

# Data reporting in initial and continuing vocational education and training



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1. Purpose of reporting and data management in vocational education and training (VET)
2. VET reporting in Germany
  - ▶ Two reports
  - ▶ Legal basis
  - ▶ Development process
  - ▶ Indicators
  - ▶ Ensuring quality
3. Internationally proven approach: lessons learned in Ghana and Vietnam
4. Success factors in the VET reporting development process and recommendations
5. Further references and materials



# 1. Purpose of reporting and data management in vocational education and training (VET)

How can we analyse dysfunctional aspects in a VET system?

How many young people are engaged in vocational education and training?

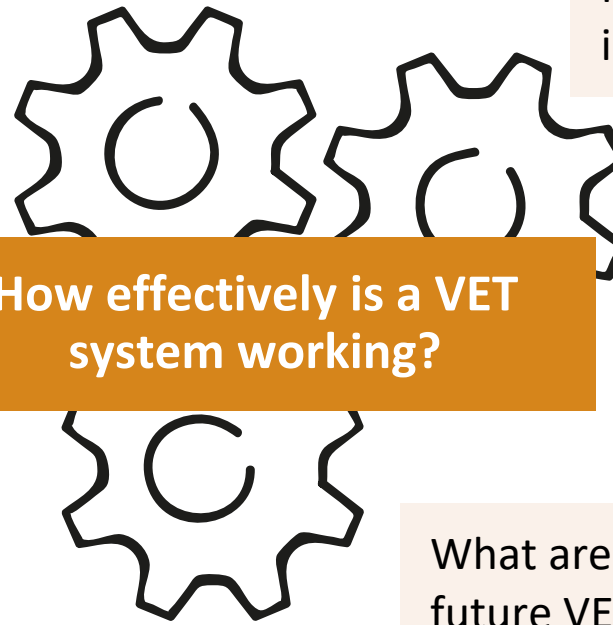
How many companies offer vocational education and training?

**How effectively is a VET system working?**

In which regions is VET demand greater than supply?

Which data sources can be used for reporting?

What are the requirements for future VET programmes?



# 1. Purpose of reporting and data management in vocational education and training (VET)

## Highlights from the Data Report to accompany the Report on VET (BIBB 2024)

Schaubild A5.4-3: Entwicklung der neu abgeschlossenen Ausbildungsverträge<sup>1</sup> in den dualen IT-Berufen<sup>2</sup> nach Geschlecht, Bundesgebiet 1993 bis 2021

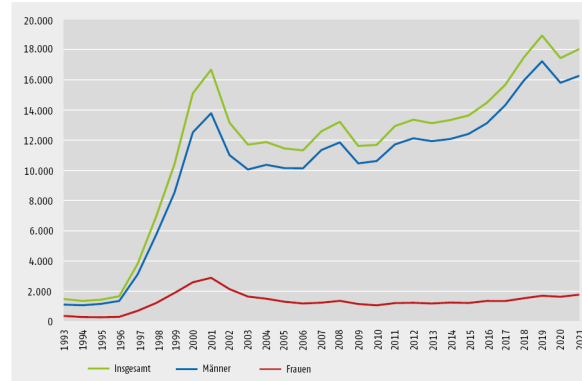


Schaubild A4-2: Junge Menschen im Alter von 20 bis 24 Jahren innerhalb und außerhalb formaler Bildungsangebote 2021 (in % (Bestandsdaten) (100 % = Wohnbevölkerung im Alter von 20 bis 24 Jahren)

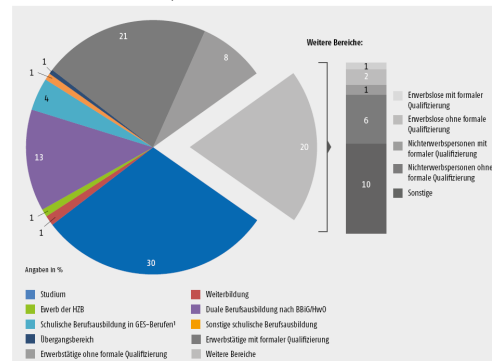


Tabelle A5.4-1: Neu abgeschlossene Ausbildungsverträge<sup>1</sup> in Produktions- und Dienstleistungsberufen<sup>2</sup>, Bundesgebiet 2010 bis 2021

Berufgruppe	Jahr	Insgesamt, absolut											
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Produktionsberufe		193.668	200.340	195.517	187.648	185.907	186.969	185.113	191.281	196.171	194.870	179.627	180.138
Dienstleistungsberufe (DL)		360.189	360.759	348.819	334.386	328.011	326.419	322.251	321.987	323.381	316.787	281.884	286.038
davon:													
primäre DL-Berufe		277.827	276.129	264.591	252.271	244.544	243.909	239.882	238.890	237.487	229.613	203.805	202.152
sekundäre DL-Berufe		82.365	84.627	84.228	82.110	81.467	82.510	82.359	83.897	85.912	87.280	88.079	83.886
Insgesamt		553.857	561.099	544.356	521.954	514.008	512.688	507.564	513.270	519.558	518.870	461.311	466.176
Männer, absolut													
Produktionsberufe		170.639	186.225	180.933	172.965	171.294	171.195	169.917	176.630	180.876	178.659	165.096	165.204
Dienstleistungsberufe		341.094	347.462	342.722	338.121	336.632	337.982	338.603	343.727	347.561	345.899	310.554	312.345
davon:													
primäre DL-Berufe		114.348	116.667	112.221	108.390	106.785	107.829	108.627	112.661	114.453	111.456	99.366	100.461
sekundäre DL-Berufe		26.746	30.795	30.501	29.911	29.867	30.151	29.976	31.269	33.108	34.443	31.188	31.881
Insgesamt		322.713	333.687	323.655	311.286	307.926	309.177	308.580	320.160	328.437	324.558	296.650	297.540
Frauen, absolut													
Produktionsberufe		24.040	24.115	24.604	24.303	24.704	24.715	24.974	24.353	24.953	24.540	24.331	24.934
Dienstleistungsberufe		217.095	213.297	206.007	196.065	191.379	188.637	183.648	178.260	175.830	170.890	151.330	153.693
davon:													
primäre DL-Berufe		163.479	159.465	152.370	143.886	139.779	136.071	131.265	126.429	123.024	118.334	104.439	105.691
sekundäre DL-Berufe		53.616	53.832	53.727	52.216	51.600	51.566	52.381	51.831	52.806	52.556	46.891	52.002
Insgesamt		231.144	227.409	220.701	219.165	206.082	203.511	198.987	191.121	194.127	189.121	147.461	148.627
Insgesamt, in % aller Realchancen													
Produktionsberufe		35,0	35,7	35,9	35,9	36,2	36,3	36,5	37,3	37,8	38,0	38,7	38,6
Dienstleistungsberufe		65,0	64,3	64,1	64,1	63,8	63,7	63,5	62,7	62,2	62,0	61,3	61,4
davon:													
primäre DL-Berufe		50,2	49,2	48,6	48,4	48,0	47,6	47,3	46,5	45,7	44,9	44,0	43,4
sekundäre DL-Berufe		14,9	15,1	15,5	15,7	15,8	16,1	16,2	16,2	16,5	17,1	17,3	18,0
Insgesamt		100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Schaubild A5.5.1-1: Schulische Vorbildung der Auszubildenden mit neu abgeschlossenem Ausbildungsvertrag<sup>1</sup> 2007 bis 2021 (in %)²

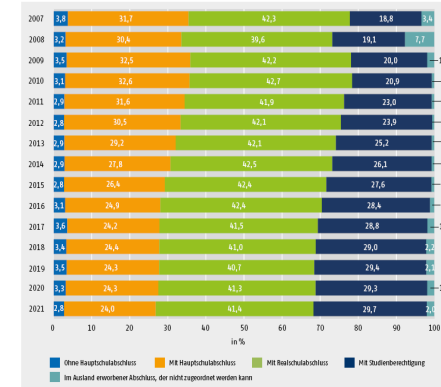


Schaubild A1.1.2-1: Anteile erfolgreicher Marktteilnahmen in den Regionen (Arbeitsagenturbezirken) im Jahr 2022

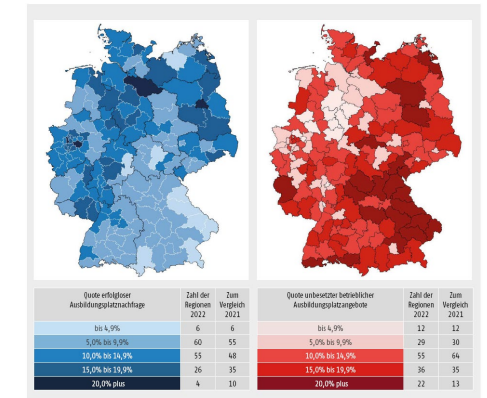
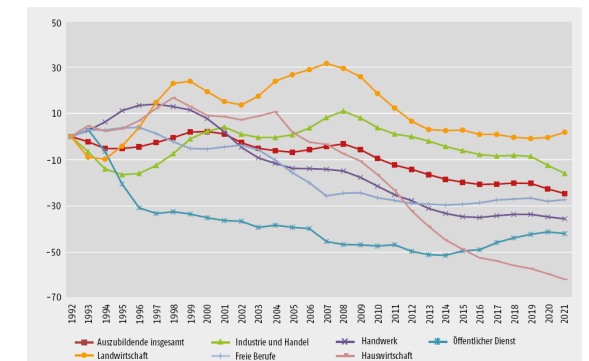


Schaubild A5.2-1: Entwicklung der Zahl der Auszubildenden am 31. Dezember von 1992 bis 2021 nach Zuständigkeitsbereichen (Basis = 1992)



\* Source: Bundesinstitut für Berufsbildung [Federal Institute for Vocational Education and Training] (Ed.): Data Report to accompany the Report on Vocational Education and Training 2024. Information and analyses on the development of vocational education and training Bonn 2024 ([bibb.de/datenreport/de/189191.php](https://bibb.de/datenreport/de/189191.php))







# 1. Purpose of reporting and data management in vocational education and training (VET)

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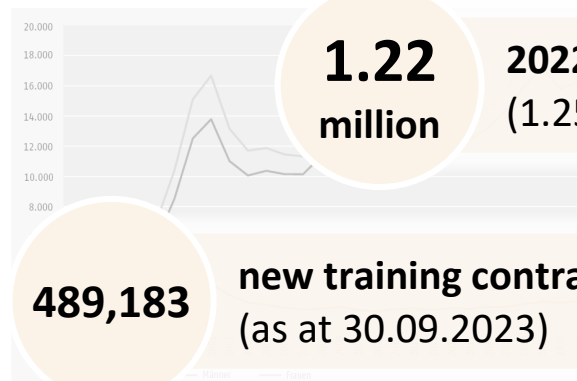


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Berufskategorie	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Produktionsberufe	134.348	134.667	122.221	108.390	106.795	107.829	106.795	106.795	106.795	106.795	106.795	106.795
Dienstleistungsberufe	26.744	30.795	30.501	29.911	29.867	30.117	30.117	30.117	30.117	30.117	30.117	30.117
Insgesamt	161.092	165.462	152.722	138.301	136.662	137.946	136.912	136.912	136.912	136.912	136.912	136.912

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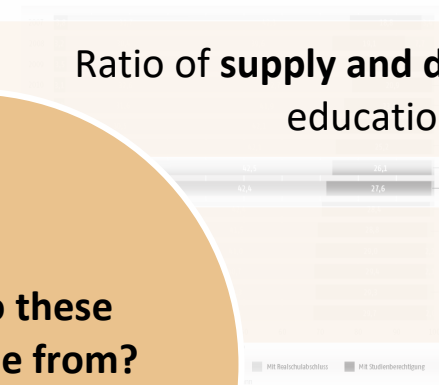
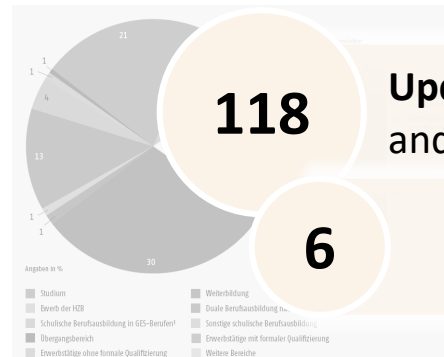


Schaubild A1.1.2-1: Anteile erfolgreicher Marktteilnahmen in den Regionen (Arbeitsagenturberufsbildung) 2022



Schaubild A4-2: Jugendliche im Alter von 20 bis 24 Jahren innerhalb und außerhalb formaler Bildungsangebote 2021 (in %) (Bestandsdaten) (100 % = Wohnbevölkerung im Alter von 20 bis 24 Jahren)



Where do these figures come from?  
From the [data report](#)!

Ratio of **supply and demand** in vocational education and training (2023) **101.8**

**Training vacancies (30.09.2023)** **73,400**

**Successful final examinations (2022, in percent)** **90.9**

**Percentage of successful applications from young people applying for VET. (Progression or participation rate, EQI, 2023, in percent)** **68.9**

\* Source: Bundesinstitut für Berufsbildung [Federal Institute for Vocational Education and Training] (Ed.): Data Report to accompany the Report on Vocational Education and Training 2024. Information and analyses on the development of vocational education and training Bonn 2024 ([bibb.de/datenreport/de/189191.php](https://bibb.de/datenreport/de/189191.php))



## 2. VET reporting in Germany: two reports

### Separating the Vocational Training Report into political and non-political parts

2009: BIBB board recommendation for the restructuring of **the Vocational Training Report** and dividing it into a:

#### non-political part

- ▶ is independent of political considerations
- ▶ **BIBB** is responsible



Data Report to accompany the Report on Vocational Education and Training

The data report provides the empirical basis for the Report on VET

#### political part

- ▶ is consulted upon and adopted by the federal government
- ▶ BMBF is responsible
- ▶ BIBB is involved in preparation of the draft report



Report on Vocational Education and Training



## 2. VET reporting in Germany: two reports

### Features of the Data Report to accompany the Report on VET



- ▶ The Data Report to accompany the Report on VET...
  - ... is a central **data compendium**,
  - ... draws on empirical data and social research,
  - ... is based on a **scientifically-proven system of indicators**,
  - ... is supplemented by **research findings** and
  - ... provides key **indicators for initial and continuing VET**.
- ▶ Indicators illustrate the **development** over time (**long-term monitoring**, “**long series data**”) and show **regional differences** (indicators for the regional VET market)
- ▶ The selection of indicators is guided by the **availability of data** and by the key issues in education and training policy



## 2. VET reporting in Germany: Legal basis

### Legal basis under the Vocational Training Act (BBiG) – Part 4

Vocational training research, planning and statistics

Section 84: Objectives of vocational training research

Section 85: Objectives of vocational training planning

**Section 86: Report on Vocational Education and Training**

**Section 87: Purpose and compilation of VET statistics**

**Section 88: Surveys**



## 2. VET reporting in Germany: Legal basis

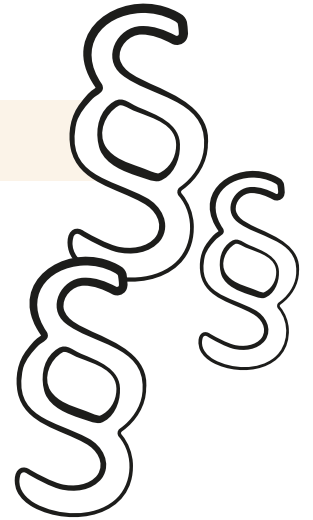
### Legal basis under the Vocational Training Act (BBiG) – Part 4

#### Section 86: Report on Vocational Education and Training

- (1) The Federal Ministry of Education and Research must constantly track developments in vocational education and training and must submit a corresponding report (Report on Vocational Education and Training) to the Federal Government by 15 May each year.

The report shall describe the current state and probable further development of vocational education and training.

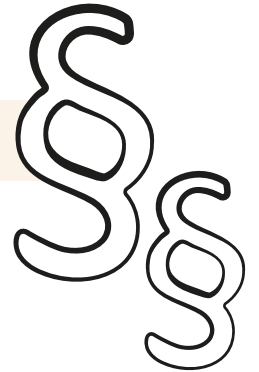
If there are indications that a regionally and sectorally balanced supply of initial training places may be at risk, the report shall include proposals for remedying such a situation.



## 2. VET reporting in Germany: Legal basis

### Legal basis under the Vocational Training Act (BBiG) – Part 4

#### Section 86: Report on Vocational Education and Training



(2) As a rule, the report must specify

1. for the preceding calendar year

a) on the basis of the data furnished by the competent bodies, the initial training contracts entered in the Register of Initial Training Relationships under this Act or under the Crafts and Trades Regulation Code which were concluded during the twelve months prior to 1 October of the preceding year and were still in existence on 30 September of the preceding year as well as

b) the number of training places offered to the Federal Employment Agency for placement which were not filled on 30 September of the preceding year and the number of persons registered with the Federal Employment Agency on that date as seeking training places;

2. for the current calendar year

a) the number of persons expected to be seeking training places up to 30 September of the current year,

b) an estimate of the number of training places expected to be on offer up to 30 September of the current year.



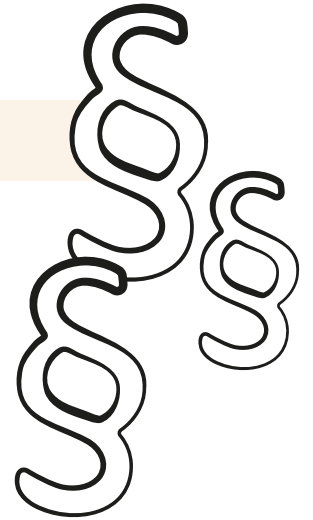


## 2. VET reporting in Germany: Legal basis

### Legal basis under the Vocational Training Act (BBiG) – Part 4

#### Section 87: Purpose and compilation of vocational training statistics

- (1) Federal statistics are compiled for the purposes of planning and organising vocational education and training.
- (2) The Federal Institute for Vocational Education and Training and the Federal Employment Agency support the Federal Statistical Office in the technical and methodological preparation of the statistics.
- (3) The surveying and processing programme must be designed in agreement with the Federal Institute for Vocational Education and Training in such a manner that the data compiled can be used for planning and organising vocational training within the scope of the competencies defined in a given case.



## 2. VET reporting in Germany: Legal basis

### Legal basis under the Vocational Training Act (BBiG) – Part 4

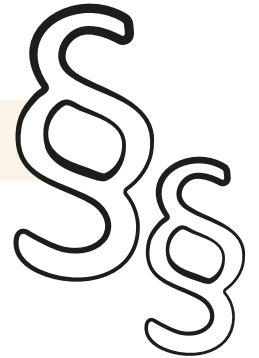
#### Section 88: Surveys

##### (1) The annual federal statistics comprise

1. for each training contract: a) sex, year of birth, nationality of trainees, b) official municipality code of trainees' place of residence at the time of conclusion of the contract, c) general-education school-leaving certificate, previous participation in prevocational or basic vocational education and training, previous initial training and previous course of studies of trainees...
2. for every instance of participation in a VET examination, with the exception of the training contracts covered by no. 1: sex, year of birth and prior learning of the examinees, occupational sector, repetition of the examination, type of examination, success in the examination

3. for every trainer:  
sex, year of birth, nature of their technical qualifications.
4. for every participant in a procedure for determining competency and every participant in a supplementary procedure...

The reporting period for surveys is the calendar year. The information is collected with the data status as of 31 December of the reporting period.

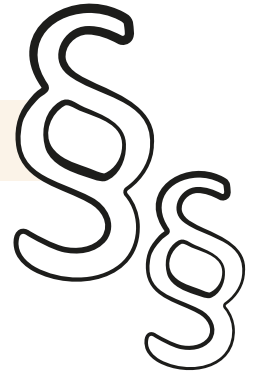


## 2. VET reporting in Germany: Legal basis

### Legal basis under the Vocational Training Act (BBiG) – Part 4

#### Section 88: Surveys

- (2) The names and addresses of the persons required to give information, sequence numbers of data sets on trainees, examinees and trainers and the company number of the training premises
- (3) The competent bodies are obliged to provide such information
- (4) The data collected [...] are processed as individual pieces of information by the Federal Statistical Office and the statistical offices of the Länder and transmitted to the Federal Institute for Vocational Education and Training for purposes of preparing the Report on Vocational Education and Training and conducting vocational training research.



## 2. VET reporting in Germany: Development process

### **General procedure**

- ▶ In accordance with the Vocational Training Act (BBiG), the Report on Vocational Education and Training must be submitted each year by 15 May.
- ▶ The scheduling for the preparation of the data report, which forms the basis of the Report on Vocational Education and Training, is determined by this deadline.
- ▶ The data report provides comprehensive data and information on vocational education and training and must also be published as a draft by 15 May each year (as a PDF on the BIBB website).
- ▶ It is published at a later date in printed form, taking into account feedback from the public.

### **Basic concept behind VET reporting:**

- ▶ The data report should be based on indicators and facilitate information and background analyses of long-term developments in vocational education and training. The indicators should therefore be measured over the long term.



## 2. VET reporting in Germany: Development process

### Main thematic structure of the data report

Preface from the BIBB President

Contents

**Part A:** Initial VET indicators (12 subsections, approx 290 pages)

**Part B:** Continuing VET indicators (4 subsections, approx 85 pages)

**Part C:** Special focus (varies, approx. 50 pages)

**Part D:** Monitoring of the internationalisation of VET (4 subsections, approx 50 pages)

List of abbreviations, figures and tables

List of tables on the internet

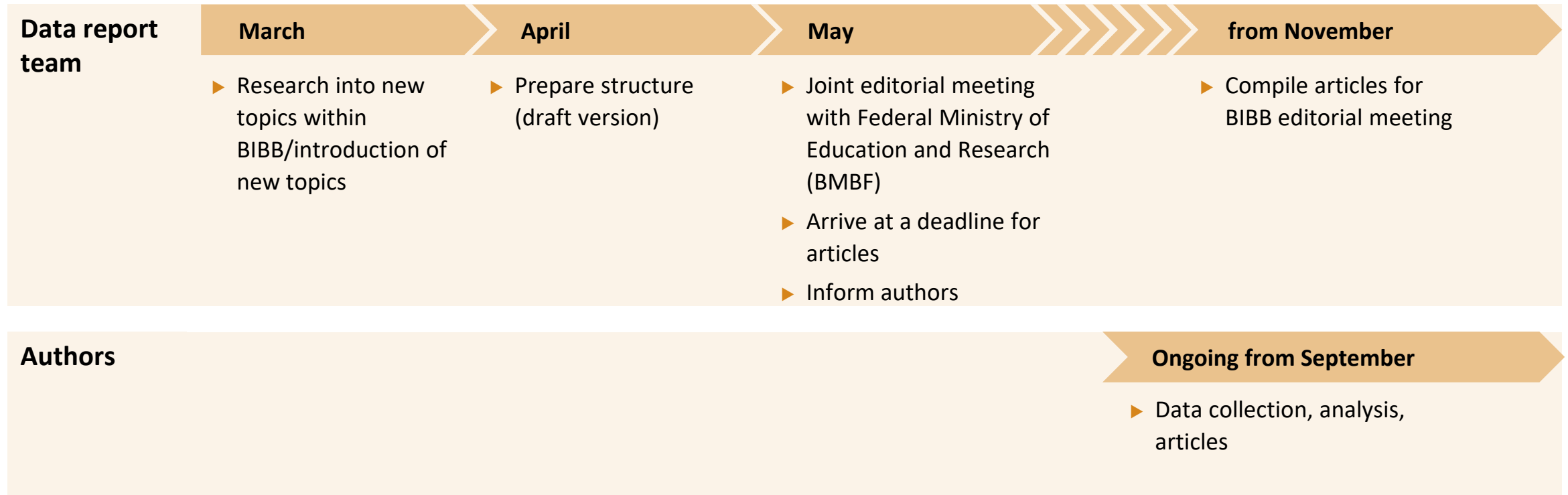
Bibliography

List of key terms



## 2. VET reporting in Germany: Development process

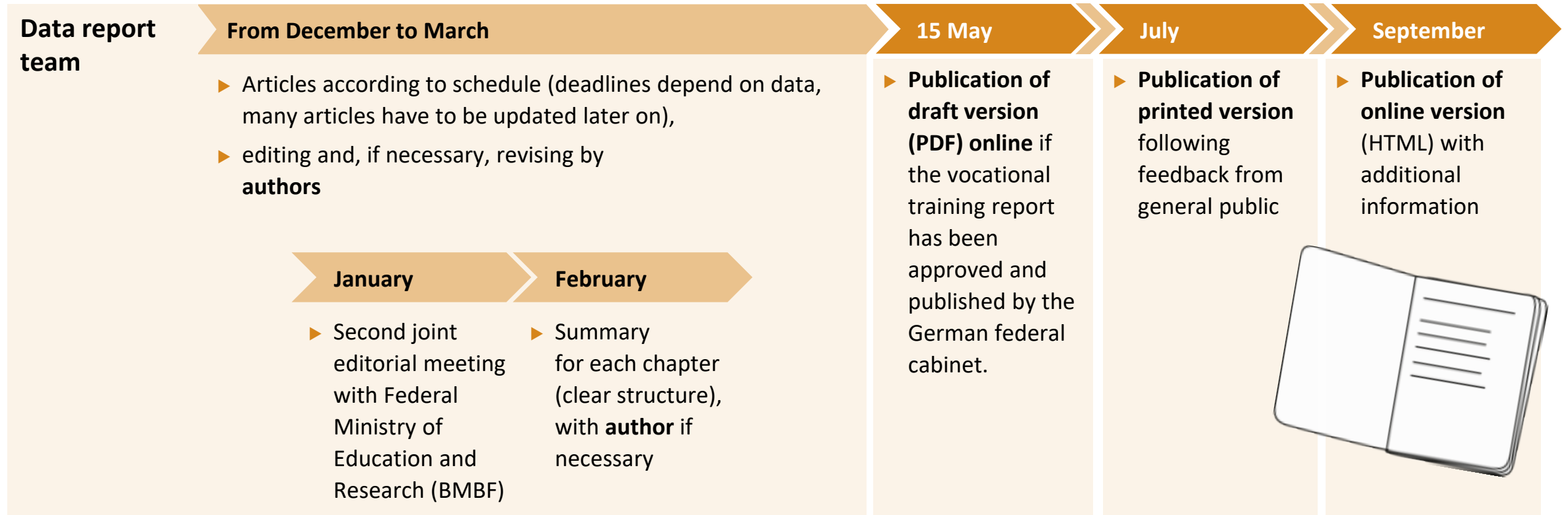
### Activities – year 1





## 2. VET reporting in Germany: Development process

### Activities – year 1/2



## 2. VET reporting in Germany: Development process

### Data sources:

#### Analysis of official data collected by BIBB

- ▶ BIBB survey of newly concluded training contracts as of 30.09.
- ▶ Trainee data from vocational education and training statistics

#### Analysis of official data from other institutions

Federal Employment Agency statistics

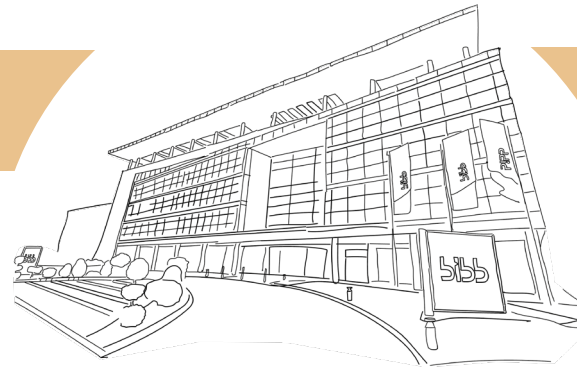
- ▶ Training activities by company size

German microcensus (Federal Statistical Office)

- ▶ Persons without vocational skills

Training market statistics (Federal Employment Agency)

- ▶ Persons seeking training position without success.



**bibb** Bundesinstitut für  
Berufsbildung

#### Supplementary analysis of survey data from BIBB research projects

- ▶ BA/BIBB applicant survey
- ▶ BIBB Transition Survey

#### Processing and analysis of official data provided by other institutions

German VET census as at 31.12  
(Federal Statistical Office, BIBB)

- ▶ Participation in vocational education and training  
(structural features)
- ▶ Early contract termination



## 2. VET reporting in Germany: Development process

### Data sources:

Data collected at regular intervals



► Indicators for **initial vocational education and training**

► **Developments** on the training market

► **Transition** from school to VET

► **Apprenticeship/vocational education and training** (e.g.: Number of trainees, number of contracts, age, level of education, premature contract dissolutions, examinations in the dual system, updating and introduction of occupations, participation of companies in vocational education and training, costs and benefits, types of funding...)

► **System monitoring**, e.g.: Development of the vocational education and training system compared to the transitional system (Integrated Report for VET, iABE)

► **Transition** from VET to employment

► Indicators for **advanced and continuing VET**

► **Permeability/transition** between VET and university-level education and training

► International indicators, system monitoring, mobility

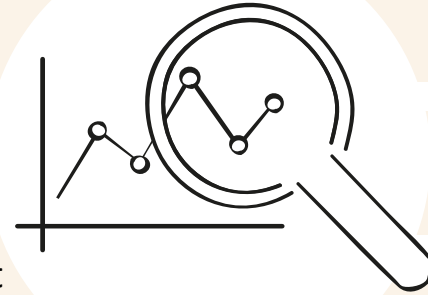


## 2. VET reporting in Germany: Indicators

Indicators (indicator: Latin indicare “to show”) are **measured variables** (absolute values or key figures) which can be used to quantify (operationalise) specific issues and current situations in vocational education and training (actual values) and highlight development over time (cf. Schnell/Hill/Esser 1995, p. 121 pp).

They are an important **basis** for regular reporting in vocational education and training.

**Comparing** measured values and the status quo against normative social values or politically-set goals (target values) highlights where (political) **action is required** and can be used as a basis for shaping and structuring vocational education and training (**policy advice**).



Indicators are tools used for **classifying features based on an ordering principle**.

Both the principle of classification as well as the nature and number of categories used are the result of **human decisions**.

Different **classification strategies** may be useful depending on the **context of use**.

Indicators are intended to help us classify observations of the real-world object of study, to attribute them to non-observable phenomena and ultimately to form a **reliable basis for the evaluation** of these phenomena.

Source: Meyer, Wolfgang: “Indikatorenentwicklung: eine praxisorientierte Einführung, 2004” [Development of indicators: a practical introduction]

[http://www.ceval.de/typo3/fileadmin/user\\_upload/PDFs/workpaper10.pdf](http://www.ceval.de/typo3/fileadmin/user_upload/PDFs/workpaper10.pdf)



## 2. VET reporting in Germany: Indicators

### Indicators as a basis for (political) decision making

#### Important

- ▶ Strict separation between data provision and data evaluation
- ▶ Conflicts may arise depending on perspectives/interests when evaluating the data.
- ▶ Conflicts must not impact on provision of data.
- ▶ A question of political will and of the willingness of decision-makers to shape the process
- ▶ Indicators are only as good as the data they are based on!
- ▶ Indicators are more than percentages!
- ▶ A good indicator is a simple (easy-to-understand) indicator!

#### Name of the indicator

Core message:

Source:

Monitoring period/  
key date:

Relevance to VET policy decision-  
making:

Reference parameters:

Formula:

Possible differentiations (gender, age,  
regions etc.):

Limitation of the indicator

Considerations regarding  
interpretation/FAQs



## 2. VET reporting in Germany: Indicators

### Examples

- ▶ Rate of companies providing training: The **rate of companies providing training** is the number of companies providing training as a proportion of all companies including companies providing training.

$$\frac{\text{Number of companies with employees subject to social insurance contributions in training}}{\text{Number of companies with employees subject to mandatory social insurance contributions}} \cdot 100$$

- ▶ **Success rate I – participation related success rate (EQI)**  
The indicator shows, among other things, the proportion of examinations passed as a proportion of all examinations conducted including recent examinations.

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

Sources: BIBB, Rate of companies providing training, 2024, <https://www.bibb.de/de/4355.php>,  
BIBB, Success rate I (EQ I) – participation-related success rate, 2025, <https://www.bibb.de/de/4713.php>





## 2. VET reporting in Germany: Ensuring quality

### Quality assurance occurs at various levels

- ▶ **Editorial group:** BIBB President and heads of department, members of the editorial teams, public relations team, two members of the BMBF
- ▶ Two **joint editorial meetings**, a BIBB meeting (discussion of chapters, report structure and future special focuses)
- ▶ Texts are submitted according to a prescribed structure (**Quality assurance conducted by head of department** and persons responsible for each chapter)
- ▶ The editorial group provides **authors** with transparent **feedback**
- ▶ Short-term changes to structural content can always be addressed in planning discussions
- ▶ BIBB and BMBF are constantly sharing information.

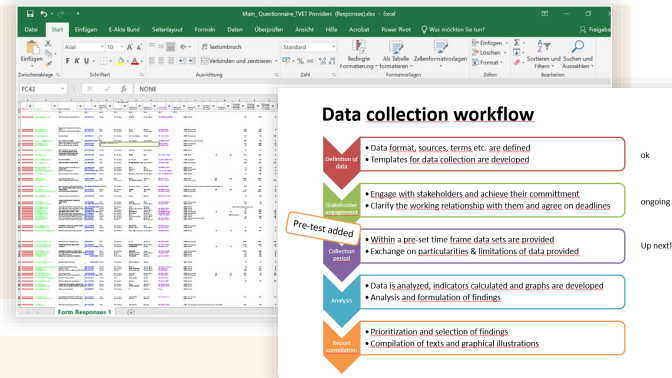


### 3. Proven practice internationally: Lessons learned from Ghana

- ▶ Cooperation between the Commission for TVET (CTVET) and GOVET in place since 2019

- ▶ GOVET advises CTVET on data reporting and monitoring

- ▶ Project phases



- ▶ Two reports published to date: 2021 and 2023



### 3. Proven practice internationally: Lessons learned from Ghana

#### Success factors

- ▶ Create capacity for team members at CTVET
- ▶ Diverse teams of authors from different departments
- ▶ Joint project planning
- ▶ Before publication: Checking and validation workshop with interest groups
- ▶ Data collection and conducting data analyses, both internally



#### Challenges

- ▶ Availability and quality of data
- ▶ IT system infrastructure, hosting, administration and maintenance
- ▶ Financing





### 3. Proven practice internationally: Lessons learned from Vietnam

- ▶ BIBB, GIZ and NIVT (Vietnam – National Institute for Vocational Training) have been working together on VET reporting since 2011
- ▶ Close collaboration between researchers, particularly on the following aspects:
  - ▶ Quality assurance of Report on Vocational Education and Training
  - ▶ Coordination
  - ▶ Cooperation with interest groups
  - ▶ Feedback on individual chapters
  - ▶ Knowledge management
  - ▶ Presentation of data
- ▶ Range of publications relating to BIBB cooperation



### 3. Proven practice internationally

#### Further information on both examples

##### Ghana

- ▶ 2021 report
- ▶ Published August 2022
- ▶ [Ghana TVET Report 2021](#)

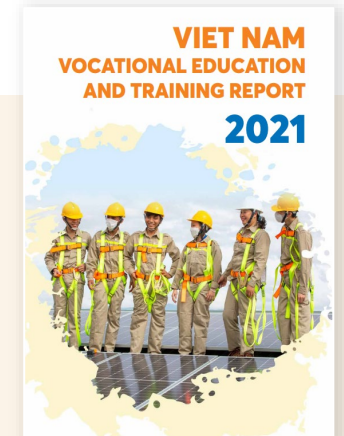


##### Ghana

- ▶ 2022 and 2023 reports
- ▶ Published in April 2024
- ▶ [Ghana TVET Report 2023](#)

##### Vietnam

- ▶ Most recent report:  
[Viet Nam vocational education and training report 2021](#)
- ▶ List of reports in the BIBB website:  
[BIBB/NIVT-Vietnam](#)
- ▶ Guideline for sustainable development of VET reporting in Vietnam  
[Guideline for sustainable development of TVET reporting in Viet Nam \(bibb.de\)](#)



## 4. Success factors in the VET reporting development process and recommendations

- ▶ legally binding **mandate** and defined roles and responsibilities
- ▶ stable funding
- ▶ definition of clear **indicators** and reference dates
- ▶ regular **data analysis** and long-term statistics
- ▶ diverse **teams of authors** from the institution and beyond
- ▶ **validation** using external experts
- ▶ agreement on **scientific standards** for data management, analysis and research





## 4. Success factors in the VET reporting development process and recommendations



### The goal

- ▶ What needs to be measured?
- ▶ Which situations need to be described (on a regular basis)?

### Group reporting to

- ▶ Who is the target group for the report? (public)
- ▶ This can influence the data processing.

### Prerequisites

- ▶ What data is (regularly) available?
- ▶ Are there data gaps?
- ▶ How can data gaps be closed (in the future)?

### “SMART”

<b>S</b>	Specific
<b>M</b>	Measurable
<b>A</b>	Achievable
<b>R</b>	Relevant
<b>T</b>	Time bound

### Result

- ▶ List of indicators for a vocational training report

### Benefits

- ▶ Provides basis for further development of VET system.

Indicators correspond clearly to the desired theoretical objective, are measurable and can be applied to the desired working context, are relevant to the solution concerned and are understandable for all participants.



## 5. Further references and materials

- ▶ English version of the German Vocational Training Report (2021)  
[bibb.de/dienst/publikationen/de/19715](https://bibb.de/dienst/publikationen/de/19715)
- ▶ BIBB website on VET research  
[Federal Institute for Vocational Education and Training \(BIBB\) – Germany](https://www.bibb.de/Federal-Institute-for-Vocational-Education-and-Training-(BIBB)-Germany)
- ▶ Short summary of the cooperation with Vietnam for the purpose of preparing a vocational training report  
[BWP 6/2014 \(bibb.de\)](https://www.bibb.de/BWP-6-2014)
- ▶ Project report from BIBB cooperation with the Philippines  
[Federal Institute for Vocational Education and Training \(BIBB\) – Germany](https://www.bibb.de/Federal-Institute-for-Vocational-Education-and-Training-(BIBB)-Germany)
- ▶ In German: Guideline for the sustainable development of VET reporting in Vietnam  
[BIBB/VET reporting in Vietnam – a reflection on the advisory process](https://www.bibb.de/BIBB-VET-reporting-in-Vietnam-a-reflection-on-the-advisory-process)
- ▶ UNESCO indicators for vocational education and training  
[ces.uis.unesco.org](https://ces.uis.unesco.org)



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