects will be presented briefly below.

- MIKA is a continuing training concept for company-based training staff which aims to foster media and IT competency. Within the context of their own everyday training routine, trainers learn and test out how they can deploy digital media in a tailored and beneficial manner in company teaching and learning processes. The continuing training provision is based on three building blocks. These are the learning platform, the MIKA Campus (face-to-face courses and webinars) and certification as MIKA trainer. The aim here is to ensure a comprehensive national quality standard for implementation of the MIKA seminars which have been developed.
- Objectives achieved thus far: around 760 users have registered on the MIKA Campus since May 2022. The first MIKA seminars were launched in December 2022 and are already being offered on a quarterly basis by around 55 education and training institutions. MIKA Online will be in place from 2023 to create provision for trainers who already have established digital competencies. MIKA Kompakt will offer an in-house scheduled seminar for companies. Pilot provision is in place at vocational schools in the form of MIKA Pädagogik. 60 lecturers had obtained certification as MIKA trainers by February 2023, and further certifications are ongoing. From 2023, education and training institutions cooperating with MIKA will be displayed and linked on an interactive map on the MIKA Campus.
- The BMBF is using the national NETZWERK 4.0 to promote and pilot more precisely matched training for training staff. The focus is on technical and social competencies. Current specialist contents are imparted alongside new methodological knowledge to strengthen their role as coaches and learning support staff. Training is mainly directed at company-based training staff, but vocational school teachers are also included within the context of cooperation between learning venues. NETZWERK Q 4.0 is being implemented nationally by education and training institutes of German trade and industry and further education and training institutions in conjunction with the German Institute for Business Research.
- Objectives achieved thus far: around 100 sector-specific and cross-cutting training programmes had been developed by the end of 2022. These had been implemented with the involvement of around 2,300 participants. The practical relevance of the training, the opportunity to network, and the applicability of the contents learned met with a high degree of satisfaction from participants and supported the structuring of training practice. The broad range of digital tools piloted, the relevance of the topics to examinations, and the practically-related nature of the training courses were all key to the learning motivation and learning success of the participants. Of course, the expertise of the trainers is also a relevant success factor. For this reason, greater emphasis will be placed on trainer certifications and on expanding the matchability of training in 2023, e.g. via shorter and purely online formats. The certificate programme "TRAINING 4.0" will also be piloted to incentivise participating trainers to expand their employability skills on a stage-by-stage basis via elective modules.

C2.4 Structure-forming programmes

C2.4.1 JOBSTARTER and JOBSTARTER plus

In 2006, the Federal Ministry of Education and Research (BMBF) launched the "JOBSTARTER – Training for the future" programme, which was co-financed by the ESF. Its follow-up programme JOBSTARTER plus began in 2014.

The BMBF uses both JOBSTARTER and JOBSTARTER plus essentially to pursue three interlinked core goals. These are 1) strengthening dual VET, 2) supporting SMEs in securing a sustainable supply of skilled workers and 3) improving regional training structures. Current objectives were added to these cross-cutting programme objectives on an ongoing basis in order to address new challenges on the training market and to take account of societal trends.

The BMBF also viewed both JOBSTARTER plus and its predecessor programme JOBSTARTER as an "innovation laboratory" or "development programme". From an educational policy point of view, the aims were to seize upon developments in the education and training system and to set targeted main focuses in order to develop practically-related solutions for VET. Both programmes were also used for temporary expansions of capacity. The projects funded provided support in areas where the resources available to existing regional (standard) structures needed to be reinforced. This was, for example, the case in 2016 when the work undertaken by the KAUSA service agencies was extended in order to take account of the target group of refugees. The external evaluation research conducted to support the programme indicated that the KAUSA service agencies have helped in this regard to

lead to an improvement in target group-related cooperation between regional stakeholders, to create a broad spectrum of innovative formats and instruments to foster the occupational integration of young refugees, and to bring about considerable supplementation of standard provision in the necessary action areas.

Profile of JOBSTARTER und JOBSTARTER plus

- Funding provider: Federal Ministry of Education and Research (BMBF), generally co-financed by the European Social Fund (ESF)
- Funding aim: securing a supply of young skilled workers at small and medium-sized enterprises (SMEs), retain the willingness of companies to provide training, and improve regional training structures
- Target group: SMEs and stakeholders in vocational education and training
- Term: 2006 to 2022
- Facts and figures: JOBSTARTER (2006 to 2013) six rounds of funding and 310 projects, JOBSTARTER plus (2014 to 2022): five rounds of funding, 250 projects; total funding volume: around €232.1 million
- Examples of topics funded during the project's 16-year term were as follows.
  - → Use External Training Management (EXAM) and company-based training preparation to create additional training places and find suitable trainees.
  - → Promote participation in training by small firms and of the smallest class of company.
  - → Support SMEs in adapting their initial and continuing VET to the requirements of the digital transformation.
  - → Use KAUSA service agencies to support the training of immigrants at companies and use vocational education and training to tap into the potential of young people from a migrant background and young refugees.
  - → Enable young people to achieve a full vocational qualification via part-time VET.
  - → Tap into the areas of potential for dual vocational education and training offered by higher education drop-outs.
  - → Pilot modularisation in VET (training modules).
  - → Interlink initial and continuing VET by developing additional qualifications.
  - → Cooperative training
  - → Interregional mobility

The projects established cooperation arrangements with regional VET stakeholders in order to improve the regional structures in initial and continuing vocational education and training. This networking in particular plays a major role both in project work and beyond the term of the project. The commitment of the projects has also given rise to national networks such as the Plastics Alliance, the Construction Alliance and the Logistics Alliance. Following the end of funding, all of these have also pursued the goal of acquiring skilled workers via company-based training.

Employees of JOBSTARTER and JOBSTARTER Plus have acted from the very outset to secure and publish the measures and concepts that have been piloted, the experiences and findings gained and the materials developed so that the knowledge generated can be made available to interested specialists and to the general public. They published helpful possible solutions and tried-and-tested instruments on an ongoing basis to act as transfer materials for practice on the project's website and used these to inform specialist conferences and congresses. Successful examples from practice and tips and ideas from project work were edited into guides. Specialist publications were prepared and produced on a wide range of topics.

C2.4.2 Federal programme for the establishment of continuing training associations

The structural shift and digital transformation are once again considerably increasing the relevance of training for employees and companies. Requirements are very significant and encompass the expansion of digital competencies, the imparting of new and agile working methods, retraining in the case of tasks which will prospectively be automated, and continuing training in completely new tasks. However, small and medium-sized enterprises (SMEs) in particular often do not possess the time and financial and human resources in order to determine their own continuing training requirements within the company, to implement the necessary continuing training measures and to make their firms future-proof. Participation in continuing training at SMEs is therefore demonstrably lower than at larger companies.

For this reason, there is a need to organise innovative and resource-efficient pathways and to facilitate points of access both for companies and for their employees. Within the scope of the National Continuing Training Strategy, an agreement was made as early as 2019 to drive forward decentralised continuing training associations and regional cooperation arrangements between companies, especially between SMEs, and to provide financial support within the framework of pilot projects.

Profile of the "Federal programme for the establishment of continuing training associations"

- Funding provider: Federal Ministry of Labour and Social Affairs
- Funding aim: support for the implementation of "coordinating agencies" as part of a continuing training association to strengthen regional and innovative networks and to increase participation in continuing training at small and medium-sized enterprises (SMEs) in particular
- Target group: companies, especially SMEs
- Term: 12/2020 to 12/2024
- Facts and figures: Funding volume around 100 million; funding of 53 continuing training associations and of a Central Coordinating Forum (wbv)

The BMAS will devote even more attention to the topic of continuing vocational education and training in the future. There is a clear necessity for further specific investments in the competencies and employability skills of workers. The state needs to create supportive general conditions for this purpose. The "Federal programme for the establishment of continuing training associations" takes due account of this requirement and is making an important contribution with regard to supporting the employment policy dimension of the structural shift both in the regions and in sector-specific terms. A conscious effort is being made at the same time to assist with cross-cutting approaches with a view to heeding the objective for the necessary flexibility and for an appropriate degree of adaptability.

The first interim external evaluation report for the programme has already indicated that its conceptual approach is acting as an innovative driver for the German continuing training landscape. The continuing training associations are deploying a multitude of innovative activities to regulate, structure and supplement the (regional) continuing training system, to promote the development of new and innovative continuing training activities at companies, and to support companies in the organisation of their own continuing training. The aim is for the results of the evaluation to inform the further development and expansion of the federal programme.

C2.4.3 Special programme for the digitalisation of inter-company vocational training centres

Digitalisation of the world of work is necessitating new or changes tasks and work processes which place high demands on skilled workers and on their training. It also means major challenges for small and medium-sized enterprises (SMEs) in particular. SMEs frequently lack the resources to shape the digital shift and to take advantage of the benefits offered by digitalisation.

Inter-company vocational training centres support companies in dealing with the new technologies which are necessary for the work process. They also promote specialisation within training and assist with vocational orientation. Within this context, inter-company vocational training centres can also contribute to quality development by introducing conceptual or technical innovations into training. One of the measures initiated by the BMBF under the umbrellas initiative is a special programme for the digitalisation of inter-company vocational training centres. This has been supporting inter-company vocational training centres with the modernisation or innovative enrichment of their training provision via digital technologies since 2016. The special programme for the digitalisation of inter-company vocational training centres has also been ascribed an important role in securing high-quality training at companies in the position paper of the Alliance for Initial and Further Training.

Profile of "Promotion of digitalisation in inter-company vocational training centres and in centres of excellence (Inter-company Vocational Training Centres Special Programme on Digitalisation)"

- Funding provider: Federal Ministry of Education and Research (BMBF)
- Funding aim: Modernisation of training provision in inter-company vocational training centres
- Target group: inter-company vocational training centres and centres of excellence
- Term: 2016 to 2019 (phase I), 2020 to 2023 (phase II)
- Facts and figures: €104 million funding volume (phase I); €120 million funding volume (phase II)

The term of the development and pilot projects runs until the end of June 2023 and will also be evaluated in this programme phase. Data on the funding of equipment will also be collected. The evaluation results for the individual projects and the results derived from these for the project as a whole are expected and will be recorded from 2024.

C2.5 Programmes for innovation development

C2.5.1 Pilot projects relating to "Vocational education and training for sustainable development"

In order to implement the UNESCO Global Action Programme "Education for Sustainable Development" (ESD), the goal of structural integration of ESD into the German education system – and therefore into VET, too – was adopted in 2017 as part of a National Action Plan. Within this framework, vocational education and training for sustainable development can be understood as a lifelong process and as an element of education and training which enables an individual to tackle current and future challenges in occupational, societal and private situations in a responsible manner. The focus needs to be on the ability to align occupational actions to its intra-generative and inter-generative impacts on ecological, social and economic consequences.

Profile of "Vocational education and training for sustainable development in transfer for training staff 2020–2022" (VESD Transfer)

- Funding provider: Federal Ministry of Education and Research (BMBF)
- Funding aim: Move selected results of the VESD pilot projects from 2015 to 2019 "from project to structure" and thus generate knowledge and findings for transfer
- Target group: VET practice, academic research and funded projects relating to VESD
- Term: 2020 to 2023
- Facts and figures: Funding of seven pilot projects involving 22 cooperative partners; total funding €2.8 million

The funding of pilot projects forms part of the BIBB's statutory remit. The purpose of pilot projects is to develop and test innovative solutions for the practice and theory of vocational education and training. They are thus particularly suited to complex requirements such as the sustainable transformation of the world of work. Their strength lies precisely within this innovative partnership between academic research and practice. Sustainability-oriented competency development must, for example, have its basis in well-founded findings from sustainability research, competency modelling or didactics if it is to be effective. At the same time, concepts which are valid but which have been exclusively developed by sitting around a table would scarcely be applied at companies or vocational schools if they had not already been jointly drawn up and piloted in conjunction with practice.

The aim of pilot projects is always to use a small and protected framework to create models which are suited to larger areas of deployment. Success in this regard has already been achieved in the form of the VESD competency matrix and the learning venues model already described. As an overall model, however, a further purpose of VESD transfer was to generate a basis of findings for a larger implementation programme. From 2023, projects which use continuing training provision to train trainers on how to structure training in a sustainability-oriented manner will be funded within the scope of a new BMBF programme entitled "Sustainability at work – future-oriented training", which is co-financed by ESF Plus (European Social Fund). This represents the first time that VESD pilot projects have led to a broadly based roll-out. At the same time, and also in 2023, further activities relating to new thematic areas will be launched within the context of the VESD pilot projects in order to initiate innovations and findings regarding sustainability in initial and continuing VET.

C2.5.2 InnoVET innovation competition

Since the start of 2019 and acting in conjunction with the BIBB, the BMBF has been using the innovation competition "Shaping the future – innovations for excellent vocational education and training (InnoVET)" to address the most significant challenges facing the world of work – digital and technological transformations, flexibilisation, globalisation and demographic change. The innovative measures developed are aimed both at the altered need for occupational competencies on the part of employees and at the increased demand for well-trained skilled workers. All VET stakeholders with innovative project ideas were able to take part in this national competition and submit an application for funding. Since 2020, the 17 project networks selected have been working on the implementation of innovative concepts which are geared towards making the vocational training system future-proof, more attractive, of higher quality and more equal. For this purpose, the projects are developing new attractive and excellent training concepts and pathways, especially in higher vocational education and training at advanced stage 1 following the updating of the Vocational Training Act (BBiG) in 2019. These are oriented to the needs of the companies and are helping to training highly qualified skilled workers. The digital transformation in particular is bringing new requirements in its wake. At the same time, it offers new opportunities for cooperation between learning venues and in learning provision and for an increase in quality in initial and advanced

VET whilst integrating new digital pedagogical formats, methods and concepts.

The aim is for the innovations in VET instigated by the InnoVET competition to exert a sustainable and structural effect. National and cross-sectoral knowledge and results transfer is therefore of particular significance. From the point of view of VET research, the approaches and results of the InnoVET projects and current academic research approaches will be highlighted within the scope of InnoVET evaluation research. The evaluation research will help to make long-term and targeted use of the InnoVET results for the further development of the VET system and to deliver findings with regard to the shaping of future funding structures.

Profile of "Shaping the future – innovations for excellent vocational education and training (InnoVET)"

- Funding provider: Federal Ministry of Education and Research (BMBF)
- Funding aim: increase attractiveness, quality and equivalence of vocational education and training and initiate new cooperation arrangements between learning venues
- Target group: all VET stakeholders
- Term: 01/09/2019 to 28/02/2020 (concept phase), 01/09/2020 to 30/11/2024 (implementation phase)
- Facts and figures: total funding volume approx. €74 million, 17 project consortia, 88 grant recipients

The initial impacts of the projects and their contributions towards the resolution of the aforementioned challenges are already visible.

- Higher VET/careers The InnoVET projects are developing and piloting attractive high-quality advanced training programmes which are the equivalent of higher education qualifications. Some projects are also offering fresh prospects for advancement by means of new career concepts and careers guidance. 88 persons have already taken part in the level 1 advanced training programmes pursuant to the BBiG and HwO which have been newly developed within the scope of InnoVET and have been piloted since 2022. The programmes are of at least 400 hours' learning duration and have a subsequent examination (status: February 2023).
- Expanding cooperation arrangements between learning venues across sectors and regionally InnoVET aims to achieve new and comprehensive forms of collaboration between learning venues which expand innovative learning, offer new learning opportunities and promote knowledge transfer.
- Hybrid education and training models InnoVET is piloting hybrid education and training models by interlinking dual VET and higher education study in newly designed programmes. The practical competencies of dual training and academic learning contents supplement each other in an ideal fashion.
- Increasing the quality of training The InnoVET projects are producing new future training approaches for individual sectors ranging from traditional craft trades to future technology and are structuring initial and continuing VET in a more attractive way. They are also piloting innovative approaches for the optimum imparting of knowledge and competencies which make vocational education and training more flexible and more individual.

Interim conclusions show that new alliances of innovation clusters aligned towards education and training are emerging in the respective regions and that these clusters are developing and piloting new market-ready ideas for training pathways in initial and continuing vocational education and training within the space of only a few years. Pathways are being revealed via which the delineations between vocational and academic training can be constructed in a more permeable manner. Shaping the process of reciprocal recognition of learning outcomes represents a challenge depending on sector and occupational group. Development and implementation of joint learning concepts and formats for different target groups The InnoVET projects are indicating promising cooperation procedures with regard to the development and execution of joint learning concepts and formats for different target groups.

The experiences of the InnoVET project are also delivering findings for the development of new career concepts and for higher vocational training provision. The InnoVET projects are creating important VET policy impetuses within the context of alignment of the advanced training provision developed to reference levels 6 and 7 of the DQR. In overall terms, these contributions and impacts of InnoVET are helping to instigate a partial change of the VET system which may become fundamental in the long term, especially in the form of enhanced attractiveness and the quality of education and training pathways.

C2.5.3 INVITE innovation competition

The INVITE innovation competition addresses the overarching goals set out in the National Continuing Training Strategy, which was jointly adopted in June 2019 by the

BMBF, the BMAS and further partners. These objectives encompass the development of transparent and permeable continuing training structures, the establishment of occupationally-related continuing training as a self-evident component of working life, and the facilitation of greater self-determination with regard to the shaping of individual education and training and employment biographies. The INVITE competition, announced in 2020, provides a framework in which the BMBF is able to help optimise the digital education area of occupationally-related continuing training whilst also supplementing Federal Government funding activities which are being instigated in parallel, for example, the BMBF's own National Education Platform. The BIBB is tasked with technical and administrative project management and is being supported on technical issues by the service provider VDI/VDE Innovation + Technik GmbH.

Profile of the "INVITE innovation competition"

- Funding provider: Federal Ministry of Education and Research (BMBF)
- Funding aim: funding of research and development projects for the establishment of a secure, innovative and digital education and training area; networking and qualitative further development of platforms; development of AI-based teaching/learning provision
- Target group: all persons interested in continuing VET and persons who have thus far been underrepresented in continuing training
- Overall term: 2020 to 2025 (project term: 2021 to 2024)
- Facts and figures: around €88 million programme volume; 35 projects/182 grant recipients

The innovation competition is geared towards the networking, improvement and expansion of existing platforms and of (digital) provision structures in the area of occupationally-related continuing training. INVITE thus addresses different interest groups. Firstly, the programmes are aimed at learners, i.e. fundamentally at all persons interested in continuing vocational education and training and at target groups which have hitherto been underrepresented in continuing VET, such as low skilled workers, those without formal qualifications and re-entrants to the labour market. A second objective is to enable small and medium-sized enterprises (SMEs) in particular to provide their employees with continuing training in a way which is in line with their requirements and to find suitable digital continuing training formats. Beyond this, another goal is to strengthen existing regional or digital networking at a structural level too so as to create a coherent continuing training area which offers connectivity for further technological developments.

A total of 34 research and development projects and an overarching meat project with a term of three years have been funded since 2021. Most of the research and development projects are of a cross-cutting nature and relate to the following three development fields. They are framed by a meta project (INVITE Meta) with an interdisciplinary alignment.

The cooperative projects cover a wide range of technical innovations, sectors and regions. Whereas a majority of the projects has a cross-sectoral and cross-regional orientation, some individual projects are specifically aimed at the healthcare sector and at nursing in particular, at the retail sector, at manufacturing industry, at public transport and at the craft trades.

The project consortia are characterised by close relevance to practice, by a high degree of innovation and by interdisciplinarity. The innovative approach of the projects particularly comprises the use of digital learning platforms to impart learning contents in a way which is suitable to the target audience and the AI-aided further development of existing continuing training provision.

In most cases, the technological innovations of the projects relate to the development, piloting and (sustainable) introduction of adaptive continuing training assistance systems, which are adjusted to learning requirements by means of AI algorithms (e.g. personalised recommendation systems, mapping of learning advancement, and recording of learning progress) and which take the individual needs of users into account. This accessible and low-threshold design also addresses target groups which are frequently underrepresented in occupationally-related continuing training (lateral entrants, persons without formal qualifications etc.). In addition, some projects are developing digital tools for the recording and documentation of continuing training activities and learning outcomes both of a formal and informal nature. They refer to existing competency assessment instruments and are aligned to standards such as ESCO, the Europass or the German Qualifications Framework (DQR).

Following more than a year of funding, most INVITE projects are now fully engaged in the work phase. This allows an initial interim conclusion to be drawn. Various cooperative and networking activities, e.g. on the BIBB communication platform of the Office for Transitions to Training and Work ("überaus") or via regular thematic workshops initiated by INVITE Meta and covering topics such as competency assessment, gamification and impact research (a total of 35 in 2022) have led to the formation

of a community which is already exerting an influence on related continuing training debates. One aspect of this type of large heterogeneous project consortia that should be highlighted is a high degree of readiness to network and cooperate on cross-cutting topics such as data protection, adaptive individualised learning and interoperability etc. In December 2022, and seizing on the high degree of maturity of the project developments, a total of ten prototypes underwent publicly effective testing in the areas of AI, block-chain and serious games as part of the INVITE Tool Check.

C2.5.4 ASCOT+ research and transfer initiative

After an initial term of the ASCOT programme (Technology-based Assessment of Skills and Competencies in VET) from 2011 to 2015, the BMBF joined forces with BIBB in 2018 to instigate the expanded research and transfer initiative ASCOT+. Six projects from the industrial and technical, commercial and healthcare occupational areas were funded within this framework. The projects pickup on the instruments and procedures drawn up in the predecessor initiative ASCOT. They develop these further and also establishing new instruments.

Profile of (Technology-based Assessment of Skills and Competencies in VET)

- Funding provider: Federal Ministry of Education and Research (BMBF)
- Funding aim: development of digital learning and measurement instruments for competencies of trainees and the piloting of these in practice
- Target group: academic research, examination system
- Term: 2018 to 2024
- Facts and figures: Funding of six projects from the industrial and technical, commercial and healthcare occupational areas

ASCOT+ contributs towards improving teaching/learning processes in company-based and vocational school training, arriving at a more objective assessment of the performance of trainees, supporting regulatory stakeholders in the competency-oriented formulation of training regulations and further developing competency-oriented examinations. The transfer of academic research findings and the networking process between the research sector and practice which is necessary in order for this to happen form a central objective of ASCOT+ and were taken into account at the very outset of the design concept of the projects. The aim is for academic research findings to be transferred into teaching and learning contexts, into examination practice and into VET regulatory work. The BIBB monitors and supports this transfer.

One field being informed by the results of ASCOT+ is the examination system in dual vocational education and training. In 2021, an estimated 300,000 volunteer examiners were involved in a total of 427,236 final examinations in all recognised training occupations. The examination system is dependent on volunteers. Nevertheless, the amount of time and human and financial resources required, e.g. the problems which examiners may have in obtaining release from their work duties, the general prevailing legal conditions and the lack of attractiveness of VET all make it more difficult to acquire and retain examiners. This is not the least of the reasons why the ASCOT+ research and transfer initiative is also developing approaches and concepts which can support the voluntary work of examiners and make it more attractive.

The six cooperative projects in the initiative are developing instruments for the fostering and measurement of the occupational competencies of trainees. They focus on particularly popular training programmes such as office manager (in which 22,269 examinations were sat in 2021), industrial clerk (16,839 examinations), vehicle mechatronics technician (16,935 examinations) and mechatronics fitter (7,254 examinations).

For example, the ASCOT+ projects develop examination preparation support instruments which enable suitable examination tasks to be constructed or selected from an existing pool of assignments. These tasks can be adapted in accordance with needs or compiled to form a full examination. Other instruments provide support in the execution of examinations. The ASCOT+ instruments can also help alleviate the time-consuming process of evaluating the numerous examination tasks. Last but not least, there is support for the (continuing) training of volunteer examiners. The main emphases here are on the development of criteria for examination assignments formulated in a competency-oriented manner and on the adaptation of existing measurement instruments whilst taking account of the requirements of the examination system.

C3 Conclusion

This year's special focus shows that the significance of programmes for innovation processes in vocational education and training is very considerable and has grown continuously in the past. This chapter will close by indicating a few core points which illustrate and underline the important contribution made by programmes to the constant further development of vocational education and training.

1. Programmes should not and cannot replace regulatory work. However, they have the potential to provide impetuses for regulatory work and to speed up its processes.

This becomes clear, for example, in the case of the new or amended standard occupational profile positions of "Environmental protection and sustainability" and "Digitalised world of work", which have been prepared and supported via multifarious programme activities without wishing or being able to draw a direct causality. The notion of sustainability has been addressed by numerous pilot projects since 2001, and the effects of various of these projects have included raising the awareness of different VET stakeholders and fostering sustainability-oriented employability skills. Many projects across a wide range of programmes have also laid fertile ground for the digitalised world of work. This topic has become enshrined in vocational education and training as a result of the special programme "Digitalisation in inter-company vocational education and training centres" in particular, both with regard to equipment and didactic implementation.

2. Programmes are able to tap into new or hitherto undeveloped thematic areas in vocational education and training and achieve a broader roll-out of these topics.

Vocational orientation played a very subordinate role until the end of the 2000s. This changed with the Vocational Orientation Programme (BOP) described in this chapter. The BOP originated as a small-scale endeavour that was limited to inter-company vocational education and training centres. It was later expanded within the scope of the educational chains approach and adopted in the respective educational chains agreements between the Federal Government and the individual federal states. The number of participants and the scope of the expansion of funding are not the only impressive aspects. Questions relating to the nature of the implementation of analyses of potential or to quality assurance of vocational orientation were also discussed within the framework of the programme, and important contributions were made to the areas of both practice and academic research. A similar and pleasing development is currently occurring in the case of "Training Worldwide". This project pursues the notion that international exchanges in Europe and beyond could be of significance to trainees as well as to higher education students and should be expanded into a cornerstone for the attractiveness of vocational education and training.

3. Programmes ensure the integration of widely different stakeholders into the further development of VET and foster their collaboration.

This begins with the trainees themselves, who were involved in the development of new learning arrangements in the various JOBSTARTER funding lines (for instance, the use of smart phones for learning videos). However, it also applies to trainers at companies and at inter-company vocational education and training centres, to teaching staff at vocational schools and to teachers at general schools within the scope of the Vocational Orientation Programme. Mention should also be made of employees of chamber institutions, of trade unions and employer associations, and of the numerous state and private sector training providers, research institutes and institutes of higher education which participate in the development of the programmes and are involved in their execution. Finally, participants at the federal and federal state ministries which are responsible for vocational education and training should not be forgotten either. They are key stakeholders who, usually with support from the BIBB, are responsible at a federal level for the development and implementation of the programmes.

Part D: Monitoring of the internationalisation of vocational education and training

D1 Indicators for vocational education and training in Europe and in international comparative terms

D1.1 Development of vocational education and training in selected countries with dual VET

Data for the measurement of youth unemployment in international comparative terms shows that countries with dual systems are particularly likely to exhibit low rates, even though this benefit has no longer been quite so apparent in recent years as in the past decades. This finding has led to a considerable gain in the significance of company-integrated vocational education and training over recent years.

The system of dual training in Germany is typically compared with the training systems in Switzerland and Austria since these countries display the greatest systemic similarities. Analysis of the development of company-integrated training in the Data Report has been expanded to include a number of further countries over the past few years. This is because dual training has attracted considerable attention in recent times and company-integrated forms of training do not only occur in countries with a dual system. Nevertheless, international analysis of provision of company-based training is not without its problems. Making comparisons is frequently hampered by the structural differences between the vocational education and training systems of the various countries. One major dimension in the comparison of VET systems is the significance accorded to vocational education and training provision at the upper secondary level. Company-based training contracts are, however, often included in education and training programmes beyond the upper secondary level. For this reason, it makes sense from an international perspective to look at company-based vocational education and training as a proportion of employment on the labour market in the same way as this happens in Germany on the basis of the training rate. This involves considering the number of persons with a company-based training contract as a ratio of the labour demand. Data on company-based training contracts based on national statistics is used to calculate training rates in the international part of the Data Report (AQint), whilst labour demand figures are based on international data from the ILO statistics (see Information Box).

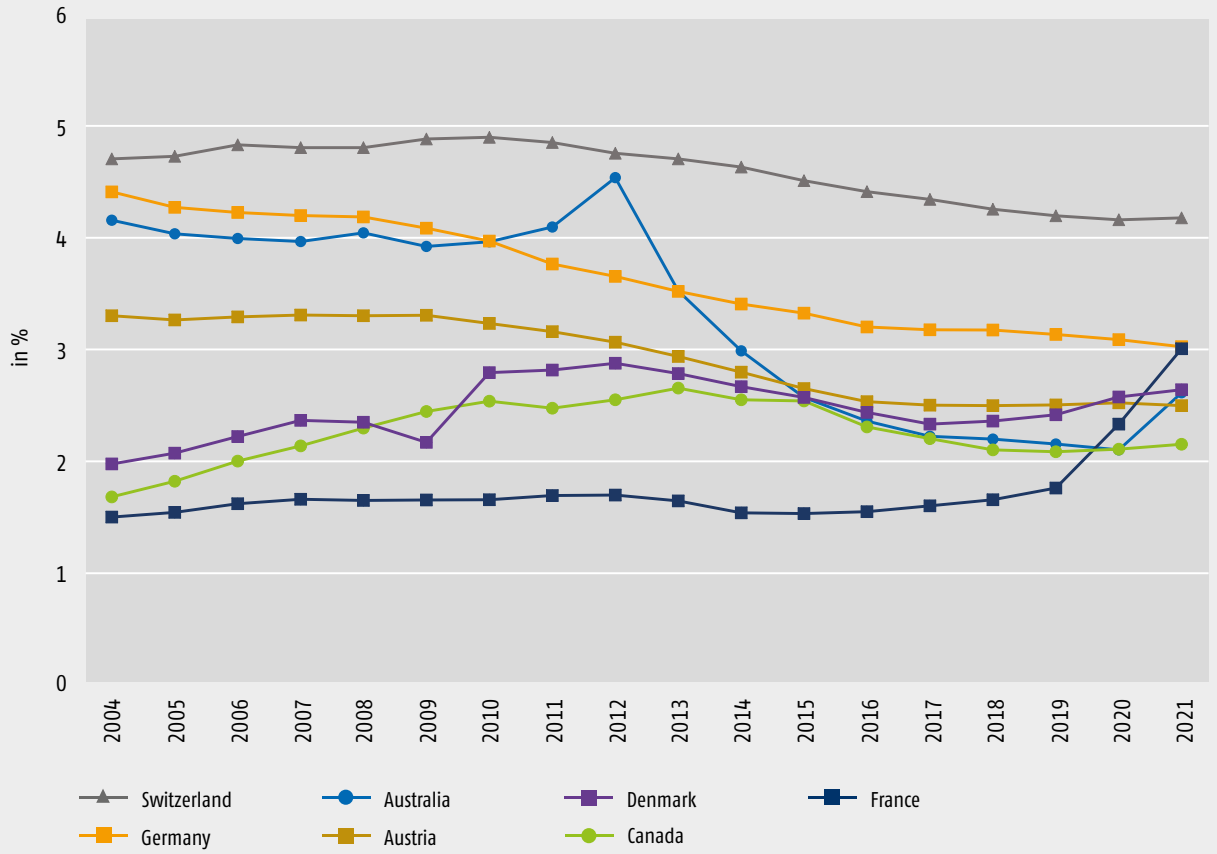
Information Box – training rate (AQint) in international comparative terms

In Germany, the training rate is calculated as the number of trainees as a proportion of employees subject to mandatory social insurance contributions. Because there are major national differences with regard to the organisation of contracts of employment, training rates were calculated on the basis of labour demand (denominator) for the purpose of international comparison. Labour demand information is taken from ILO figures. Information regarding training contracts (numerator) is based on data from national training statistics. The apprenticeships conceal very different specific regulations and arrangements in terms of contents and forms.

Recording the training rate as a relevant indicator of dual vocational education and training practice is therefore certainly suited to the investigation of very varying VET systems. Nevertheless, account needs to be taken of the considerable national differences in the ways in which company-based training is structured and embedded. One key difference is that company-based training is in many cases linked with post-secondary educational provision rather than being aligned to the secondary school sector.

→ **Chart D1.1-1** shows the development of the AQint since 2004 for selected countries. The country comparison for the company-based training rate for the year 2021 makes it clear that the training rate in Germany (3.0%) has settled at the same unchanged level since 2016 following a fall in the preceding years → **Chart D1.1-1**. The lasting and strong increase in France is the result of the legal reform of 2018 (Law of 5 September 2018). Factors here include more favourable financing arrangements

Chart D1.1-1: **Training rate – company-based trainees as a proportion of labour demand in international comparative terms (in %)**



Source: Information on training contracts in the respective countries are based on national statistics (full details in the Bibliography). **Austria:** Association of Austrian Chambers of Commerce and Industry 2022; **Canada:** Statistics Canada 2022; **France:** Direction de l'évaluation 2015, p. 144f.; 2022, p. 137 and DEMONGEOT among others for 2021); **Switzerland:** Federal Statistical Office 2023; **Germany:** 2021 BIBB Data Report, Chapter A 5.2 and "Trainee Database" for the 2021 reporting year; **Australia:** National Centre for Vocational Education Research 2022; **Denmark:** Danish Ministry of Education 2022. Data relating to labour demand is taken from the international statistics of the ILO (International Labour Organization 2023). Calculations by the Federal Institute for Vocational Education and Training

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and simplifications in the admission of companies providing training. In European comparative terms, Austria is now in last place with a training rate of 2.5%. The only lower figure recorded internationally was in Canada, where the rate was 2.2%. Denmark, Australia, Austria and Canada have all displayed a constantly convergent development in the course of the training rate over the past few years. Following a declining trend, the training rate in Australia rose in 2021 (2.6%; 2020: 2.1%). The rise in the training rate in Australia is due to the "Delivering Skills for Today and Tomorrow" reform. This reform package comprises a total volume of 525 million Australian dollars and is directed in a targeted manner towards using financial incentives to support training places.

Finally, with regard to the interpretation of the training rate, attention needs to be drawn to the fact that the absolute number of training contracts must always be differentiated from the relative level. Data on the working age population shows that, since 2004, labour demand has risen in the countries forming an object of consideration. An increase in the number of company-based training contracts does therefore not automatically mean a higher training rate.[28] This can be identified in the case of Switzerland, which has exhibited an increase in the (absolute) number of training contracts since 2004 in overall terms but has had a slightly declining training rate over recent years.

28 The training rate may even fall if labour demand increases more strongly than the number of company-based training contracts because the number of trainees will decrease proportionally.

Tabelle D1.1-1: **Number of vocational training contracts by occupational fields 2021 and 2020/2021**

	Australia 2021		
	Sectors/ Economic sector	**Number of trainees (Total: 341,595)**	**Relative share***
1.	Craft trades (Construction sector)	66,925	20%
2.	Automotive and engineering	54,830	16%
3.	Electrical engineering and telecommunication	46,885	14%
4.	Communal and personal services	39,400	12%
5.	Office and administration	31,400	9%

	Germany 2021		
	Occupation(al field)	**Number of trainees (Total: 1,255,440)**	**Relative share**
1.	Motor vehicle mechatronics technician	64,530	5.1%
2.	Office manager	60,432	4.8%
3.	Management assistant for retail services	49,602	4.0%
4.	Information technology specialist	42,831	3.4%
5.	Medical assistant	42,540	3.4%

	Denmark 2021		
	Sectors/ Economic sector	**Number of trainees (Total: 76,764)**	**Relative share**
1.	Public administration, education and healthcare	21,805	28%
2.	Trade and transport	18,524	24%
3.	Building and construction	18,171	24%
4.	Industry, raw materials recycling and waste disposal companies	8,544	11%
5.	Company services	2,954	4%

	Austria 2021		
	Sectors/ Economic sector	**Number of trainees (Total: 107,593)**	**Relative share**
1.	Trade and craft	46,874	44%
2.	Industry	16,239	15%
3.	Commerce	15,149	14%
4.	Tourism and leisure industry	6,914	6%
5.	Extra-company apprenticeship training	6,880	6%

	France 2020/2021		
	Sectors/ Economic sector	**Number of trainees (Total: 629,635)**	**Relative share**
1.	Trade and management	187,801	30%
2.	Mechanics, electricity, electronics	85,548	14%
3.	Manufacturing industry	85,380	14%
4.	Personal services	80,993	13%
5.	Construction, wood	62,695	7%

	Canada 2021		
	Occupation(al field)/ sector	**Number of trainees (Total: 406,203)**	**Relative share**
1.	Electrician	68,931	17%
2.	Carpenter	49,608	12%
3.	Plumber for pipe and heating installation	45,594	11%
4.	Automotive services	38,706	10%
5.	Gastronomy occupations	19,512	5%

	Switzerland 2020/2021		
	Sectors/ Economic sector	**Number of trainees (Total: 215,710)**	**Relative share**
1.	Business and administration (EFZ)	37,349	17%
2.	Wholesale and retail (EFZ, EBA)	23,854	11%
3.	Construction industry, above and below ground (EFZ, EBA)	16,103	7%
4.	Nursing and midwifery (EFZ)	13,637	6%
5.	Engineering technology and metal processing (EFZ; EBA, not BBG-regulated vocational basic training)	13,196	6%

*Relative share of the overall number of training contracts in each country in %

Source: Information on the respective countries are taken from the following sources (full details in the bibliography):
Australia: National Centre for Vocational Education Research 2022; **Denmark:** Danish Ministry of Education 2022;
Germany: BIBB "Trainee Database", 2021 reporting year; **France:** Direction de l'evaluation 2022, p. 141;
Canada: Statistics Canada 2022; **Austria:** Apprentice Statistics 2022, Austrian Chambers of Commerce and Industry;
Switzerland: Federal Statistical Office 2022; see learners: Basic tables 2020/21.

The database of the training rate also permits an approximate comparison of the most popular areas of training in the companies considered in 2021.[29] This provides a foundation for the identification of national differences and commonalities and makes it possible to obtain a differentiated perspective of the training landscape → **Table D1.1-1**.[30] In the two non-European countries of Australia and Canada, most trainees were in the traditional craft trades such as electrician (Canada) or in the construction sector generally (Australia). By way of contrast, the largest proportion of trainees in Germany was allocated to the commercial sector. In France, trainees were particularly evident within trade and management, whereas trade and industry and administration dominated in Switzerland. Differences between national classifications into occupations, occupational fields or sectors are wide in some cases and do not permit a deeper analysis.

D1.2 Youth unemployment in European comparative terms

This chapter reports on youth unemployment in Europe on an ongoing basis. When using and interpreting data, consideration needs to be accorded to the fact that different concepts are used to measure youth employment (see Information Box). The value of these usually lies below the most common indicator, the youth unemployment rate.

Information Box – Measurement of youth unemployment in international comparative terms – approaches and empirical concepts

Number of unemployed young people as a proportion of the labour supply of the same age (youth unemployment rate according to the ILO concept)

This indicator provides information on the number of unemployed young people as a proportion of the whole workforce potential of the same age and is formed as a quotient of unemployed persons and labour supply (labour demand plus unemployed persons in the labour force).

Number of unemployed young people as a proportion of the population of the same age (labour supply and economically inactive persons)

A further indicator for the youth unemployment relates the number of unemployed young people to all persons (labour supply and economically inactive persons) in the same age group. It thus states the proportion of unemployed persons in the age group. This number is smaller than the youth unemployment rate because of the larger denominator.

Relative youth unemployment

In order to control for aspects such as the effects of economic development, youth unemployment in the respective country may be related to overall unemployment (in accordance with the ILO definition). For this purpose, unemployment rates for the under 25s are contrasted with unemployment rates for those aged between 25 and 74 in → Table D1.2-1. The resultant quotient (relative youth unemployment) shows the extent to which young people are particularly badly affected by unemployment in relation to all unemployed persons.

NEET rates will be reported below to supplement youth unemployment rates pursuant to the ILO concept (relative youth unemployment and number of unemployed persons as a proportion of the population of the same age). Significant differences are revealed in the data because of the various definitions and design concepts. The data for the year 2021 is updated below. The annual figures are adjusted for seasonal fluctuations and thus deliver more reliable results in overall terms. Supplementary information on the quarterly rates for the third quarter of 2022 is supplied for reasons of current validity.[31]

Youth unemployment according to the ILO concept

For the year 2021, contrary developments are revealed for the countries badly affected by youth unemployment → **Table D1.2-1**[32]. Whereas there were virtually no changes in Greece (2021: 35.5%) and Italy (2021:

29 The period 2020/2021 or 2020 to 2021 was considered for France and Switzerland.

30 This data is not updated on an annual basis because the only object of interest is longer term changes to the distribution of training contracts by occupational areas.

31 Unlike the rest of the data, data relating to youth unemployment for 2021 and for the third quarter of 2022 was updated on 11/01/2023. Data series for the United Kingdom are no longer updated due to its exit from the EU. The United Kingdom has therefore also been removed from the summaries presented here. Reporting will henceforth be for the EU 27. Poland and Hungary have been added to the table in order to provide an insight into developments in two Eastern European countries. Sufficient data was not yet available for these countries at the commencement of reporting.

32 Please note: In this report, we have omitted the second part of the table, which among other things contains the NEET rates.

Table D1.2-1: **Unemployment, youth unemployment, relative youth unemployment and NEET rates in European comparative terms (Part 1)**

Country	Unemployment quota of the (working) persons from 15 to 24 years of age (youth unemployment)[1] (in %)													ALQ ranking (15–24 years)								Unemployment quota[1] of the (working) persons from 25 to 74 years of age (in %)												
	2005	2009	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022/ Q3	2015	2016	2017	2018	2019	2020	2021	2022/ Q3	2005	2009	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022/ Q3
European Union (27 countries)	20.2	20.4	23.7	24.4	23.5	21.8	20.1	18.0	16.1	15.1	16.8	16.6	15.3	-	-	-	-	-	-	-	-	8.3	7.9	9.5	10.0	9.6	8.9	8.1	7.2	6.5	5.9	6.2	6.1	5.1
Belgium	21.5	21.9	19.8	23.7	23.2	22.1	20.1	19.3	15.8	14.2	15.3	18.2	18.2	11	11	11	10	9	9	10	10	7.1	6.6	6.4	7.1	7.3	7.3	6.8	6.1	5.2	4.6	4.8	5.3	4.5
Denmark	8.6	13.5	15.8	14.8	14.2	12.2	12.2	12.4	10.5	10.1	11.6	10.8	12.6	5	5	6	6	6	6	3	6	4.2	5.1	6.4	6.1	5.7	5.3	4.9	4.7	4.2	4.2	4.7	4.1	3.4
Germany	15.5	11.2	8.0	7.8	7.7	7.2	7.1	6.8	6.2	5.8	7.0	6.9	7.0	1	1	1	1	1	1	1	1	10.6	7.3	5.1	4.9	4.7	4.4	3.8	3.4	3.1	2.9	3.5	3.2	2.7
Greece	25.8	25.7	55.3	58.3	52.4	49.8	47.3	43.6	39.9	35.2	35.0	35.5	29.1	16	16	16	16	16	15	16	15	8.4	8.4	22.3	25.4	24.8	23.4	22.2	20.2	18.2	16.4	15.4	13.7	10.6
Spain	19.6	37.7	52.9	55.5	53.2	48.3	44.4	38.6	34.3	32.5	38.3	34.8	31.0	15	15	15	15	15	16	15	16	7.7	15.7	22.5	23.8	22.3	20.2	17.9	15.7	13.9	12.8	14.0	13.4	11.2
France	20.3	22.9	23.7	24.1	24.2	24.7	24.5	22.1	20.8	19.5	20.2	18.9	19.1	12	12	12	13	12	10	11	12	7.1	7.1	7.9	8.4	8.9	8.9	8.6	8.1	7.8	7.3	6.8	6.6	5.8
Italy	24.1	25.3	35.3	40.0	42.7	40.3	37.8	34.7	32.2	29.2	29.4	29.7	22.5	14	14	14	14	14	14	14	14	6.3	6.4	8.9	10.3	10.7	10.1	10.0	9.8	9.3	8.8	8.0	8.3	6.7
Latvia	15.1	33.3	28.5	23.2	19.6	16.3	17.3	17.0	12.2	12.4	14.9	14.8	17.7	6	7	9	8	8	8	8	9	9.3	15.4	13.6	10.7	10.0	9.3	9.0	8.1	7.1	5.9	7.7	7.1	6.0
Luxembourg	13.7	17.2	18.8	15.5	22.6	17.3	18.9	15.4	14.2	17.0	23.2	16.9	20.5	7	9	8	9	10	12	9	13	3.8	4.1	4.2	5.2	4.8	5.7	5.3	4.7	4.9	4.6	5.5	4.3	3.9
Netherlands	11.8	10.2	11.7	13.2	12.7	11.3	10.8	8.9	7.2	6.7	9.1	9.3	8.3	4	2	2	2	2	2	2	2	4.8	3.2	4.7	6.1	6.5	6.1	5.1	4.1	3.2	2.8	2.8	3.2	2.7
Austria	11.0	10.7	9.4	9.7	10.3	10.6	11.2	9.8	9.4	8.5	10.5	11.0	10.7	3	3	3	3	3	3	4	4	4.7	4.4	4.2	4.7	4.9	5.0	5.3	4.9	4.3	4.0	4.7	5.6	3.9
Poland	36.9	20.6	26.5	27.3	23.9	20.8	17.7	14.8	11.7	9.9	10.8	11.9	11.9	10	8	7	7	4	4	5	6	15.1	6.8	8.5	8.8	7.7	6.4	5.2	4.1	3.2	2.8	2.6	2.8	2.3
Portugal	16.2	20.3	37.9	38.1	34.8	32.0	28.0	23.9	20.3	18.3	22.6	23.4	18.8	13	13	13	12	11	11	12	11	6.7	8.6	13.9	14.7	12.5	11.1	9.9	7.8	6.1	5.6	5.8	5.5	4.9
Sweden	22.8	25.0	23.6	23.5	22.9	20.4	18.9	17.9	17.4	20.1	23.9	24.7	16.9	9	9	10	11	13	13	13	8	5.8	5.9	5.7	5.7	5.7	5.6	5.3	5.2	4.9	5.1	6.4	6.8	5.0
Hungary	19.4	26.4	28.2	26.6	20.4	17.3	12.9	10.7	10.2	11.4	12.8	13.5	10.8	7	6	5	5	7	7	7	5	6.1	8.8	9.7	8.9	6.7	6.0	4.5	3.6	3.2	2.8	3.6	3.4	3.1
Norway	11.5	9.2	8.5	9.1	7.9	9.9	11.2	10.4	9.7	10.0	11.3	12.6	9.2	2	3	4	4	5	5	6	3	3.3	2.1	2.3	2.5	2.8	3.4	3.7	3.3	2.9	2.8	3.4	3.1	2.2

Table D1.2-1: **Unemployment, youth unemployment, relative youth unemployment and NEET rates in European comparative terms (Part 2)**

Country	Affectation of younger people compared to older people ALQ (15 to 24 years)/ ALQ (25 to 74 years) (relative youth unemployment)													ALQ ranking (15-24 years)/ ALQ (25-74 years)								Share of unemployed (15 to 24 years) in the economically active and inactive population (15 to 24 years)[2] (in%)								NEET rates (15-24 years)[3] (in %)							
	2005	2009	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022/ Q3[4]	2015	2016	2017	2018	2019	2020	2021	2022/ Q3	2015	2016	2017	2018	2019	2020	2021	2022/ Q3[5]	2015	2016	2017	2018	2019	2020	2021*	2022/ Q3[6]
European Union (27 countries)	2.45	2.60	2.50	2.44	2.44	2.45	2.48	2.49	2.50	2.55	2.71	2.71	2.86									8.5	7.8	7.0	6.3	5.9	6.4	6.5	6.5	12.2	11.7	11.0	10.5	10.1	11.1	10.8	9.3
Belgium	3.03	3.32	3.09	3.34	3.18	3.03	2.96	3.16	3.04	3.09	3.19	3.45	3.92	12	11	12	10	9	8	9	13	6.6	5.7	5.4	4.7	4.4	4.4	5.5	6.4	12.2	9.9	9.3	9.2	9.3	9.2	7.4	6.3
Denmark	2.05	2.65	2.47	2.43	2.49	2.30	2.49	2.64	2.50	2.40	2.47	2.63	3.63	6	7	7	7	6	5	6	11	7.1	7.3	7.5	6.3	6.1	7.0	6.5	8.2	7.0	6.7	7.6	7.7	7.7	7.4	7.1	6.3
Germany	1.46	1.53	1.57	1.59	1.64	1.64	1.87	2.00	2.00	2.00	2.00	2.16	2.57	1	1	1	2	1	2	3	3	3.5	3.5	3.4	3.1	3.0	3.6	3.6	3.8	6.2	6.7	6.3	5.9	5.7	7.4	7.5	6.4
Greece	3.07	3.06	2.48	2.30	2.11	2.13	2.13	2.16	2.19	2.15	2.27	2.60	2.45	5	5	4	4	4	4	4	1	12.9	11.7	10.9	9.3	7.9	7.4	7.4	7.3	17.2	15.8	15.3	14.1	12.5	13.2	11.0	9.7
Spain	2.55	2.40	2.35	2.33	2.39	2.39	2.48	2.46	2.47	2.54	2.74	2.60	2.46	7	6	6	6	7	6	5	2	16.8	14.7	12.9	11.3	10.7	11.4	11.0	11.1	15.6	14.6	13.3	12.4	12.1	13.9	11.0	10.7
France	2.86	3.23	3.00	2.87	2.72	2.78	2.85	2.73	2.67	2.67	2.97	2.85	3.11	8	9	8	8	8	7	7	7	9.2	9.1	8.2	7.8	7.2	7.2	7.5	8.8	12.0	11.9	11.4	11.1	10.6	11.4	10.6	9.6
Italy	3.83	3.95	3.97	3.88	3.99	3.99	3.78	3.54	3.46	3.32	3.68	3.59	3.12	16	16	15	14	11	12	10	8	10.6	10.0	9.1	8.4	7.6	7.0	7.4	6.0	21.4	19.9	20.1	19.2	18.1	19.0	19.8	14.5
Latvia	1.62	2.16	2.10	2.17	1.96	1.75	1.92	2.10	1.72	2.10	1.94	2.09	2.78	2	2	3	1	2	1	2	5	6.7	6.9	6.7	4.6	4.5	5.2	4.8	7.2	10.5	11.2	10.3	7.8	7.9	7.1	8.6	8.9
Luxembourg	3.61	4.20	4.48	2.98	4.71	3.04	3.57	3.28	2.90	3.70	4.22	3.93	5.06	13	14	13	9	14	16	12	16	6.1	5.8	4.7	4.7	5.9	7.5	6.0	7.4	6.2	5.4	5.9	5.3	5.6	6.6	8.7	6.1
Netherlands	2.46	3.19	2.49	2.16	1.95	1.85	2.12	2.17	2.25	2.39	3.25	2.97	3.05	3	4	5	5	5	9	8	6	7.7	7.4	6.1	4.9	4.7	6.3	7.4	6.9	4.7	4.6	4.0	4.2	4.3	4.5	5.1	2.9
Austria	2.34	2.43	2.24	2.06	2.10	2.12	2.11	2.00	2.19	2.13	2.23	1.96	2.62	4	3	1	3	3	3	1	4	6.1	6.5	5.5	5.3	4.8	5.9	6.2	6.5	7.5	7.7	6.5	6.8	7.1	8.0	8.5	9.6
Poland	2.44	3.06	3.13	3.13	3.13	3.26	3.42	3.65	3.67	3.58	4.12	4.26	5.02	14	13	16	16	13	15	15	15	6.8	6.1	5.2	4.1	3.5	3.4	3.7	3.8	11.0	10.5	9.5	8.7	8.1	8.6	11.2	8.4
Portugal	2.42	2.36	2.73	2.59	2.78	2.88	2.83	3.06	3.33	3.27	3.90	4.31	3.63	9	8	10	12	10	14	16	12	10.7	9.3	8.1	6.9	6.3	6.8	7.0	6.0	11.3	10.6	9.3	8.4	8.0	9.1	7.6	6.5
Sweden	3.93	4.24	4.14	4.12	4.02	3.64	3.57	3.44	3.55	3.94	3.73	3.68	3.24	15	14	14	15	15	13	11	9	11.2	10.4	9.8	9.4	11.1	12.5	13.4	10.3	6.7	6.5	6.2	6.0	5.5	6.5	5.1	4.8
Hungary	3.18	3.01	2.94	2.99	3.04	2.90	2.89	2.95	3.16	4.04	3.50	3.97	4.08	10	10	9	11	16	11	13	14	5.4	4.2	3.5	3.3	3.7	4.0	4.3	3.5	8.6	11.0	11.0	10.7	11.0	11.7	10.6	8.9
Norway	3.48	4.38	3.70	3.64	2.82	2.91	3.03	3.15	3.34	3.57	3.32	4.07	3.33	11	12	11	13	12	10	14	10	5.5	6.1	5.6	5.3	5.5	6.3	7.7	6.1	11.1	10.9	10.3	10.4	10.5	4.9	6.3	9.9

*The most up-to-date data for the NEET quotas were the summary from the year 2021 at the time.

[1] Eurostat: Unemployment quotas by gender, age and nationality. LFS series – detailed annual survey results. 2022a

[2] Eurostat: Population by gender, age, nationality and employment status. LFS series – detailed annual survey results. 2022

[3] Eurostat: Unemployment young people that are participating neither in training nor in continuing training. 2022e

[4] Eurostat: Unemployment quotas by gender, age and nationality. LFS series – detailed quarterly survey results. 2022b

[5] Eurostat: Population by gender, age, nationality and employment status. LFS series – detailed quarterly survey results. 2022d

[6] Eurostat: Unemployment young people that are participating neither in training nor in continuing training. Detailed quarterly survey results. 2022f

Source: Eurostat, data from the Labour Force Survey (LFS), unemployment according to ILO concept; calculations by the Federal Institute for Vocational Education and Training

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29.7%), Spain (2021: 34.8%) saw a decline in youth unemployment. A rise was recorded in Portugal (2021: 23.4%). Poland and Hungary, the two countries included in the table for the first time, experienced a decrease in youth unemployment. The reduction in Poland was particularly drastic (2005: 36.9% as opposed to 2021: 11.9%). Nevertheless, the figures in both countries have risen in the last two years. In 2021, Germany (2021: 6.9%) continued to exhibit the lowest rate compared to the countries considered. The consequences of the coronavirus crisis were a particular reason why the declining trend in youth unemployment in Europe was not continued. Exceptions in this regard in 2021 were Denmark (-0.8 percentage points), Germany (-0.1 percentage points), Spain (-3.5 percentage points), France (-1.3 percentage points) and Luxembourg (-6.3 percentage points). In the third quarter of 2022, rates of youth unemployment had returned to a lower level in some cases.

Relative youth unemployment

In all countries forming an object of observation in 2021, unemployment amongst young people (aged 15 to 24), i.e. relative youth unemployment, was significantly higher in overall terms than amongst the age group of those from 25 to 74. A consideration of this value over a longer period of time (since 2005) shows that the likelihood that young people will be affected by unemployment has increased continuously over the years compared to the comparison group of adults.

With regard to the figure for relative youth unemployment in 2021, it is also possible to conclude that the young working population in the EU has been more likely on average than the older working population to be affected by unemployment since 2015.

Number of unemployed young people as a proportion of the population of the same age and NEET rates

In 2021, the number of unemployed young people as a proportion of the population of the same age rose slightly across Europe (EU 27) (2020: 6.4% as opposed to 2021: 6,5%). The greatest proportions of unemployed young people were recorded in Sweden (13,4%), Spain (11.0%), Norway (7.7%), France (7.5%), the Netherlands (7.4%), Italy (7.4%) and Greece (7.4%). The NEET rates also show a correlation between falling youth unemployment rates across Europe and in most countries forming the object of consideration and decreasing percentage shares of economically inactive young people who were not involved in education or continuing training in 2021. The average NEET rate in the EU fell from 11.1% (2020) to 10.8% (2021).

D2 Mobility in vocational education and training

Policy objectives, quantitative development and current impact of the coronavirus pandemic

The increasing globalisation of the economy and of society is changing skills requirements in workplaces. International standards, cultural heterogeneity and the use of foreign languages mean that there is an ever more frequent need for international employability skills. The vocational education and training system has now reacted to this requirement via the consensual development of a guide for the formulation of international competencies in regulatory procedures. This “toolbox” has the potential to support the nationally standardised and transparent imparting of international employability skills in vocational education and training. Periods spent abroad during vocational education and training are a particularly suitable way of imparting these competencies. International learning mobility in VET opens up individual opportunities for learners. It also secures the competitiveness of companies and contributes towards increasing the attractiveness of vocational education and training.

For this reason, increasing mobility in vocational education and training is a high-priority goal of European and national educational policy. The BMBF launched the Vocational Education and Training Excellence Initiative in 2022. The aims of this initiative include strengthening VET via a more pronounced international alignment and encouraging more trainees to take part in a stay abroad. Three main focuses have been set out in order to achieve this. Firstly, the aim is to make periods of learning spent abroad more inclusive so that they appeal to all trainees. The second objective is to expand digital support provision on the basis of the experiences gained in the coronavirus pandemic. The goal here is to make the preparation and follow-up of periods spent abroad more effective and also to facilitate cross-border learning without physical mobility in times of crisis. Thirdly, a consultation process to be conducted from 2023 will clarify how a German Occupational Exchange Service (DBAD) can strengthen mobility abroad. The Excellence Initiative thus substantiates the statements made in the coalition agreement regarding strengthening the mobility of trainees and the Erasmus+ programme and addresses the recommendations made by the Bundestag’s Committee of Enquiry on “Vocational education and training in the digital world of work”.

International mobility is being similarly discussed in European VET policy and is therefore receiving particular funding. A further reinforcing factor is the European motive of securing freedom of movement. In its Recommendation on vocational education and training issued in 2020, the Council of the European Union formulated the objective of increasing the proportion of persons gaining international experience during VET to 8% by the year 2025. This makes the mobility rate one of three indicators which the Council uses to monitor the degree of success achieved by its VET policy with regard to sustainable growth, social justice and resilience. For this reason, the mobility rate will be an objective of monitoring and reporting at a European level in the coming years.

The mobility studies published by the National Agency at the BIBB showed that the proportions of all persons completing vocational education and training who had undertaken a period of learning abroad as part of their programme was 3.2% in 2010 and 5.3% in 2017. Stays abroad commenced on a large scale once more in 2022 after the coronavirus pandemic. Demand for stays abroad in the funding programmes is at about 70% of the levels of 2019.

D2.1 Erasmus+

Erasmus+ (term 2021 to 2027) is a programme to support general and vocational education and training, youth and sport in the European Union (EU). A total budget of around €26 billion is available for the period from 2021 to 2027. This is almost double the amount provided for the predecessor programme. A further aim is to facilitate access for all people and organisations. There is a particular intention that people should have the chance to take part regardless of their social origin and irrespective of any obstructions to mobility they may have. Alongside the four education sectors of vocational education and training, adult education, schools and higher education, the programme also encompasses the areas of young people and sport. At least 21.5% of the total budget is allocated to vocational education and training. In Germany, four national agencies are responsible for the implementation of Erasmus+. The National Agency Education for Europe at the BIBB is responsible for the sectors of vocational education and training and adult education.

The development of the number of learners in vocational education and training since 1995 is depicted in **→ Chart D2.1-1**.

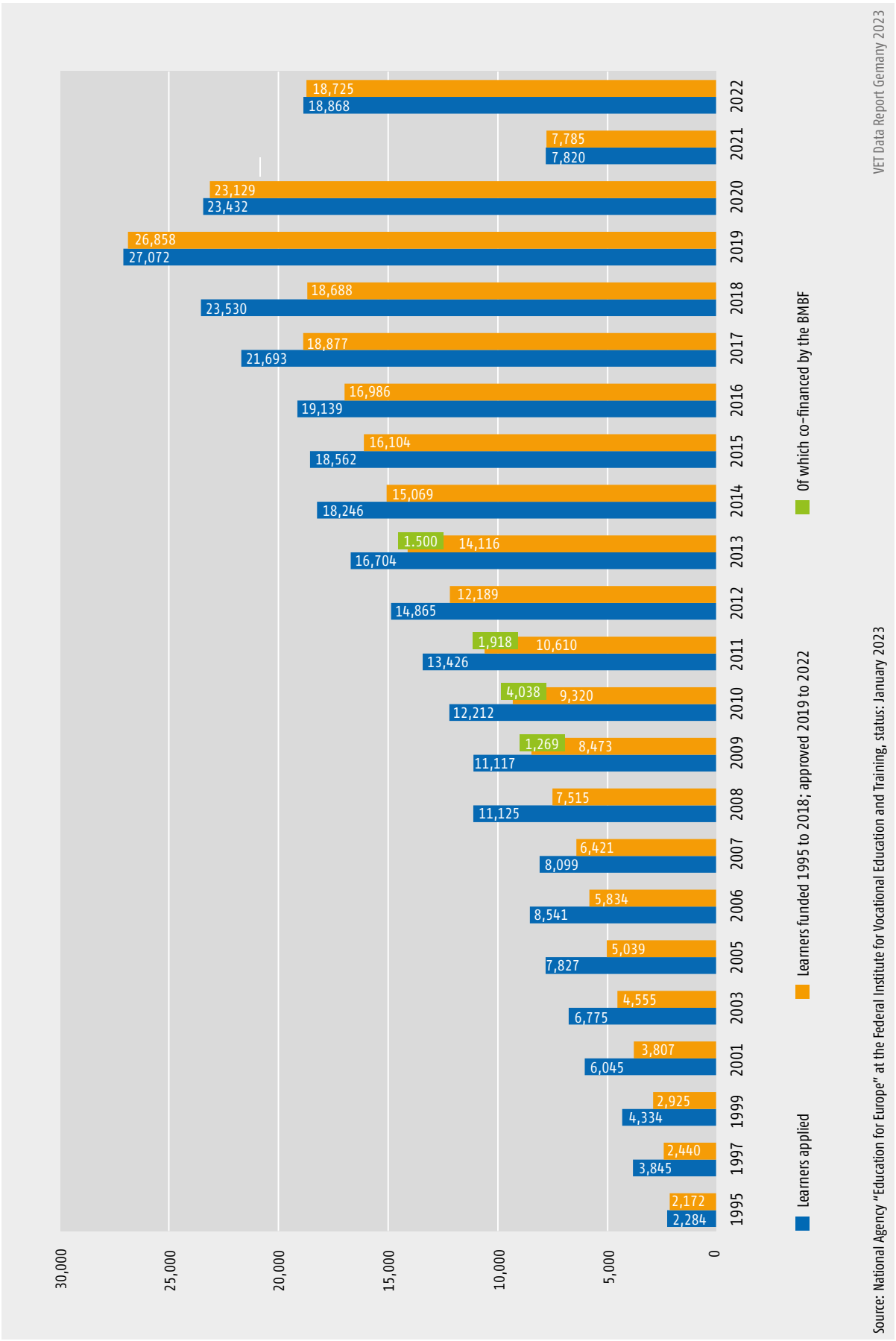
Learning mobility of individual persons is one of the programme's three key actions. Large parts of access to mobility were shifted to institutional funding when the programme began. Institutions are able to obtain accreditation to receive secure and straightforward access to funds over the whole of the term of the programme. The short-term mobility projects ensure direct access to funding and offer the opportunity to prepare for institutional accreditation. Within the scope of mobility projects, trainees, full-time vocational school pupils, persons in vocational preparation measures, those in informal continuing VET and anyone who has completed one of the above programmes are afforded the opportunity to spend periods abroad of between two weeks and one year. The programme also funds participation in skills competitions with a duration of between two and ten days. VET staff may be funded for the purposes of learning, training or teaching and the attendance of courses. Depending on the activity, the duration of the stay is between two and 365 days. So-called other supported activities are a new addition to the programme. These encompass preparatory visits, invitations to experts to engage in networking, and the hosting of teaching staff who are in training. In this case, too, participants may spend between two and 365 days abroad depending on the activity.

Accreditation effectively constitutes Erasmus membership. Accreditation certifies that institutions have a plan in place to implement high-quality stays abroad within the scope of comprehensive endeavours regarding organisational development. This plan is referred to as the Erasmus Plan and forms an important component of the accreditation application. In this way, the programme links the funding of stays abroad with organisational development. 226 institutions submitted an application for accreditation in 2022. 203 of these were approved. This means that Germany has 785 vocational education and training institutions which hold Erasmus+ accreditation. Demand significantly exceeds expectations.

A total of €67.4 million was available in 2022 to fund mobility in vocational education and training. 398 institutions were able to receive funding on the basis of their accredited status. They thus availed themselves of the opportunity to obtain mobility funding via the simplified procedure. 83 short-term projects were approved in addition. This means that funding was made available to a total of 481 projects involving 23,754 participants **→ Table D2.1-1**.

The activities approved in 2022 are presented in **→ Table D2.1-2**. The 83 short-term mobility projects approved show that many new institutions are availing themselves of the programme in its project form. At the same time, it is apparent that institutions seek institutional access to the programme after a short period of time by applying for accreditation. This is in accordance with the intention of the programme to foster organisational development and meets the policy goal of encouraging

Chart D2.1-1: **Erasmus+ mobility in vocational education and training 1995 to 2022, learners**



Source: National Agency "Education for Europe" at the Federal Institute for Vocational Education and Training, status: January 2023

Table D2.1-1: **Erasmus+ mobility in vocational education and training 2022, projects, participants and budgets**

	Number of projects		Number of participants				Budget	
	Applied for	Approved	Number of participants applied for		Number of participants approved		Applied for in € million	Approved in € million
Short-term projects	84	83	1,511	Of which trainees 1,172 Of which training staff 339	1,507	Of which trainees 1,168 Of which training staff 339	3.80	3.73
Within the scope of an accreditation	402	398	22,449	Of which trainees 17,696 Of which training staff 4,753	22,247	Of which trainees 17,557 Of which training staff 4,690	Application for activities	66.60
Total	486	481	23,960	Of which trainees 18,868 Of which training staff 5,092	23,754	Of which trainees 18,725 Of which training staff 5,029	Not possible	70.33

Source: National Agency "Education for Europe" at the Federal Institute for Vocational Education and Training, status: January 2023 VET Data Report Gemany 2023

Table D2.1-2: **Erasmus+ mobility in vocational education and training 2022, approved participants**

Type of activity		Approved participants				
		Total	of which			
			In short-term projects	Within the scope of the accreditation	In countries part of the programme	In countries not associated with the programme
Learners						
	Short-term mobility	17,820	1,114	16,706	14,599	2,107
	Long-term mobility	846	52	794	672	122
	Participation in occupational competitions	59	2	57	54	3
Total learners		**18,725**	**1,168**	**17,557**	**15,325**	**2,232**
Staff						
	Job shadowing	2,555	145	2,410	2,160	250
	Teaching or coaching role	349	46	303	268	35
	Courses	1,902	129	1,773	1,773	-
	Invited experts	213	17	196	196	-
	Intake of staff in training	10	2	8	8	-
Staff total		**5,029**	**339**	**4,690**	**4,405**	**285**
Participants total		**23,754**	**1,507**	**22,247**	**19,730**	**2,517**

Source: National Agency "Education for Europe" at the Federal Institute for Vocational Education and Training, status: January 2023 VET Data Report Gemany 2023

international alignment of the system. 22,247 stays abroad were approved within the scope of accreditation. This figure represents 93% of all mobility measures. One new aspect of the programme is the opportunity for accredited institutions to facilitate stays abroad worldwide. This proportion of the programme is limited to 20% of mobility funding. 2,232 worldwide stays abroad were approved. This constitutes around 12% of all stays abroad. This figure was only 5% in 2021. The sharp rise shows that accredited institutions are instigating more

mobility measures, including worldwide, as the coronavirus pandemic fades.

The priority of the programme is to make stays abroad accessible for all persons in vocational education and training. From the German point of view, this involves an extended concept of inclusion which encompasses all persons who are disadvantaged for health-related, economic, social, cultural or other reasons rather than being limited to persons with a disability. The programme provides specific instruments to fund such persons. Stays abroad were approved for 3,123 disadvantaged persons in 2022 (3,081 learners, 42 education and training staff). This figure represents 13% of all stays abroad approved. Project providers usually apply for scholarships for the learners at their institutions. These need to be differentiated from so-called pool projects, which facilitate individual access to an Erasmus+ scholarship across the country. This enables trainees from small and medium-sized companies in particular and from education and training institutions without international experience to gain access to a scholarship without their institution executing a project itself. The Committee of Enquiry particularly emphasised the significance of pool projects for increasing mobility. 3,855 pool places were approved in 2022. As long as certain pre-requisites are met, the BMBF has been providing national co-financing for the organisation of stays abroad for trainees in pool projects since 2016. Six projects offering a total of 1,787 pool places for trainees are being funded within the scope of the co-financing. The number of pool places thus rose significantly once more. This means that individual mobility, especially for trainees at SMEs, can again be funded significantly more frequently.

D2.2 BMBF Training Worldwide mobility programme

Training Worldwide (AusbildungWeltweit) is a broadly based support programme which allows stays abroad to be completed all over the world during the course of vocational education and training. It supplements the European education and training programme Erasmus+ by making an important contribution to more quality-controlled mobility abroad. The programme is characterised by its company proximity and by its accessibility for vocational schools and SMEs. Smaller companies also use the funded stays abroad to strengthen the key competencies and international employability skills of their young skilled workers. This also raises the attractiveness of their training places.

The piloting of Training Worldwide in 2017 closed a funding gap. Since this time, the target countries have been all those not covered by the European education programme Erasmus+. Funding is provided for practice-oriented stays abroad of a duration between three weeks and three months for trainees who are completing initial training pursuant to the BBiG/HwO or in accordance with federal or federal state law. Financing takes place in the form of a grant at fixed rates to cover travel costs, costs of the stay and organisational expenditure. Grants for preparatory and follow-up activities are also available to trainees. Three rounds of funding were offered in 2022. The focus of the programme is on funding stays of trainees who are completing a practice-oriented phase of learning abroad. Their tasks at the partner company should match the respective vocational education and training in terms of content but may also impart new topics, alternative approaches and additional skills. Grants for accompanying persons are possible in the case of minors or trainees with special support needs. Trainers can also complete stays abroad of between two days and two weeks. There should be a thematic link with their own training activity in Germany. Stays can be implemented in the form of job shadowing or an internship. School-based education and training staff cannot be funded for learning or teaching activities although they may carry out preparatory visits for the future secondment of trainees.

Following an initial dynamic development in application and funding figures, the coronavirus situation led to a huge collapse. However, VET institutions speedily recommenced their international activities once the pandemic began to abate over the course of 2022. This resilience on the part of Training Worldwide was reflected in over 500 approved stays, thus enabling a return to around 70% of the pre-pandemic level. A third of all applications is now submitted by vocational schools. The United Kingdom is also becoming a more significant destination. Up until now, more than 2,000 stays abroad in 50 countries across all continents have been approved. The rankings are headed by the USA, China, Switzerland, Australia, the United Kingdom and Canada.

At the start of the training year in August 2022, Training Worldwide instigated a special campaign to direct public attention back to stays abroad. The campaign, which was entitled “Internationally oriented training for the skilled workers of tomorrow”, continued to have a strong impact in the media until the end of October. In November, a film was produced portraying a period of learning spent in New Zealand from the perspectives of all those involved.

D3 Recognition of foreign professional and vocational qualifications

The introduction of the recognition laws of the Federal Government and the federal states (see Information Box) created for the first time a general legal right to assessment of the equivalence of a foreign professional or vocational qualification with a German reference occupation (known as recognition procedures) irrespective of nationality, country of training, place of residence, and residence status. For the period from 2012 to 2021, the official statistics record just over 240,100 applications relating to professions and occupations governed by federal law and approximately 75,800 further applications elating to professions and occupations governed by federal state law. In the 2021 reporting year, almost 80% of applications relating to professions and occupations governed by federal law concerned qualifications acquired in a third country. Significantly more applications were also submitted directly from abroad. The proportion of such applications was 41%, most of which (90%) were from third countries.

With regard to the recognition of foreign professional and vocational qualifications, 2022 saw the emergence of a discussion centring on reducing existing hurdles and on further accelerating the procedures.

Information Box – Recognition laws of the Federal Government and the federal states

The Federal Recognition Act entered into force in April 2012. Individual recognition laws enacted by the federal states followed between August 2012 and July 2014.

Around 600 professions and occupations are covered by the **Federal Recognition Act**. These mainly comprise training occupations pursuant to the BBiG/HwO, healthcare professions governed by federal law, master craftsman occupations and further advanced training qualifications. Examples of professions and occupations governed by federal law include doctor, qualified nurse, industrial mechanic and master baker.

Examples of professions and occupations governed by the **recognition laws of the federal states** are teacher, nursery school teacher, engineer and auxiliary occupations in the healthcare sector.

A fundamental distinction is drawn between regulated professions and non-regulated occupations. In the case of **regulated professions**, recognition is a prerequisite for exercising these in Germany. Regulated professions particularly include healthcare professions, professions in the area of teaching/education, licensed craft trades and further professions and occupations. In the case of **non-regulated occupations**, e.g. training occupations pursuant to the BBiG/HwO, evidence of equivalence serves purposes such as transparency and is not a mandatory prerequisite for the commencement of work. Nevertheless, the current legal situation normally dictates that recognition in these occupations is a binding requirement for the immigration of skilled workers from third countries.

In 2022, the discourse was reinforced by the search for unbureaucratic solutions for Ukrainians seeking protection in order to integrate such persons into the labour market as quickly as possible and in a way which was commensurate with their qualifications. Analyses of the official statistics show that Ukrainian qualifications exhibit a good degree of eligibility for recognition in overall terms. In 2022, the Federal Government presented a draft law on the further development of skilled worker immigration for persons from third countries. This represented a reform of the Skilled Immigration Act, which entered into force in 2020.

New records were set in 2018 and 2019 for the number of skills analyses conducted for professions and occupations governed by federal state law. More than 250 such skills analyses took place in both of these years. Volumes have been noticeably in decline since 2020 in light of the subduing impact of the coronavirus pandemic. The take-up of this instrument must continue to be observed over the coming years, including against the background of plans to allow entry to and residence in Germany for the purpose of participation in a skills analysis. The past years have shown that target group-appropriate and nationwide information and guidance provision are key to a successful recognition process. Acting on behalf of the BMBF, the BIBB offers information and initial guidance on the recognition process for interested parties in Germany and abroad via the central “Recognition in Germany” platform.

A multitude of stakeholders within Germany also provides guidance to those interested in seeking recognition. Between the start of 2021 and mid-2022, for example, around 69,500 persons obtained advice from one of more than 170 contact centres across Germany run by the “Integration through Training” (IQ) funding programme. In order to counter the requirement for support with the recognition procedure from abroad, too, the Federal Government is funding the ProRecognition project, which offers recognition guidance at a local level in ten

countries at German chambers of commerce abroad and at delegations of German trade and industry. Since 2020, advice has also been available in Germany from the Central Service Agency for Professional Recognition (ZSBA). According to a special evaluation, 3,200 persons received guidance via ProRecognition and 3,100 new customers were advised by the ZSBA during the first half of 2022 alone. 3,000 skilled workers resident abroad were also supported by IQ advisory centres.

Results of the official statistics

Professions and occupations governed by federal state law

Information Box – Official statistics pursuant to § 17 BQFG (Federal Government)

National official statistics on the recognition system have been recorded since the entry into force of the Federal Recognition Act in 2012. The statutory basis is formed by § 17 of the Professional Qualifications Assessment Act (BQFG) and by specific legislation governing the professions and ordinances which make reference to it. Statistics are collected annually by the Federal Statistical Office and the statistical offices of the federal states. The cut-off date is 31 December of the respective reporting year. The competent bodies responsible for recognition report data to the federal state statistical offices. This is then collated into national statistics by the Federal Statistical Office. The BIBB is granted access to the aggregated data records of statistics on professions and occupations governed by federal law pursuant to § 17 Paragraph 7 BQFG (Federal Government).

The results presented here have been anonymised. Percentages have been calculated on the basis of real values.

As far as the first reporting year of 2012 was concerned, the competent bodies responsible for recognition were only determined within the course of the reporting year in some cases and had to set up their reporting systems from scratch. For this reason, reports may not have been completed or have taken place in a timely manner in all cases. According to the official statistics, an application does not need to be reported until supporting documentation is complete. This means that the deadline for the recognition procedure is then in effect.

New applications

Statistics relating to professions and occupations governed by federal law (see Information Box) showed around 34,700 new applications for recognition of foreign professional and vocational qualifications in 2021. These included around 1,300 applications for recognition within the scope of the accelerated procedure in accordance with § 81a of the Residence Act (AufenthG). Total volume grew by 10% compared to the previous year. The situation in 2021 thus once again tied in with developments for the years from 2012 to 2019 following a fall in the number of new applications in 2020, the first time the volume had decreased year-on-year since the entry into force of the Recognition Act. The assumption is that the subduing impacts of the coronavirus pandemic slowed down the volume of applications in 2020.

In 2021, regulated professions accounted for almost three quarters of around 34,700 applications submitted (73%). Non-regulated occupations made up just over a quarter (27%). Both areas recorded an increase compared to the previous year of just over 1,500 applications each. For regulated professions, this signals a growth of 6%. The corresponding increase for non-regulated occupations is 21%.

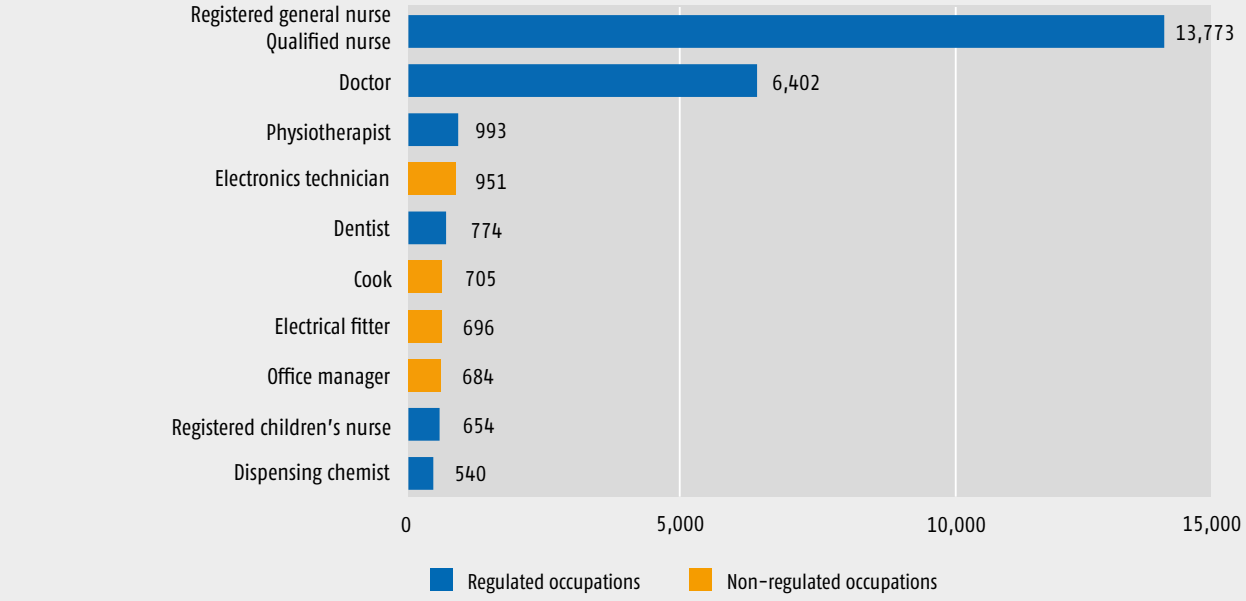
New applications: German reference occupation

Demand for recognition of foreign professional qualifications in medical healthcare professions was again high in 2021 and formed the most prominent feature of the recognition system. The professions to which most applications related by some distance were once more registered general nurse or qualified nurse and doctor. Both are regulated professions, and assessment of full equivalence via a recognition procedure is one of the prerequisites for unrestricted authorisation to practise. → **Chart D3-1** shows the ten most common German reference occupations for the year 2021. 75% of new applications related to these professions and occupations. Many non-regulated occupations are also listed. Alongside office manager, these include electronics technician, cook and electrical fitter, for which noticeably more applications were submitted in 2021 than in the previous year.

New applications: Country of training and nationality

Applications relating to qualifications from third countries have formed a majority of the annual volume of applications since 2016. This trend continued in 2021. 78% of around 34,700 new applications received had their basis in qualifications from third countries. This is the highest figure recorded since entry into force of the Recognition Act (both proportionately and in absolute terms). Just over a fifth of applications (22%) related to a country of training from the EU/EEA or to Switzerland, although demand for recognition of qualifications from

Chart D3-1: **The ten most common reference occupations in new applications relating to professions and occupations governed by federal state law, 2021 (absolute terms)**



Source: Official statistics pursuant to § 17 BQFG (Federal Government), 2021 reporting year, calculation and presentation by the Federal Institute for Vocational Education and Training, data anonymised

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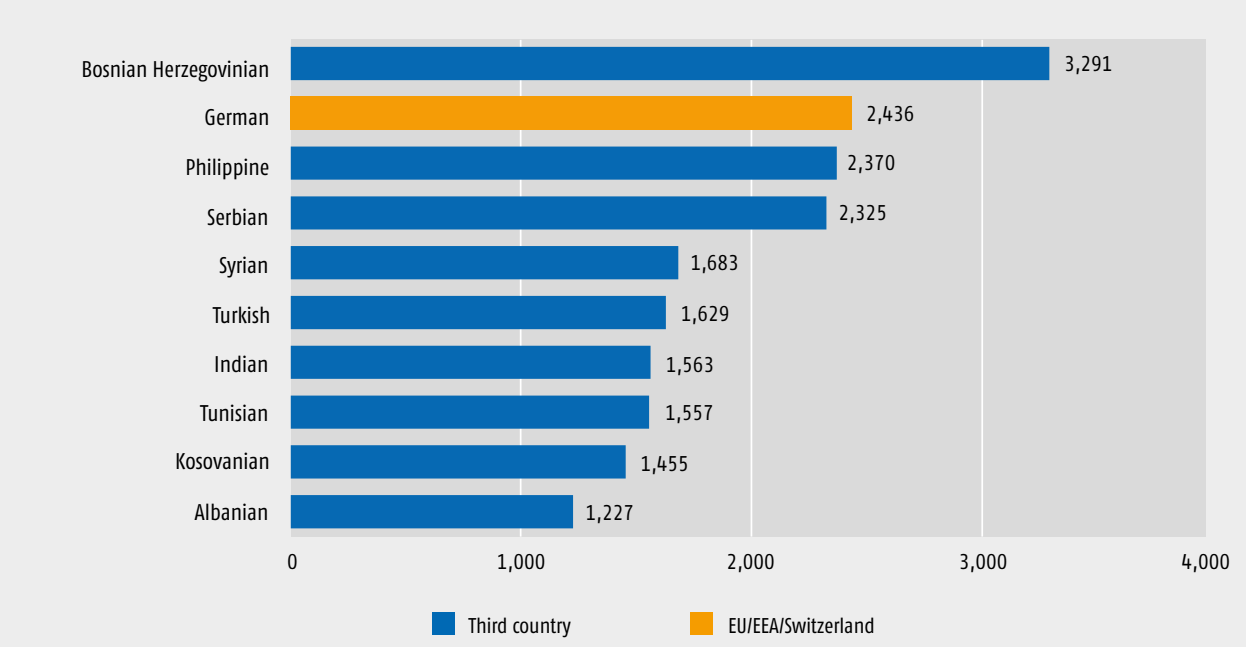
Chart D3-2: **New applications relating to professions and occupations governed by federal state law – the ten most common nationalities, 2021 (absolute terms)**



Source: Official statistics pursuant to § 17 BQFG (Federal Government), 2021 reporting year, calculation and presentation by the Federal Institute for Vocational Education and Training, data anonymised

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these countries has tended to decline over the course of the years.

As in the previous years, most qualifications in 2021originated from Bosnia and Herzegovina. These formed 10% of the recognition system (around 3,600 new applications). They were followed in second and third positions by the Philippines and Serbia, with 7% and 6%, respectively. The ten most common countries of origin (countries of training) of qualifications accounted for 54% of new applications in 2021. The next countries on the list are Romania, the only EU country included, and then Turkey, India and Kosovo, three third countries which recorded significant increased compared to the previous year.

The nationality of applicants also makes it clear that third countries are gaining in significance. The proportion of applications received from nationals of a third country has been rising over recent years, and the figure for 2021 was 75%. Fewer than one in ten applicants held German nationality. → **Chart D3-2** shows the ten most frequent nationalities for the year 2021. These account for 56% of new applications.

New applications: Applications from abroad

The legal entitlement to a recognition procedure applies regardless of the place of residence of persons interested in training. This means that persons living abroad may also submit an application for recognition of their foreign professional or vocational qualification. The current legal situation normally dictates that skilled workers who are nationals of a third country must prove recognition of their foreign professional or vocational qualification when migrating to Germany for the purpose of work. The number of applications from abroad has risen over the years. It reached a new record level in 2021 of 41% (around 14,200 new applications). This is the highest figure recorded since entry into force of the Recognition Act (+31% compared to the previous year).

Applications were mainly (89%) submitted from a third country. Just over one in ten applications from abroad (11%) came from a country of the EU/EEA or from Switzerland. The statistics for 2021 recorded almost 12,700 applications from third countries. This is the highest volume of new applications from this area thus far. The Skilled Immigration Act, which entered into force in 2020, is likely to have been one of the driving forces in this regard. Its provisions include expanded opportunities for the economic migration of skilled workers with vocational education and training qualifications from third countries. This is reflected in a clear rise in the number of applications from abroad relating to non-regulated occupations. The volume of applications from abroad for these occupations was comparatively muted in 2019, when 760 such applications were received. By 2020, however, this figure had risen to around 2,100. In 2021, over a quarter (3,700 or 26%) of new applications from abroad related to a non-regulated occupation. Nevertheless, and as in the previous year, the greatest degree of interest in recognition in 2021 was generally in the area of the regulated medical healthcare professions, which accounted for 74% of applications from abroad.

Procedures in which a decision was reached

A decision was reached in around 39,300 recognition procedures in 2021, 2,600 more procedures than in the previous year. The positive development of annually climbing numbers of procedures in which a decision was reached thus remained uninterrupted. Full equivalence was attested in just over half (52%) of procedures in which a decision was reached in 2021. 11% of procedures in which a decision was reached resulted in partial equivalence. In a further third of procedures (35%), the outcome was the "imposition" of a compensation measure (see Information Box). The proportions of procedures in which a decision was reached reflected the volume of applications in that most related to regulated professions or to qualifications from third countries.

Outcome of procedures in which a decision was reached: regulated professions

In 2021, around 30,900 of the total number of procedures in which a decision was reached related to regulated professions. In the case of 16,600 of these procedures, i.e. just over half (54%), the outcome was full equivalence. Within the area of the regulated professions, various pathways within the recognition procedure may lead to full equivalence (see Information Box). In 2021, the composition of the 16,600 procedures in which a decision of full equivalence was reached was as follows.

- In 22% of procedures, the competent bodies established full equivalence directly and solely on the basis of a document check.
- In 53% of procedures, the applicants had successfully completed a compensation measure (a knowledge or aptitude test in around 6,500 procedures and an adaptation period in around 2,350 procedures).
- In 25% of procedures, the competent bodies applied automatic recognition in accordance with EU Directive 2005/36/EC on the recognition of professional qualifications for sector professions[33].

33 Sector professions for which the Federal Government is responsible are: doctor, qualified nurse (formerly registered general nurse), dentist, pharmacist, midwife.

Information Box – Outcome of recognition procedures

The outcome of recognition procedures differs formally depending on whether a regulated profession or a non-regulated occupation is involved.

Three different results are possible in the case of non-regulated occupations.

1. Full equivalence
2. Partial equivalence
3. No equivalence

The recognition procedure normally concludes once a first notice has been issued. In the event of partial equivalence, applicants have the opportunity to undergo refresher training in order to compensate for the differences between the foreign professional or vocational qualification and the German reference occupation. A notice attesting full equivalence is then issued. A further application needs to be submitted in this case.

Three different results are also possible in the case of regulated professions.

1. Full equivalence
2. "Imposition" of a compensation measure
3. No equivalence

Several pathways may lead to full equivalence. 1. A foreign qualification may be automatically recognised in the case of "sector professions" pursuant to EU Directive 2005/36/EC on the recognition of professional qualifications. Because uniform training standards are in place, qualifications relating to sector professions are considered to be fully equivalent to the German reference occupation. If automatic recognition is not applicable, full equivalence may be attested 2. on the basis of the contents of a document check or 3. following successful completion of a compensation measure. This is necessary if substantial differences are identified between the foreign professional qualification and the German reference occupation. In the latter cases, the competent body thus initially certifies the "imposition" of a compensation measure. Full equivalence is then attested after its successful completion.

In regulated professions, therefore, the recognition procedure may require a second notice rather than concluding after the first notice. Permission to practise (e.g. a licence to practise medicine or permission to use a professional title) will be granted if full equivalence and all other prerequisites (e.g. the passing of a specialist language test) are fulfilled.

In almost 13,800 further procedures, the outcome was the "imposition" of a compensation measure which was still outstanding as of 31 December 2021 (cut-off date). This represents a proportion of 45% of procedures relating to regulated professions in which a decision was reached. In all these cases, applicants must firstly pass a knowledge or aptitude test or successfully complete an adaptation period before full equivalence can be achieved.

Almost all notices "imposing" a compensation measure related to qualifications from third countries (around 13,200 procedures) and accounted for a significant proportion (53%) of outcomes of procedures for third country qualifications. By way of contrast, the "imposition" of a compensation measure played only a minor role with regard to qualifications from the EU/EEA or Switzerland. The proportion in this instance was under 10%. The procedures in which a decision was reached tended to be characterised by a high rate of attestations of full equivalence (89%). This was mainly due to the application of automatic recognition pursuant to the EU Directive on the recognition of professional qualifications.

In procedures relating to qualifications from third countries, the competent bodies decided on full recognition in around 11,400 cases, i.e. in less than half (46%) of procedures in which a decision was reached. The granting of full recognition followed successful completion of a compensation measure in around three quarters of these procedures. In 26% of cases, full recognition was attested solely on the basis of a document check.

Outcome of procedures in which a decision was reached: non-regulated occupations

In 2021, around 8,400 of the total number of 39,300 procedures in which a decision was reached related to non-regulated occupations → **Table D3-1**.

Professions and occupations governed by federal state law

New applications

In 2021, the statistics for professions and occupations governed by federal state law recorded around 9,200 new applications for recognition of foreign professional and vocational qualifications (-12% compared to the previous year). 91% of applications related to regulated professions, whilst the remaining applications concerned non-regulated occupations. 38% of new applications had their basis in qualifications from the EU/EEA/Switzerland. 62% of new applications were for qualifications from third countries. As in the previous year, the largest

Table D3-1: **Results of procedures in which a decision was reached relating to professions and occupations governed by federal state law by type of regulation and country of training (categorised) 2021 (in absolute terms and in %)**

Year	Type of regulation/type of regulation and country of training (categorised)	Positive procedures total		Including: Decision (before appeal)							
				Positive – full equivalence of the vocational qualification (incl. Restricted access to the occupation according to HwO and partial access to the occupation)[1]		Number of notices in specialist healthcare professions "imposing" a compensation measure which had not yet been completed by 31.12 December of the reporting year[2]		Partial equivalence[3]		Negative	
		Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %	Absolute	in %
2021	*Type of regulation*										
	Regulated professions	30,924	*100.0*	16.605	*53.7*	13,776	*44.5*	-	-	543	*1.8*
	Non-regulated occupations	8,403	*100.0*	3.897	*46.4*	-	-	4,326	*51.5*	180	*2.2*
	Type of regulation and country of training										
	Country of training EU/EEA/Switzerland, non-regulated occupations	1,530	*100.0*	876	*57.4*	-	-	621	*40.7*	30	*2.0*
	Country of training EU/EEA/Switzerland, regulated occupations	5,757	*100.0*	5,109	*88.7*	528	*9.2*	-	-	123	*2.1*
	Country of training third country, non-regulated occupations	6,876	*100.0*	3,018	*43.9*	-	-	3,705	*53.9*	150	*2.2*
	Country of training third country, regulated occupations	25,068	*100.0*	11,430	*45.6*	13,218	*52.7*	-	-	420	*1.7*

[1] For regulated occupations, a successfully completed compensation measure may precede full equivalence. Notices with restricted access to an occupation according to HwO are only possible for regulated occupations in the craft trades. Notices with partial access to an occupation are only possible for regulated occupations.
[2] Notices imposing a compensation measure are only possible for regulated occupations.
[3] Notices with partial equivalence are only possible for non-regulated occupations.

Source: Official statistics according to § 17 BQFG (Federal Government), Reporting years 2012 to 2021; calculation and depiction by the Federal Institute for Vocational Education and Training, anonymised data

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demand for recognition was for the professions of engineer, qualified teacher and nursery school teacher, all of which are regulated. The most common countries in which applicants in 2021 had obtained their professional or vocational qualifications were Turkey, Poland and Syria.

Information Box – Official statistics for professions and occupations governed by federal state law

Statistics are kept on the recognition of professions and occupations governed by federal state law in the same way as on the recognition of professions and occupations governed by federal law. The statutory basis is formed by the respective professional qualifications assessment acts (BQFG) of the federal states or by specific laws governing the professions and ordinances. The statistics were collected by the statistical offices of the federal states since the entry into force of the respective BQFGs of the federal states (between 2012 and 2014). Since the 2016 reporting year, the Federal Statistical Office has been collating the recognition system relating to professions and occupations governed by federal law to form national recognition statistics on these professions and occupations. The results presented here have been anonymised using a rounding process (rounding to a multiple of 3).

Procedures in which a decision was reached

For 2021, the data recorded around 9,700 recognition procedures relating to professions and occupations governed by federal law in which a decision was reached. This figure was slightly down compared to the previous year. Just over half of the procedures in which a decision was reached (51%) resulted in full equivalence. In just under a third of cases, the competent bodies opted for the "imposition" of a compensation measure which was still outstanding as of 31 December 2021. In about 13% of procedures, the competent bodies attested no equivalence ("negative" decision).

Annex: List of abbreviations

Abbreviation	German	English
AbsQ	Ausbildungsabsolventenquote der Jugendlichen	Training completion rate of young people
AES		Adult Education Survey
AFBG	Aufstiegsfortbildungsförderungsgesetz	Upgrading Training Assistance Act
ALQ	Arbeitslosenquote	Unemployment quota
AQint	Ausbildungsquote im internationalen Vergleich	Training rate in international comparative terms
AsA	Assistierte Ausbildung	Assisted training
BA	Bundesagentur für Arbeit	Federal Employment Agency
BAföG	Bundesausbildungsförderungsgesetz	Education and Training Assistance Act
BAuA	Bundesanstalt für Arbeitsschutz und Arbeitsmedizin	Federal Institute for Occupational Safety and Health
BAMF	Bundesamt für Migration und Flüchtlinge	Federal Office for Migration and Refugees
BBiG	Berufsbildungsgesetz	Vocational Training Act
BIBB	Bundesinstitut für Berufsbildung	Federal Institute for Vocational Education and Training
BMAS	Bundesministerium für Arbeit und Soziales	Federal Ministry of Labour and Social Affairs
BMBF	Bundesministerium für Bildung und Forschung	Federal Ministry of Education and Research
BMWi	Bundesministerium für Wirtschaft und Energie	Federal Ministry of Economic Affairs and Energy
DIE	Deutsches Institut für Erwachsenenbildung – Leibniz-Zentrum für Lebenslanges Lernen e. V.	German Institute for Adult Education – Leibniz Centre for Lifelong Learning
DQR	Deutscher Qualifikationsrahmen	German Qualifications Framework
EQI	Einmündungsquote Ausbildungsinteressierte	Progression rate of persons interested in training
ESF	Europäischer Sozialfonds	European Social Fund
HwO	Handwerksordnung	Crafts and Trades Regulation Code
IAB	Institut für Arbeitsmarkt- und Berufsforschung	Institute for Employment Research
iABE	Integrierte Ausbildungsberichterstattung	Integrated Training Reporting System

Abbreviation	German	English
ILO		International Labour Organization
ISCED		International Standard Classification of Education
KldB 2010	Klassifikation der Berufe 2010	2010 Classification of Occupations
MAV	Mindestausbildungsvergütung	Minimum training allowance
MIKA	Medien- und IT-Kompetenz für Ausbildungspersonal	Media and IT competency for training staff
MZ	Mikrozensus	microcensus
NEPS		National Education Panel Study
LQ	Lösungsquote	Dissolution quota
naa	Neu abgeschlossene Ausbildungsverträge	Newly concluded training contracts
NetQA	Netzwerk Qualifikationsanalyse	Skills analysis network
nfQ		non formal qualification
PfleA	Pflegeausbildung	Nursing professions training
QuBe	BIBB-IAB-Qualifikations- und Berufsprojektionen	BIBB-IAB qualifications and occupational projections
SGB II (Wissenschaftsdatenbank)	Grundsicherung für Arbeitssuchende	Basic income support for job seekers
SGB III (Wissenschaftsdatenbank)	Arbeitsförderung	Employment promotion
STEM	Mathematik, Informatik, Naturwissenschaften, Technik	Science, technology, engineering, and mathematics
ÜBS	Überbetriebliche Berufsbildungsstätten	Inter-company vocational training centres
VET	Berufsausbildung	Vocational education and training
WeGebAU	Weiterbildung Geringqualifizierter und beschäftigter älterer Arbeitnehmer in Unternehmen	Continuing education and training for low-skilled and older employed workers in companies

Annex: Data sources

Source	Description
Integrated Training Reporting System (iABE)	The iABE is a reporting system which collates various official statistics (statistics on general and vocational schools, higher education statistics, human resources statistics, funding statistics) to provide an overview of the education (and training) system. Alongside data on dual vocational education and training pursuant to the BBiG/HwO, it also includes data on entrants to other fully qualifying VET programmes outside the BBiG/HwO such as school-based VET in healthcare, education and social occupations, data on the transitional sector, data on education and training programmes which facilitate acquisition of a higher education entrance qualification, and data on higher education study. The iABE is particularly suitable when the focus is on aligning dual vocational education and training into the context of the overall education (and training) system. This may, for example, involve comparing the numbers of entrants to VET to the numbers of entrants to higher education study, to school-based VET, or to the transitional sector. Because of the federalism of the education system, 820 different courses exist in Germany's 16 federal states at vocational schools alone. These and other education and training programmes are systematised in the iABE in accordance with their overarching educational goal. At the highest level, the iABE differentiates four education sectors. ▶ Vocational education and training: All fully qualifying vocational education and training programmes are collated here. Alongside dual VET pursuant to the BBiG/HwO, these include school-based vocational education and training programmes and civil service training for medium level entry. ▶ Integration into VET (transitional sector): This sector records partially qualifying education and training courses which lead to general qualifications at lower secondary level. The common goal of these programmes is preparation for or integration into vocational education and training. ▶ Acquisition of a higher education entrance qualification (upper secondary level): This sector records all education and training courses at vocational and general schools which facilitate the acquisition of a higher education entrance qualification (university of applied sciences entrance qualification, general higher education entrance qualification/upper secondary school-leaving certificate). ▶ Higher education study: Programmes of higher education study, whether offered at institutes of higher education or at institutes such as universities of cooperative education, are pooled in the higher education sector. The education sectors consist of "accounts". The "vocational education and training" sector, for example, comprises six accounts. These include accounts such as "Dual VET pursuant to BBiG/HwO" and "School-based VET in healthcare, education and social occupations". Note on data from the iABE Flash Reports for 2020, 2021 and 2022 Due to the introduction of the nursing training statistics (PfleA) in some federal states, no data on pupils at healthcare schools in the new training programme for the occupation of qualified nurse has been recorded since the 2020 reporting year. In addition to this, no data on healthcare sector schools has been available in one federal state since the 2020 reporting year. Implications for the 2022 reporting year.

Source	Description
	In the Statistical Report: Preliminary results for the 2022 reporting year, the healthcare, education and social occupations (GES) account in two federal states was supplemented by additional data from the 2022 PfleA (relating to qualified nurse). Data from the previous year's 2021 PfleA was used for one federal state. It should be noted that data in the GES account has been retrospectively corrected on the basis of the PfleA in the current publication of the iABE Flash Report/Statistical Report. Account should also be taken account of the fact that the characteristics of nationality (foreign/German) and prior school learning are not available for the PfleA data. For the year 2022, and retrospectively for 2021, the 2022 Statistical Report undertook an estimation for the PfleA data of foreign entrants (including by gender) for three federal states on the basis of information available for the other federal states. Evaluations of prior school learning continue to relate only to the federal states with full data. Some of the data on populations (see "Young people aged from 15 to 24") has been estimated.
BIBB survey	The BIBB survey as of 30 September is an annual total survey of all newly concluded training contracts in the dual system as of the cut-off date of 30 September. Data on newly concluded training contracts is then combined with data from the business statistics of the Federal Employment Agency (BA) – which also have a cut-off date of 30 September – to produce an analysis of supply of and demand for training places in a timely manner at the beginning of the training year. The BIBB survey is particularly used in conjunction with data from the training market statistics of the BA as of 30 September. The current validity of the data means that prompt calculations can be undertaken with regard to supply and demand in the dual system.
Vocational Education and Training Statistics	The Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (referred to in abbreviated form as the Vocational Education and Training Statistics) are a total annual survey of data relating to dual vocational education and training pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO). The survey period in each case is the calendar year, although a number of values (total population of trainees, in some cases newly concluded contracts) are also determined at a cut-off date (31 December) (and were reported in this fashion until 2006). The Vocational Education and Training Statistics have been carried out at a federal level since 1977. The Vocational Education and Training Statistics collect various sub-datasets ("data record types"). The statutory basis for the data status of the following analyses is formed by § 87 und § 88 BBiG as valid until 31 December 2019. In accordance with § 88 BBiG, data for the Vocational Education and Training Statistics is collected from the competent bodies via the Federal Statistical Office and the statistical offices of the federal states and is transmitted to the Federal Institute for Vocational Education and Training (BIBB) for the purposes preparing the Report on Vocational Education and Training and the conducting of VET research. Reforms introduced by the Vocational Education and Training Modernisation Act (BBiMoG) of 12 December 2019 (in force since 1 January 2020) will largely apply from the 2021 reporting year onwards due to transitional provisions (see § 106 BBiG as amended with effect from 1 January 2020). The Vocational Education and Training Statistics also record aspects such as participation and passes in advanced training examinations pursuant to the BBiG/HwO. Differentiating characteristics are gender, area of training, examination success, the advanced training occupation, the year of birth of the candidates, and regional characteristics. The competent bodies report advanced training examinations (including master craftsman examinations) they have conducted during the calendar year (reporting year is the calendar year, cut-off date 31 December). In the case of advanced training examinations that consist of several parts (e.g. courses, modules), examinations and participants are not recorded until the last stage is reached which, when successfully completed, will permit use of the new occupational title. Examinations which were not passed are also counted insofar as there is no further possibility of a resit. Information is also collected as to whether the respective examination is a resit or not. Examination success is differentiated by whether the examination has been passed or not passed. The Vocational Education and Training Statistics are a contract-related survey of separate data rather than an individual survey featuring continuous data (with regard to data record type 1, one dataset is collected per training contract).

Source	Description
BA/BIBB Applicant Survey	The BIBB has been conducting an Applicant Survey in conjunction with the Federal Employment Agency (BA) since the 1990s in order to improve the data situation regarding registered training place applicants. The BA/BIBB Applicant Survey is a written postal representative survey of young people and young adults who were registered with the BA as training place applicants. It uncovers circumstances not mapped by the training market statistics of the Vocational Education and Training Statistics and thus provides key information on target groups which are significant in educational policy terms, such as applicants from a migration background. The BA/BIBB Applicant Survey is implemented jointly by the BIBB and the BA on behalf of the BMBF. The survey was carried out every two years between 2002 and 2018. However, a three-year cycle has now been adopted, meaning that the next regular survey will take place in 2021. An unscheduled BA/BIBB Applicant Survey was conducted at the start of 2020 because of the outbreak of the coronavirus pandemic at the start of the year and the ensuing limitations for vocational preparation and the seeking of a training place. The training market statistics of the BA for the placement year 2019/2020 (1 October 2019 to 30 September 2020) served as the basis for the sample used in the 2020 BA/BIBB Applicant Survey. The survey only included applicants whose place of residence was in Germany and who were registered with the employment agencies and with job centres operating as joint institutions together with the Federal Employment Agency (JCgE). It was not possible to take account of applicants from the area of responsibility of job centres under local government control (JCzkT). The sample survey was conducted by the Institute for Employment Research (IAB). A random sample of 40,000 persons was drawn from the defined statistical population of 453,495 applicants. In order to be able to survey a sufficiently large number of applicants from a refugee background, these target groups were taken into consideration to a slightly disproportionate extent in the sample. 3,000 refugees were randomly selected. The 40,000 persons chosen received a four-page questionnaire by post at the end of November 2020 together with a request to take part in the survey. The questionnaire used for the 2020 BA/BIBB Applicant Survey contained standard questions which are included in every such survey (e.g. questions regarding current occupational destination or application activities) as well as questions on the effects of the coronavirus pandemic on career choice and the search for a training place. By the end of January 2021, 7,125 applicants had taken part in the study (adjusted response rate: 18%). Data was then weighted on the basis of the characteristics of gender, officially registered destination, region of residence and refugee background. Persons who provided no information on the weighting characteristics were excluded from the evaluations. The evaluation encompassed a total of 6,861 persons.
2018 BIBB/BAuA Labour Force Survey	**2018 BIBB/BAuA Labour Force Survey** The 2018 LFS is a survey of 20,000 employees in Germany on changes in work and occupations and on the acquisition and utilisation of professional and vocational qualifications (doi:10.7803/501.18.1.1.10). The statistical population comprises the labour demand aged 15 years and above (not including trainees) who are in regular paid employment for at least ten hours per week. The data was collected via computer-aided telephone interviews (CATI) during the period from October 2017 to April 2018 by Kantar Public München and is representative of this group. Selection of telephone numbers was based on a random mathematical and statistical procedure (Gabler-Häder sampling process). Landline numbers were contacted, and 30 percent of calls were made to mobile numbers (dual frame approach). Data was adapted to the structures of the statistical population via weighting in accordance with central characteristics on the basis of the 2017 microcensus.

Source	Description
	Operationalisations in the 2018 LFS Type of IT task In the 2018 LFS, a mixed IT occupation is deemed to be an occupation outside the core IT occupations (computer science and other ICT occupations, main occupational group 43) in which professional IT tasks are performed. In order to map these, employees who work with computers at least sometimes were asked: "Do you merely operate computers or does your use go beyond this?" If use went beyond mere operation, the following additional question was posed: "Which of the following IT tasks do you perform?" "Develop and programme software, system analysis"; "Develop or produce IT technology or hardware"; "IT administration e.g. of networks, IT systems, databases, web servers"; "Website design, management"; "IT consultancy, user support, training"; "IT sales"; "Other". Requirements level of the task The fifth position of the 2010 Classification of Occupations (KldB 2010) was used to map the requirements level (cf. Wiemer/ Schweitzer/Paulus 2011). Four degrees of complexity are differentiated. 1: Unskilled and semi-skilled tasks 2: Skilled tasks 3: Complex tasks, for which an advanced training or Bachelor qualification is usually required 4: Highly complex tasks, for which a higher education qualification of at least four years' duration is usually required Occupational segments The occupations exercised were coded in accordance with the KldB 2010 and can be summarised into 14 occupational segments on the basis of the 37 vocationally homogeneous main occupational groups.
DZHW Student Life Cycle Panels	The Student Life Cycle Panel (SLC)196 of the German Centre for Higher Education Research and Science Studies (DZHW) uses longitudinal surveys to monitor the education and training pathways of persons in possession of a higher education entrance qualifications and higher education graduates as far as their entry to the labour market. The focus is on education and training decisions, education and training histories, entries to employment, employment histories and education and training returns. This series of investigations has been conducted every two to three years by the DZHW since 1976. Its statistical population comprises persons acquiring a school-based higher education entrance qualification in the respective years when the survey is carried out. The survey is based on a random, disproportional and stratified cluster sample. The object of the DZHW Student Life Cycle Panel is the longitudinal surveying of the post-school progressions of selected cohorts of persons in possession of a higher education entrance qualification regardless of the post-school pathway embarked upon. The key objectives of the investigations are the mapping and comparative analysis of the individual educational and occupational histories of persons in possession of a higher education entrance qualification. Three survey waves are usually conducted. These occur six months before leaving school and then six months and two and a half years after leaving school. Individual cohorts are subsequently surveyed again in a fourth wave which takes place at a later date. The DZHW Student Life Cycle Panel allows the Federal Government and federal states to produce representative trend, cohort and cross-sectional analyses.

Source	Description
Microcensus	The microcensus (MZ) is a representative study in which 1% of the German population take part each year via an ongoing household sample. Its purpose is to provide statistical information on the economic and social situation of the population and on employment, the labour market and training. The questions included in the microcensus comprise a fixed basic programme covering facts and circumstances which reoccur each year. There is a statutory requirement to provide information in response to the vast majority of questions. In addition to this, there are also additional programmes which are included in a four-year cycle. Some of these do not involve a statutory requirement to provide information. The fixed basic programme of the microcensus includes personal characteristics (age, gender, nationality), the context of the family and household and other characteristics such as main and ancillary residence, employment, job search, unemployment, economic inactivity, school pupil, higher education student, general and vocational education qualification. Because of a change to the survey method, results from 2017 onwards are only available on the basis of the population in private households. Results from earlier years have been adjusted in this respect and differ from the results in previous Data Reports. **Amended survey method deployed in the microcensus from 2020** When interpreting results from the year 2020 onwards, account needs to be taken of the switch in survey methodology in the MZ as a result of the introduction of new IT systems and the integration of other surveys. This means that comparability of the results of the MZ with previous years is severely restricted or indeed impossible. Comparability over the course of time was also adversely affected due to the pandemic situation in 2020 because the response rate fell dramatically. From the 2021 MZ, the Federal Statistical Office has not made any evaluations on the number of standard errors available. This means that confidence intervals can no longer be indicated. The results presented for 2021 are based on the final result of the 2021 MZ.
Specialist series of publications relating to "Vocational schools"	The specialist series of publications relating to "Vocational schools" has provided detailed data on vocational schools since the 1992 reporting year. Alongside figures on pupils – including 1st year pupils – and on those completing programmes and leavers in the various types of school, it also contains data on classes, entrants, teaching staff and teaching hours. The following characteristics of school year, occupational title, gender and federal state are, for example, available for pupils by type of school. "KldB 2010" has been used for the classification of occupations since the 2012/2013 school year.
BIBB Training Panel	The BIBB Establishment Panel on Training and Competence Development (BIBB Training Panel) is a regular annual survey which is used to collect representative longitudinal data on the training activities of companies in Germany. Selection of the companies takes place using a disproportionately stratified random sample of the statistical population of all companies with at least one employee subject to mandatory social insurance contributions. Company information is collected via computer-assisted personal interviews (CAPI). There is also an option to use computer-assisted web interviewing (CAWI). More than 4,000 companies took part in the survey in 2020. Because of the restrictions on contact caused by the coronavirus pandemic, most interviews were conducted by telephone (CAPI on phone).

Source	Description
Continuing Training Monitor Surveys	The Continuing Training Monitor (wbmonitor) is a cooperative project conducted by the Federal Institute for Vocational Education and Training (BIBB) in conjunction with the German Institute for Adult Education – Leibniz Centre for Lifelong Learning (DIE). Every year, all providers of continuing vocational and/or general training which are known to wbmonitor are requested to complete an online questionnaire on changing main thematic focuses, the economic climate, services and structures. The 17,411 providers invited to take part in 2020 responded to the survey between the end of June and the start of August. The Continuing Training Monitor Climate Index maps the way in which the continuing education and training providers assess the economic situation. It is calculated on the basis of the geometric mean of the differences between positive and negative verdicts of the current business situation and expectation in one year. The information given by the providers is weighted on the basis of the volume of training hours delivered in the previous year. Values lie between -100 and +100. The Continuing Training Monitor Climate Index is a conceptual adaptation of the Institute for Economic Research (ifo) Business Climate Index.
Adult Education Survey (AES)	The AES for the year 2016 was conducted between July 2016 and December 2017 for the second time after 2011/2012 (2011 AES). The AES is compulsory for EU member states on the basis of Regulations of the European Parliament and Council, which stipulate aspects such as standard European questionnaires and guidelines regarding methodology. Further European countries take part in the AES alongside the EU member states. A pilot survey of the AES took place on a voluntary basis between 2005 and 2009 in 29 countries. 31 countries participated in the 2011 AES. Results from 35 countries are available for the 2016 AES. Eurostat published selected results in its database. A representative sample of the population aged between 25 and 64 was surveyed in the individual countries. Persons were asked about their learning activities in the previous twelve months. Learning activities are recorded under the "Classification of Learning Activities" (Eurostat 2006; 2016) and separated into formal education and training, non-formal education and training, and informal learning. As well as recording socio-demographic data from respondents, the survey also collects data relating to characteristics such as continuing training, time spent, costs and education and training barriers. A total of more than 230,000 persons participated in the 2016 AES (7,750 in Germany). Respondents are required to provide information in some countries. In Germany, the survey is voluntary for the target persons. The response rate was at least 50% except for in Belgium, Denmark, Germany, Ireland, Italy, the Netherlands, Sweden and Switzerland.
National Educational Panel Study (NEPS)	The NEPS maps longitudinal data on educational and training achievements, training processes, and competence development in formal, non-formal and informal contexts over an entire lifetime. Six starting cohorts were selected for this purpose. These range in age from infants to adults who have reached pension age and comprise more than 60,000 persons. These persons are surveyed annually to test their competencies. Further information on the NEPS is available at **https://www.lifbi.de/**. The NEPS data was collected between 2008 and 2013 as part of a framework programme to promote empirical educational research funded by the BMBF. Since 2014, the NEPS has been continued by the Leibniz Institute for Educational Trajectories (LIfBi) at the University of Bamberg in conjunction with a network that covers the whole of Germany. The NEPS sub-study used here (Start Cohort 4, Version 12.0.0) encompasses around 16,000 pupils attending Year 9 of a general school in Germany in the autumn of 2010. They were then subsequently surveyed every six or twelve months (cf. NEPS Network 2021). The findings presented relate to 3,879 persons who had completed initial training in the dual or school-based system and who were aged between 18 and 23 at the time when training was concluded. Owing to the fact that the respective training programmes were completed at different points, many of the variables used relate to different measurement times. For this reason, the results presented are based on unweighted data.

Source	Description
	The education and training option chosen was identified on the basis of the first 36 months following completion of training in order to be able to map the education and training decisions taken by those who initially pursued employment in their training occupation. A differentiation was made between the following five groups. a) Persons who mainly pursued employment of at least ten hours per week, including after 36 months. b) Persons who have progressed within the 36 months to higher vocational training (e.g. master craftsman or technician, other trade and technical school training or chamber of commerce and industry training). c) Persons who have progressed within the 36 months to higher academic training (in the form of a bachelor's programme of study). d) Persons who commenced a further programme of vocational education and training (in another occupation) in the stated period. e) Persons who had embarked upon a different pathway (e.g. parental leave, military service, unemployment). This report will not consider such persons any further.
Adult education centre statistics	The adult education centre statistics cover all courses, the relevant teaching hours involved and individual participations. They are collected annually (calendar year). The adult education centre statistics have existed within the system since 1998. A course is defined as a continuing training programme if it consists of at least three course hours of teaching and if it is organised by the respective adult education centre. A "course hour" is defined as comprising a lesson time of 45 minutes. Participation means attendance of a course. If the same person attends more than one course within a period of observation, they will be counted as a participation each time. This means that the number of participations is normally higher than the number of persons who attend courses during a reporting year. The major revision of the adult education centre statistics which took place within the scope of the collaborative continuing vocational education and training statistics laid the foundation for a more extensive portrayal of continuing VET provision. Content-structured programme areas were increased in number to seven as a result of the revision. The characteristic of occupational relatedness was introduced as a new cross-sectional category which can be allocated in addition to the contents of courses. Since the adult education centre statistics were revised in 2018, course programmes and individual courses have been deemed to be occupationally related if "[…] didactic planning clearly indicates that they are suitable for or aligned to occupational application of the course contents". However, the alignment of individual courses to this new characteristic was not handled in a uniform fashion by the federal state associations for the 2021 reporting year. This is indicated by aspects such as the very differing magnitudes of the proportion of occupationally-related courses from federal state to federal state. Because of this data situation, the 2021 reporting year uses the previous approximation of continuing VET via the programme area in which most continuing training courses are located in terms of content. The previous work and occupations programme area was modified in terms of content and has borne the title of "Skills for working life – IT – organisation/management" since the 2018 reporting year. Content scope was largely retained. Some previous specialist areas were consolidated whilst some remained the same. In other cases, only the title was updated. A new specialist area of "Soft skills/application training" was introduced. This will be used on a transitional basis to update the indicator for continuing training at adult education centres in the same way as in the previous set of indicators until such time as the data situation has consolidated. The consequence of this is that it is still not possible to present provision in other programme areas (Politics – society – environment; Languages; School qualifications – access to and support for higher education study and basic training) imparting knowledge and skills outside the programme area of "Skills for working life – IT – organisation/management", which are useful occupationally or which are aimed at certain occupational groups.

Source	Description
	The revision also affects the category of commissioned and contract measures, which were previously only surveyed at the programme area level. These are now recorded per specialist area. Due to this change to the survey method, and owing to the modification of the content division of the programme areas, no time series can presently be depicted for data until 2017 and after 2018. For this reason, only data from the reporting years from 2018 to 2021 is presented below.
Collaborative continuing vocational education and training statistics (collaborative statistics)	The results presented relate to provision of continuing VET realised in the 2018 reporting year by continuing education and training providers operating collectively in the associations of the Federal Working Group Work and Life (BAK AL), the German Protestant Working Group for Adult Education (DEAE), and the Catholic Federal Working Group for Adult Education (KBE). Continuing vocational training provision realised is firstly based on the alignment of courses to occupationally-related programmes in which didactic planning mainly relates to the occupational use of course contents (e.g. discernible from the description of the course or from its certification) or which are directed at certain target groups with a defined vocational qualification or occupational task. Secondly, alignment to continuing VET takes place on the basis of categorisation of courses to the thematic areas of "World of work – special interest group" and "Media applications – technology". Courses are usually counted if they generally encompass a time volume of up to three hours (e.g. lectures, discussion forums) or if they usually extend over more than three course hours (e.g. longer courses, seminars, programmes, study trips). A "course hour" is defined as comprising a lesson time of 45 minutes. Participation means attendance of a course. If the same person attends more than one course, they will therefore be counted as a participation each time. This means that the number of participations may be higher than the number of participating persons. In the 2018 reporting year, 1,121 institutions form the statistical population of member organisations within collaborating association of continuing education and training providers (BAK AL: 141; DEAE: 415; KEB: 565). Recording rates vary between the associations (recording rates in the area of "Courses": BAK AL: 97.9%; DEAE: 77.1%; KEB: 66.7%) (cf. Christ/Horn/Lux 2020). The results presented are based on absolute values from the institutions surveyed without extrapolation to the statistical population. For this reason, the assumption would be that course provision in continuing VET actually realised is higher in the statistical population of all associated institutions. To this extent, the adjusted absolute figures are minimum values.
European Continuing Vocational Training Surveys (CVTS)	The Continuing Vocational Training Survey (CVTS) is conducted in the member states of the EU and in other interested countries. In 2020, these were North Macedonia, Norway and Serbia. The respondents comprise companies with ten or more employees from the economic sectors B to N and R and S of the Statistical Classification of Economic Activities in the European Community (NACE Rev. 2). Six European Continuing Vocational Training Surveys have been carried out thus far. 12 countries took part in CVTS1 (1993). 25 countries participated in CVTS2 (1999). The figures for CVTS3 (2005) and CVTS4 (2010) were 28 countries in each case, and there were 30 participant countries in both CVTS5 (2015) and in CVTS6 (2020). EU Directives have compelled member states to conduct relevant surveys since 2005. Provision of information by companies is mandatory in the majority of countries. In Germany, participation by companies is voluntary. In Germany, CVTS6 was carried out via a combination of a postal survey using a written questionnaire and an online survey implemented by the Federal Statistical Office and by some of the federal state statistical offices. A total of 2,641companies were contacted. The response rate was 19%. In the CVTS, company-based continuing training is understood to mean pre-planned and organised learning which is financed by the companies in whole or in part. Financing may take place directly (e.g. via payments to continuing training providers for participation in courses by employees) or indirectly (participation in continuing training measures by trainees during working time). European comparable data is collected on provision, scope, forms, organisation and costs of company-based continuing training.

Source	Description
Database for trade and technical schools	Data is taken from Specialist Publications 11, Series 2 of the Federal Statistical Office. Consideration should be accorded to the fact that data relating to pupils and persons completing qualifications sometimes extends beyond the continuing training programmes to include the trade and technical school proportion of individual training programmes (e.g. geriatric nursing assistants, geriatric nurses, special needs care assistants). Data on trade and technical academies, which only exist in Bavaria, is not included. It should also be borne in mind that amended alignments in certain main occupational groups took effect from 2017.
Training Plus database	The BIBB uses its specialist portal Training Plus to offer information on all aspects of the topics of dual courses of higher education study and additional qualifications. The BIBB has been the sole provider of the portal since 2015. The core of the portal is a database, which details provision from institutes of higher education and cooperating companies/practical institutions from all over the country. 1,662 dual courses of higher education study and around 2,300 additional qualifications are currently included in the database. Training Plus contains the most comprehensive information on existing provision of dual courses of higher education study and of additional qualifications in the area of initial VET in Germany. The data recorded is based on voluntary information from providers. For this reason, completeness of the data situation cannot be assumed. Nevertheless, the data may be viewed as an indicator of developments in dual higher education study.
Reference company system (RBS)	The RBS is an access panel, i.e. a stable pool of companies has been established which have expressed their readiness to make themselves available to the BIBB for surveys. This permits rapid and reliable analyses to be conducted on current topics. Around 1,400 companies are currently being surveyed about once or twice a year on the latest issues affecting company-based VET.

Annex: List of figures and tables

Figures

Tables

Federal Institute for Vocational Education and Training
Friedrich-Ebert-Allee 114 – 116
D-53113 Bonn

Phone +49 228 107-0

Web: www.bibb.de
Email: zentrale@bibb.de

Federal Institute for Vocational Education and Training