

German

EQF Referencing Report

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für Bildung
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Abbreviations

DQR	German Qualifications Framework for Lifelong Learning
ECTS	European Credit Transfer and Accumulation System
ECVET	European Credit System for Vocational Education and Training
EQF	European Qualifications Framework for lifelong learning
HQR	Qualifications Framework for German Higher Education Qualifications

0. Executive Summary

The purpose of this report is to present the German Qualifications Framework for Lifelong Learning (known by its German abbreviation ‘DQR’) in relation to the European Qualifications Framework (EQF). To this end the EQF Advisory Group’s ten referencing criteria are explored in detail. With the aim of creating the greatest possible degree of confidence in the DQR, the key aspects – learning-outcome orientation and quality assurance in the education system, comparison of EQF and DQR descriptors, and methodological approach in allocating qualifications to the DQR – are described in detail. This is intended to help clarify the varied and complex processes in the German education system. Prior to this, the German education system and its qualifications are presented, and the development phases of the German Qualifications Framework explained.

The DQR, like the EQF, has eight levels. In order to do justice to the special characteristics of the German education system the DQR focuses firmly on the concept of ‘competences’, thereby developing the learning-outcome approach of the EQF.

- Knowledge and skills are therefore represented as aspects of professional competence.
- The descriptors incorporate new subcategories which were not explicitly mentioned in the EQF, such as “judgement”.
- Personal competence in particular has been differentiated into social competence (team/leadership skills, involvement, communication) and autonomy (autonomous responsibility/responsibility, reflectiveness and learning competence).

The DQR therefore exhibits a “four-pillar structure”. The structure of requirements which is characteristic of the DQR levels is summarised in each case with the aid of a “level indicator”.

The DQR is therefore based on an integrated understanding of competences, expressed in the concept of a holistic ability to act (see Section 3.2.). In the course of the referencing process correspondent relationships between the EQF and DQR are set out for each EQF descriptor (see Section 4.2.).

The DQR and the Referencing Report are being developed under the shared responsibility of the Federal Ministry of Education and Research (BMBF) and the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK), with the ongoing participation of the social partners and business organisations and other stakeholders and experts in the “German Qualifications Framework Working Group” (see 5.4.2). Its members have facilitated feedback on results to delegates’ home institutions and

committees. Other Federal Government and Länder ministries with special responsibility and expertise within this area have also been involved in the process. All decisions were prepared jointly in the German Qualifications Framework Working Group and are based on consensus between the stakeholders represented in it. The decisions documented in this Report have been the subject of this consensus and are taken by the stakeholders represented in the German Qualifications Framework Working Group.

So far the following qualifications have been described in accordance with the descriptors of the DQR matrix and allocated to the German Qualifications Framework:

DQR/ EQF level	Qualifications
1	Vocational training preparation [<i>Berufsausbildungsvorbereitung</i>] <ul style="list-style-type: none"> • Employment agency measures (vocational preparation schemes) [<i>Maßnahmen der Arbeitsagentur (Berufsvorbereitende Bildungsmaßnahmen – BvB)</i>] • Pre-vocational Training Year [<i>Berufsvorbereitungsjahr (BVJ)</i>]
2	Vocational training preparation [<i>Berufsausbildungsvorbereitung</i>] <ul style="list-style-type: none"> • Employment agency measures [<i>Maßnahmen der Arbeitsagentur</i>] • Year of pre-vocational training [<i>Berufsvorbereitungsjahr (BVJ)</i>] • Introductory training for young people (<i>Einstiegsqualifizierung, EQ</i>) <i>Berufsfachschule</i> [full-time vocational school] (Basic Vocational Training [<i>Berufliche Grundbildung</i>])
3	Dual vocational education and training (2-year training courses) <i>Berufsfachschule (Mittlerer Schulabschluss)</i> [full-time vocational school] (general education school leaving certificate obtained on completion of grade 10 at Realschule or, under certain circumstances, at other lower secondary school types)
4	Dual vocational education and training (three-year and three-and-a-half-year training courses) <i>Berufsfachschule</i> [full-time vocational school] (assistant occupations) <i>Berufsfachschule</i> [full-time vocational school](full vocational qualification)
5	<i>IT-Spezialist (Zertifizierter)</i> [Information Technology Specialist (Certified)], <i>Service-techniker (Geprüfter)</i> [Service Technician (Certified)]*
6	Bachelor <i>Fachkaufmann (Geprüfter)</i> [Commercial Specialist (Certified)], <i>Fachwirt (Geprüfter)</i> [Business Management Specialist (Certified)], <i>Meister (Geprüfter)</i> [Master Craftsman (Certified)], <i>Operativer IT-Professional (Geprüfter)</i> [Operative IT Professional (Certified)]* <i>Fachschule (Staatlich Geprüfter...)</i> [<i>Fachschule (State-Certified...)</i>]
7	Master <i>Strategischer IT-Professional (Geprüfter)</i> [Strategic IT Professional (Certified)]*
8	Doctoral studies

* The German Qualifications Framework Working Group agrees that additional further vocational training qualifications should be allocated in accordance with the procedure described in the DQR Manual.

The original goal was to include the qualifications from the formal sector – general education, higher education and vocational education and training, including continuing education in each case – in the first stage, while initial qualifications from the non-formal sector were to be included in a second stage. The fact that it has not been possible to fully accomplish this objective by the referencing stage is due to the consistent consideration of the above principle of consensus. Since it has not thus far been possible to reach a consensus supported by all stakeholders on the allocation of the *Allgemeine Hochschulreife* [general higher education entrance qualification] and the *Fachgebundene Hochschulreife* [higher education entrance qualification restricted to a specified field of study]) to a level on the basis of learning outcomes, in the interests of a holistic consideration for the time being the general education sector has not been allocated *as a whole*. But this does not signify any move away from the concept of a qualifications framework spanning all educational sectors. A consensual allocation of general education qualifications is now to be developed during a five-year introductory phase. There is consensus that the DQR should include all educational sectors and that the comparability of general and vocational education must be adequately reflected.

The fact that there is comparability between vocational qualifications and academic qualifications is a central result of the work for the DQR. To ensure international understanding of the education system in the Federal Republic of Germany this aspect is therefore of particular importance, as the middle qualification segment of vocational education and training is exceptionally strong in Germany and makes a major contribution to the skilled training of large parts of the working population.

- Access to many occupational fields, where other countries require education at a higher education institution, is achieved through dual vocational education and training.
- The share of higher education graduates in the workforce is therefore lower in Germany compared to other European countries.
- Further training qualifications such as *Meister* (master craftsman) and *Techniker* (technician) are comparatively more important. Basic and further vocational education and training are closely interlinked and build upon each other.

In the DQR matrix the “or” formulations express – in line with the EQF formulation “in a field of study or work” – the character of the descriptors as spanning all educational sectors. In the process of DQR allocation, discussions about the equivalence of learning outcomes from vocational education and training and those of other education sectors played a special role.

Since the descriptions of qualifications in the curricula and training regulations not habitually oriented to learning outcomes did not allow precise allocations to levels, methodologically two approaches were taken. If the experts involved in the process agreed on proposed level allocations, these were adopted. If not, the discussion across educational sectors was continued in the political bodies until a consensus was reached. The comparability of general education and vocational training is expressed, for instance, in the fact that qualifications from both the academic and the vocational sectors have been allocated to DQR levels 6 and 7 (including *Bachelor*, *Meister* [Master Craftsman], *Fachwirt* [Business Management Specialist], and *Fachschule* [full-time vocational school] degrees such as *Techniker* [Technician] and *IT Professional*).

In line with the Recommendation of the European Parliament and of the Council of the European Union of 23 April 2008 in Germany a joint coordination point is being set up: the – Federal Government/Länder Coordination Point for the German Qualifications Framework [*Bund-Länder-Koordinierungsstelle DQR*] – (see Section 4.1.). It assumes the functions of the National Coordination Point. The basis of its work is the Joint Resolution between the Standing Conference of the Ministers of Education and Cultural Affairs, the Federal Ministry of Education and Research, the Conference of Ministers of Economics of the Länder, and the Federal Ministry of Economics and Technology adopted in the German Qualifications Framework Working Group (see Annex 5.2).

In the introductory phase the Federal Government/Länder Coordination Point for the German Qualifications Framework will complete the bases of the DQR together with the German Qualifications Framework Working Group. This involves in particular:

- laying down standards and procedures for additional allocations and their description in the “DQR Manual”,
- referencing levels of qualifications within the DQR to those of the EQF,
- completing allocations in the formal area,
- developing proposals and procedures for the inclusion of the results of non-formal and informal learning,
- advising and supporting those responsible in the educational sectors with the allocation of new qualifications (on the basis of the DQR Manual) and with the reference to the EQF level on certificates,
- quality assurance measures, and
- implementing evaluation measures, and making adjustments where applicable.

The Report is divided into five sections:

- Section 1** describes the objectives of the German Qualifications Framework for Lifelong Learning (DQR).
- Section 2** describes the education system in the Federal Republic of Germany, its institutions and qualifications.
- Section 3** describes the development stages of the DQR, the committee structures, the participating stakeholders and the involvement of international experts.
- Section 4** is the focus of the report. It deals with the compliance with the referencing criteria in the referencing process and presents in the section on criterion 4 (4.4.2.) the reasoned qualifications allocations in detail.
- Section 5** provides relevant documents as an Annex and informs about the committees involved in the DQR process and their activities.

1. The German Qualifications Framework for Lifelong Learning (DQR) and its objectives

In October 2006, the Federal Ministry of Education and Research (BMBF) and the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK) agreed to work together to develop a German Qualifications Framework for Lifelong Learning (known by its German abbreviation 'DQR'). Implementing this undertaking complies with the European Commission document presented on 8 July 2005¹, the European Commission's Proposal for a Recommendation of the European Parliament and of the Council on the establishment of the European Qualifications Framework for lifelong learning of 5 September 2006², and the ensuing Recommendation of the European Parliament and of the Council which entered into force on 23 April 2008. The Federal Ministry of Education and Research and the Standing Conference set up a joint "Federal Government/Länder Coordination Group" for the German Qualifications Framework" in 2007, which was given the task of drawing up a proposal involving stakeholders from general education, higher education, and initial and continuing vocational education and training, the social partners and other experts from research and practice. This has essentially taken place within the "German Qualifications Framework Working Group" [*Arbeitskreis DQR*], the members of which have facilitated feedback on results to delegates' home institutions and committees. Other Federal Government and Länder ministers with special responsibility and expertise within this area have also been involved in the process. All decisions were prepared jointly in the German Qualifications Framework Working Group and are based on consensus between the stakeholders represented in it.

The objectives of the DQR are to

- make the German qualifications system more transparent, promote reliability, permeability and quality assurance, and clarify the comparabilities which result in the process, particularly between vocational training and general education on the one hand, and vocational training and higher education on the other, and to make differences between qualifications more apparent,
- provide stakeholders in the education and employment system with a translation device

¹ Commission of the European Communities: "Towards a European Qualifications Framework for lifelong learning", COMMISSION STAFF WORKING DOCUMENT. SEC (2005) 957. Brussels, 8 July 2005.

² Commission of the European Communities: Proposal for a RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the establishment of the European Qualifications Framework for lifelong learning. COM (2006) 479. Brussels, 5 September 2006.

to allow them to categorise qualifications better and simplify the recognition of qualifications obtained in Germany throughout Europe,

- allocate qualifications on the understanding of the comparability of general, vocational and higher education,
- promote the mobility of learners and employees between Germany and other European countries, and within Germany, to afford the best possible level of opportunity, and to promote the orientation of qualifications to competences,
- promote the idea that qualification processes should be based on learning outcomes (“outcome orientation”),
- improve opportunities for the validation of results of non-formal and informal learning in order to reinforce lifelong learning as a whole.

The allocation of the qualifications within the German education system to the reference levels of the DQR should not replace the existing system of admission entitlements. Directive 2005/36/EC is unaffected³. Allocation takes place in accordance with the principle that each qualification level should generally be accessible via various educational pathways. Achieving a certain reference level of the DQR does not provide automatic admission to training courses or courses of education in the next higher level. Nor has the achievement of a reference level been considered in conjunction with the implications for collective wage agreements and laws relating to remuneration.

All relevant stakeholders were involved in drawing up the DQR at an early stage. These include experts and practitioners from all educational sectors: ministries of education, cultural affairs and economy, social partners (trade associations, trade unions), representatives of higher education institutions, vocational education and training, general continuing education, and representatives of research institutes.

It was always a key aim of the stakeholders involved in the DQR development process to ensure maximum transparency to the general public. Through regular public debates, hearings and communications from the German *Bundestag*, information from the Federal Government, meetings and conferences, and the website www.deutscherqualifikationsrahmen.de, the latest state of play regarding implementation of the DQR has been published and discussed in expert forums at national and international level. The various interest groups and the expert public were informed in detail about developments and results by this means.

³ Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications (OJ L 255 of 30 September 2005, p. 22), as amended by Council Directive 2006/100/EC (OJ L 363 of 20 December 2006, p. 141).

Stakeholders and interest groups demonstrated great interest in the DQR process from the outset, and actively participated in it. Their extensive involvement has proved extremely beneficial to the development of the DQR.

Back in 2005 Germany adopted a Qualifications Framework for German Higher Education Qualifications (HQR), and then completed self-certification in 2008 in the context of the European Higher Education Area. The option of developing a framework incorporating other areas of the education system (particularly vocational training and continuing education) has already been put forward in this context. In developing the DQR attention was paid to compatibility with the HQR. In this sense the DQR represents a framework which extends across educational sectors.

2. The education system in the Federal Republic of Germany

The education system in the Federal Republic of Germany is a state-run, predominantly public-sector, legally regulated structure comprising various education institutions. Under Article 30 of the Basic Law, it falls within the cultural sovereignty of the Länder and therefore has a federal structure. In some educational sectors, other public and non-public institutions are involved in design and maintenance.

The federal German education system is a historically grown structure of education offers for people of all ages, from early childhood education in the elementary sector to the field of adult education in the sense of lifelong learning. The formal education system is divided into school-based general education, vocational education and training, including initial vocational education and training and the further training opportunities building on it, higher education and continuing education.

In the following Section, the political responsibilities in the different education areas are first described. The structure of the education system is then presented schematically. Finally, the different education formats and the resulting qualifications are explained in the educational sectors “general education”, “vocational education and training”, “higher education” and “continuing education”.

2.1. Political responsibilities

The Federal Republic of Germany consists of 16 states [Länder]. They have responsibility for legislation and administration in the areas education, science and culture. The distribution of legislative competence between the Federal Government and the Länder is defined in the Basic Law, in that the *Länder shall have the right to legislate insofar as the Basic Law does not confer legislative power on the Federal Government* (Article 70). Educational and cultural legislation is therefore primarily the responsibility of the Länder.

In the education system, this is especially relevant with regards to schools, higher education and the area of adult education/continuing education. A decisive factor in the development of the German education system in a similar direction in each of the Länder from 1945 onwards was the cooperation of the Länder in the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany [*Kultusministerkonferenz*], which was founded in 1948. The Standing Conference brings together the ministers and sena-

tors of the Länder responsible for education and training, higher education and research, and also cultural affairs. Cooperation within the Standing Conference has led to uniform and comparable developments in many areas of the school and higher education system.

Within the Federal Government, the Federal Ministry of Education and Research [*Bundesministerium für Bildung und Forschung* – BMBF] is primarily responsible for the Federal Government's areas of responsibility in the educational sector. Wherever necessary, consultations between the Federal Government and the Länder take place in the *Bundesrat*, the Joint Science Conference [*Gemeinsame Wissenschaftskonferenz* – GWK], the Standing Conference of the Ministers of Education and Cultural Affairs and the Science Council [*Wissenschaftsrat*].

Under the Basic Law [*Grundgesetz*] and the constitutions of the Länder, the entire **school system** is under the supervision of the state. Schools are, as a rule, institutions of the local authorities or the Länder. **Higher education institutions** are also institutions of the Länder. In addition, there are church-run or other privately-run schools and institutions of higher education.

In the school sector the Standing Conference ensures, through its resolutions and agreements, the conformity or comparability of courses of education and qualifications at schools in the individual Länder. The same is true of teacher training. In this way the Standing Conference maximises mobility for learners and teachers. In its recommendations on subjects and areas of learning it also lays down content requirements which have to be implemented in the Länder curricula. Since the so-called “*Hamburger Abkommen*” [Hamburg Agreement] adopted in 1964, alongside general provisions on the academic year, the start and duration of compulsory schooling and the holidays, there are also rules on standard terms in the school system, forms of organisation, the recognition of examinations and certificates, and names used in the grading system.

As regards **vocational training**, the Federal Government is responsible for in-company vocational training, and the Länder are responsible for vocational training in schools. In dual vocational education and training, which takes place in cooperation between two places of learning, in schools and at the *Berufsschule* (part-time vocational school), the Federal Government and the Länder agree on fundamental issues and in particular on training rules and regulations for the places of learning. Due to the fact that the responsibility is divided, a Coordinating Committee for Vocational Education and Training was set up on the basis of an agreement entered into in 1972. This Committee deals with fundamental issues relating to the coordination of in-company vocational education and training and vocational training in the *Berufsschule* in recognised training occupations [*anerkannte Ausbildungsberufe*] under federal law. An on-going task of the Coordinating Committee is the re-structuring of training occupations, harmonising training regulations and framework curricula for training in companies and at school. In the

Coordinating Committee, the Federal Government is represented by the Federal Ministry of Education and Research, the Federal Ministry of Economics and Technology [*Bundesministerium für Wirtschaft und Technologie* – BMWi], and by the competent Ministry for the respective occupation. The Länder are represented by the members of the Standing Conference’s Committee for Vocational Education and Training [*Fachausschuss für Berufliche Bildung*]. The Federal Ministry of Education and Research embraces the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung* – BIBB]. It is a public institution which is directly accountable to the Federal Government and is responsible for researching and developing initial and continuing vocational education and training in Germany. It is a major instrument for cooperation between employers, trade unions, Federal Government and Länder at national level. Under the Vocational Training Act [*Berufsbildungsgesetz*] the Institute is responsible inter alia for taking part, in accordance with the instructions of the competent federal ministry, in the drafting of training regulations and other ordinances.

Vocational education and training in Germany is based on the consensus principle. Whenever major decisions on structure and substance have to be taken, such decisions are reached in cooperation between the Federal Government and the Länder, employers and employees. These groups – as well as a representative of the municipal associations, the Federal Employment Agency [*Bundesagentur für Arbeit*] and the advisory council acting as advisors – are members of the Federal Institute for Vocational Education and Training’s Board, which thus represents the “Round Table” of vocational education and training.

Decisions on **continuing vocational education and training** are made jointly by employers and employees in Germany. However, through implementing an active continuing education policy with its incentives and regulatory functions, the State can contribute to

- an increase in vocational participation in continuing education,
- an increase in participation in in-company continuing education by employees,
- an improved continuing education participation by certain target groups, e.g. low-skilled persons, women, the elderly, persons with a migration background.

A sub-area is subject to state regulation (regulated vocational further training). The Federal Government is responsible for the enactment of further training regulations.

The regulation of and assistance for **general continuing education**, continuing education leading to school qualifications, continuing vocational education and training at *Fachschulen* and continuing education with an academic bias, as well as some areas of political continuing education, is in the hands of the Länder. The responsibilities of the Federal Government refer in

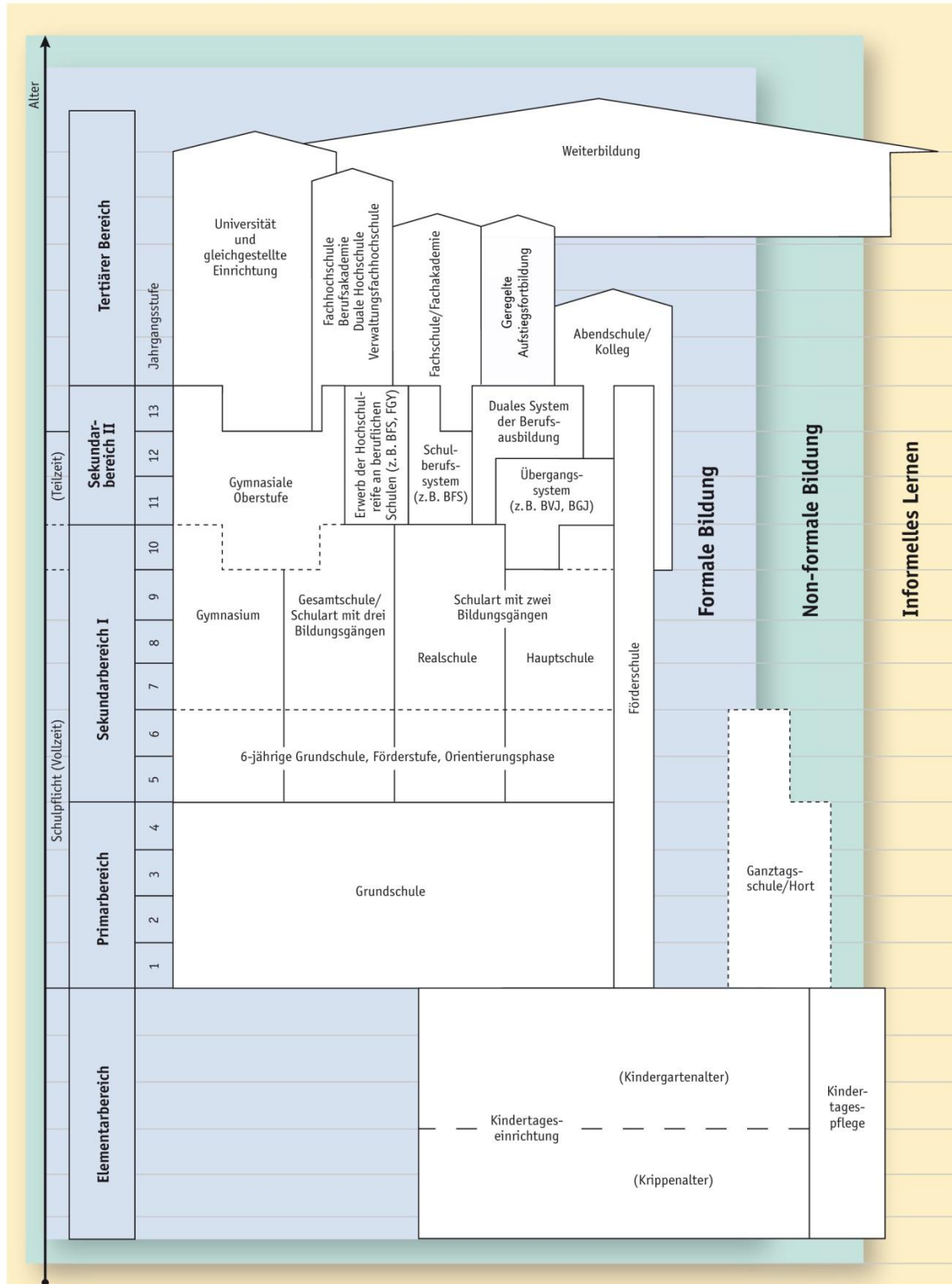
particular to continuing vocational education and training outside the school context, the development of new approaches to continuing education through pilot projects, certain elements of political continuing education and statistical matters relating to continuing education. The promotion of continuing vocational education and training under the Social Security Code [*Sozialgesetzbuch*] III is the responsibility of the Federal Employment Agency. Responsibility for further vocational training as regulated by the Vocational Training Act [*Berufsbildungsgesetz*] and the Handicrafts Code [*Handwerksordnung*] lies with the Federal Ministry of Education and Research. Further education courses for which there is a regional need only are regulated by the competent bodies, generally the relevant chambers (e.g. chambers of handicrafts, chambers of industry and commerce), under their own responsibility. Responsibility for the master craftsman examinations as regulated by the Handicrafts Code lies with the Federal Ministry of Economics and Technology. The funding of continuing education by all those involved reflects the complex pattern of responsibility for this sector. In addition, there are numerous continuing education offers in place which are implemented without state regulation on the free market (see Section 2.6).

2.2. Design and basic structure

The education system is structured in educational sectors (general education, vocational education and training, higher education and continuing education), in educational levels (elementary, primary, secondary and tertiary levels) and in courses of education, which are in turn allocated to different education institutions. The following figure 1 presents the structure of the education system of the Federal Republic of Germany in line with this categorisation. The size of the fields in the figure does not reflect any quantitative conditions.

Figure 1: Places of Learning and Spheres of Learning in Germany

(Source: Bildung in Deutschland 2012 [Education in Germany 2012], p. XI; slightly amended)



Glossary: Places of Learning and Spheres of Learning in Germany

BFS = Berufsfachschule	full-time vocational school at upper secondary level
BGJ = Berufsgrundbildungsjahr	basic vocational training year
BOS = Berufsoberschule	full-time / part-time vocational school at upper secondary level
BVJ = Berufsvorbereitungsjahr	pre-vocational training year
Duales System der Berufsausbildung	dual system of vocational education and training
Elementarbereich	pre-school education
Fachhochschule	University of Applied Science
FGY = Fachgymnasium	school at upper secondary level including both general education and career-oriented subjects leading to the general higher education entrance qualification
Förderschule	special school
Formale Bildung	formal education
FOS = Fachoberschule	two-year vocational school at upper secondary level leading to the qualification to study at a University of Applied Science
Geregelte berufliche Aufstiegsfortbildung	regulated further vocational training
Gesamtschule/ Schulart mit drei Bildungsgängen	comprehensive school/ school offering three types of course of education
Grundschule	primary school
Gymnasium	school type of general education covering lower and upper secondary level leading to the general higher education entrance qualification
Hort	establishment offering care and supervision of schoolchildren outside of lessons
Informelles Lernen	informal learning
Kindergartenalter	kindergarten age
Kindertageseinrichtung	pre-school education
Kindertagespflege	child day-care
Krippenalter	crèche age
Non-formale Bildung	non-formal education
Primarbereich	primary education
Schularten mit zwei Bildungsgängen	schools offering two types of course of education
Sekundarbereich I	lower secondary education
Sekundarbereich II	upper secondary education
Tertiärer Bereich	tertiary education sector
Übergangssystem	transitional sector
Universitäten und gleichgestellte Hochschulen	universities and equivalent institutions of higher education
Verwaltungsfachhochschule	University of Applied Science for public administration
Vollzeit	full-time
Vollzeitschulpflicht	compulsory full-time schooling
Weiterbildung	continuing education

The following Table contains quantitative data on the use of the education offers.

Table 1: Number of participants in education institutions in the 2010/11 school year

(Quantitative data taken from: Bildung in Deutschland 2012 [Education in Germany 2012], p. 227)

Day-care centres for children		3,122,700	
General education schools	Sub-total	8,796,894	
	Of which	<i>Grundschulen</i> [primary level]	2,837,737
		<i>Hauptschulen</i> [lower secondary level]	703,525
		<i>Realschulen</i> [lower secondary level]	1,166,509
		<i>Gymnasien</i> [lower and upper secondary levels]	2,475,174
Schools offering several courses of education/integrated comprehensive schools	955,622		
Vocational schools	Sub-total	2,687,974	
	Of which: <i>Berufsschulen</i> [part-time vocational schools] (school part of training in the dual system)	1,697,868	
Higher education institutions		2,217,294	
Total		16,824,862	

Table 2 shows the new entrants in the different segments of the vocational training system in 2010.

Table 2: New entrants in the vocational training system 2010

(Quantitative data taken from: Bildung in Deutschland 2012 [Education in Germany 2012], p. 277)

Dual system	509,901
School-based occupation system	212,364
Transitional sector	320,172
Vocational education and training under a public-sector training contract (training for middle grade civil servants)	7,314
Vocational training system as a whole	1,049,751
For comparison: new entrants in higher education	444,719

2.3. General education

The general education area is a central and key area within the education system: it has the highest number of students, schools and teachers. It is comprised of all education institutions and courses of education in the primary and secondary levels (with the exception of vocational courses of education provided at upper secondary level vocational schools) and in some Länder also includes parts of pre-school education (e.g. pre-school classes, school kindergartens). The general education school system is an overall system organised along horizontal levels, with vertical courses of education which ensure reciprocal permeability.

On 18 November 2010, the Standing Conference adopted a position paper on “educational and legal aspects in the implementation of the United Nations Convention of 13 December 2006 on the Rights of Persons with Disabilities in school education” [*Pädagogische und rechtliche Aspekte der Umsetzung des Übereinkommens der Vereinten Nationen vom 13. Dezember 2006 über die Rechte von Menschen mit Behinderungen [Behinderten-rechtskonvention – VN-BRK] in der schulischen Bildung*]. It forms the basis for the recommendations on the inclusive education of children and young people with disabilities in schools of 20 October 2011.

The recommendations on inclusive education take up the basic positions of the “Recommendations on Special Education in Schools in the Federal Republic of Germany” [*Empfehlungen zur sonderpädagogischen Förderung in den Schulen in der Bundesrepublik Deutschland*] (Resolution of the Standing Conference of 6 May 1994), including the recommendations on promotion priorities, and provide the framework conditions for increasingly inclusive teaching practice in general and vocational schools.

2.3.1. Pre-school education: day-care for children

Pre-school education incorporates institutions (e.g. nursery schools, kindergarten, child day-care facilities) catering for children from a few months to six years, the age at which they usually start school. Children of school age who have not yet attained a sufficient level of development to attend a school have a further option in some Länder (e.g. *Schulkindergärten* and *Vorklassen*). These institutions are allocated either to the pre-school sector or the primary sector according to the particular Land. Attendance is usually voluntary, although in most of the Länder it can be made compulsory. Traditionally in Germany children under the age of three years are looked after in *Kinderkrippen* (crèches) and children from the age of three up to starting school in *Kindergarten*. Every child from the age of three up to starting school has a legal right

to day-care in a child day-care facility or in a child-minding service. Day-care for children is part of child and youth welfare. In each of the Länder it is regulated by Land law.

Day-care centres for children are called upon to encourage the child's development into a responsible and autonomous member of the community. This includes instructing, educating and caring for the child. Under the joint framework of the Länder for early education in day-care centres for children [*Gemeinsamer Rahmen der Länder für die frühe Bildung in Kindertageseinrichtungen*], the focus lies on communicating basic competences and developing and strengthening personal resources, which motivate children and prepare them to take up and cope with future challenges in learning and life, to play a responsible part in society and be open to lifelong learning.

2.3.2. Primary education: *Grundschule* (primary school)

As a rule children are required to attend school in the year in which they reach the age of six. All pupils in Germany enter the *Grundschule* which covers grades 1 to 4. In Berlin and Brandenburg, the *Grundschule* covers six grades.

For pupils with special educational needs whose development cannot be adequately assisted at mainstream schools, there is a range of special schools [*Förderschulen*], are also known as *Sonderschulen*, *Förderzentren* or *Schulen für Behinderte* in some Länder.

Lessons at primary school initially focus on reading, writing and arithmetic. Teaching takes place both in lessons concentrating on a specific subject or area and in cross-disciplinary classes. As a rule subjects include German, mathematics, *Sachunterricht*, art, music and sport, and in most Länder religious instruction. The Länder have developed various approaches systematically enabling a first encounter with foreign languages at primary school age. The curricula are published as ordinances of the Ministries of Education and Cultural Affairs of the Länder.

2.3.3. Transition from primary to secondary education

The transition from the *Grundschule* (primary school) to one of the different lower secondary school types where pupils remain at least until the completion of their full-time compulsory education is dealt with differently depending on Land legislation. The vote of the school which the pupil is leaving is taken as a basis for the decision or as guidance in the decision regarding the pupil's future school career. This is accompanied by detailed consultations with parents.

The final decision is taken either by the parents or the school or school supervisory authority. For certain school types, it is dependent on pupils demonstrating a certain level of ability and/or on the capacity available in the desired school.

2.3.4. Lower secondary education

Secondary education breaks down into lower secondary level [*Sekundarstufe I*], which comprises the courses of education from school grades 5/7 to 9/10, and upper secondary level [*Sekundarstufe II*], which comprises all the courses of education that build on the foundations laid in the lower secondary level.

The function of all the courses of education at lower secondary level is to prepare pupils for courses of education at upper secondary level, completion of which is required for vocational qualification or admission to university. Accordingly, courses of education at lower secondary level are predominantly of a general nature whereas, apart from the *Gymnasium*, vocational courses of education predominate at upper secondary level (see Section 2.4., Vocational education and training).

Lower secondary education comprises the following types of school:

- **Hauptschule:** The *Hauptschule* provides its pupils with a basic general education. It normally covers grades 5–9. With ten years of compulsory full-time education, the *Hauptschule* also includes grade 10. As a rule, the subjects taught at *Hauptschulen* include German, a foreign language (usually English), mathematics, physics/chemistry, biology, geography, history, *Arbeitslehre* (i.e. pre-vocational studies) and social studies, music, art, sport, religious education and, in some Länder, domestic science and economics and other work-related subjects.
- **Realschule:** The *Realschule* provides a more extensive general education. The standard *Realschule* covers grades 5 to 10. As a rule, the subjects taught at *Realschulen* include German, a foreign language (usually English), mathematics, physics, chemistry, biology, geography, history, politics, music, art, sport and religious education. In addition to compulsory courses, pupils are generally required to take three to six hours a week of compulsory electives from grade 7 or 8 onwards. According to their personal inclinations and abilities, the pupils may take additional classes in certain compulsory subjects or choose new subjects, including, among others, a second foreign language (usually French) from grade 7 or 8. Some Länder provide the option of choosing a second foreign language from as early as grade 6. A *Realschule* leaving certificate qualifies a pupil to transfer to a school that pro-

vides vocational or higher education entrance qualification.

- ***Gymnasium***: The *Gymnasium* provides an intensified general education. The course of education in the standard *Gymnasium* comprises both the lower and upper secondary level and covers grades 5 to 13 or 5 to 12 (or grades 7 to 13 or 7 to 12 following a six-year primary school). In almost all Länder, the conversion from nine to eight years at the *Gymnasium* is currently under way (G9 – G8). In grades 5–10 of the *Gymnasium*, which comprise the lower secondary level there, the main subjects taught are: German, at least two foreign languages, mathematics, physics, chemistry, biology, geography, history, politics, music, art, sport and religious education.
- ***Gesamtschule***: The *Gesamtschule* is a school offering more than one type of course of education – usually *Hauptschule*, *Realschule* and *Gymnasium*.
- **Schools offering several courses of education** bring two or three courses of education under one umbrella – usually *Hauptschule* and *Realschule*. The *Hauptschule* and *Realschule* courses of education are also offered at schools offering several courses of education, the names of which differ from one Land to another.

2.3.5. Upper secondary education

Upper secondary education comprises the following types of school:

- *Gymnasium*,
- *Gesamtschule*,
- *Abendgymnasium*, *Kolleg*,
- *Berufsbildende Schule* (vocational school; see Section 2.4. Vocational education and training).

The *Gymnasium* course of education is also offered at the *Gesamtschule*, which is a comprehensive school. In the cooperative comprehensive schools, three courses of education [*Hauptschule*, *Realschule* and *Gymnasium*] are brought under one educational and organisational umbrella; these form an educational and organisational whole at the integrated *Gesamtschule*. *Gesamtschule* provision varies in accordance with the respective educational laws of the Länder. Three courses of education are also offered at the following types of school: *Integrierte Sekundarschule* (Berlin), *Oberschule* (Bremen), *Stadtteilschule* (Hamburg), and to some extent the *Regionale Schule* (Mecklenburg-Western Pomerania) and the *Gemeinschafts-*

chule (Schleswig-Holstein, Thuringia).

The courses of education provided at general education schools within the *gymnasiale Oberstufe*, i.e. the upper secondary level, lead to a higher education entrance qualification. The aim of learning and work within the upper level of the *Gymnasium* is to obtain the *Allgemeine Hochschulreife*, which gives the holder access to higher education and also enables them to commence a course of vocational training. The instruction at the *gymnasiale Oberstufe* provides an in-depth general education, general capacity for academic study and the propaedeutics of scientific work. Of particular importance are in-depth knowledge, skills and competences in the subjects German, a foreign language and mathematics. The instruction offers an introduction to academic issues, categories and methods, and provides an education which facilitates the development and strengthening of personality, the shaping of a socially responsible life, and participation in democratic society. Instruction at the *gymnasiale Oberstufe* includes appropriate information on higher education institutions, on occupational fields, and on the structures and requirements of higher education study programmes and of the professional and working world.

The subjects at the *gymnasiale Oberstufe* are taught at different levels of academic standards in accordance with the Uniform Examination Standards in the *Abitur* Examination [*Einheitliche Prüfungsanforderungen in der Abiturprüfung*]. They are divided into basic and intensified courses. The basic courses teach the propaedeutics of scientific work, and the intensified courses provide in-depth teaching of the propaedeutics of scientific work by way of specific examples.

The *gymnasiale Oberstufe* ends with the *Abitur* examination. The *Abitur* provides the student with certification of the *Allgemeine Hochschulreife* (general higher education entrance qualification), which allows for access to any study course at the university as well as for comparable vocational training.

In the general education sector, the *Abitur* examination takes place at the end of the *Gymnasiale Oberstufe*, i.e. the upper level of the *Gymnasium* or a *Gesamtschule*. The *Allgemeine Hochschulreife* can, however, also be acquired in institutions of vocational education, especially in the vocational *Gymnasium*, the *Fachoberschule* offering grade 13, and the *Berufsoberschule*.

Through the so-called “*Zweiter Bildungsweg*” (second chance education), ***Abendgymnasien and Kollegs*** provide adults with the opportunity to obtain the *Allgemeine Hochschulreife*. Those preparing independently for the *Abitur* can also acquire it through a non-pupil or external examination. An amended version of the examination for non-pupils is also completed by pupils of *Waldorfschulen*.

In Germany, there are the following three types of higher education entrance qualifications:

- The **Allgemeine Hochschulreife** is the school-leaving qualification which enables access to any study course at a university or other higher education institution. The basic structure of the *gymnasiale Oberstufe* includes a division into a one-year introductory phase and a two-year qualification phase. The *Allgemeine Hochschulreife* is obtained after 12 or 13 years of schooling. The basis is formed by the Resolution of the Standing Conference on the “Agreement on the structure of the *gymnasiale Oberstufe* in the upper secondary level” [*Vereinbarung zur Gestaltung der gymnasialen Oberstufe in der Sekundarstufe II*] of 7 July 1972 as amended on 9 February 2012.
- The **Fachgebundene Hochschulreife** (higher education entrance qualification restricted to a specified field of study) as a limited higher education entrance qualification (a second foreign language is not acquired) permits entry only to specified subjects at universities and equivalent institutions as well as all courses of studies at universities of applied sciences. The *Fachgebundene Hochschulreife* is usually acquired at *Berufsoberschulen*, but may also be acquired at other schools with a *gymnasiale Oberstufe*. The certificates include the *Fachhochschulreife* [higher education entrance qualification for the *Fachhochschule* (university of applied sciences)]. The higher education entrance qualification restricted to a specified field of study is also obtained by graduates of a two-year vocational education and training course regulated by federal or *Länder* laws under the *Vocational Training Act* [*Berufsbildungsgesetz*]/Handicrafts Code [*Handwerksordnung*] in an area related to the study course being followed who also have at least three years of professional practice in a related area. An additional examination evaluates aptitude.
- The **Fachhochschulreife** entitles holders to study at a university of applied sciences [*Fachhochschule*] or to enter a corresponding study course at another higher education institution. The *Fachhochschulreife* is comprised of a school-based part (i.e. upper secondary level general and vocational schools) and a work-related part (as a rule, a completed vocational education and training course, one year work placement). Students of the *gymnasiale Oberstufe*, who graduate from school without acquiring the *Allgemeine Hochschulreife*, may apply for the recognition of the acquisition of the *Fachhochschulreife* (school-based part) at the earliest when they have completed two school semesters in the final two years of upper *Gymnasium* level [*Qualifikationsphase*].

2.4 Vocational education and training

In the Federal Republic of Germany the vocational education and training system is of central importance. The middle qualification segment of vocational education and training is exceptionally strong and makes a major contribution to the skilled training of large parts of the working population. The generation of higher qualifications in Germany is the responsibility not only of academic education but also of vocational training. This contributes significantly to the strength of the German innovation system.

Training in the dual system, i.e. training in companies and in the *Berufsschule* (part-time vocational school), has a leading role. This form of training is complemented by a range of school-based forms of vocational training.

In Germany, access to many occupational fields is achieved through dual vocational education and training where other countries require education at a higher education institution. This means that the share of higher education graduates in the workforce is lower in Germany compared to other European countries. For that reason, further training qualifications such as *Meister* (master craftsman) and *Techniker* (technician) are comparatively more important. Individuals with these further training qualifications – like academics – are regarded as highly qualified workers and make up 10 per cent of the overall working population. Basic and further vocational education and training are closely interlinked and build upon each other.

The German vocational education and training system has divided into three major sectors each with their own institutional structures: the dual system of in-company and school-based training as the largest sector in quantitative terms, the vocational school system, and the transitional sector between general education schools and regular vocational education and training, in which different types of vocational preparation competences are taught rather than a full vocational qualification.

Of those pupils who have acquired the *Allgemeine Hochschulreife*, around one-fifth complete vocational education and training in the dual system or in the school-based occupation system, i.e. the system of school-based training for recognised training occupations. Three-quarters commence a higher education degree course.

Most pupils who leave school with a *Mittlerer Schulabschluss* transition into the dual system or the school-based occupation system, while only a small percentage of them go into vocational preparation schemes offered by the transitional sector.

For a large proportion of those graduating from the *Hauptschule* the path leads to vocational education and training through the transitional sector. This applies particularly to pupils leaving without a secondary general school certificate.

New entrants into the three sectors of the vocational education and training system in 2010 were divided as follows:

- dual system: 48.9 %
- school-based occupation system: 20.4 %
- transitional sector: 30.7 %

The following table lists the different courses of education and the main places of learning in the vocational education and training system. The subsequent sections describe in detail the basic and further vocational education and training systems which build upon each other.

Table 3: Overview of courses of education and qualifications in vocational education and training

Vocational course of education	Qualification/acquired entitlements	Legal basis/special features
Dual system of vocational education and training		
Dual vocational education and training (in-company + part-time in vocational schools)	<p>Skilled worker [<i>Facharbeiter</i>], journeyman [<i>Geselle</i>], specialised employee [<i>Fachangestellter</i>]</p> <p><i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fach-hochschule</i> (university of applied sciences)] following an additional examination</p> <p>Access to higher education for vocationally qualified applicants without a higher education entrance qualification</p>	<p>Vocational Training Act [<i>Berufsbildungsgesetz</i>] or Handicrafts Code [<i>Handwerksordnung</i>]</p> <p>Federal training ordinances</p> <p>Framework curricula for the <i>Berufsschule</i> (part-time vocational school) in accordance with the Resolution of the Standing Conference</p> <p>Länder ordinances on the <i>Berufsschule</i></p> <p>Agreement on the acquisition of the <i>Fachhochschulreife</i> in vocational courses of study (Resolution of the Standing Conference of 5 June 1998 as amended on 9 March 2001)</p> <p>Higher education access for vocationally qualified applicants without a higher education entrance qualification (Resolution of the Standing Conference of 6 March 2009)</p>
Regulated vocational further training		
Further training examinations through the compe-	e.g. Master Craftsman in Industry [<i>Industriemeister</i>], Business Management Spe-	Vocational Training Act [<i>Berufsbildungsgesetz</i>] or Handicrafts Code [<i>Handwerksordnung</i>]

<p>tent authorities (chambers)</p>	<p>cialist [<i>Fachwirt</i>], Commercial Specialist [<i>Fachkaufmann</i>]</p> <p>Access to higher education for vocationally qualified applicants without a higher education entrance qualification</p>	<p>Federal training ordinances</p> <p>The attendance of training courses is not obligatory. Training courses to prepare for the further training examination are offered by private educational providers.</p> <p>Higher education access for vocationally qualified applicants without a higher education entrance qualification (Resolution of the Standing Conference of 6 March 2009)</p>
<p>Vocational education in schools</p>		
<p>Fully qualifying vocational training at the <i>Berufsfachschule</i> (full-time vocational school) under the Vocational Training Act [<i>Berufsbildungsgesetz</i>]</p>	<p>Skilled worker [<i>Facharbeiter</i>], journeyman [<i>Geselle</i>], specialised employee [<i>Fachangestellter</i>]</p> <p><i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fach-hochschule</i> (university of applied sciences)] following an additional examination</p> <p>Access to higher education for vocationally qualified applicants without a higher education entrance qualification</p>	<p>Vocational Training Act [<i>Berufsbildungsgesetz</i>] or Handicrafts Code [<i>Handwerksordnung</i>]</p> <p>Federal training ordinances</p> <p>Framework curricula for the <i>Berufsschule</i></p> <p>Regulations for the <i>Berufsfachschule</i></p> <p>Agreement on the acquisition of the <i>Fachhochschulreife</i> in vocational courses of study (Resolution of the Standing Conference of 5 June 1998 as amended on 9 March 2001)</p> <p>Higher education access for vocationally qualified applicants without a higher education entrance qualification (Resolution of the Standing Conference of 6 March 2009)</p>
<p>Training in assistant occupations in the <i>Berufsfachschule</i> (full-time vocational school)</p>	<p>State-certified assistant</p> <p><i>Fachhochschulreife</i> and/or <i>Allgemeine Hochschulreife</i> (general higher education entrance qualification) following additional examination</p> <p>Access to higher education for vocationally qualified applicants without a higher education entrance qualification</p>	<p>Ordinances regulated under Land law</p>
<p><i>Fachoberschule/ Berufsoberschule</i></p>	<p><i>Fachhochschulreife Fachgebundene Hochschulreife</i> (higher education entrance qualification restricted to a specified field of study)</p> <p><i>Allgemeine Hochschulreife</i> (general higher education entrance qualification)</p>	<p>Ordinances regulated under Land law</p> <p>As well as the ability to study, the professional ability to act is also developed.</p>
<p><i>Berufliches Gymnasium/Fachgymnasium</i></p>	<p><i>Allgemeine Hochschulreife</i></p>	<p>Ordinances regulated under Land law</p> <p>In addition to the tasks of the general education <i>Gymnasium</i>, these include work-related disciplines and specialisations such as economics, technology,</p>

		professional information technologies, nutrition, agricultural science, and health and social issues, which may be chosen instead of general education subjects as a second subject with an intensified requirement level and which are also examination subjects in the <i>Abitur</i> examinations.
Further vocational training at <i>Fachschulen/Fachakademien</i>		
Further training at a <i>Fachschule/Fachakademie</i>	e.g. State Certified Technician [<i>Staatlich geprüfter Techniker</i>], Certified Business Administrator [<i>Betriebswirt</i>] <i>Fachhochschulreife</i> following an additional examination Access to higher education for vocationally qualified applicants without a higher education entrance qualification	Ordinances regulated under Land law Framework Agreement on <i>Fachschulen</i> , Decision of the Standing Conference dated 03.03.2010 Agreement on the acquisition of the <i>Fachhochschulreife</i> in vocational courses of study (Resolution of the Standing Conference of 5 June 1998 as amended on 9 March 2001) Higher education access for vocationally qualified applicants without a higher education entrance qualification (Resolution of the Standing Conference of 6 March 2009)
Transitional sector between general education schools and vocational education		
Basic vocational training year at a <i>Berufsfachschule</i> (full-time vocational school), with some practical in-company training (full-time school/cooperative)	Basic vocational training Crediting as the first training year in the event of transition into a dual vocational education and training course regulated by Land law	Framework Agreement on <i>Berufsfachschulen</i> (Resolution of the Standing Conference of 28 February 1997 as amended on 7 December 2007) Curricula are regulated by Land law Acquisition of a subject-specific basic vocational training, promotion of the professional ability to act
Pre-vocational training year at a <i>Berufsschule</i> (part-time vocational school) or through education providers	Parts of the basic vocational training, where applicable the secondary general school certificate	Pre-vocational school study course, regulated by Land law Preparation for entering vocational training or employment
Vocational preparation scheme through education providers	Basic vocational qualification, where applicable the secondary general school certificate	Social Security Code [<i>Sozialgesetzbuch</i>] III Section 51 Preparation for starting vocational training or facilitating professional insertion
Introductory training in companies and at a <i>Berufsschule</i> (part-time vocational school)	Parts of the first year of training for a training occupation, where applicable qualification modules under the Vocational Training Act [<i>Berufsbildungsgesetz</i>]	Social Security Code [<i>Sozialgesetzbuch</i>] III Section 54 a In-company introductory training serves to impart and deepen the basic foundations enabling young people to act in a professional ability. Where in-company introductory training is implemented as vocational training preparation under the Vocational Training Act [<i>Berufsbildungsgesetz</i>], Sections 68 to 70 of the Vocational Training Act apply.

2.4.1. In-company initial and further vocational education and training

2.4.1.1. Dual system of vocational education and training

A core element of vocational education and training in Germany is training within the dual system. About two thirds of the young people of any one age cohort undergo vocational education in the dual system, taking two to three-and-a-half years, depending on the occupation. It is described as a *dual system* because training is carried out in two places of learning: in companies and in a *Berufsschule* (part-time vocational school). The aim of vocational education and training is to impart, within a structured course of training, the vocational skills, knowledge and abilities necessary to practise a skilled occupation in a changing professional world. Additionally, it is intended to provide the necessary professional experience. Those successfully completing the training are immediately entitled to perform skilled work in one of presently 344 recognised training occupations.

Compulsory full-time schooling must be completed before commencing vocational education and training. There are no other formal prerequisites for access to training in the dual system; training in the dual system is generally open to everyone. The training is based on a training contract under private law between a training company and the trainee. The trainees spend three or four days a week in the company and up to two days or in blocks of one or several weeks at the *Berufsschule*. The training companies assume the costs of the on-the-job training and pay the trainee a training allowance which, as a rule, is regulated in accordance with a collective bargaining agreement. The amount of the allowance increases with each year of training and is, on average, about a third of the starting salary for a specialist trained in the corresponding occupation.

The vocational skills, knowledge and abilities to be acquired in the course of in-company training are set out in the training regulation, the particulars of which are specified by the training company in an individual training plan. A framework curriculum is drawn up for vocational *Berufsschule* classes for each recognised training occupation as set out in the training regulations, structured along learning fields.

Examinations in vocational education and training are of major importance for the labour market. For businesses, they are helpful in determining if the applicant has the necessary competences for the job vacancy in question. For the applicant, they provide evidence of the competences acquired and therefore of suitability for the post. The examination system in the dual system is regulated consistently in federal law by part 5 of the Vocational Training Act [*Berufsbildungsgesetz*] (Sections 37-50). This stipulates that final examinations must be carried

out for recognised training occupations. The final examination is to determine whether the candidate has acquired the professional ability to act and has the necessary vocational skills, knowledge and competences. The basis is provided by the respective training regulations.

The final examination is taken by examination boards of the competent authorities (chambers), consisting of at least three members [representatives of employers, employees and *Berufsschulen* (part-time vocational schools)]. The members must be knowledgeable about the examination areas and suitable to participate in the examination system. The competent authority adopts an examination regulation for the final examination. The Board [*Hauptausschuss*] of the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*] has adopted guidelines for this.

The further training qualifications regulated by Federal law under the Vocational Training Act [*Berufsbildungsgesetz*] and Handicrafts Code [*Handwerksordnung*] are closely connected to the vocational qualifications of the dual system and build upon these (see Section 2.4.1.2 on regulated further education under the Vocational Training Act and Handicrafts Code).

In-company training

Vocational training places are available in companies in industry and in the civil service sector, in independent professions and, to a lesser extent, also in private households. The training companies are contractually committed to impart to the trainees the vocational skills, knowledge and abilities (professional ability to act) laid down provided for in the training regulations for the respective recognised training occupation. The trainees assume tasks in the company and learn through *well thought-out and systematic work experience*. This takes up at least 50 per cent of the training time. The cooperation between the two places of learning, i.e. company and school, as the basic principle of dual vocational education and training is based on the understanding that every occupation has to be learned through experience. The basis is provided by a vocational education and training plan spanning the places of learning.

The companies take responsibility for ensuring that trainees are successful in their learning. The binding training regulations have been established to set uniform national standards that are independent of the companies' current operational needs and meet the requirements in the respective occupation. Training may only be provided in training companies in which the competences demanded by the training regulation can be imparted by training personnel with the necessary personal and specialist expertise. This aptitude usually has to be demonstrated through a special examination. The suitability of training companies and in-company training personnel is monitored by the competent authorities (chambers). The chambers also monitor the training to

make sure it is conducted properly. The training should correspond to the requirements of the training regulations in terms of both content and time, but can deviate from them if required by practicalities within the company and if the communication of all remaining training contents is guaranteed.

Training at the *Berufsschule*

The *Berufsschule* (part-time vocational school) works together on an equal footing with the companies participating in vocational education and training. The educational function of the *Berufsschule* within the framework of the dual system of vocational education and training is to enable the acquisition of a basic and specialised vocational education and at the same time to expand the previously acquired general education. Training in recognised training occupations [*anerkannte Ausbildungsberufe*] is directed at the acquisition of professional ability to act and includes preparation for active participation in economic and social life. As a rule, teaching at the *Berufsschule* takes up four periods per week in general education subjects in line with the framework curricula of the Länder, namely German, social studies and economics, religion and sport, regardless of the training area, and eight periods per week in work-related teaching on the basis of the coordinated framework curricula in line with the training regulations. Foreign languages are included in vocational education and training where they are likely to be of importance in the pupils' future career.

2.4.1.2. Regulated vocational further training under the Vocational Training Act and Handicrafts Code

Further training which is regulated under the Vocational Training Act [*Berufsbildungsgesetz*] and Handicrafts Code [*Handwerksordnung*] leads to officially recognised further training qualifications oriented towards the vocational development of employees and company qualification requirements. As ordinances, the further training regulations govern the contents, objective, examination requirements, implementation of the examination and admission requirements, and the title of the qualification, e.g. *Meister* (Master Craftsman), *Fachwirt* (Business Management Specialist), *Betriebswirt* (Business Administrator), etc. The examinations are carried out by the competent authorities. The ordinances cover the standards of the qualifications but not the learning paths, which may be formal, non-formal or informal. At the national level there are currently more than 200 such qualifications. They are regulated in 91 ordinances [*Rechtsverordnungen*] on master craftsman examinations, 47 ordinances on the requirements in master

craftsman examinations, and 64 ordinances on further vocational education.

The goal of vocational further training under the Vocational Training Act [*Berufsbildungsgesetz*]/Handicrafts Code [*Handwerksordnung*] is the expansion of the professional ability to act as well as the specialist and social competences acquired in training which are necessary for assuming advanced specialist and management functions and enable vocational further development. This is mainly achieved by describing the profile and/or type of function and the examination objective in every further training regulation and through the outcome orientation of the examination contents, which are supported by corresponding curricula.

The professional ability to act is ensured by orienting the examination regulations, and the recommendations on training courses building upon them, and the examination tasks to the requirements of vocational practice. This is ensured in particular by involving examiners and experienced experts from trade and industry.

In the further training regulated under the Vocational Training Act [*Berufsbildungsgesetz*] and Handicrafts Code [*Handwerksordnung*] three qualifications levels have evolved. In industry, commerce and services there are further training qualifications such as *IT-Spezialist* (Information Technology Specialist) and *Fachberater* (Specialist Adviser) on the first qualification level, which is characterised by specialist expertise. These degrees deepen competences acquired in training, add new fields of action, and thereby provide access to new, more demanding fields of activity. The next qualification level leads on from this. This covers, for instance, *Fachwirte* (Business Management Specialists), *Fachkaufleute* (Commercial Specialists), *Industriemeister* (Master Craftsman in Industry), *Fachmeister* (Specialist Masters), *Operative Professionals* (in the IT sector) and *Aus- und Weiterbildungspädagoge* (Training and Continuing Education Teachers). These further training qualifications qualify for more advanced specialist and management functions. The third qualification level comprises further training qualifications such as the *Strategische Professional* (Strategic Professional) (in the IT area), the *Gepprüfter Betriebswirt* (Certified Business Economist) [*Berufsbildungsgesetz/ Handwerksordnung*], the *Technischer Betriebswirt* (Technical Business Administrator) and the *Gepprüfter Berufspädagoge* (Certified Vocational Educator). Graduates with further training qualifications at this level are qualified for strategic management tasks.

A three-level system of regulated further training can also be found in handicrafts. The various basic and further vocational education and training opportunities are structured along the concept of a professional career in handicrafts. This centres on the *Handwerksmeister*, or master craftsmen in the handicrafts sector (second further training level). The path to it prepares for independent entrepreneurship, ensures expertise on the master craftsman level, and provides educational competences for training of junior skilled staff. Further training qualifications such

as the *Kraftfahrzeug-Servicetechniker* (motor vehicle service technician), which require significantly more professional competence and can be credited to the *Handwerksmeisterprüfung* (master craftsman examination in the handicrafts sector), are available for journeymen (graduates of dual vocational education and training). Further training courses which qualify inter alia for strategic business management are on the third qualification level.

2.4.2. Initial and further training at school

The courses at upper secondary level vocational schools are, as a rule, completed at vocational full-time schools and lead to first degrees qualifying for entry into a profession, which enable professional activity as a qualified specialist, e.g. in a recognised training occupation. Resolutions made by the Standing Conference also ensure that many courses of education qualifying for entry into a profession enable the acquisition of a higher education entrance qualification.

2.4.2.1. Full vocational qualification and assistant training at *Berufsfachschulen*

Berufsfachschulen are full-time schools which lead pupils to a full vocational qualification under the Vocational Training Act [*Berufsbildungsgesetz*] or the Handicrafts Code [*Handwerksordnung*]. At the same time they expand on prior general education. *Berufsfachschulen* offer a very wide range of courses. There are *Berufsfachschulen* for business occupations, crafts industry occupations, home-economics-related and social-work-related occupations as well as artistic occupations. The training at the *Berufsfachschule* as a state-certified assistant [*Staatlich geprüfter Assistent*] indicating the relevant specialisation is an offer provided by the Länder aimed, as a rule, towards pupils with a *Mittlerer Schulabschluss*. Traditional specialisations are the areas laboratory technology, communications and design technology, secretariat and foreign languages. Professional qualification as a *Staatlich geprüfter Assistent* as the sole educational objective can be achieved after two years. In Länder in which the professional qualification is combined with eligibility for higher education, the training is correspondingly longer. The Standing Conference has ensured the quality of the degrees through jointly agreed criteria and educational standards. The legal basis for the vocational degrees is provided by the Länder school education acts.

2.4.2.2. *Fachoberschulen, Berufsoberschulen, Berufliches Gymnasium/Fachgymnasium*

The following school types number among the vocational schools and lead to general education qualifications (*Fachhochschulreife* [higher education entrance qualification for the *Fachhochschule*]), *Fachgebundene Hochschulreife* (higher education entrance qualification restricted to a specified field of study) and *Allgemeine Hochschulreife* (general higher education entrance qualification).

- The ***Fachoberschule*** requires a *Mittlerer Schulabschluss* and leads, as a rule, in a two-year study course (or, building on an initial vocational training, just one year) up to the *Fachhochschulreife*, i.e. the higher education entrance qualification for the *Fachhochschule* (university of applied sciences). It equips its pupils with general and specialised theoretical and practical knowledge and skills. The Länder may also establish a grade 13, after successful completion of which pupils can obtain the *Fachgebundene Hochschulreife* and, under certain conditions, the *Allgemeine Hochschulreife*. The *Fachoberschule* is divided into the fields of study business and administration, technology, health and social work, design, nutrition and home economics, and agriculture.
- In the ***Berufsoberschule***, the knowledge, abilities and skills acquired by pupils during their initial vocational training are taken as the basis for an extended general and in-depth subject-related theoretical education, which aims to enable pupils to pursue a higher education study course. Providing two years of full-time education, the *Berufsoberschule* leads to the *Fachgebundene Hochschulreife* and, with a second foreign language, to the *Allgemeine Hochschulreife*. Acceptance into the *Berufsoberschule* requires the *Mittlerer Schulabschluss* or qualifications recognised as equivalent and at least two years' successful vocational training or at least five years' relevant practical experience. The *Berufsoberschule* covers specialisations in technology, business, agriculture, nutrition and domestic science, social work and design. The pupils are allocated to a specialisation on the basis of the initial vocational training completed or of previous employment.
- ***Berufliches Gymnasium/Fachgymnasium***: This type of school is called *Berufliches Gymnasium* in some Länder and *Fachgymnasium* in others. In contrast to the *Gymnasium*, which normally offers a continuous period of education from grade 5 to grade 12 or 13, the *Berufliches Gymnasium* or *Fachgymnasium* has no lower and intermediate level (grades 5 – 10). This type of school exists in some Länder in the form of the *gymnasiale Oberstufe* with career-oriented specialisations and comprises a three-year course of education. Starting on

the basis of a *Mittlerer Schulabschluss* satisfying the requirements for admittance to the *gymnasiale Oberstufe* or an equivalent qualification, the *Berufliches Gymnasium* or *Fachgymnasium* leads, as a rule, to the *Allgemeine Hochschulreife* (a general entrance qualification for higher education). Apart from the subjects offered at a *Gymnasium*, these schools have career-oriented subjects such as business, technology, professional computer science, nutrition, agriculture, and health and social studies, which can be chosen in place of general subjects as the second intensified course and are examined in the *Abitur*.

2.4.2.3. Further training at *Fachschulen/Fachakademien*

Further training regulated by Land law at *Fachschulen* (in Bavaria: *Fachakademien*) belongs to the tertiary sector. *Fachschulen* are institutions of continuing vocational education and training, especially further training, which categorically require the completion of relevant vocational education and training in a recognised training occupation and corresponding employment. The aim of the continuing vocational training provided at *Fachschulen* is to enable skilled workers usually with professional experience, to take on management functions in companies, enterprises, administrations and institutions, or to independently perform responsible tasks.

There are *Fachschulen* for the areas agriculture, design, technology, business and social work. They lead, on a full or part-time basis, to a continuing vocational education and training qualification in accordance with Land legislation. *Fachschulen* can also offer complementary and follow-up courses, as well as career development programmes.

Requirements for access to the *Fachschule* vary depending on the department. Admission to a *Fachschule* for agriculture, design, technology and business generally requires either a qualification in a recognised training occupation that is relevant to the objective of the respective discipline and at least one year's experience in a relevant occupation, as well as a qualification from the *Berufsschule* if necessary, or a qualification from the *Berufsschule* and at least five years' experience in a relevant occupation. Admission requirements for a *Fachschule* for social work are generally the *Mittlerer Schulabschluss* and successful completion of relevant vocational training.

2.4.3. Transitional sector between general education schools and vocational education and training

Unlike the dual system and the full vocational qualification at *Berufsfachschulen*, the vocational preparation transitional sector (also referred to as vocational training preparation or the transitional sector) does not provide full vocational qualification but instead leads to the acquisition of different competences which prepare for a profession, and reappraises general education deficiencies. Roughly one third of all new entrants in the system of vocational education and training first participates in vocational preparation schemes in the transitional sector. The diverse and different education opportunities in the transitional sector have in common the fact that they do not lead to a qualification for entry into professional life but aim to improve the individual's training ability and in part provide the opportunity to catch up on a general education school-leaving certificate. Successful attendance of *Berufsfachschulen* can under certain circumstances be credited towards the training period in a recognised training occupation and provide a general education qualification.

In the transitional sector, the *Berufsschule* has the task of providing a programme preparing for vocational education and training or professional activity. Young people who have not found a vocational training place after they completed compulsory full-time education must attend a *Berufsschule* (compulsory part-time schooling). At the *Berufsschule*, they complete a pre-vocational training year or a basic vocational training year with the aim of improving their training chances and possibly leading to the later acquisition of a general school-leaving certificate.

In the transitional sector, the *Berufsfachschulen* serve to provide an introduction into one or more occupations and provide part of the vocational education and training in one or more recognised training occupations. At the same time they expand on the previously acquired education.

The following courses of education are offered in the transitional sector:

- Basic vocational training can be completed either in the form of a year of full-time schooling or in cooperative form in a company and at school, known as the basic vocational training year [*Berufsgrundbildungsjahr* – BGJ]. Successful completion of the basic vocational training year can be credited as the first year of vocational training in the training occupations allocated to the relevant occupational field. In the basic vocational training year, pupils receive work-related basic education in a specific occupational field (e.g. metals technology, electrical engineering, business and administration).

- The pre-vocational training year is a one-year course of training usually offered in full-time form by *Berufsschulen* and designed to prepare young people for the demands of vocational training. A clear majority of participants do not have a secondary general school certificate. However, this can be acquired in the course of the pre-vocational training year, thus improving prospects on the market for training places. In the pre-vocational training year at school the first year of training for a training occupation is mirrored in theory and practice and may be credited to regular vocational education and training.
- In-company introductory training [*betriebliche Einstiegsqualifizierung – EQ*] for young people is a 6 to 12 month long work placement in companies preparing for vocational education and training, sponsored by the Federal Employment Agency [*Bundesagentur für Arbeit*]. The target group for the introductory training schemes is young training applicants aged between 15 and 25 with limited placement chances, and young people who are not yet fully ready for training. The successful completion of introductory training is certified by the competent authority (e.g. Chamber of Industry and Commerce, Chamber of Crafts etc.) on the basis of a certificate issued by the company.
- Vocational preparation schemes [*berufsvorbereitende Bildungsmaßnahmen*] are an instrument designed to enable young people and young adults to access training and the labour market. Training preparing for the transition to a vocational training programme is directed at young people who have not (yet) been able to take up training and whose training and employment opportunities shall be improved by developing their professional ability to act. The aim of training preparing for the transition to a vocational training programme is to improve young people's professional ability to act, in particular by imparting training or workplace-related competences. In addition, young people can in some cases acquire the secondary general school certificate. Certification (e.g. of qualification modules or training modules) is carried out by the education provider.

2.5. Higher education

2.5.1. Universities and equivalent higher education institutions, universities of applied sciences

The tertiary sector is comprised of universities and equivalent higher education institutions and universities of applied sciences [*Fachhochschulen*], offering study courses leading to a qualification for entry into a profession for graduates of upper secondary education who have obtained a higher education entrance qualification.

The Federal Republic of Germany has a total of 421 state-maintained and state-recognised institutions of higher education (as at the 2011/12 winter semester), which comprise the following types:

- **Universities and equivalent higher education institutions:** These include 108 universities and *Technische Hochschulen/Technische Universitäten*, 16 theological colleges and six *Pädagogische Hochschulen*. What these institutions have in common, as a rule, is the right to award the doctoral degree. Academic and scientific research – particularly basic research – and the training of the next generation of academics are also distinctive features of universities and equivalent higher education institutions.
- **Universities of applied sciences [*Fachhochschulen*, incl. *Verwaltungsfachhochschulen*]:** Universities of applied sciences fulfil their own specific educational mission, characterised by a practice orientation in teaching, a – generally integrated – *Praxissemester* (semester of work experience), and professors, who have, in addition to their academic qualifications, gained professional experience outside the field of higher education. A relatively high proportion, more than 52 per cent of some 239 universities of applied sciences, are not state-maintained, but are to a large extent subject to the same legal provisions as state-maintained universities of applied sciences. A special role is played by the *Verwaltungsfachhochschulen* (universities of applied sciences for public administration) as well as study courses which train for careers in the so-called higher level of the civil service. In accordance with the applicable career and higher education regulations they are maintained by the Federal Government or by a Land involving the respective responsible career regulatory authority where responsibilities are divided.
- **Colleges of art and music:** The 52 colleges of art and music offer study courses in the visual, design and performing arts as well as in the area of film, television and media, and in various music subjects; and, in some cases, also in the related academic disciplines (fine

arts, art history and art pedagogy, musicology, music history and teaching, media and communication studies as well as, more recently, the area of the new media).

A standard period of study is fixed in the examination regulations for each study course. The regulations state the time in which a study course with the intended examination can be completed. The total standard period of study for consecutive study courses leading to a Bachelor's or Master's degree is a maximum of five years. The standard period of study for Bachelor's study courses can be six, seven or eight semesters. At universities and equivalent higher education institutions, the standard period of study for Bachelor's study courses is generally six semesters.

The purpose of study at institutions of higher education is described in the Framework Act for Higher Education [*Hochschulrahmengesetz – HRG*] as follows: teaching and study are to prepare students for a profession in a certain sphere of activity, enabling them to acquire the particular knowledge, skills and methods required in a way appropriate to each course so as to enable them to perform academic or artistic work and to act responsibly in a free, democratic and social state governed by the rule of law. In addition to study objectives which are common to all types of higher education institution,

- colleges of art and music prepare students for artistic professions and teaching of music and art;
- the particular emphasis on practical application and the closer links with the requirements of the professional world are characteristic features of the design of the study courses and the organisation of teaching and studying at universities of applied sciences.

In the course of the Bologna Process to establish a European Higher Education Area, the transition to the consecutive structure of study with Bachelor's and Master's study courses was implemented (with the exception of law and medicine and – partially – in civil service career oriented study courses). In the 2011/2012 winter semester, 85 per cent of all study offers at German higher education institutions are Bachelor's and Master's study courses.

Bachelor's study courses enable the acquisition of academic foundations, provide methodological skills and lead to competences related to the professional field corresponding to the profile of the higher education institution and the study course, and lead to the Bachelor's degree.

Master's study courses are differentiated by the profile types “practice-oriented” and “research-oriented”. They require a first degree qualifying for entry into a profession and lead to the Master's degree. In designating Master's degrees, no distinction is made between the profile types “practice-oriented” and “research-oriented”. The Master's degree provides the same rights as

the pre-Bologna process *Diplom* and *Magister* qualifications of universities and equivalent higher education institutions.

Particularly well-qualified students may also choose to complete a doctorate. The paths to a doctorate in Germany are varied. The leading model in Germany is the individual, supervised doctorate. Doctoral studies are completed at universities, around a third of them in cooperation with non-university research institutes. There is also the option of cooperative doctoral studies programmes between universities and universities of applied sciences. Access to doctoral studies is regulated in the doctoral regulations [*Promotionsordnungen*] of the universities and equivalent higher education institutions. Master's degrees obtained at universities and equivalent higher education institutions, or at universities of applied sciences, always provide entitlement to doctoral studies.

Universities, equivalent higher education institutions and *Fachhochschulen* [universities of applied sciences] were advised by the German Rectors' Conference [*Hochschulrektorenkonferenz* – HRK] and the Standing Conference of the Ministers of Education and Cultural Affairs [*Kultusministerkonferenz*] to add a ***Diploma Supplement*** to the leaving certificate. This describes (generally in English) the studies on which it is based, the individual study process and the performance of the graduate. At present 89 per cent of higher education institutions award a *Diploma Supplement* for Bachelor and Master's degrees – normally free of charge for graduates. It is a part of the KMK structural requirements for tiered study programmes, the model examination regulations for degrees at universities and *Fachhochschulen* [universities of applied sciences] and the documentation of study courses in accreditation procedures.

Requirements for access to universities and equivalent institutions of higher education

Admission to any study course at universities and equivalent higher education institutions requires the *Allgemeine Hochschulreife* (general higher education entrance qualification) or the *Fachgebundene Hochschulreife* (higher education entrance qualification restricted to a specified field of study). The former entitles school-leavers to study at any institution of higher education in any subject or field, while the latter permits entry only into specified courses of studies.

In addition to the *Hochschulreife* (higher education entrance qualification), in certain subjects the applicant's aptitude is determined through a subject-specific test procedure. This applies particularly to sport and the arts.

Since March 2009, access to higher education has been made easier for qualified applicants without a higher education entrance qualification obtained at school. This Resolution opens admission to general higher education to those who have completed vocational further training

(master craftsmen, technicians, specialists, and those with comparable qualifications), and defines the conditions under which vocationally qualified applicants without further training are eligible to enter higher education.

Apart from the above public-sector higher education institutions, there are a number of special forms of higher education institution which only admit certain groups, e.g. higher education institutions of the Federal Armed Forces and *Verwaltungsfachhochschulen*, which are not described below.

2.5.2. *Berufsakademien*

Those with a higher education entrance qualification may also choose to enter a *Berufsakademie* offered by some Länder as an alternative to higher education. At state or state-recognised *Berufsakademien* and in participating companies students receive academic but, at the same time, practical career training. The companies bear the costs of on-the-job training and pay the students a wage, which is also received during the theoretical part of the training at the study institution. As an alternative to the dual courses of the *Berufsakademien*, several universities of applied sciences have developed so-called dual courses of study.

Applicants for courses at the *Berufsakademien* require an *Allgemeine or Fachgebundene Hochschulreife* (general higher education entrance qualification or higher education entrance qualification restricted to a specified field of study) or a *Fachhochschulreife* [higher education entrance qualification for the *Fachhochschule* (university of applied sciences)], depending on the regulations in force in the particular Land, and a training contract with a suitable training establishment. Depending on Land law, applicants with professional qualifications but without the higher education entrance qualification can take an entrance examination or the regulations governing access to higher education institutions for employed persons may apply. Once the training contract has been signed, applicants are registered at the study institution by the company responsible for training them. In Baden-Württemberg the state-run *Berufsakademien* were converted into a higher education institution in 2009 while maintaining all their essential structural characteristics, and brought together to form the “*Duale Hochschule Baden-Württemberg*” [Baden-Wuerttemberg Cooperative University].

2.6 Continuing education

Continuing education encompasses all forms of education continued or resumed outside of the courses of education provided by the school system and following the completion of initial training of differing duration. It is an important part of life-long learning. Continuing education is an educational sector of its own, comprised of general, vocational, political, cultural and scientific continuing education, and the design of which is a public task. In continuing education competences can be acquired through formal, non-formal and informal learning. Besides formal and state-regulated qualifications (further vocational training in accordance with Vocational Training Act [*Berufsbildungsgesetz*] and Handicrafts Code [*Handwerksordnung*], further education at *Fachschulen/ Fachakademien*) continuing education also includes non-state regulated courses of education and qualifications outside the formal system. The non-regulated courses of education and qualifications are described in this Section, while regulated further education is the subject of Section 2.4.1.3.

2.6.1. Legal bases

Continuing education in Germany is regulated by the state to a lesser degree than other sectors of education. The justification given for this is that the diverse and rapidly-changing demands on continuing education can best be met by a structure which is characterised by diversity and competition among providers and the range of courses and services on offer. A central principle of participation in continuing education courses is that attendance should be voluntary. The activities of the state in the field of continuing education are, for the most part, restricted to laying down principles and to issuing regulations relating to the organisation and financing of life-long learning. Regulations under Land law in many cases are concerned with the state recognition and promotion of continuing education institutions as well as the right to paid release from work for continuing education. Requirements and basic principles for the promotion and financing of continuing education are laid down in continuing education laws. Key laws on continuing education⁴ on the national level are:

⁴ Laws and regulations applicable to regulated further training under the Vocational Training Act [*Berufsbildungsgesetz*] and Handicrafts Code [*Handwerksordnung*] as well as further training at *Fachschulen* are not mentioned here as the section on vocational education and training already covers these.

- Social Security Code [*Sozialgesetzbuch*] III regulates employment promotion allowances which aim to prevent unemployment or reduce periods of unemployment. Social Security Code II governs basic social security benefits for job seekers. Under Social Security Code III, the promotion of continuing vocational education and training can also largely be regarded as promoting insertion into the job market.
- The Law on the Protection of Participants in Distance Learning [*Fernunterrichtsschutzgesetz*], which is supplemented by a corresponding State Treaty of the Länder, regulates the rights and duties of participants and providers of distance learning and requires state approval of distance learning courses. The National Central Office for Distance Learning of the Länder of the Federal Republic of Germany [*Staatliche Zentralstelle für Fernunterricht der Länder der Bundesrepublik Deutschland – ZFU*] decides whether or not to approve a distance learning course.

Specific questions on the utilisation of continuing education are also regulated by the social partners in tariff contracts, company agreements and employment contracts.

2.6.2. Education institutions in the continuing education sector

Institutions of adult and continuing education provide numerous education offers in the areas of general, vocational, cultural, political and scientific continuing education. The varied requirements of vocational and non-vocational continuing education are met by a differentiated continuing education structure. Continuing education offers are provided by communal institutions, especially adult education centres [*Volkshochschulen*], private providers, institutions of the churches, unions, chambers, parties and associations, businesses and public administrations, parent schools and family education centres, academies, *Fachschulen* and higher education institutions, and distance learning institutes. Radio and television also offer continuing education programmes.

2.6.2.1. Types of continuing education

General, political and cultural continuing education

Continuing education is intended to give everyone the chance to acquire the knowledge, abilities and competences required to develop their own personality, be involved in shaping society, and further their professional development. General, vocational, political, cultural and scientific competences enable people to participate in processes of economic and social change in a responsible manner. General, political and cultural continuing education form important areas in adult education promoted in accordance with Land law.

- **General education** includes offers such as, for instance, languages or computer and IT courses. It is mainly the task of the local adult education centres to take care of basic provision of continuing education courses in the field of general continuing education, in other words to provide a regular and comprehensive range of courses which meets the most diverse social requirements and individual needs. It is usually possible to acquire school-leaving qualifications later in life at evening classes (*Abendhauptschulen, Abendrealschulen, Abendgymnasien*) and in *Kollegs*.
- **Political education** includes civics courses, offers focussing on social issues and the relationships between persons in society, and also seminars on the representation of employees in companies. The Federal Agency for Civic Education [*Bundeszentrale für politische Bildung*] and the respective Central Offices for political education of the Länder for hold events in the field of continuing political education and promote private sponsors of continuing political education.
- **Cultural education** includes measures promoting creativity, health and sport as well as cultural knowledge.

Continuing vocational education and training

Continuing vocational education and training is – beyond the formal possibilities described in Section 2.4.1.3 on vocational further training under the Vocational Training Act [*Berufsbildungsgesetz*]/Handicrafts Code [*Handwerksordnung*] and at *Fachschulen/ Fachakademien* – the traditional field for courses for the deepening or expanding vocational knowledge. Continuing vocational education and training includes further training, retraining, work-related basic education and orientation. Alongside professional associations, chambers, and further training

institutes of employers and employee organisations, companies, which form the largest providers of continuing vocational education in terms of both the number of participants and volume, play a particularly important role here. Work-related basic training and orientation are mainly provided through the offers of the *Volkshochschulen* (adult education centres).

In all three sub-areas of continuing vocational education and training – in-company continuing education, individual continuing vocational education, and continuing education as part of active labour market policies – responsibilities lie with the stakeholders.

Continuing vocational education and training in companies is understood as all measures initiated or financed by companies which serve to preserve, adapt, expand or improve the vocationally-relevant competences of employees or the entrepreneur. Continuing vocational education and training therefore also includes forms of work-integrated learning. Companies mostly invest in continuing education in order to adapt the competences of employees to technological and organisational changes. In addition, there are continuing education investments beyond the need of the individual company.

Individual continuing vocational education and training is broadly based and serves to expand competences as well as safeguard and improve the employment situation (see also the following sections on scientific continuing education and distance learning). For employees, it aims at progress within the occupation exercised, a change of occupation or the maintenance and/or further development of employability. Individual continuing vocational education and training may take place for instance in evening or weekend seminars provided by higher education institutions or private education providers as part of distance learning. Individual continuing vocational education and training of employees is promoted by the Federal Government (Federal Ministry of Education and Research) via a “learning subsidy” [*“Bildungsprämie”*]. The Länder also have promotion instruments tailored to individuals for the continuing vocational education and training of employees (so-called education, continuing education and training or qualification cheques).

Continuing education promoted in accordance with Social Security Code III consists above all of continuing vocational education and training measures (i.e. measures to assess, preserve, expand or adapt vocational knowledge and skills for adults who have completed vocational education and training or have appropriate sufficient professional experience) and for vocational retraining with a qualification in a recognised training occupation. The measures aim at target groups with widely differing educational backgrounds, from the unemployed without a school-leaving certificate or professional qualification to executives. Responsibility for the promotion of continuing vocational education and training under Social Security Code III lies with the Federal Employment Agency. Continuing education can be divided into training measures aim-

ing at improving the chances of professional integration and those promoting continuing vocational education and training. Private institutions and institutions of publicly promoted continuing education apply for the implementation of training measures promoted by the Federal Employment Agency through tenders.

Scientific continuing education

Scientific continuing education courses offer people the opportunity to specialise, to extend existing knowledge or to obtain an additional vocational qualification. Courses last from a few weeks or months to several semesters, with modular courses also being offered increasingly in the sector of continuing education. Leaving qualifications are provided through certificates and, sometimes, as higher education degrees. Scientific continuing education, as a rule, links on to professional experience but does not necessarily require a higher education degree – the necessary prerequisites can be proven via other means. Scientific continuing education is provided by higher education institutions and other providers starting with individual courses and ending with entire courses of study including degrees. It is the core task of the higher education institutions in Germany. In July 2012 almost 7,000 continuing study offers were provided by German higher education institutions with 700 designated specifically as continuing education study courses (www.hochschulkompass.de)⁵.

Distance learning

Distance learning offers adults in employment the opportunity to take up continuing education on a flexible basis while remaining in employment. The range of subjects is wide and comprises social sciences, education, psychology, humanities, languages, business and commerce, mathematics, natural sciences and technology, leisure, health and housekeeping, school leaving qualifications – for instance *Hauptschulabschluss*, *Realschulabschluss*, *Abitur* –, qualifications for state-certified business administrators [*staatlich geprüfter Betriebswirt*], technicians and translators, and computer courses. The most popular subject area is business and commerce.

⁵ The 7,000 continuing education study courses also include the consecutive master study courses as they require a higher education degree qualifying for entry into a profession.

2.6.2.2. Degrees and certificates in continuing education

The segment relating to education offers for adults described in the section on regulated further education under the Vocational Training Act [*Berufsbildungsgesetz*]/Handicrafts Code [*Handwerksordnung*] and on further education at *Fachschulen* leads to state- recognised leaving qualifications or professional certificates. Some of the continuing vocational education and training measures prepare specifically for qualifications that are legally regulated or provided by the responsible bodies (chambers). As already mentioned, many vocational qualifications in Germany are acquired through continuing vocational education and training – as in the case for instance of the *Meister in Industrie und Handwerk* (master craftsman in industry and handicrafts) but also for management positions in nursing, for technicians [*Techniker*], for specialisations like the *REFA-Fachmann* (i.e. expert recognised by the association for work design, industrial organisation and company development) or for the qualification as a trainer. Within the forms of continuing education considered in this section, the following types of leaving qualification must be distinguished:

- leaving qualifications specific to continuing education which may be acquired in certain fields (e.g. languages, IT). There are overarching certification systems for continuing education in Germany at the level of adult education centres [*Volkshochschulen*] (tele language certificates), the sectors and the chambers.
- Organisation-specific leaving qualifications, certifying competences which are mainly recognised and of importance within the respective organisation. These include certificates issued in church and union-related areas and on a sectoral level which confirm specific professional competences.

2.7. Non-formal and informal learning

The promotion of lifelong learning is viewed in Germany as a central response to current education policy issues. It entails strengthening the economic area and securing a skilled workforce in the face of growing demographic challenges, as well as enabling people to shape their own lives, initiating social participation and improving equal opportunities. The anchoring of non-formal and informal learning in the DQR is intended to contribute to this end.

A system for the validation of non-formally and informally acquired competences which spans all educational sectors and is based on a uniform legal basis does not exist in Germany. There

are, however, a number of parallel legally enshrined procedures associated with formal recognition or admission or entitlement which are subject to different responsibilities. They ensure recognition or partial recognition of informally and non-formally acquired competences. This is particularly promoted by the fact that the German vocational education and training and continuing education system is largely dovetailed with the employment system and provides for progressive vocational development. Given the high share of practical work experience in this system great significance is attached to experience-based learning, especially in dual vocational education and training, and in regulated further training. Germany is thus among those European countries with a qualification system in which learning within the work process is traditionally firmly anchored.

Uniform national further training and retraining is based on ordinances describing examination standards (see Section 2.2.7.). Because of the fact that examination standards, rather than courses of education, are regulated informal learning at work is taken into account. In order to prepare themselves for an examination, those interested in obtaining a further training qualification acquire in training courses those contents with which they were unable to familiarise themselves during their professional career (i.e. they acquire supplementary or deeper knowledge). These learning periods can therefore vary widely. Participation in training courses is useful in many cases, but is not mandatory.

In the IT sector the concept of work-oriented continuing education (APO IT) represents a form of vocational learning which systematically links formal and informal learning processes and leads to recognised further training qualifications. Learning and working are systematically linked. Situational, often subconscious learning at work is no longer left to chance but is consciously designed. This autonomous, self-directed learning in holistic and complete workflows promotes up-to-the-minute specialist knowledge on working processes and the required abilities to act. It is supported and accompanied by learning process facilitators and specialist advisers. The project worked on as part of continuing education is documented and assessed through a final expert discussion. The IT continuing education concept is regulated in the IT Further Training Ordinance [*IT-Fortbildungsverordnung*] and is divided into three levels building on each other: Specialists (29 profiles), Operative Professionals (four profiles) and Strategic Professionals (two profiles)⁶.

The following opportunities for taking non-formally and informally acquired competences into account are also regulated legally or sublegally:

⁶ www.it-weiterbildung.info

Examinations for non-pupils in general education

The examination for non-pupils [*Nichtschülerprüfung*], also called external students' examination [*Schulfremdenprüfung, Externenprüfung*], is offered in all Länder and is linked to a minimum age, primary residence and evidence of appropriate examination preparation. Adult education providers offer courses to prepare for the external students' examination. This leads to the later acquisition of general education school-leaving certificates.

External students' examination in vocational education and training

A qualification in a recognised training occupation can also be obtained by those who have not undergone the dual vocational education and training normally required, but can instead provide evidence of relevant employment or training periods. Under Section 45, paragraph 2 of the Vocational Training Act [*Berufsbildungsgesetz*] and Section 37, paragraph 2 of the Handicrafts Code [*Handwerksordnung*], admission to the external students' examination is subject to the following conditions:

- It must be preceded by employment in the occupation of at least one and a half times the length of the prescribed training period.
- This minimum period may be waived if the candidate can demonstrate that he/she has acquired the professional ability to act that justifies admission to the examination.
- As periods of employment are also considered training periods in another relevant training occupation.
- Foreign qualifications and periods of employment abroad will be taken into account.

The reform of the Vocational Training Act [*Berufsbildungsgesetz*] in 2005 opened up admission to the external students' examination to a wider group of people (by reducing the required period of employment in the specific occupation from twice the length to one and a half times the length). This contributed to connectivity and permeability within the vocational education and training system.

Access to higher education for vocationally qualified persons

In March 2009, the Standing Conference adopted standard criteria under which vocationally qualified applicants without a higher education entrance qualification obtained at school are admitted to higher education. The Resolution opens admission to general higher education to master craftsmen, business management specialists, those with vocational qualifications in a commercial or financial occupation and those with similar further training qualifications, and

defines the conditions under which vocationally qualified applicants without further training qualification are eligible to enter higher education restricted to a specified field of study following the successful completion of vocational training and three years of experience in their occupation. In 2010 over 21,000 vocationally qualified persons made use of this opportunity to access higher education.

Option of crediting competences acquired at work to a higher education degree course

With its Resolution of June 2002 on the crediting of knowledge and abilities acquired outside higher education to a higher education degree course [*Beschluss vom Juni 2002 zur Anrechnung von außerhalb des Hochschulwesens erworbenen Kenntnissen und Fähigkeiten auf ein Hochschulstudium*] the Standing Conference created the basis for allowing credits to be acquired even outside a higher education degree course. In a joint declaration in November 2003 the Standing Conference, the German Rector's Conference and the Federal Ministry of Education and Research called on the higher education institutions to credit high grades achieved in further vocational training examinations, for instance, to a higher education degree.

The following procedure may be applied to this end:

- The higher education institution examines, on the basis of documents submitted by the applicant, whether and to what extent existing qualifications are equivalent to the content and level of parts of the degree course and can therefore replace them. The examination is carried out on a case-by-case basis.
- In the case of homogenous applicant groups – for instance, within the framework of specific cooperation agreements between the higher education institution and the vocational training establishment – knowledge and abilities acquired outside the higher education sector may also be credited across the board. A form of blanket crediting also exists if parts of the study programme are outsourced to a non-higher education institution and carried out there (national franchising).
- The crediting of knowledge and skills can also take place by means of a placement examination. In these cases the level of knowledge of each individual applicant is tested in a formal examination procedure regulated by examination regulations with the aim of placing the applicant in a higher semester of study, so that a specific study segment, which must be determined in each individual case, can be replaced by achievements from outside the higher education sector.

- In Baden-Württemberg, Saxony-Anhalt und Thuringia the external students' examination option is, moreover, enshrined in law. As a result, individuals who have acquired the necessary knowledge and skills in a way other than through a higher education degree course are admitted to the higher education (final) examination. In these cases only the final examination, or an examination to demonstrate the competences required to acquire the degree, is carried out at the higher education institution.

Procedures to credit non-formal and informally acquired competences to higher education degree courses were developed and tested within the framework of the ANKOM programme for crediting competences acquired at work to higher education degree courses (cf. Section 4.3.1). A crediting guideline [*Anrechnungsleitlinie*] has been developed on this basis⁷.

Education and competence passports

An instrument found below the regulatory level comprises education and competence passports, which since the mid-1990s have been disseminated to some extent through regional, local and national initiatives in Germany. They do not confer any entitlement in the education system, but help prepare for crediting of prior learning – be it with employers or on lateral entrance into courses of education. The *ProfilPASS* system [a tool for career assessment and counselling on a scientific basis] – consisting of a *ProfilPASS*, a *ProfilPASS for young people* and a coordinated consultation concept – should be highlighted in this context – with over 100,000 passports issued and around 4,000 counsellors it has become widespread in Germany. The system focuses on methods of biographical identification of competences. A series of regional, local or EU-promoted approaches are also used, such as:

- *Berufswahlpass* [career choice passport] – an instrument for choosing and preparing for a career (www.berufswahlpass.de),
- *Facharbeitskreis Kompetenzfeststellung* [specialist working group for competence assessment] – approaches to integrating migrants in the labour market (www.migranet.org),
- *Kompetenznachweis Ehrenamt* [certificate of competences: voluntary work] – an instrument to document knowledge, skills and competences in voluntary contexts (www.kompetenznachweis.de),
- *Kompetenzbilanz für Berufsrückkehrer/innen* [competence review for those returning to work] – an instrument to document the knowledge, skills and competences of those returning to work (www.dji.de/bibs/33_633komp.pdf),

- *Kompetenznachweis Kultur* [certificate of competences: culture] – an educational passport of personal, social, methodological and artistic competences in cultural education (www.kompetenznachweiskultur.de),
- *Kompetenzenpanorama für Migrantinnen & Migranten* [panorama of competences for migrants]– a portfolio of competences to improve integration (www.innovision-concepts.de/de/bildungsmanagement-und-laufbahnberatung/kompetenzenpanorama),
- *Qualipass Baden-Württemberg* – an instrument to document voluntary commitments at school, in associations, in the community or in projects, through courses, periods abroad, work placements, etc. (www.qualipass.info),
- *Youthpass* – an instrument to enhance the visibility of non-formally and informally acquired competences in youth work (<https://www.youthpass.eu/de/youthpass>).

⁷ ankom.his.de/know_how/anrechnung/pdf_archiv/ANKOM_Leitlinie_1_2010.pdf

3. The drawing up of the DQR

3.1. Overview of the process

In February 2009, the German Qualifications Framework Working Group [*Arbeitskreis DQR*] presented a draft DQR (comprising an introduction, matrix and glossary) to act as a discussion proposal for the second phase of development of the DQR. This was the result of a debate spanning all educational sectors which was initially carried out at the conceptual level – i.e. without reference to qualifications to be allocated. The aim here was, based on and in compliance with the educational objectives which had been defined for the different fields, for which they form the basis for designing the curricula, to lay down a shared understanding of competences and to classify the identified dimensions of competences in agreement with the results of the research into competences, and with proven educational taxonomies.

This first draft DQR was piloted from May 2009. The results of the pilot phase were evaluated and proposed amendments incorporated into the matrix and glossary. The final version was adopted by the German Qualifications Framework Working Group on 22 March 2011 and endorsed on 31 January 2012 by top-level representatives of the Federal Government (the Federal Ministry of Education and Research and the Federal Ministry of Economics and Technology), the Standing Conference of the Ministers of Education and Cultural Affairs and the Conference of Ministers of Economics of the Länder [*Wirtschaftsministerkonferenz*], the German Confederation of Skilled Crafts [*Zentralverband des Deutschen Handwerks*], the Confederation of German Employers' Associations [*Bundesvereinigung der Deutschen Arbeitgeberverbände*], the Association of German Chambers of Industry and Commerce [*Deutscher Industrie- und Handelskammertag*], the Confederation of German Trade Unions [*Deutscher Gewerkschaftsbund*] and the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*]. In the top-level talks, a preliminary agreement was also reached on the allocation of qualifications.

The original goal was to include the qualifications from the formal sector – general education, higher education and vocational education and training, including continuing education in each case – in the first stage. General, vocational and higher education qualifications were to be allocated to the DQR on the understanding of comparability. The fact that it has not been possible to fully accomplish this objective to create a qualifications framework spanning all educational sectors by the referencing stage is due to the consistent consideration of the principle of consensus in the development of the DQR (see Sections 1. and 3.6.). It has not thus far been possible

to reach a consensus supported by all stakeholders on the allocation of the *Abitur* (or, more precisely, of the *Allgemeine Hochschulreife* [general higher education entrance qualification] and the *Fachgebundene Hochschulreife* [higher education entrance qualification restricted to a specified field of study]) to a level on the basis of learning outcomes compared to qualifications in the vocational sector (e.g. dual vocational education and training). Given that a holistic consideration of the general education sector needs to be ensured, this qualification has not yet been allocated *as a whole*. But this does not signify any move away from the concept of a qualifications framework spanning all educational sectors. Nevertheless more time is needed for a consensual allocation of general education qualifications. This should be developed during the planned five-year DQR trial period. There is consensus among all stakeholders involved in the process that the DQR should include all educational sectors. It is also agreed that the comparability of general and vocation education must be adequately reflected in the DQR⁸.

Based on a stronger orientation to competences in the training regulations for initial vocational education and training, and more competence-oriented educational standards for general school-leaving certificates, on the understanding of the comparability of general education and vocational training, all allocations are once again being jointly discussed and decided on. Developments on the European level are to be taken into account in this process, with allowance made of possibilities of amendment.

Additionally, to include the results of non-formal and informal learning, from 2013 initially proposals are to be developed for the first allocations in the non-formal sector. A further aim is to promote the validation and recognition of non-formal and informal learning. Other planned steps can be seen in the following table.

⁸ As the mutual recognition of school-leaving certificates in the European and international contexts is regulated by international agreements, this delay does not disadvantage pupils in any way.

Table 4: DQR development phases

Phase/Period	Process steps
Phase I March 2007 to February 2009	Federal Government/Länder Coordination Group for the German Qualifications Framework [<i>Bund-Länder-Koordinierungsgruppe DQR</i>] and German Qualifications Framework Working Group [<i>Arbeitskreis DQR</i>] set up Kick-off conference March 2007 Consensus on objectives and guidelines, superordinate categories of competences, terminology and levels Drawing up of a model for the DQR with a description of the learning outcomes for the individual levels (descriptors)
Phase II to Sept. 2010	Pilot phase: Exemplary allocation of formal qualifications to DQR levels Testing of the matrix Reflection on the results
Phase III to Dec. 2012	Finalisation of the DQR (March 2011) Political decision on the nature and means of implementation Allocation of formal qualifications from the German education system to DQR levels Recommendations to include non-formally and informally acquired competences in the DQR Manual on allocation of qualifications to the DQR Decision on legal status and institutional anchoring, setting up of the National Coordination Point Referencing to the EQF, referencing report
Introductory phase To Jan. 2017	Reference to EQF levels in all new qualification certificates issued Further steps to include non-formally and informally acquired competences Evaluation of DQR classification and allocations Adjustments where necessary Allocation of school-based general education qualifications

3.2. The concept of ‘competence’ in the DQR

The concept of ‘competence’ plays a key role in the DQR. It does not – as in the EQF – exist alongside knowledge and skills, but forms the umbrella for all learning outcomes being considered. It describes the ability and readiness to use knowledge, skills and personal, social and/or methodological abilities in work or study situations and in professional and personal development. Knowledge and skills are therefore represented as aspects of professional competence. Skills can, as in the EQF, be practical or cognitive in nature. As well as instrumental abilities, systemic (creative) abilities are included. The ability to assess working methods and results is explicitly considered. The competence pillar of the EQF, which makes use only of the descriptive categories ‘Autonomy’ and ‘Responsibility’, is part of the field of “Personal competence” described in the DQR which in turn comprises two pillars, “Social competence” and “Autonomy”. These analytical distinctions have been made in an awareness of the interdependency of the different aspects of competence. The field of personal competence includes, alongside autonomy and responsibility, team/leadership skills, the ability to become involved in the organisation of a field of study or work, communication, reflectiveness and learning competence.

Competence is understood in this sense as the comprehensive ability to act.

The broad understanding of competence which prevails in the German-speaking world considers cognitive, affective and motivational components and thus facilitates, by targeting maturity and a comprehensive ability to act, including participation and reflectiveness, a bridge between vocational training and general or academic education. Competence is understood here in the sense of a holistic problem-solving capacity composed of different action-guiding components of knowledge. Ability to act is understood accordingly as the ability to act autonomously and to take decisions.

The concept of ‘competence’ in the DQR can therefore be connected with the concept of the professional ability to act which is characteristic of vocational education and training in the dual system. As a framework which extends across educational sectors it does not, however, reduce the ability to act to the professional sphere, but takes it further. The formulations chosen for the descriptors express this by describing differences between levels of qualifications with regard to “fields of study or work”.

The DQR is therefore, in line with the German understanding of education, based on a broad educational concept even if the DQR, like the EQF, is specifically concentrated only on selected characteristics. Notwithstanding this, aspects such as reliability, precision, stamina and attentiveness, and also intercultural and interreligious competence, active tolerance and democratic patterns of behaviour, and normative, ethical and religious reflectiveness, act as constitutive

elements for developing the ability to act. Methodological competence is understood as a transversal competence and for this reason is not separately stated within the DQR matrix.

3.3. The DQR matrix

The DQR is intended to make qualifications in the German education system comparable across Europe by association with the EQF. At the various levels, those qualifications are allocated to the DQR which are expected, based on regulatory standards which are safeguarded by quality procedures, to be associated with the described learning outcomes. The DQR describes on eight reference levels professional and personal competences which direct the allocation of qualifications.

The DQR, like the EQF, has eight levels which are characterised through different description categories. The structure refers the learning outcomes associated with a qualification to the professional and personal development of the individual (professional competence – personal competence), and clarifies the orientation of all achieved learning outcomes to acting in a competent manner under the terms of defined structures of requirements (described in the level indicator). The DQR differentiates between two categories of competence: “Professional competence”, subdivided into “Knowledge” and “Skills”, and “Personal competence”, subdivided into “Social competence” and “Autonomy”, (“four-pillar structure”). Given the fact that the DQR consistently refers to competences, the modal verb “can” has not been used throughout the DQR matrix. Each DQR level is generally accessible via various educational pathways.

Table 5: DQR matrix

Level 1			
Be in possession of competences for the fulfilment of simple requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place under supervision.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Be in possession of elementary general knowledge. Have an initial insight into a field of study or work.	Be in possession of cognitive and practical skills required to carry out simple tasks in accordance with pre-stipulated rules and to assess the results of such tasks. Establish elementary correlations.	Learn or work together with others, obtain and exchange information verbally and in writing.	Learn or work under supervision. Appraise own actions and the actions of others and accept learning guidance.

Level 2			
Be in possession of competences for the professional fulfilment of basic requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place largely under supervision.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Be in possession of basic general knowledge and basic professional knowledge with a field of study or Work.	Be in possession of basic cognitive and practical skills required to carry out tasks within a field of study or work, assess the results of such tasks in accordance with pre-stipulated criteria and establish correlations.	Work within a group. Accept and express general feedback and criticism. Act and react in accordance with the given situation with regard to verbal and written communication.	Learn or work in a responsible manner and largely under supervision within familiar and stable contexts. Appraise own actions and the actions of others. Use pre-stipulated learning guides and request learning guidance.

Level 3			
Be in possession of competences for the autonomous fulfilment of technical requirements within a field of study or field of occupational activity which remains clear whilst being openly structured in some areas.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Be in possession of extended general knowledge or extended professional knowledge within a field of study or field of occupational activity.	Be in possession of a spectrum of cognitive and practical skills for the planning and processing of technical tasks within a field of study or field of occupational activity. Assess results in accordance with criteria which are largely pre-stipulated, provide simple transfers of methods and results.	Work within a group and occasionally offer support. Help shape the learning or working environment, present processes and results to the appropriate recipients of such information.	Learn or work autonomously and responsibly including within contexts which are less familiar. Appraise own actions and the actions of others. Request learning guidance and select various learning aids.

Level 4			
Be in possession of competences for the autonomous planning and processing of technical tasks assigned within a comprehensive field of study or field of occupational activity subject to change.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Be in possession of deeper general knowledge or theoretical professional knowledge within a field of study or field of occupational activity.	Be in possession of a broad spectrum of cognitive and practical skills which facilitate autonomous preparation of tasks and problem solving and the assessment of work results and processes according consideration to alternative courses of action and reciprocal effects with neighbouring areas. Provide transfers of methods and solutions.	Help shape the work within a group and the learning or working environment of such a group and offer ongoing support. Justify processes and results. Provide comprehensive communication on facts and circumstances.	Set own learning and work objectives, reflect on and assess such objectives and take responsibility for them.

Level 5			
Be in possession of competences for the autonomous planning and processing of comprehensive technical tasks assigned within a complex and specialised field of study or field of occupational activity subject to change.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Be in possession of integrated professional knowledge within a field of study or integrated occupational knowledge within a field of activity. This also includes deeper, theoretical professional knowledge. Be familiar with the scope and limitations of the field of study or field of occupational activity.	Be in possession of an extremely broad spectrum of specialised, cognitive and practical skills. Plan work processes across work areas and assess such processes according comprehensive consideration to alternative courses of action and reciprocal effects with neighbouring areas. Provide comprehensive transfers of methods and solutions.	Plan and structure work processes in a cooperative manner, including within heterogeneous groups, instruct others and provide well-founded learning guidance. Present complex facts and circumstances extending across professional areas in a targeted manner to the appropriate recipients of such information. Act in an anticipatory manner in considering the interests and requirements of recipients.	Reflect on and assess own learning objectives and learning objectives set externally, undertake self-directed pursuit of and assume responsibility for such objectives, draw consequences for work processes within the team.

Level 6			
Be in possession of competences for the planning, the processing and the evaluating of comprehensive technical tasks and problems set and be in possession of competences for autonomous management of processes within subareas of an academic subject or within a field of occupational activity. The structure of requirements is characterised by complexity and frequent changes.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
<p>Be in possession of broad and integrated knowledge including knowledge of basic academic principles and the practical application of an academic subject as well as a critical understanding of the most important theories and methods (corresponding to level 1 – Bachelor level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>be in possession of broad and integrated occupational knowledge including current technical developments.</p> <p>Be in possession of knowledge for the further development</p> <p>of an academic subject</p> <p>or</p> <p>of a field of occupational activity.</p> <p>Be in possession of relevant knowledge at interfaces to other area</p>	<p>Be in possession of an extremely broad spectrum of methods for the processing of complex problems</p> <p>within an academic subject (corresponding to level 1 – Bachelor level – of the Qualifications Framework for German Higher Education Qualifications), further fields of study</p> <p>or</p> <p>field of occupational activity.</p> <p>Draw up new solutions and assess such solutions including according consideration to various criteria even in circumstances where requirements are subject to frequent change.</p>	<p>Assume responsibility in working within expert teams</p> <p>or</p> <p>show responsibility in leading⁹ groups or organisations.</p> <p>Instruct the technical development of others and act in an anticipatory manner in dealing with problems within the team.</p> <p>Present experts with arguments for and solutions to complex professionally related problems and work in conjunction with such experts on further development</p>	<p>Define, reflect on and assess objectives for learning and work processes and structure learning and work processes autonomously and sustainably.</p>

⁹ This encompasses companies, government authorities or non-profit making organisations.

Level 7			
Be in possession of competences for the processing of new and complex professional tasks and problems set and be in possession of competences for autonomous management of processes within an academic subject or within a strategically oriented field of occupational activity. The structure of requirements is characterised by frequent and unpredictable changes.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
<p>Be in possession of comprehensive, detailed, specialist and state-of-the art knowledge in an academic subject (corresponding to level 2 – Master level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>be in possession of comprehensive occupational knowledge in a strategically oriented field of occupational activity.</p> <p>Be in possession of extended knowledge in adjoining areas.</p>	<p>Be in possession of specialised technical or design concept skills relating to the solution of strategic problems</p> <p>in an academic subject (corresponding to level 2 – Master level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>in a field of occupational activity.</p> <p>Consider alternatives even in circumstances where information is incomplete.</p> <p>Develop and use new ideas or procedures and assess such ideas and procedures according consideration to various assessment criteria.</p>	<p>Assume responsibility for leading groups or organisations within the scope of complex tasks set and present the results of the work of such groups or organisations. Promote the technical development of others in a targeted manner. Lead divisionally specific and cross-divisional debates.</p>	<p>Define objectives for new applications or research oriented tasks reflecting on possible societal, economic and cultural implications, deploy appropriate means and tap autonomously into own knowledge for the purpose.</p>

Level 8			
Be in possession of competences for the obtaining of research findings in an academic subject or for the development of innovative solutions and procedures within a field of occupational activity. The structure of requirements is characterised by novel and unclear problem situations.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
<p>Be in possession of comprehensive, specialised, systematic state-of-the-art knowledge in a research discipline and contribute towards the expansion of knowledge within the specialist discipline (corresponding to level 3 – Doctorate level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>be in possession of comprehensive occupational knowledge in a strategically and innovation oriented field of occupational activity.</p> <p>Be in possession of appropriate knowledge at the interfaces to adjoining areas.</p>	<p>Be in possession of comprehensively developed skills relating to the identification and solution of novel problems</p> <p>set in the areas of research, development or innovation within a specialised academic subject (corresponding to level 3 – Doctorate level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>in a field of occupational activity.</p> <p>Also design, implement, manage, reflect on and assess innovative processes including in cross-activity areas.</p> <p>Assess new ideas and procedures.</p>	<p>Lead groups or organisations from a position of responsibility in complex or interdisciplinary tasks whilst activating the areas of potential within such groups or organisations. Promote the professional development of others in a targeted and sustained manner. Lead cross-specialist debates and introduce innovative contributions to specialist professional discussions including in international contexts,</p>	<p>Define objectives for new complex applications or research oriented tasks reflecting on possible societal, economic and cultural implications, select appropriate means and develop new ideas and processes.</p>

3.4. Pilot phase

The allocation of qualifications to the DQR has been a long process involving numerous stakeholders. Following presentation of the DQR discussion proposal in February 2009, the second DQR development phase was implemented from May 2009 to July 2010 to test the matrix. This phase started on 25 May 2009 with a kick-off conference and the establishment of four working groups. A guide was developed as the basis for the procedure in the second phase of development. The aim of the second phase was to produce comprehensible, consensual examples of allocation of selected qualifications in the German education system, to examine the operability of the draft DQR matrix and to adapt it where necessary. This first draft DQR was piloted on the basis of examples by experts from business and trade unions, science and educational practice in four selected occupational fields and fields of activity (health, trade, metalworking/electrical and IT professions). They examined:

- on which levels to allocate the sample qualifications considered in the sense of the defined concept of ‘competence’, and
- where adjustments might be needed to the draft matrix.

To pilot the DQR, qualifications from the occupational fields and fields of activity selected as examples – health, trade, IT and metalworking/electrical professions – were investigated and related to each other across all educational sectors.

The expert groups were to strive to reach agreement where possible on the allocation of the qualifications under consideration to the DQR levels. If no agreement could be reached for individual qualifications, provision was made for documenting majority and minority votes. The results took the shape of recommendations. They formed the basis for the ongoing development of the DQR in the Federal Government/Länder Coordination Group for the German Qualifications Framework [*Bund-Länder-Koordinierungsgruppe DQR*] and German Qualifications Framework Working Group [*Arbeitskreis DQR*].

The “expert workshop” was used as the methodological instrument for a number of different reasons:

- The involvement of professionals with expertise in describing and identifying competences, and in producing and interpreting curricula, enabled the operability of the draft to be examined in an experimental setting.

- Group work could be structured by providing problem outlines and questionnaires, without challenging the essential openness of the reflection process.
- The “expert workshop” format was particularly suited to initiating a discourse spanning all educational sectors, which is essential to the development of a qualifications framework. Different premises, approaches and understandings of concepts could be illuminated, discussed and documented.

The workshops achieved a broad representation of educational sectors and social groups, meeting the needs of society, the labour market and education system.

The basis for the allocation of the selected qualifications was first and foremost the relevant regulatory instruments. These include laws (e.g. for the health and nursing professions), ordinances (e.g. on training courses according to the Vocational Training Act [*Berufsbildungsgesetz*]), framework agreements of the Standing Conference of the Ministers of Education and Cultural Affairs (e.g. on Technical Assistants, *Fachschulen* [full-time vocational schools]), framework curricula of the Standing Conference and study regulations. Länder guidelines and curricula, and examination regulations and certificates issued by the accreditation agencies, were also of interest.

It became evident that the descriptions of qualifications in the regulatory instruments were not strictly oriented towards learning outcomes. This made it difficult to produce precise level allocations, and a lack of clarity was found in many cases. In order to achieve transparent and consensual allocations, therefore, a second evaluation stage was necessary. This took place in the Federal Government/Länder Coordination Group for the German Qualifications Framework [*Bund-Länder-Koordinierungsgruppe DQR*] and in the German Qualifications Framework Working Group [*Arbeitskreis DQR*]. Two approaches were taken. If the experts involved in the process agreed on proposed level allocations, these were adopted by the top-level representatives of the educational sectors. Disagreement in the expert votes was resolved as far as possible by undertaking further analyses in expert teams. On this basis the committees produced a decision by consensus.

Parallel to the evaluations of the working group results, a start was made on production of a DQR Manual; this lays down binding allocations and makes them comprehensible by identifying the competences acquired through a particular qualification, and also describes the current allocation and documentation procedures for the DQR. It will be the basis of the future work of the Federal Government/Länder Coordination Point for the German Qualifications Framework [*Bund-Länder-Koordinierungsstelle DQR*] (see Section 4.1.), by which it will be developed and maintained. The DQR Manual will also serve as the basis for further work of the competent

authorities with the DQR. It is a guide for competent authorities who are responsible for allocation. It sets out the criteria and procedures for describing qualifications in a manner compatible with the DQR. The Manual is intended to ensure that the allocation of newly developed qualifications is always according to the same criteria and procedures.

The route to dialogue across all educational sectors embarked on with the development of the German Qualifications Framework is new, and is associated with learning processes for all involved. This became clear to an extent in the discussions about allocating qualifications at the higher levels. It is difficult, because it is necessary first to gradually develop a shared language and deeper understanding of other educational sectors. The discussions about this continue to prove time-consuming. Hence the working groups were in some cases unable to reach a consensus in the DQR trial period which included all of the qualifications being considered. The fact that it was ultimately possible to achieve a consensus supported by the representatives of all educational sectors is a success of the DQR process and has increased trust across the educational sectors.

3.5. Communication

It was always a key aim of the stakeholders involved in the DQR development process to ensure maximum transparency to the general public. Results from the different phases of DQR development were published at regular intervals. The latest state of play regarding implementation of the DQR has been published in a variety of ways:

- through public debates, hearings and communications from the German Bundestag,
- through annual conferences,
- through specialist presentations and exchanges within the framework of workshops and expert forums at national and international level,
- by answering numerous inquiries from interested citizens,
- by producing information material (flyers, brochures, etc.) and
- on the DQR website www.deutscherqualifikationsrahmen.de.

Comprehensive communication activities are planned for 2013. They will address both the expert and the general public through measures geared to specific target groups.

3.6. Participation of stakeholders

The Federal Government/Länder Coordination Group was established in early 2007. This joint working group comprises representatives of the Standing Conference of the Ministers of Education and Cultural Affairs, the Federal Ministry of Education and Research, the Federal Ministry of Economics and Technology and the Standing Conference of Ministers of Economics of the Länder. They represent the sectors general education (school), vocational training, higher education, lifelong learning and European affairs, as well as overarching issues of education and research policy. They are responsible for steering the process of developing and implementing the DQR.

In order to include other relevant stakeholders – higher education and vocational training institutions, the social partners and experts from research and practice – in the process of drawing up the DQR, the Federal Government and the Länder have also convened a German Qualifications Framework Working Group [*Arbeitskreis DQR*] in which, alongside the members of the Federal Government/Länder Coordination Group, all educational sectors are represented through the social partners, higher education institutions and other experts. All decisions and resolutions of relevance to the development and implementation of the DQR are discussed and adopted in the German Qualifications Framework Working Group. The overall process is, therefore, a widely supported initiative in which the social partners in particular play an important role. The individual stakeholder were therefore directly involved in the overall DQR development process. Decisions were prepared together with them. All of the decisions documented in this Report have been reached unanimously in the German Qualifications Framework Working Group and have been taken by the stakeholders represented in it.

The principle of consensus is the basis for collaboration and decision making among the members of the German Qualifications Framework Working Group. The individual stakeholders therefore have a say throughout the DQR process. They ensure ongoing feedback on the findings to their respective institutions or committees. The aim is, working across educational sectors, to achieve shared concepts and a practicable DQR.

In addition, the Standing Conference of the Ministers of Education and Cultural Affairs EQF working group involves the stakeholders from the Länder ministries who are active in vocational education and training – alongside dual vocational education and training – (e.g. Länder ministries of cultural affairs, justice, the interior, health). Through the Federal Ministry of Education and Research and the Federal Ministry of Economics and Technology other federal level

ministries have been involved in inter-ministerial meetings. In the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*] DQR issues have been handled by the Steering Committee’s DQR/ECVET working group.

4. Compliance with the referencing criteria

In the procedure it has chosen to develop and implement the DQR, Germany has complied with the EQF Advisory Group referencing criteria. This is demonstrated below for the individual criteria.

4.1. Criterion 1

The responsibilities and/or legal competence of all relevant national bodies involved in the referencing process, including the National Coordination Point, are clearly determined and published by the competent public authorities.

The DQR has been developed and implemented under the aegis of the Federal Ministry of Education and Research and the Standing Conference of the Ministers of Education and Cultural Affairs, with the involvement of other stakeholders. The development of the DQR has at all times been a widely supported initiative in which the social partners and business organisations in particular have played a fundamental role. The competent authorities in each case are responsible in principle for the allocation of qualifications to the DQR. In the field of formal learning these are the regulatory bodies. These allocations must, however, be notified to the National Coordination Point (NCP), which monitors the process and considers the overall architecture of the DQR (see task descriptions further below).

In line with the specifications of the Recommendation of the European Parliament and of the Council of 23 April 2008 a joint coordination point is being set up: the Federal Government/Länder Coordination Point for the German Qualifications Framework [*Bund-Länder-Koordinierungsstelle DQR*]. The Federal Government/Länder Coordination Point for the German Qualifications Framework assumes the functions of the National Coordination Point.

The Federal Government/Länder Coordination Point for the German Qualifications Framework will consist of six members and has the following structure:

Chair:

- Federal Ministry of Education and Research
- Standing Conference of the Ministers of Education and Cultural Affairs

Members:

- Standing Conference of the Ministers of Education and Cultural Affairs
- Federal Ministry of Education and Research
- Conference of Ministers of Economics of the Länder
- Federal Ministry of Economics and Technology

The primary task is to monitor the allocations with a view to ensuring consistency in the overall structure of the DQR once, in the respective fields of competence of the Federal Government or of the Länder, allocations for the qualifications in the German education system have been laid down with the competent bodies responsible for the development of training regulations.

The direct involvement of other ministries, the social partners, representatives of business organisations and interested associations is, if their field of responsibility is concerned, ensured by the Federal Government/Länder Coordination Point for the German Qualifications Framework.

The German Qualifications Framework Working Group [*Arbeitskreis DQR*] remains active as an advisory body and retains its former composition. It advises on the application and further development of the DQR, for instance in the event of new educational formats developed or fundamental changes in qualifications profiles or to resolve ambiguities and inconsistencies in the overall system at DQR or EQF level. The Federal Government/Länder Coordination Point provides advice taking into account the recommendations of the German Qualifications Framework Working Group in accordance with the principle of consensus. Differences in opinion which arise in the Federal Government/Länder Coordination Point for the German Qualifications Framework as regards the interpretation or implementation of the Joint Resolution are settled amicably through consultations between the partners.

The basis of the procedure described is the Joint Resolution adopted in the German Qualifications Framework Working Group between the Standing Conference of the Ministers of Education and Cultural Affairs, the Federal Ministry of Education and Research, the Conference of Ministers of Economics of the Länder, and the Federal Ministry of Economics and Technology (see Annex 5.2). It creates the prerequisites for the ability to act of the Federal Government/Länder Coordination Point for the German Qualifications Framework and the Working Group. Any form of regulation going beyond this – for instance, a statutory regulation – is therefore not planned.

In the next five years (introductory phase) the bases of the DQR are to be completed. In this period the Federal Government/Länder Coordination Point for the German Qualifications Framework and the Working Group will devote themselves to the following tasks:

- laying down standards and procedures for additional allocations and their description in the “DQR Manual”,
- referencing levels of qualifications within the DQR to those of the EQF,
- completing allocations in the formal area, including in particular general education and further qualifications in regulated further training,
- developing proposals and procedures for the inclusion of the results of non-formal and informal learning in the DQR,
- advising and supporting those responsible in the educational sectors with the allocation of new qualifications (on the basis of the DQR Manual) and with the reference to the EQF level on certificates,
- quality assurance measures, and
- implementing evaluation measures, and making adjustments where applicable.

In addition to this the Federal Government/Länder Coordination Point for the German Qualifications Framework will monitor developments at the European level and function as the contact for the European committees dealing with transparency and mobility instruments.

These tasks are being handled in agreement between the Federal Government/Länder Coordination Point for the German Qualifications Framework and the German Qualifications Framework Working Group, involving third parties where necessary (e.g. evaluation; expert group for the exemplary allocation of non-formal qualifications, establishment of a DQR office to maintain directories, handle Communication, hold consultations etc.).

4.2. Criterion 2

There is a clear and demonstrable link between the qualifications levels in the national qualifications framework or system and the level descriptors of the European Qualifications Framework.

To clearly demonstrate the link between the eight levels of the DQR and those of the EQF, Section 4.2.1. compares the structures and concepts of both qualifications frameworks in an overall assessment. The DQR also has eight levels, which can be allocated to those of the EQF. The DQR levels are, however, structured differently to those of the EQF. For the characterisation a larger number of categories were employed, to illustrate the DQR's broader understanding of education.

The categories and competence descriptions of the DQR expand and translate the EQF to some extent because the EQF is formulated in a highly abstract manner – in line with the nature of a meta-framework.

The decision to opt for a four-pillar structure (compared with the three pillars of the EQF) is intended to clarify the desired learning outcomes in the German education system.

The graduations and descriptors used are compared with each other in detail below. The synchronicity of the DQR and EQF graduations and the correspondent relationship between the EQF and DQR are demonstrated. Differences between the EQF and DQR stem from the fact that the DQR further subdivides the EQF elements of knowledge, skills, autonomy and responsibility.

4.2.1. Structural comparison of the DQR and EQF

To clearly demonstrate the link between the eight levels of the DQR and those of the EQF, the structures and concepts of both qualifications frameworks are first compared in an overall assessment. Graduations and descriptors used are then compared with each other in detail.

The DQR has eight levels, which can be allocated to those of the EQF. Since the DQR levels are structured differently to those of the EQF, and a larger number of categories were employed for the characterisation, it is first intended to show what was used as the basis for this decision. As a rule, an EQF level has the following structure:

Table 6: Structure of the EQF levels (source: European Commission 2008)

Each of the eight levels is defined by a set of descriptors indicating the learning outcomes relevant to qualifications at that level in any system of qualifications			
	Knowledge	Skills	Competences
Level x	In the European Qualifications Framework, knowledge is described as theoretical and/or factual.	In the European Qualifications Framework, skills are described as cognitive (using logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments);	In the European Qualifications Framework, competence is described in terms of responsibility and autonomy.

In comparison, a DQR level is structured as follows:

Table 7: Structure of the DQR levels (source: DQR document 2011)

Level indicator			
Structure of requirements			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Depth and breadth	Instrumental and systemic skills, judgement	Team/leadership skills, involvement and communication	Autonomous responsibility/responsibility, reflectiveness and learning competence

Compared with the EQF approach, the architecture of the DQR matrix makes it clear, that only learning outcomes which have been bundled to form competences are to be considered. This underlines the holistic understanding of competence (see Section 3.2.).

The central position of the concept of competence in the DQR is associated with both the introduction of the level indicator and the four-pillar structure. Unlike the EQF, each level is preceded by a short text describing the requirements relating to that level (“level indicator”). The four-pillar structure is better suited to depicting the ability to act in all its aspects.

This can be explained using the category “Autonomy” as an example. In the EQF this is one of the two categories used to describe a competence acquired by a learner. The DQR clarifies individual aspects of autonomy – and thus at the same time educational objectives which are im-

portant from Germany's perspective and are anchored in the courses of education: autonomous responsibility/responsibility, reflectiveness and learning competence. These are subsumed under the overall category "Autonomy". They explain the dimensions in which autonomy develops. In a dynamic environment, for instance, this includes the ability to relate one's own competences to surrounding conditions, to recognise learning needs and on this basis to plan learning processes and implement them in a target-oriented manner (learning competence).

The EQF, which as an overarching instrument of transparency must be in the position to relate differing national educational objectives to each other, focuses on the category of learning outcomes. Competence appears here as one learning outcome category alongside others: knowledge and skills. The DQR makes it clear that the concept of competences is the umbrella for all learning outcomes being considered. It describes "the ability and readiness of the individual to use knowledge, skills and personal, social and methodological competences and to behave in a considered, individual and socially responsible manner" (DQR document, glossary). It explains that "Knowledge" and "Skills" represent aspects of professional competence (just as "Social competence" and "Autonomy" – pillars 3 and 4 – represent aspects of "Personal competence").

The DQR consistently represents "learning outcomes which have been bundled to form competences" (DQR document, glossary). The approach followed can be illustrated by an example from vocational education and training, where the teaching of knowledge and skills takes place in line with the principle of the so-called "self-contained activity". The aim of learning is mastery of the full cycle of independent action in an area of occupational activity, covering the six stages "obtaining information – planning – deciding – executing – checking – assessing". The desired educational outcome is not to accumulate separate blocks of knowledge and skills but to acquire the ability to *act in an informed and responsible manner* in a defined area. This *integration of knowledge and skills in the concept of professional competence* characterises all educational sectors equally. "Bundling" is not to be understood as simply accumulating learning content but describes, in the sense of a qualitative leap, the ability, based on knowledge and skills, to deal with complexity in a defined specialist field.

The "bundling" is twofold: first the DQR refers the learning outcomes associated with a qualification to the professional and personal development of the individual (professional competence – personal competence), second it clarifies the orientation of all achieved learning outcomes to acting in a competent manner under the terms of defined structures of requirements (described in the level indicator).

The concept of competence in the DQR therefore also refers to personal outlooks and attitudes ("ability and readiness" for socially and personally productive behaviour; see DQR introduction

and glossary). In the curricula and regulatory instruments of the different educational sectors these motivational aspects are specified each in their specific way. This means for instance:

- in-company practice-oriented learning includes the development of quality awareness and client focus.
- Learning in general education schools is not directed solely at imparting knowledge and cultural techniques, but is also intended to promote the constructive participation of individuals in learning groups.
- Training at higher education institutions aims at the ability to carry out independent academic work in line with specialist standards in accordance with the social responsibility of research.

The specifications of the concept of competence described do not mean that the DQR requires either “more” or “less” knowledge or skills in order to achieve a certain level than the EQF.

What it does express, rather, is the status of knowledge and skills in the context of each situation of requirements.

Table 8: Overview of terminology in EQF and DQR

EQF	DQR
<p>Qualification:</p> <p>‘Qualification’ means a formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards.</p>	<p>Qualification:</p> <p>Qualification describes a formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards.</p>
<p>Learning outcomes:</p> <p>‘Learning outcomes’ means statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence</p>	<p>Learning outcomes:</p> <p>Learning outcomes describe what learners know, understand and are able and ready to do on completion of a learning process. The DQR describes learning outcomes which have been bundled to form Competences</p>
<p>Knowledge:</p> <p>‘Knowledge’ means the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual</p>	<p>Knowledge:</p> <p>Knowledge describes the body of facts, principles, theories and practice within a Field of study or work as the result of learning and understanding. Professional knowledge describes knowledge of facts, rules and/or justifications.</p>
<p>Skills:</p> <p>‘Skills’ means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments).</p>	<p>Skills:</p> <p>Skills describe the ability to apply knowledge and use know-how to complete tasks and solve problems. As in the European Qualifications Framework, skills are described as cognitive (use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).</p> <p>Instrumental skills are applied skills deployed in respect of ideas, theories, methods, tools, technologies and devices.</p> <p>Systemic skills are targeted at generating something new. They are conditional on Instrumental skills and require an ability to assess complex correlations and deal with these adequately.</p>

Competence:

‘Competence’ means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.

Competence:

Competence within the DQR describes the ability and readiness of the individual to use knowledge, Skills and personal, social and methodological competences and to behave in a considered, individual and socially responsible manner. Competence is understood in this sense as comprehensive action skills.

The DQR presents competence within the dimensions of professional competence and personal competence. Methodological competence is understood as a cross-sectional competence and for this reason is not separately stated within the DQR matrix. (By way of contrast, the EQF describes competence only in terms of the assumption of responsibility and autonomy.)

Social competence:

Social competence describes a person’s ability and readiness to work together with others in a target oriented manner, understand the interests and social situations of others, deal with and communicate with others in a rational and responsible way and be involved in shaping the world of work and life.

Personal competence:

Personal Competence is also referred to as human competence and encompasses social competence and autonomy. It describes a person’s ability and readiness to develop further and to shape his or her own life in an autonomous and responsible manner within the respective social, cultural or occupational context.

Ability to act as part of a team:

The ability to act as part of a team is the ability to cooperate on the achievement of goals within a group.

Leadership skills:

Leadership skills designate the ability to act in a targeted and constructive manner within a group or organisation to steer and guide others and exert an influence on their behaviour.

Autonomy:

Autonomy describes a person’s ability and readiness to act in an independent and responsible manner, reflect on the own actions and on the actions of others and to develop his or her own action skills further.

4.2.2. Relationship to the European Higher Education Area

The DQR is intended to encompass all qualifications within the German education system. The DQR and the Qualifications Framework for German Higher Education Qualifications (HQR) are compatible. Care was taken to ensure this particularly in the use of the terminology. The HQR was developed with the involvement of the national stakeholders in the Bologna Process and adopted on 21 April 2005. It contains typical characteristics (descriptors) to describe the different cycles in terms of learning outcomes and competences, and incorporates credit point areas in line with the ECTS for the first and second cycles. The HQR is divided into three sections. The introduction describes the formal bases of the study structure at German higher education institutions. In the main part follow the descriptions of the three levels Bachelor, Master and Doctorate according to an identical model: the left column contains details of “Knowledge and understanding”, divided into “Extending knowledge” and “Consolidating knowledge”. It describes the competences acquired with regard to subject-specific knowledge acquisition. The central column describes the competences “Ability” or “Developing knowledge”, subdivided into instrumental, systemic and communicative competences. This category covers the competences application of knowledge (methodological competence) and communicative and social competences. The third column once again sets out the most important “formal aspects” such as workload etc. Entry and postgraduate options are highlighted here above all as these are of particular significance for the mutual recognition of qualifications from different educational sectors. With regard to the requirements and competences described, levels 6, 7 and 8 of the DQR correspond to levels 1 (Bachelor level), 2 (Master level) and 3 (Doctorate level) of the HQR.

The HQR describes the higher education sector and also describes interfaces with vocational education and training. The option has been included, building on this first fundamental classification, to further open the Qualifications Framework in the following years for other sectors of the education system (particularly vocational education and training and continuing education). This was complied with by drawing up the DQR together with representatives of the German Rectors’ Conference [*Hochschulrektorenkonferenz – HRK*] and the German Council of Science and Humanities [*Wissenschaftsrat*]. In this process attention was paid to the compatibility of the terminology used in the DQR and the HQR.

The HQR is, moreover, compatible with the overarching Qualifications Frameworks for the European Higher Education Area developed by the Bologna Follow-up Group. Self-certification was completed in September 2008. The report has been published on the websites of the Federal Ministry of Education and Research, the Standing Conference of the Ministers of Education and Cultural Affairs, and ENIC/NARIC.

4.2.3. Referencing at descriptor level

In the course of referencing it was also possible to demonstrate synchronicity between the EQF and DQR graduations, starting from the EQF “columns” – knowledge, skills and competences. The results are summarised in tables 5-7 below. The aim of the analytical comparison at descriptor level is to work out similarities between the EQF and the DQR.

A special explanation is required for the “or” formulations in the DQR. They express, in line with the EQF formulation “in a field of study or work”, the character of the descriptors as spanning all educational sectors and therefore convey, in the field of knowledge for instance, that academic foundations and occupational knowledge can be allocated to the same level – regardless of whether they were acquired in vocational education and training or in higher education, for example. In the DQR an additional graduation is undertaken at this point. An “initial insight into a field of study or work” (Level 1) is less comprehensive than “occupational knowledge in a field of activity” (Level 2), which in turn is less comprehensive than “integrated professional knowledge within a field of study” (Level 3). The same applies to “knowledge in a field of study” and “knowledge in an academic subject”. Thus – along the lines of the other categories applied – an additional opportunity is used to characterise the levels.

For the consideration of the field of competence the structural differences between the EQF and DQR are relevant. How they are to be classified has already been explained at the start of this section. Since the EQF forms the reference framework (or “meta-framework”) for the comparison between the DQR and other qualifications frameworks, the referencing is conveniently based on the EQF structure. The elements of the DQR which have not yet been discussed – the level indicator and the whole field of personal competence – are compared to this end. The comparison is intended to demonstrate that the EQF competences category can be differentiated through the aspects “structure of requirements”, “social competence” and “autonomy” within the meaning of the DQR, and that in this process – as in the fields “knowledge” and “skills” – a synchronous graduation is found.

As a result it is to be noted that correspondent relationships between the EQF and the DQR can be described for each EQF descriptor. The DQR defines the EQF more precisely against the background of the German education system by breaking down the EQF elements knowledge, skills and competences into the categories requirements, knowledge, skills, social competence and autonomy. The concept of competences is therefore placed at the centre.

The highlighted text in the following tables points to correspondent relationships between the EQF and the DQR (yellow) and to points which are explained separately in the right-hand column (“Assessment of correspondence relationship”) (magenta).

The ‘Knowledge’ columns – ‘*Kenntnisse*’ in the EQF and ‘*Wissen*’ in the DQR – are compared first of all. In the EQF knowledge is the body of facts, principles, theories and practices that is related to a field of work or study, it is therefore often described as theoretical and/or factual knowledge. In the DQR knowledge describes the body of facts, principles, theories and practice within a field of study or work as the result of learning and understanding. Occupational knowledge is a combination of knowledge of facts, basic principles and theories and practical knowledge within a field of activity of relevance to the labour market.

Table 9: Knowledge in EQF and DQR

Level	EQF	DQR	Assessment of correspondence relationship
1	Basic general knowledge	Be in possession of elementary general knowledge. Have an initial insight into a field of study or work.	Conform. In both cases, the focus lies on general education. A basic level is defined here. In addition, the DQR creates a relation to a specific area without questioning the character of the gained knowledge (“initial insight”).
2	Basic factual knowledge of a field of work or study	Be in possession of basic general knowledge and basic professional knowledge within a field of study or work.	Conform. The subject matter is still the basics of general knowledge, supplemented by first specific knowledge (facts, basic professional knowledge).
3	Knowledge of facts, principles, processes and general concepts, in a field of work or study	Be in possession of extended general knowledge or extended professional knowledge within a field of study or field of occupational activity.	Conform. The spectrum of knowledge is extended (in EQF expressed through: facts, principles, processes, general concepts). The level of specification is increased. In the system of occupational activity this means: knowledge about a less complex professional field of activity. (The term “field of occupational activity” across this and the following levels is not statically determined, but rather included in the graduation.)
4	Factual and theoretical knowledge in broad contexts within a field of work or study	Be in possession of deeper general knowledge or theoretical professional knowledge within a field of study or field of occupational activity.	Conform. The Level is characterised by advanced general knowledge as well as by specialisation. The EQF, however, focuses predominantly on the area of skills („finding solutions for specific problems [...]”)
5	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	Be in possession of integrated professional knowledge within a field of study or integrated occupational knowledge within a field of activity. This also includes deeper, theoretical professional knowledge. Be familiar with the scope and limitations of the field of study or field of occupational activity.	Conform. The knowledge has a systemic character and gives a comprehensive overview, including the awareness of the boundaries of each area, with deeper knowledge.
6	Advanced knowledge of a	Be in possession of broad and integrated knowledge including knowledge of basic	Conform. Here, EQF and DQR assume advanced knowledge that in-

	<p>field of work or study, involving a critical understanding of theories and principles</p>	<p>academic principles and the practical application of an academic subject as well as a critical understanding of the most important theories and methods (corresponding to level 1 – Bachelor level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>be in possession of broad and integrated occupational knowledge including current technical developments.</p> <p>Be in possession of knowledge for the further development of an academic subject</p> <p>or</p> <p>of a field of occupational activity.</p> <p>Be in possession of relevant knowledge at interfaces to other areas.</p>	<p>cludes knowledge on theories with critical understanding. At this point, the DQR additionally makes explicit the compatibility between the definitions and the qualification framework for German higher education. The EQF also assumes a correspondence with the qualification frameworks according to the EHEA systematic.</p>
7	<p>Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research</p> <ul style="list-style-type: none"> critical awareness of knowledge issues in a field and at the interface between different fields 	<p>Be in possession of comprehensive, detailed, specialist and state-of-the art knowledge in an academic subject (corresponding to level 2 – Master level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>be in possession of comprehensive occupational knowledge in a strategically oriented field of occupational activity.</p> <p>Be in possession of extended knowledge in adjoining areas.</p>	<p>Conform. Here, the EQF and DQR assume specialised knowledge that is based on the state-of-the-art and takes into account adjoining subjects. For the qualification framework for German higher education qualifications see Level 6.</p>
8	<p>Knowledge at the most advanced frontier of a field of work or study and at the</p>	<p>Be in possession of comprehensive, specialised, systematic state-of-the art knowledge in a research discipline and</p>	<p>Conform. The DQR describes top-rate knowledge as comprehensive, specialised and systematic knowledge, including adjoining subjects. The</p>

	<p>interface between fields</p>	<p>contribute towards the expansion of knowledge within the specialist discipline (corresponding to level 3 – Doctorate level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>be in possession of comprehensive occupational knowledge in a strategically and innovation oriented field of occupational activity.</p> <p>Be in possession of appropriate knowledge at the interfaces to adjoining areas.</p>	<p>DQR speaks about the “expansion of knowledge” while the EQF assigns this idea to skills (“development of new ideas or processes”). For the qualification framework for German higher education qualifications see Level 6.</p>
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The columns “*Fertigkeiten*” – “Skills” – in the EQF and DQR are now compared, identifying correspondent relationships at the level of the descriptors once again in the process. In the EQF “skills” means the ability to apply knowledge and use know-how to complete tasks and solve problems. Skills are described as cognitive skills (involving the use of logical, intuitive and creative thinking) or practical skills (involving manual dexterity and the use of methods, materials, tools and instruments).

As in the EQF, in the DQR skills are described as cognitive skills and practical skills. In addition, the concept of skills in the DQR is subdivided into instrumental skills (application of ideas, theories, methods, tools, technologies and devices) and systemic skills (generating something new, ability to assess complex correlations and deal with these adequately). The DQR is therefore based on an extended, holistic concept of skills.

Table 10: Skills in EQF and DQR

Level	EQF	DQR	Assessment of correspondence relationship
1	Basic skills required to carry out simple tasks	Be in possession of cognitive and practical skills required to carry out simple tasks in accordance with pre-stipulated rules and to evaluate the results of such tasks. Establish elementary correlations.	Conform. Here, basic skills are required to carry out simple tasks. Moreover, the DQR makes explicit that an evaluation of results is required as well as an establishment of elementary correlations.
2	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	Be in possession of basic cognitive and practical skills required to carry out tasks within a field of study or work, evaluate the results of such tasks in accordance with prestipulated criteria and establish correlations.	Conform. Basic skills are required to carry out tasks. Dynamic is limited (EQF: routine problems; DQR: pre-stipulated criteria). See level 1 with regards to the mentioned ability to evaluate.
3	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	Be in possession of a spectrum of cognitive and practical skills for the planning and processing of technical tasks within a field of study or field of occupational activity. Evaluate results in accordance with criteria which are largely pre-stipulated, provide simple transfers of methods and results.	Conform. This level requires a range (EQF) or a spectrum (DQR) of skills to carry out tasks. This also includes planning (EQF: selecting and applying methods, materials and information). The EQF speaks about „problem solving” whereas the DQR requires the „simple transfer of methods and results” which goes beyond the mere evaluation of working results. This includes problem solving skills. This interpretation is supported by the DQR level indicator which mentions „competences for autonomous accomplishment of professional tasks“. Thus this is not merely about the processing of tasks, but also about problem solving (for an understanding of both terms compare the DQR glossary).
4	A range of cognitive and practical skills required	Be in possession of a broad spectrum of cognitive and practical skills which facili-	Conform. This level requires a range (EQF) or a broad spectrum (DQR) of skills. The level of problem solving has increased (solu-

	to generate solutions to specific problems in a field of work or study	tate autonomous preparation of tasks and problem solving and the evaluation of work results and processes according consideration to alternative courses of action and reciprocal effects with neighbouring areas. Provide transfers of methods and solutions.	tions for special problems – autonomous processing of tasks and problem solving). The DQR makes explicit that transfers of methods and solutions are required.
5	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	Be in possession of a very broad spectrum of specialised, cognitive and practical skills. Plan work processes across work areas and evaluate such processes according comprehensive consideration to alternative courses of action and reciprocal effects with neighbouring areas. Provide comprehensive transfers of methods and solutions.	Conform. This level requires a more comprehensive range of gained skills (EQF: comprehensive – DQR: extremely broad spectrum). While the EQF generally speaks about creative solutions, the DQR specifies this aspect by defining it as comprehensive planning with consideration to alternative courses of action and comprehensive transfer of methods and solutions.

6	<p>Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study</p>	<p>Be in possession of a very broad spectrum of methods for the processing of complex problems within an academic subject (corresponding to level 1 – Bachelor level – of the Qualifications Framework for German Higher Education Qualifications), further fields of study or field of occupational activity. Draw up new solutions and evaluate such solutions including according consideration to various criteria even in circumstances where requirements are subject to frequent change.</p>	<p>Conform. Advanced skills are required (in DQR specified as: extremely broad spectrum), which are suitable for complex problem solving. The dynamic is increased (EQF: unpredictable problems – DQR: requirements subject to frequent change). Required are innovative skills (DQR: new solutions). At this point, the DQR additionally makes explicit the compatibility of given definitions with the qualification framework for German higher education qualifications. The EQF also assumes a correspondence with the qualification frameworks according to the EHEA systematic.</p>
7	<p>Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields</p>	<p>Be in possession of specialised technical or design concept skills relating to the solution of strategic problems in an academic subject (corresponding to level 2 – Master level – of the Qualifications Framework for German Higher Education Qualifications) or in a field of occupational activity. Consider alternatives even in circumstances where information is incomplete. Develop and use new ideas or procedures and assess such ideas and procedures according consideration to various evaluation criteria.</p>	<p>Conform. This level requires special problem-solving skills. This includes development, assessment and evaluation (DQR) of ideas and procedures or development of new knowledge and procedures (EQF). For the qualification framework for German higher education qualifications see Level 6.</p>

8	<p>The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and re-define existing knowledge or professional practice</p>	<p>Be in possession of comprehensively developed skills relating to the identification and solution of novel problems set in the areas of research, development or innovation within a specialised academic subject (corresponding to level 3 – Doctorate level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>in a field of occupational activity. Also design, implement, manage, reflect on and evaluate innovative processes including in cross-activity areas.</p> <p>Evaluate new ideas and procedures</p>	<p>Conform. This level requires advanced and specialised skills (EQF) or comprehensively developed skills (DQR) relating to problem solving with far-reaching meaning (EQF: central problems; DQR: novel problems; in cross-activity areas). Required is a high level of innovation (EQF: extension or re-definition of existing skills or professional practice – DQR) or design, implementation and evaluation of innovative processes (DQR: to design innovative processes in cross-activity areas and to implement, manage, reflect and evaluate on them)</p> <p>For the qualification framework for German higher education qualifications see Level 6.</p>
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Sections 3.2. and 4.2.1. pointed to the extended understanding of competence in the DQR compared with the EQF, which is expressed among others in the four-pillar architecture and places more emphasis on the holistic aspect and orientation towards ability to act. The following comparison of descriptors attempts to identify correspondent relationships. The holistic aspect is considered in particular by including the level indicator. It clarifies the orientation of all achieved learning outcomes to acting in a competent manner under the terms of defined structures of requirements.

Table 11: Competence in EQF and counterparts in DQR

Level	EQF	DQR	Level indicator	Assessment of correspondence relationship
			Social competence	
			Autonomy	
1	Work or study under direct supervision in a structured context		Be in possession of competences for the fulfilment of simple requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place under supervision .	Conform. Required are competences to carry out tasks under supervision in a structured context (DQR: clearly and stably structured) field of study or work. The DQR specifies the level of autonomy, responsibility and acting in complex situations also by considering aspects like the ability of working in a team, obtaining information, communication skills, evaluation skills and learning competence. Thus, the DQR is not in contradiction with the EQF, but rather explains the categories of EQF from the perspective of the German education system (see the introductory remarks of this chapter).
			Learn or work together with others, obtain and exchange information verbally and in writing.	
			Learn or work under supervision . Appraise own actions and the actions of others and accept learning guidance	
2	Work or study under supervision with some autonomy		Be in possession of competences for the professional fulfilment of basic requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place largely under supervision .	Conform. For this level the EQF and DQR postulate some autonomy in order to fulfil requirements (DQR: “ <i>largely</i> under supervision”). Further references on “some” autonomy in DQR are as follows: working in a group, expressing ideas, expressing criticism, reacting in accordance with the given situation and requesting learning guidance for (pre-stipulated) learning guides.
			Work within a group. Accept and express general feedback and criticism. Act and react in accordance with the conform situation with regard to verbal and written communication	
			Learn or work in a responsible manner and largely under supervision within familiar and stable contexts . Appraise own actions and the actions of others. Use pre-stipulated learning guides and request learning guidance	

3	<p>Take responsibility for completion of tasks in work or study adapt own behaviour to circumstances in solving problems</p>	<p>Be in possession of competences for the autonomous fulfilment of technical requirements within a field of study or field of occupational activity which remains clear whilst being openly structured in some areas</p> <hr/> <p>Work within a group and occasionally offer support. Help shape the learning or working environment, present processes and results to the appropriate recipients of such information.</p> <hr/> <p>Learn or work autonomously and responsibly including within contexts which are less familiar. Appraise own actions and the actions of others. Request learning guidance and select various learning aids.</p>	<p>Conform. Compared to Level 2, the required autonomy (EQF: responsibility for completion of tasks in work or study – DQR: autonomous completion of professional requirements) and dynamics (EQF: adapting to certain circumstances – DQR: partially free structured) are increased. The DQR further differentiates the increased independency towards different areas. These are: working in a group (offer occasional support), help shaping the learning or working environment, communication skills (reference to recipient), evaluation skills and learning competence (<i>selection</i> of learning guides).</p>
4	<p>Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities</p>	<p>Be in possession of competences for the autonomous planning and processing of technical tasks assigned within a comprehensive field of study or field of occupational activity subject to change.</p> <hr/> <p>Help shape the work within a group and the learning or working environment of such a group and offer ongoing support. Justify processes and results. Provide comprehensive communication on facts and circumstances.</p> <hr/> <p>Set own learning and work objectives, reflect on and assess such objectives and take responsibility for them.</p>	<p>Conform. In accordance with EQF and DQR, competences are required which enable self-management and taking over responsibilities under certain dynamic conditions (EQF: taking some responsibility for the supervision, evaluation and improvement of routine work of other persons – DQR: Help shape the work within a group and the learning or working environment of such a group and offer on-going support). The DQR additionally makes explicit the conditions for autonomy and taking over responsibility in the areas of communication (provide comprehensive communication on topics) and learning competence.</p>

5	<p>Exercise management and supervision in contexts of work or study activities where there is unpredictable change</p> <p>review and develop performance of self and others</p>	<p>Be in possession of competences for the autonomous planning and processing of comprehensive technical tasks assigned within a complex and specialised field of study or field of occupational activity subject to change.</p>	<p>Conform. The EQF characterises the level of competence through the dynamics of learning and working environment and the responsibility (management and supervision). While the EQF deals with unpredictable changes, the DQR (less strongly) defines a field of study or field of occupational activity subject to change. Further considerations concerning weaker structures are also involved (heterogeneous groups, cross-activity communication, relation to recipients).</p>
	<p>Plan and structure work processes in a cooperative manner, including within heterogeneous groups, instruct others and provide well-founded learning guidance.</p> <p>Present complex facts and circumstances extending across professional areas in a targeted manner to the appropriate recipients of such information.</p> <p>Act in an anticipatory manner in considering the interests and requirements of recipients.</p>	<p>In the DQR, the management competences are dealt with under “social competences” (instructing others and provide well-founded learning guidance). Also, the formulation „planning of working processes across professional areas” indicates this direction. It becomes evident that in the area of management only the “entry level” can be achieved.</p>	
	<p>Reflect on and assess own learning objectives and learning objectives set externally, undertake self-directed pursuit of and assume responsibility for such objectives, draw consequences for work processes within the team.</p>	<p>Moreover, the observed DQR indicators emphasise the special technicality (“autonomous planning and working on comprehensive technical tasks in a complex, specialised learning area that is subject to change”, “planning and designing”). The EQF deals with this aspect under skills.</p>	

6	<p>Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts</p> <p>take responsibility for managing professional development of individuals and groups</p>	<p>Be in possession of competences for the planning, the processing and the evaluating of comprehensive technical tasks and problems set and be in possession of competences for autonomous management of processes within subareas of an academic subject or within a field of occupational activity. The structure of requirements is characterised by complexity and frequent changes.</p> <p>Assume responsibility in working within expert teams or show responsibility in leading¹⁰ groups or organisations.</p> <p>Instruct the technical development of others and act in an anticipatory manner in dealing with problems within the team.</p> <p>Present experts with arguments for and solutions to complex professionally related problems and work in conjunction with such experts on further development.</p> <p>Define, reflect on and assess objectives for learning and work processes and structure learning and work processes autonomously and sustainably.</p>	<p>Conform. The characterisations are consistent for the areas complexity, dynamics, (EQF: unpredictable contexts of work or study – DQR, slightly deviated: frequent changes) and responsibility (EQF: taking over responsibility for the professional development of individuals and groups – DQR: guiding groups and organisations responsibly. Guide professional development of others and deal with problems in a team in an anticipatory manner).</p> <p>The DQR makes again evident the implications of the described level of responsibility for the communication and conflict-solving skills.</p>
7	<p>Manage and transform work or study contexts that are complex, unpredictable and require new approaches</p> <p>take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams</p>	<p>Be in possession of competences for the processing of new and complex professional tasks and problems set and be in possession of competences for autonomous management of processes within an academic subject or within a strategically oriented field of occupational activity. The structure of requirements is characterised by frequent and unpredictable changes.</p> <p>Assume responsibility for leading groups or organisations within the scope of complex tasks set and present the results of the work of such groups or organisations. Promote the technical development of others in a targeted manner. Lead divisionally specific and cross-divisional debates.</p>	<p>Conform. Both frameworks require complexity, dynamics (EQF: unpredictable contexts of work and study – DQR: frequent and unpredictable changes) and guiding competence (EQF: guidance and design – DQR: guiding groups and organisations responsibly). This level introduces the aspect of strategic planning: (EQF: new strategic approaches; supervision of strategic achievements of processes and teams – DQR: responsible management of processes within an area of research or in a strategy oriented professional field of activity). Moreover, the emphasis</p>

¹⁰ This encompasses companies, government authorities or non-profit making organisations.

		Define objectives for new applications or research oriented tasks reflecting on possible societal, economic and cultural implications, deploy appropriate means and tap autonomously into own knowledge for the purpose	is on aspects such as creativity and innovation (EQF: responsibility for contribution to professional knowledge and professional practice – DQR: new application and research oriented tasks; develop knowledge autonomously).
8	Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research	<p>Be in possession of competences for the obtaining of research findings in an academic subject or for the development of innovative solutions and procedures within a field of occupational activity. The structure of requirements is characterised by novel and unclear problem situations.</p> <p>Lead groups or organisations from a position of responsibility in complex or interdisciplinary tasks whilst activating the areas of potential within such groups or organisations. Promote the professional development of others in a targeted and sustained manner. Lead cross-specialist debates and introduce innovative contributions to specialist professional discussions including in international contexts.</p> <p>Define objectives for new complex applications or research oriented tasks reflecting on possible societal, economic and cultural implications, select appropriate means and develop new ideas and processes.</p>	<p>Conform. This level deals with the competence to create innovative solutions (EQF: development of new ideas and procedures – DQR: gaining of research knowledge in an academic area or for development of innovative solutions and procedures in a professional field of activity), to take over responsibility for these (EQF: professional authority; integrity – DQR: reflection of potential societal, economic and cultural impacts) and to take over an outstanding management responsibility (EQF: in leading contexts of work and study – DQR: responsible guidance of groups and organisations).</p> <p>With the mentioning of international contexts the DQR brings an additional aspect, thus merely making explicit the requirement of responsible work in a global research and economy.</p>

4.3. Criterion 3:

The national qualifications framework or system and its qualifications are based on the principle and objective of learning outcomes and linked to arrangements for validation of non-formal and informal learning and, where these exist, to credit systems.

Orientation to learning outcomes is increasingly becoming standard in education, vocational training and higher education. It represents an essential prerequisite for ensuring that acquired competences can be credited in other educational contexts. The status of learning outcome orientation and competence orientation achieved in the different educational sectors in Germany is documented below. The planned procedure for including the results of non-formal and informal learning in the DQR is also described (for the current situation in the German education system see Section 2.2.8.), and ongoing developments in the implementation of credit points systems are presented. Approaches to credit points systems in all educational sectors are taken into account in this process (focusing on ECTS in the higher education sector and ECVET in vocational training). These developments also focus on the promotion of learning outcome orientation. However, no direct link with the DQR is planned at present.

4.3.1. Learning outcome orientation in the German education system

The use of the European Qualifications Framework (EQF) as a “translation device” between the national qualifications systems allows educational stakeholders to describe learning outcomes in a way that makes them comprehensible internationally and across the different systems, and can be integrated in each national educational context. Learning outcomes are arranged in units and are intended to be readable and comprehensible, coherently structured, and appraisable.

The description of qualifications based on learning outcomes facilitates readability and comprehensibility, and therefore also the comparability of qualifications. At various levels (research, curriculum development, school development, further education, test and evaluation culture) a reorientation process has been introduced.

In recent years, approaches involving descriptions of individual learning outcome units based on learning-outcomes or competences have been developed and tested in all areas of the German education system, and in some cases implemented permanently¹¹. The following approaches are of particular note:

¹¹ Learning outcome units have been defined for the higher education sector (modules) and for vocational training (training or qualification modules, learning fields).

- In the field of **general education**: competence-oriented education standards in school education institutions.
- In the field of **vocational education and training**: continued development of the concept of orientation towards the ability to act introduced in the 1990s in the vocational sector, with the aim of developing the professional ability to act and involving the social partners. Competence-based training regulations, framework curricula (Standing Conference of the Ministers of Education and Cultural Affairs) for vocational teaching in accordance with the “learning field concept” and competence-based curricula of the Länder for partially and fully qualifying vocational training at school.
- In the **higher education sector** study courses were structured in modular form in the course of the Bologna Process. The modular structure and a learning-outcome oriented description of the study modules are key prerequisites for the approval (accreditation) of a study course. Within the framework of the ANKOM programme for crediting competences acquired at work to higher education study courses, procedures to credit non-formal and informally acquired competences to higher education study courses were developed and tested.
- In the fields of **continuing education** there are various competence orientation approaches. In the field of regulated further vocational training, which is described consistently in federal law (under the Vocational Training Act [*Berufsbildungsgesetz*] and the Handicrafts Code [*Handwerksordnung*]) or Land law (further training at *Fachschulen*), the standards of vocational training in the dual system or the *Berufsfachschule* [full-time vocational school] apply. The approaches are described in the section on vocational training. In the field of non-regulated continuing education (general, political, cultural, vocational and scientific continuing education) different standards apply; these are not always consistently regulated in federal law. For this reason these varied approaches are not described in more detail.

As part of the DQR process it was agreed to initiate a learning outcome-oriented dialogue between general education and vocational training, which promotes the transparency of the competences developed in both sectors and their relationship to each other. A first step was taken with a meeting between the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*] and the Institute for Educational Quality Improvement [*Institut zur Qualitätsentwicklung im Bildungswesen*] on 27 August 2012 in Berlin. Contacts are to be continued and deepened.

The approaches to learning-outcome orientation in the different sectors of the German education system are described below.

4.3.1.1. School-based general education

Competence orientation is characteristic of the reform process in school education institutions. With the introduction of educational standards for primary education, the secondary general school certificate [*Hauptschulabschluss*] and the intermediate school leaving certificate [*Mittlerer Schulabschluss*] in 2003 and 2004, and with the educational standards for the entrance qualification to general university studies [*Allgemeine Hochschulreife*] adopted in 2012, the Länder have a shared and binding reference framework for quality assurance and quality development in their schools (see Section 4.5.2.).

National educational standards currently exist for the following areas/subjects:

- primary education (grade 4): German and mathematics,
- Secondary general school certificate (grade 9): German, mathematics and first foreign language (English/French),
- *Mittlerer Schulabschluss* [general education school leaving certificate obtained on completion of grade 10 at *Realschule* or, under certain circumstances, at other lower secondary school types] (grade 10): German, mathematics, first foreign language (English/French), biology, chemistry and physics,
- *Allgemeine Hochschulreife* [general higher education entrance qualification] (grade 12/13): German, mathematics and foreign language (English/French).

The development of the educational standards for the *Allgemeine Hochschulreife* in the natural science subjects biology, chemistry and physics is to be commenced in 2013.

The Uniform Examination Requirements [*Einheitliche Prüfungsanforderungen – EPA*] currently provide the reference framework for the objectives of the *gymnasiale Oberstufe* [upper level of the *Gymnasium*] and the development of tasks for the *Abitur* secondary school leaving examination. In their latest amendment they incorporate competence orientation. The Uniform Examination Requirements go beyond the standards of the lower secondary level, by providing assessment criteria and joint criteria of the Länder for tasks assigned in the *Abitur* examinations. At the same time they describe differences between basic und intensified courses. The examination-based comments of the Uniform Examination Requirements have, however, been dropped in the *Abitur* standards in favour of more detailed task examples differentiated by course.

Competence-oriented education standards are to promote and improve school-based learning on a sustained basis, reduce the number of at-risk learners and enhance equal opportunities nationwide. The overall concept of competence orientation aims to develop the quality of teaching on a wider scale. The orientation to specialist and multidisciplinary competences plays a key role in this process. The division of “competence as a whole” into separate partial competences and the classification in differ-

ent levels of competence is key. This makes it possible to structure the complex learning process in clear units for learners and teachers and to set targets which can be achieved in a foreseeable period. The division into partial competences and different competence levels provides teachers with criteria which they can use to plan and evaluate teaching in a more targeted way.

At the end of 2004, in this context, the Standing Conference of the Ministers of Education and Cultural Affairs founded the Institute for Quality Development in Education [*Institut für Qualitätsentwicklung im Bildungswesen*]. Its main task consists of laying down and developing educational standards, and using them as a basis for developing tasks which can help to determine whether the competence expectations formulated in the educational standards are being complied with. For the qualification-based standards it develops level of competence models, which enable pupil performance to be measured and thus help determine the degree to which the standards are being achieved. These level of competence models form, inter alia, the reference framework for the nationwide surveys on learning levels or comparative studies (VERA) in the subjects German and Mathematics in grade 3, and in German, Mathematics and the first foreign language in grade 8. These comparative studies have a diagnostic rather than a selective function: they provide feedback formats for pupils as regards their level of performance, and also for teachers and the school as a system regarding the quality of teaching. They thus make an important contribution to changing the teaching culture, for instance as new, standard-based task formats are integrated into teaching, and learning outcomes can be assessed to optimise learning processes, with this assessment becoming increasingly more professional.

With the introduction of educational standards the Standing Conference has initiated a paradigm shift in education policy towards outcome-oriented control which, as a response to the results of the TIMSS and PISA school benchmarking studies, has gained significantly in importance over the former input-oriented control. Although until then people had put their faith in high-quality input, particularly in the form of curricula, timetables, training regulations and examination regulations, the results of the first PISA study showed that these instruments alone did not guarantee the quality of education but that countries achieved better results on the whole if they operated systematic, data-based quality assurance with the aid of regular school benchmarking studies and system monitoring. This change in perspective, which takes account of pupil performance as a measure in the appraisal of education systems, has played a large part in prompting the codification of educational standards.

“Educational standards lay down requirements for teaching and learning in school. They specify objectives for the teaching work, expressed as desired learning outcomes for pupils. [...] Educational standards stipulate what competences children or young people ought to have acquired by a certain grade.”¹² They are formulated with regard to specific leaving qualifications and show, in a format

¹² Klieme et al.: *Zur Entwicklung nationaler Bildungsstandards, Bonn/Berlin 2007* [On the development of national education standards], p. 19. URL: www.bmbf.de/pub/zur_entwicklung_nationaler_bildungsstandards.pdf.

geared to learners, what pupils ought to know at the end of primary school (where primary school ends with grade 4, which is not the case in Berlin and Brandenburg) or on obtaining the secondary general school certificate [*Hauptschulabschluss*], the intermediate school leaving certificate [*Mittlerer Schulabschluss*] or the entrance qualification to general university studies [*Allgemeine Hochschulreife*]. Compared to earlier curricula, which were predominantly oriented to contents, in the educational standards learning outcomes are formulated as standard requirements. The “subject relevance” of the requirements is an important quality factor, as the educational standards “clearly set out the core ideas of the subjects or subject groups, in order to focus teaching and learning”.¹³ Contents are not simply listed in isolation, as this does not make it clear what pupils need to master, or to what degree. The partial competences formulated in the requirements may be assigned to different contents or be acquired through different contents. This flexibility enables schools to orient teaching more towards their pupils.

The task examples and examination tasks incorporated into the educational standards also substantiate the requirements of the individual school-leaving certificates and what solutions are possible or pupils are expected to provide to the examinations.

4.3.1.2. Dual vocational education and training

With its guiding objective of promoting a professional ability to act, vocational training in the dual system has followed a competence-oriented approach from the outset. In recent years competence orientation has, however, also gained further importance here. Continual changes in the working world and new developments in information and communications technology mean that people are continually confronted with changing learning requirements. This makes it necessary for them to constantly update their individual competences.

Conceptually, the starting point is the idea of comprehensive professional action (i.e. the ability to plan, execute and evaluate independently). On the vocational school side of dual education and training, a first concept to implement competence orientation has been introduced as a regulatory basis. With the learning field concept in 1996 the Standing Conference of the Ministers of Education and Cultural Affairs laid down an understanding of competence that serves as a means of orientation for learning and teaching in the *Berufsschule* [part-time vocational school]. The aim of learning here, too, is to develop “the ability to act”; this is defined as the readiness and ability of the individual to act in vocational, social and private situations in a manner which is properly thought through and individually and socially responsible. Professional competence, human competence and social competence are considered as dimensions of the ability to act.

¹³ Ibid., p. 26.

The Vocational Training Act [*Berufsbildungsgesetz*] requirements are general and apply to all occupations. The wording “to carry out a skilled professional activity” and “in a structured course of training” (section 1, paragraph 3 of the Vocational Training Act [*Berufsbildungsgesetz*]) makes it clear that the professional ability referred to is to be achieved in a specific area and within the framework of a specific profession.

Competence models systematise and operationalise the understanding of competence and form a framework for its implementation in curricula. The competence model for vocational training always represents the ability to act in relation to the working and business processes typical of the occupation.

Guiding principles to design competence-based training regulations

The concept developed in 2009 by the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*] to design competence-based training regulations builds on the requirements of the Vocational Training Act [*Berufsbildungsgesetz*]. It is oriented by the principle of the recognised occupation (“*Berufsprinzip*”), describes minimum standards and can integrate existing structural concepts such as disciplines, specialisations and additional qualifications. The concept is based on the following guiding principles to design competence-based training regulations:

- ***Orientation to competences***

The training regulations lay down the competences which trainees should acquire in binding form. The competence-based description takes account of the professional, methodical, social and personal dimension.

- ***Learning-outcome oriented description of competences***

The training regulations describe competences in terms of learning outcomes. Learning outcome statements describe what a learner knows, understands and is in a position to do after completing a learning process.

- ***Orientation to working and business processes***

Working and business processes are the starting point for the content structuring and bundling of training contents/of the competences to be acquired.

These three guiding principles form the conceptional framework in the decision of how to define occupational profiles and which learning contents, i.e. competence descriptions, are to be incorporated in the general training plan. These guiding principles are already laid down in existing training regulations. With the aid of the proposed procedure these approaches can systematically be further developed.

The prerequisite for the design of competence-based training regulations is a generally accepted understanding of competences which can be used as a basis for the concept. This serves above all to de-

fine the guiding objective of vocational training under the Vocational Training Act [*Berufsbildungsgesetz*] – occupational ability to act – and make it transparent. Occupational ability to act can – as in training at vocational schools – be interpreted as ability to act in a vocational capacity.

Within the framework of a development project the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*] has tested the “concept to design competence-based training regulations” in two occupations (toolmaker for the industrial and technical area, and commercial specialist for insurance and finance for the commercial-administrative area). On the basis of the outcomes achieved, the framework and requirements for future training regulations are being discussed and laid down by a working group of the BIBB Board. This is strengthening the competence orientation of dual vocational education and training.

The learning field concept forming the basis of the framework curricula, and the “concept to design competence-based training regulations”, can be linked with each other. Both aim at continued development of the concept of ability to act in a vocational capacity.

The curricula of the Länder for partially and fully qualifying vocational training at school, like the framework curricula of the *Berufsschule* [part-time vocational school] for dual training occupations, are oriented to learning-outcomes and competences and geared to the requirements of the work and business processes typical of each occupation.

4.3.1.3. Higher education sector

In Germany, the strengthening of the learning outcome orientation in the higher education sector is linked to the introduction of the Bachelor’s and Master’s study courses and accreditation. Both the Qualifications Framework for German Higher Education Qualifications [*Qualifikationsrahmen für Deutsche Hochschulabschlüsse – HQR*]¹⁴, the accreditation criteria to be complied with in Germany¹⁵

¹⁴ www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/2005/2005_04_21-Qualifikationsrahmen-HS-Abschluesse.pdf.

¹⁵ The German accreditation system is organised on a decentral basis and characterised by the accreditation of study courses or quality assurance systems internal to higher education institutions through accreditation agencies, which in turn have been accredited by the Foundation for the Accreditation of Study Courses in Germany (Accreditation Council) [*Stiftung zur Akkreditierung von Studiengängen in Deutschland – Akkreditierungsrat*]. The Accreditation Council as the central decision-making body defines the basic requirements of the accreditation procedure and ensures that accreditation is carried out on the basis of reliable, transparent and internationally recognised criteria. The legal basis of the accreditation system is the Law on Establishing a “Foundation for the Accreditation of Study Courses in Germany” and the contracts to be concluded between the Foundations and the agencies in which the rights and obligations of the partners in the accreditation system have been laid down. Under the contracts the agencies agree to apply the resolutions of the Accreditation Council and to take account of the Common Structural Guidelines of the Länder laid down by the Standing Conference of the Ministers of Education and Cultural Affairs, as amended. Available online at: www.akkreditierungsrat.de/fileadmin/Seiteninhalte/Dokumente/kmk/KMK_LaendergemeinsameStrukturvorgaben.pdf.

and the European Standards and Guidelines for Quality Assurance in Higher Education (ESG)¹⁶ demand, as a matter of principle, the learning outcome orientation of higher education teaching. Learning-outcome and process orientation in accreditation mean largely avoiding quantitative guidelines in external quality assurance. The higher education institutions instead orient themselves to their own targets set for an individual study course or for the overall organisation. The qualification objectives of the study course must meet the requirements of specialist and work-related validity and topicality, which must be assessed in the accreditation.

As a rule descriptions of desired learning outcomes (in the form of knowledge, skills and competences) are available for study courses. The higher education institutions are responsible for their didactic implementation and for examining whether the learning outcomes are indeed achieved (“learning-outcome oriented testing”).

Since the HQR, with its description of the competences to be imparted at the different levels, is to be used as a basis for accreditation, the study course focus on learning outcomes must always be demonstrated in the accreditation. Under the rules on accreditation learning-outcome orientation is mandatory – at least indirectly. It is the object of explicit Land law provisions (higher education act or ordinance) in Bavaria, Hamburg and Schleswig-Holstein. In Berlin and Bremen the focus on learning outcomes is included in the higher education institution contracts or target agreements, in Lower Saxony in the Land guidelines on higher education development. In Saarland and Mecklenburg-Western Pomerania learning-outcome orientation is to be demonstrated within the framework of state approval and examination regulations.

Support in referencing ECTS credits and learning outcomes was provided by the Bologna Centre of the German Rectors’ Conference [*Hochschulrektorenkonferenz* – HRK] from 2007 to 2010 and is offered by the German Rector’s Conference’s “nexus” project from 2010 to 2014. Information on ECTS and learning outcome orientation is also made available through the German Academic Exchange Service [*Deutscher Akademischer Austauschdienst*] and the German Rector’s Conference. Some Länder and the higher education institutions define the understanding of “student-centred learning” in guidelines and recommendations.

To improve the mutual recognition of modules when changing higher education institution or study course, the examination contents of a module are increasingly being oriented to the learning outcomes defined for the module. The accreditation agencies’ approach to examination is also oriented to learning outcomes and processes in both programme accreditation and system accreditation.

Rules anchored in the study and examination regulations simplify mutual recognition. Recognition is ultimately based on the quality of accredited study courses and the performance of state or accredited

¹⁶ European Association for Quality Assurance in Higher Education (2009): Standards and Guidelines for Quality Assurance in the European Higher Education Area. Available online on: www.enqa.eu.

non-state higher education institutions with regard to the competences acquired by students (learning outcomes) in accordance with the rules of the Lisbon Convention (Article III).

4.3.2. Credit points and credit systems in the German educational sector

Credit systems support learning outcome orientation in the educational sectors. A linking of existing credit systems (e.g. ECVET, ECTS) with the DQR is however not planned for the time being. The following shows which role credits currently play in vocational and higher education.

4.3.2.1. Initial and continuing vocational education and training

In the Recommendation of the European Parliament and of the Council on the establishment of a European Credit System for Vocational Education and Training (ECVET) the EU member states are asked to “create the necessary conditions” by 2012 so that ECVET can be “gradually applied”. In Germany ECVET has since then been tested in two application contexts:

(1) Through decentral and central EU funding in the Lifelong Learning programme a range of European projects with German involvement are currently testing whether – and if so, how – transnational mobility can be improved through ECVET in qualitative and quantitative terms (ECVET pilot projects on www.ecvet-projects.eu and LEONARDO-DA-VINCI projects).

The “National Agency Education for Europe” (NA-BIBB) has been set up at the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*]. It supports these development processes through networking activities. On behalf of the Federal Ministry of Education and Research it has set up the National Coordination Point ECVET, which started work on 1 November 2010. The National Coordination Point ECVET is a service point which supports educational stakeholders in Germany in testing ECVET principles, processes and instruments in the context of transnational mobility measures (www.ecvet-info.de). It is the contact for fundamental issues of the application of ECVET procedures and instruments to improve transparency and recognition of occupational competences acquired abroad. As of 2012 it has been supported by a team of national ECVET experts.

(2) ECVET is moreover understood as a resource that should be applied within national education systems. In 2010 seven pilot projects were selected by the European Commission (the so-called “2nd ECVET Generation”), which are testing ECVET until 2014 with this objective. From the German side, too, ECVET is viewed as a European impetus for national reform efforts. In this sense the pilot initiative DECVET (development of a credit system for vocational education and training in Germany) of the Federal Ministry of Education and Research is determining whether a credit system following

ECVET can help simplify transitions in the German vocational education and training system (www.decvet.net).

(1) Implementation via LEONARDO-DA-VINCI mobility projects

Since 2010 ECVET has been a national priority in the programme for lifelong learning in the LEONARDO DA VINCI actions mobility, partnership and transfer of innovation. In addition, the National Agency at the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*] and the National Coordination Point ECVET support the stakeholders of projects funded in Germany with exchanges of experience and developing materials of practical relevance. The aim is to publicise examples of good practice and to identify procedures and principles which can be transferred into other learning contexts. The development of a “common language” and terminology and the drawing up of handouts and guidelines is intended to assist educational stakeholders in applying the ECVET approach.

The Federal Ministry of Education and Research concept paper on testing ECVET in the context of transnational mobility in Germany defines specific points of orientation for the test phase within the German vocational education and training system. For the testing of ECVET in Germany it is agreed that this should take place within the framework of the existing vocational education and training system preserving the principle of the recognised occupation (“*Berufsprinzip*”) and the objective of acquiring occupational ability to act. The principle of the recognised occupation ensures, through vocational training lasting several years in broadly based training occupations which are uniform throughout Germany, the possibility of taking up a variety of specific professional activities. Other points of orientation are:

- concentrating testing on the acquisition of competences during formal initial and continuing vocational education and training, including additional qualifications,
- competence-oriented description of learning outcomes based on the EQF system,
- laying down learning outcome units using specific work tasks and projects,
- validation and recognition of learning outcomes according to the applicable legislation,
- optional award of credit points for learning outcome units,
- implementing and recognising the mobility measure on the basis of the partnership agreement,
- support for the educational stakeholders who are testing ECVET by the Federal Government, Länder and social partners.

In testing ECVET in the context of transnational mobility the potential system convergence with the ECTS (European Credit Transfer and Accumulation System), the European credit point system for the higher education sector, is not a priority at present.

(2) Implementation through the DECVET initiative

In autumn 2007 the pilot initiative DECVET (development of a credit system for vocational education and training in Germany) was launched by the Federal Ministry of Education and Research. The aim was to develop and test procedures and models to describe, record, assess, document, transfer and credit learning outcomes within the German vocational education and training system while maintaining its principles. The instruments developed and partly tested in the DECVET pilot initiative are to make a key contribution to permeability, transparency and mobility within the German vocational education and training system. The award of ECVET points played a minor role in the projects. The testing showed that the scoring of the learning outcome units within the German vocational education and training context is of limited relevance at present and is not absolutely necessary to enable the transfer of learning outcomes from one learning context to another. A total of ten projects launched in 2008 followed the objective of improving crediting options at each of the following interfaces:

- between vocational training preparation and dual vocational education and training,
- between dual vocational education and training courses,
- between full-time vocational education at school and dual vocational education and training, and
- between dual vocational education and training and further vocational training.

The pilot initiative embraced the objectives of the “Bruges-Copenhagen Process”. Work was linked to European instruments (EQF, ECVET) and related structure reforms.

DECVET also corresponds to the key European ideas as regards competence or outcome orientation: it considers the learning outcomes which are acquired during a course of education. Thus it now also offers the tried and tested option of assessing competences or learning outcomes acquired at work regardless of learning pathway or place of learning, and crediting them to different courses of education. The political evaluation of DECVET test results started in 2012.

4.3.2.2. Higher education sector

As reported in Section 2, the implementation of the Bologna reforms is well advanced in Germany. This includes the application of the ECTS.

Credit points are awarded for all student performance assessments, which are relevant for the proper completion of a study, i.e. for all optional and elective lectures including examination results. The basis for the assessment of credits is the total assumed average ideal-type student workload which is required for the successful completion of the particular study course or examination (including preparation, participation and time needed to go over the material). The award of credit points is not linked to the grading of performance in the study course or examination.

Not only shall the ECTS help to make course achievement within national and international systems more transparent and more easily recognisable, and thus increase student mobility in the European Higher Education Area; through the paradigm shift from contact hours in teaching to student learning and the definition of learning outcomes and competences in the course of modularisation, the ECTS has increasingly become an instrument of systematic study reform.

4.3.3. Measures to validate non-formal and informal learning

Section 2.7. showed that Germany has a number of parallel legally enshrined procedures associated with formal recognition or admission or entitlement which ensure recognition or partial recognition of informally and non-formally acquired competences. It also pointed out that great significance is attached to experience-based learning and on-the-job learning given the high share of practical work experience.

Taking up the Recommendation of the European Parliament and of the Council on the Establishment of the European Qualifications Framework (EQF) of 23 April 2008, moreover, measures were introduced to promote greater consideration of non-formally and informally acquired competences. In the course of development of the DQR initially two expert reports were produced on the “inclusion of the results of non-formal and informal learning in the DQR” (March 2010) and “recognition of informally and non-formally acquired competences” (May 2010). An expert workshop in July 2010 showed the broad range of positions that currently exist on this issue in Germany. In the DQR committees it was noted that Germany already has a range of procedures to recognise and visualise informally acquired competences, which could be built on in future developments (see Section 2.7. above). In a further stage in June 2011 two expert working groups were set up. They had the task of drawing up recommendations for the possible inclusion of the results of non-formally and informally acquired competences in the DQR. Written opinions from various academics were submitted for consideration in the discussions of the two working groups. The recommendations were discussed and evaluated in the German Qualifications Framework Working Group, and the following steps were agreed (see opinion of the 24th meeting of the German Qualifications Framework Working Group on 13 September 2012; see Annex, 5.3.).

It was noted that the creation of new means of access to education and learning was intended to promote lifelong learning by increasing the variety of pathways allowing acquisition of competences and dismantling barriers between educational sectors. In this process greater attention is to be paid above all to non-formally and informally acquired competences. The focus is on the following points:

- There is a need to show the increasing link between formal, non-formal and informal learning in an individual’s learning biography.

- The different ways of acquiring competence in non-formal and informal learning are to be considered in this process.
- Existing procedures to assess competences and recognition procedures are to be further developed and standardised with regard to non-formally and informally acquired competences. The procedures should be geared to one or more fields of work or study. Offers to inform and advise interested citizens with regard to these procedures should be guaranteed by further developing existing tried and tested structures.
- The target groups for the assessment and evaluation of results of non-formal and informal learning should be broadly defined.
- The opportunity should be provided of allocating to all levels of the DQR those competences which are acquired through non-formal and informal learning processes and awarded on the basis of validation procedures. However, not all results of non-formal and informal learning processes necessarily have to be allocated to the DQR.

As a next step, an expert group will work on exemplary allocations of learning outcomes from the non-formal sector. As there are learning opportunities in the non-formal sector which are very similar to qualifications in the formal sector, initially the inclusion of the learning outcomes of this sector in the DQR is to be promoted. To this end and following the pilot phase for the exemplary allocation of formal qualifications, an expert group is being set up which will allocate to the DQR selected learning outcomes from the non-formal sector which can potentially be allocated by way of example, and lay down minimum requirements for the allocation of results of non-formal learning. The results of the expert group will be presented to the German Qualifications Framework Working Group, which will discuss them.

In addition further steps are necessary to take greater account of non-formally and informally acquired competences, the implementation of which requires the involvement of additional education policy stakeholders. This process, which includes a systematic validation of non-formally and informally acquired competences inter alia, is to be continued by the competent ministries of the Federal Government and the Länder, in cooperation with the social partners and industry organisations, and general education, higher education and vocational education and training institutions. To this end, the Federal Ministry of Education and Research will, against the background of the European Commission's "Proposal for a Council Recommendation on the validation of non-formal and informal learning", set up a working group with the responsible partners on "systematic validation of non-formally and informally acquired competences". The results shall be discussed in the German Qualifications Framework Working Group as regards the possible consequences for the DQR.

4.4. Criterion 4

The procedures for inclusion of qualifications in the national qualifications framework or for describing the place of qualifications in the national qualification system are transparent.

The structure of the German education system was described in Section 2 of the referencing report.

The procedure to allocate the qualifications to the DQR is presented below.

4.4.1. Allocation methodology

Proposals for the reasoned allocation of qualifications to the DQR were drawn up in the pilot phase (second phase of development of the DQR) under the aegis of the Federal Ministry of Education and Research and the Standing Conference of the Ministers of Education and Cultural Affairs, with the involvement of experts from the different educational sectors through four working groups. The working groups – composed of representatives of companies, the social partners, the different educational sectors, the Federal Government/Länder Coordination Group and the German Qualifications Framework Working Group [*Arbeitskreis DQR*] – analysed selected qualifications from the fields “metal-working and electrical professions”, “trade”, “health” and “IT” (see Section 3.3.). The methodological procedure used as a basis is described below.

Since DQR allocations were to be carried out for the formal sector in the first stage, the relevant legal regulations and ordinances, curricula and study plans, regulatory instruments for vocational education and training etc. were to be considered initially. In order to be able to relate learning outcomes, which are associated with the acquisition of the qualifications, to the outcome-oriented descriptors of the DQR, the documents were considered on the basis of learning outcomes. In other words, they were evaluated with regard to references they contained to desired learning outcomes in the sense of the defined concept of ‘competence’ in the DQR.

Learning outcomes orientation means in the DQR that qualifications are assessed with a view to the ability to act which is acquired through them. This active nature is expressed conceptually by describing the competences in the DQR using verbs (e.g. “provide simple transfers of methods and results”).

On the basis of these “learning outcomes” compliance with the level descriptions of the DQR was identified and level allocations made. In this process a distinction was made between two procedures:

- **Inductive approach:**

This is based on the structuring of the relevant source texts, such as the learning contents listed in a curriculum – that is, an input-oriented structure – and extrapolates from this basis to the learning outcomes to be allocated to the qualification.

- **Deductive approach:**

This is based on hypotheses about the structural characteristics of a competence acquired through a particular qualification and summarises the contents contained in the source texts to around five to ten functional fields, which correspond to the expected typical requirements structure.

Both procedures showed that a clear allocation to a level was difficult and a certain amount of ambiguity remained, allowing deviations of up to one level. This was often due to the fact that the underlying sources have not been drawn up consistently oriented to learning outcomes. For a final allocation to a level of the DQR, therefore, a holistic consideration of the qualification was necessary.

Since the DQR categories are classed at a higher level of abstraction than the guidelines in a curriculum for instance, an interpretative approach had to be chosen. In both cases the classification was carried out first for separate bundles of competences, and only then for the overall qualification. A form was used to comprehensively document the results of this detailed analysis; the structure of the form is shown in the following table:

Table 12: Allocation form – documentation template

Name of the qualification			
Documents and source texts used			
Proposed level allocation			
Area of competences	Categories/subcategories	Level	Justification/explanations
Professional competence	Knowledge (depth and breadth)		
	Skills (instrumental and systemic skills, judgement)		
Personal competence	Social competence (team/leadership skills, involvement and communication)		
	Autonomy (autonomous responsibility/responsibility, reflectiveness, learning competence)		
Difficulties in allocation			

A qualification was always allocated to the highest level if most of the level descriptors complied with this level. Since the four “competence pillars” (a) have a different importance in the various qualifications, and (b) do not necessarily show the same level in a qualification, it was sometimes necessary, in order to rank the overall qualification, to carry out a meaningful weighting of some aspects. The learning outcomes were therefore first considered separately by pillar. In a second stage an overall classification was then made in the sense of the “best fit”. This, however, did not raise any major methodological issues, as the level indicator was helpful in summarising the character of a competence level.

The results of the expert working groups were evaluated in the Federal Government/ Länder Coordination Group and in the German Qualifications Framework Working Group [*Arbeitskreis DQR*] and finalised with regard to the consistency of the overall architecture. The allocation of qualifications to the DQR took place in accordance with the principle that each qualification level should be accessible via various educational pathways. A learning-outcome consideration did, in fact, result in it being possible for instance to class qualifications from vocational education and training and higher education to the same level.

4.4.2. The level allocations and their justification

The following formal qualifications have so far been allocated to the German Qualifications Framework:

Table 13: Overview of allocations (without general education)

DQR/EQF level	Qualifications
1	Vocational training preparation [<i>Berufsausbildungsvorbereitung</i>] <ul style="list-style-type: none"> • Employment agency measures (vocational preparation schemes)[<i>Maßnahmen der Arbeitsagentur (Berufsvorbereitende Bildungsmaßnahmen – BvB)</i>] • Pre-vocational Training Year [<i>Berufsvorbereitungsjahr (BVJ)</i>]
2	Vocational training preparation [<i>Berufsausbildungsvorbereitung</i>] <ul style="list-style-type: none"> • Employment agency measures [<i>Maßnahmen der Arbeitsagentur</i>] • Pre-vocational Training Year [<i>Berufsvorbereitungsjahr (BVJ)</i>] • Introductory training for young people (<i>Einstiegsqualifizierung, EQ</i>) <i>Berufsfachschule</i> [full-time vocational school] (Basic Vocational Training [<i>Berufliche Grundbildung</i>])
3	Dual vocational education and training (2-year training courses) <i>Berufsfachschule (Mittlerer Schulabschluss)</i> [full-time vocational school ([general education school leaving certificate obtained on completion of grade 10 at <i>Realschule</i> or, under certain circumstances, at other lower secondary school types)]
4	Dual vocational education and training (three-year and three-and-a-half-year training courses) <i>Berufsfachschule</i> [full-time vocational school] (assistant occupations) <i>Berufsfachschule</i> [full-time vocational school](full vocational qualification)
5	<i>IT-Spezialist (Zertifizierter)</i> [Information Technology Specialist (Certified)], <i>Servicetechniker (Geprüfter)</i> [Service Technician (Certified)]*
6	<ul style="list-style-type: none"> • Bachelor • <i>Fachkaufmann (Geprüfter)</i> [Commercial Specialist (Certified)], <i>Fachwirt (Geprüfter)</i> [Business Management Specialist (Certified)], <i>Meister (Geprüfter)</i> [Master Craftsman (Certified)], <i>Operativer IT-Professional (Geprüfter)</i> [Operative IT Professional (Certified)]* • <i>Fachschule (Staatlich Geprüfter...)</i> [<i>Fachschule (State-Certified...)</i>]
7	<ul style="list-style-type: none"> • Master • <i>Strategischer IT-Professional (Geprüfter)</i> [Strategic IT Professional (Certified)]*
8	Doctoral studies

* Additional further vocational training qualifications are allocated on a consensual basis in accordance with the procedure described in the “Joint Resolution”.

This means that to begin with qualifications from two educational sectors (vocational education and training, and higher education) are covered (see section 3.1. on the allocation of general education). Responsibility for the regulation of these qualifications lies

- with the Länder in the case of vocational education in schools (Pre-vocational Training Year [*Berufsvorbereitungsjahr (BVJ)*], *Berufsfachschule* [full-time vocational school], *Fachschule*) and for higher education (*Bachelor*, *Master*, doctoral studies),
- with the Federal Government and the Länder for vocational education and training in the dual system (Federal Government: in-company part; Länder: school part), and
- with the Federal Government for vocational training preparation (Social Security Code III: vocational preparation scheme, introductory training) and for regulated vocational further training (Vocational Training Act: *Kfz-Servicetechniker* [Motor Vehicle Service Technician], *Fachkaufmann* [Commercial Specialist], *Fachwirt* [Business Management Specialist], *Meister* [Master Craftsman], IT further training).

The summary table of the qualifications allocated represents the current situation as at 1 May 2013 and is being continuously updated.

These qualifications are described briefly below indicating

- the certifying authority,
- the ISCED 97 level,
- the applicable requirements for access,
- the degree which is acquired,
- the opportunities for connectivity for graduates,
- the place of learning,
- the duration of learning, and
- the legal bases, curricula, etc. which are relevant to the qualification.

The arguments for the DQR allocation are based, however, not on these indications of institutional and legal framework conditions and input criteria such as learning time but on the consideration of learning outcomes.¹⁷

¹⁷ A consideration focusing on learning times contradicts in particular the nature of the vocational upgrading training courses which were allocated to level 5-7. The legislator often only regulates the examination and the contents of that examination, not the learning path, place of learning and learning time. Different preparatory

The descriptions of learning outcomes are given here – for space reasons – in summarised form. Detailed explanations of all allocations are contained in the DQR Manual which is currently under development (see Section 3.3.). How learning outcomes are described there is explained here by way of example for three selected qualifications in Levels 3, 4 and 6. These are:

- Dual vocational education and training “Industrial Electrician”
- Dual vocational education and training “Electronics Engineer for Automation Technology”
- Master Craftsman in Industry, specialising in Electrical Engineering (Certified)

The DQR Manual contains corresponding descriptions for all allocated qualifications.

courses are offered, but these are – depending on the previous experiences of participants – of differing lengths (e.g. Technical Business Management Specialist [*Technischer Fachwirt*]: full-time between approximately 8 weeks and 14 months!). Knowledge acquired informally in the context of a skilled occupation plays an important role here.

Berufsvorbereitungsjahr (BVJ) [Pre-vocational Training Year]

The pre-vocational training year at vocational schools has the task of preparing participants for entering vocational training or employment. Measures which, in cooperation with other providers, improve opportunities for transition into employment are to be supported in particular. The pre-vocational training year can facilitate the later acquisition of a school-leaving certificate equivalent to the secondary general school certificate (DQR Level 2). The *Ausbildungsreife* [apprenticeship entry maturity] is acquired. An individual may be deemed ready for an apprenticeship if they possess the general characteristics as regards educational ability and employability, and meet the minimum requirements for entering vocational training. These include fundamental cognitive, social and personal abilities, and mental and physical capacity. This process does not consider the specific requirements of individual occupations which are used to assess suitability for a specific occupation (vocational aptitude) (National Pact for Career Training and Skilled Manpower Development [*Nationaler Pakt für Ausbildung und Fachkräftenachwuchs*] in Germany: list of criteria for apprenticeship entry maturity).

Participants in the pre-vocational training year are, in view of their situation in life, learning difficulties and/or behavioural problems, young people with special educational needs.

A stronger orientation to general education in the pre-vocational training year, with a more limited vocational focus, and participation for at least six months result in allocation to Level 1.

Example	Pre-vocational training year Metals technology and motor vehicle technology
Qualification	Parts of the basic vocational training in metals technology and motor vehicle technology Expansion of general education
Certifying authority	<i>Berufsschule</i> [part-time vocational school]
ISCED 97	2 B
Requirements for access	None; offer for young people without a lower secondary level leaving qualification from a general education school or a special school, or those with special needs and no training contract who have not yet completed compulsory <i>Berufsschule</i> [part-time vocational school] attendance.
Degree	School-leaving certificate with endorsement of equivalence to the leaving certificate of the school focusing on learning Possible certification of qualification modules
Connectivity	Crediting of prior vocational learning to a follow-on training under Section 7 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>]
Place of learning	Vocational school
Duration of learning	One school year (at least 6 months)
Legal bases, curricula etc.	Baden-Württemberg Curriculum of 29 May 1998, curriculum bulletin 3/1998 Thuringia Curriculum of 1 September 2004 Rhineland-Palatinate Curriculum of 1 February 2001 Ordinance on vocational education and training as a construction mechanic and framework curriculum of 23 July 2007
DQR/EQF level	1
Summary of reasons for the level allocation	The pre-vocational training year at school in vocational training preparation refers to the theory and practice parts of the first training year for metal technology occupations. In the theory part the curricula are oriented by the curricula for dual vocational education and training. In the professional practice part the contents of the general training plan are presented in the form of learning fields. The content is reduced in order to make up shortfalls in general education. In professional practice teaching takes place in fully-equipped training workshops or may be partly organised in a guided work placement. Graduates have some basic knowledge covering the profession as a whole and some basic qualifications in the context of courses of action typical of the occupational field. They have extended their general education and acquired the <i>Ausbildungsreife</i> [apprenticeship entry maturity], and are in possession of competences for the fulfilment of simple requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place under supervision.

Employment agency measures (vocational preparation schemes [*Berufsvorbereitende Bildungsmaßnahmen – BvB*])

Federal Employment Agency [*Bundesagentur für Arbeit*] vocational preparation schemes are an instrument designed to enable young people and young adults to access training and the labour market. Training preparing for the transition to a vocational training programme is directed at young people who have not (yet) been able to take up training and whose training and employment opportunities should be improved by developing their professional ability to act. The aim of training preparing for the transition to a vocational training programme is to improve the ability to act in a vocational capacity in particular by imparting training or workplace-related competences.

Young people who originally entered the basic level can, during the course of the scheme, transfer to training preparing for the transition to a vocational training programme, if the *Ausbildungsreife* [apprenticeship entry maturity] was achieved within the framework of a vocational preparation scheme but the desired transition to in-company training is still not possible.

Documentation of the competences acquired in the vocational preparation scheme through formal evidence is carried out only in cases in which qualification modules or training modules have been completed (i.e. learning units of defined content and length, which represent specialist sections of recognised training occupations), or a school-leaving certificate obtained.

In vocational preparation schemes a distinction is made between the basic level and training preparing for the transition to a vocational training programme.

The basic level covers participants who are not (yet) ready for an apprenticeship, have not yet made any career choices or do not (yet) have the required aptitude for the desired occupation. Participants who wish to obtain a secondary general school certificate or equivalent school-leaving certificate (DQR Level 2) within the framework of the vocational preparation scheme enter this level as a rule.

The right to participate in vocational preparation schemes which are not subject to the Länder school education acts is based on Sections 51 and 52 of the Social Security Code [*Sozialgesetzbuch*] III.

Example	Vocational preparation scheme: Training and qualification for young people who are not yet ready for an apprenticeship
Qualification	Basic vocational qualification
Certifying authority	Training providers (e.g. educational providers)
ISCED 97	2 B
Requirements for access	None. Offer for young people under 25 years of age who have not carried out initial vocational education and training after completing compulsory general education.
Degree	Certificate from the educational provider
Connectivity	Upper secondary school; vocational training
Place of learning	Educational providers, where applicable in-company training placements
Duration of learning	No prescribed minimum or maximum duration of support measure; usually 4-10 months
Legal bases, curricula etc.	Sections 51 and 52 of the Social Security Code [<i>Sozialgesetzbuch</i>] III as amended on 1 April 2012 Concept paper for vocational preparation schemes as amended in November 2009
DQR/EQF level	1
Summary of reasons for the level allocation	In the case of the basic level, employment agency vocational preparation schemes are allocated to Level 1 after at least 4 months' participation. Graduates are in possession of competences for the fulfilment of simple requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place under supervision.

Berufsvorbereitungsjahr (BVJ) [Pre-vocational Training Year]

The educational format of the pre-vocational training year is described in Level 1.

A stronger vocational (as opposed to general) orientation by choosing the qualification modules prescribed for the first year of training (i.e. learning units of defined content and length which represent specialist sections of recognised training occupations) results in allocation to Level 2. The *Ausbildungsreife* [apprenticeship entry maturity] is required (for the definition see above: Level 1 Pre-vocational Training Year). The competences acquired are analogous to those acquired in the one-year *Berufsfachschule* [full-time vocational school].

Example	Pre-vocational Training Year in Electrical Engineering
Qualification	Parts of the basic vocational training in electrical engineering Secondary general school certificate
Certifying authority	<i>Berufsschule</i> [part-time vocational school]
ISCED 97	2 B
Requirements for access	None; offer for young people without a lower secondary level leaving qualification from a general education school or a special school, or for those with special needs and no training contract who have not yet completed compulsory <i>Berufsschule</i> [part-time vocational school] attendance.
Degree	Leaving certificate with endorsement of equivalence to the secondary general school certificate Possible certification of qualification modules
Connectivity	Prior vocational learning can be credited to a follow-on training under Section 7 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>]
Place of learning	Vocational school
Duration of learning	One school year
Legal bases, curricula etc.	Rhineland-Palatinate curriculum of 1 February 2001 Framework curriculum for the <i>Berufsschule</i> [part-time vocational school] for the area of learning related to the professional field in the pre-vocational training year in electrical engineering, Resolution of the Standing Conference of 16 May 2003 Land ordinance on the pre-vocational training year of the corresponding Land
DQR/EQF level	2
Summary of reasons for the level allocation	<p>The pre-vocational training year at school fully maps the theoretical and practical contents of the first year of training for electrical engineering professions. In the theory part the curricula are identical to the framework curricula for dual vocational education and training. In the professional practice part the contents of the general training plan are presented in the form of learning fields. This does not diminish the content in any way. In professional practice teaching takes place in fully-equipped training workshops or may be partly organised as a guided work placement.</p> <p>The regulatory instruments refer to the acquisition of basic knowledge covering the occupational field as a whole and of basic competences through courses of action typical of the occupational field. The aim is to achieve the <i>Ausbildungsreife</i> [apprenticeship entry maturity] while at the same time facilitating a vocational orientation.</p> <p>Graduates are in possession of competences for the professional fulfilment of basic requirements within a clear and stably structured field of study and work. Fulfilment of tasks takes place largely under supervision.</p>

Employment agency measures (vocational preparation schemes)

The educational format of vocational preparation schemes is described in Level 1.

The schemes are allocated to Level 2 if:

- participants originally assigned to the basic level were transferred, during the course of the scheme, to training preparing for the transition to a vocational training programme, and spent at least 6 months undergoing that training;
- participants were assigned directly to training preparing for the transition to a vocational training programme and spent at least 6 months undergoing that training;
- participants have obtained a secondary general school certificate or equivalent school-leaving certificate within the framework of a vocational preparation scheme;
- participants have successfully completed one or more qualification modules comprising 420 hours of instruction, or one training module, within the framework of a vocational preparation scheme.

Example	Vocational preparation scheme: training course with integrated secondary general school certificate to improve vocational training and integration opportunities
Qualification	Basic vocational qualification Secondary general school certificate
Certifying authority	Scheme providers (e.g. educational providers)
ISCED 97	2 B
Requirements for access	None. Offer for young people under 25 years of age who have not carried out initial vocational education and training after completing compulsory general education.
Degree	Certificate from the training provider Certification of qualification modules or training modules Secondary general school certificate
Connectivity	Upper secondary school; vocational education and training
Place of learning	Educational providers and, where applicable, in-company training placements
Duration of learning	No prescribed minimum or maximum duration 12 months to also obtain the secondary general school certificate
Legal bases, curricula etc.	Sections 51 and 52 of the Social Security Code [<i>Sozialgesetzbuch</i>] III as amended on 1 April 2012 Concept paper for vocational preparation schemes as amended in November 2009
DQR/EQF level	2
Summary of reasons for the level allocation	Graduates have acquired basic vocational skills and have obtained a secondary general school certificate or equivalent school-leaving certificate. They are in possession of competences for the professional fulfilment of basic requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place largely under supervision.

Introductory training for young people

In-company introductory training for young people is training lasting between six and twelve months which has been developed by industry and serves as a bridge to vocational education and training for young people who are having difficulties finding placements. 70% of introductory training must take place in a company. Vocational training preparation can also be regarded as part of introductory training, and may be taken into account when fixing the length of introductory training.

The basic foundations enabling young people to act in a vocational capacity are imparted and deepened in introductory training schemes through learning units of defined content and length which are developed from the contents of the first year of training in recognised training occupations. Unlike other forms of vocational training preparation, trainees spend most of the time directly in companies and also learn how work-related educational content are transferred into entrepreneurial practice. As part of the introductory training for young people binding competences which are to be acquired are defined. The certificate from the competent authority (e.g. chamber of industry and commerce, chamber of handicrafts) confirms the acquisition of these competences.

Example	Introductory training electricians – cabling and routing of cables
Qualification	Parts of the first year of training relating to the training regulations for the electrical professions
Certifying authority	Chamber (e.g. chamber of industry and commerce, chamber of handi-crafts)
ISCED 97	2 B
Requirements for access	None; offer for training seekers who are registered with the employment agency as actively looking for training, have learning difficulties and are socially disadvantaged with limited chances of placement.
Degree	Certificate issued by a chamber under point I.2. of the National Pact for Career Training and Skilled Manpower Development [<i>Nationaler Pakt für Ausbildung und Fachkräftenachwuchs</i>] in Germany
Connectivity	Vocational Training Act [<i>Berufsbildungsgesetz</i>] Crediting of prior vocational learning to a follow-on training under Section 7 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>]
Place of learning	Company (at least 70%) <i>Berufsschule</i> [part-time vocational school] if subject to compulsory <i>Berufsschule</i> attendance Educational provider where applicable
Duration of learning	6-12 months
Legal bases, curricula etc.	Section 54a of the Social Security Code [<i>Sozialgesetzbuch</i>] III as amended on 1 April 2012 National Pact for Career Training and Skilled Manpower Development [<i>Nationaler Pakt für Ausbildung und Fachkräftenachwuchs</i>] in Germany (2004, 2007, 2010)
DQR/EQF level	2
Summary of reasons for the level allocation	Since successful participation in an introductory training for young people allows the training period to be credited to subsequent vocational training, the contents of introductory training are to be regarded as equivalent to training contents. Participants are able to perform tasks largely under supervision. Using the field of competence “Knowledge” as an example, this means, for instance, that they do not yet have “extended professional knowledge within a field of occupational activity” (Level 3) but have already gained more than “an initial insight into a field of study or work” (Level 1).

***Berufsfachschule* [full-time vocational school] (Basic Vocational Training)**

The aim of the one-year *Berufsfachschule* is the acquisition of specialisation-specific basic vocational training. It provides work-related and general basic knowledge and basic skills promoting the ability to act in a vocational capacity, and supports pupils in developing their own learning techniques and learning strategies. A pass in the final examination demonstrates the acquisition of the competences of the first year of training (Basic Vocational Training).

The one-year *Berufsfachschule* to acquire basic vocational training fully maps the theoretical and practical contents of the first year of training. In the theory part the curricula are identical to the curricula for dual vocational education and training. In the professional practice part the contents of the general training plan are presented in the form of learning fields. This does not diminish the content in any way. In professional practice teaching takes place in fully-equipped training workshops or may be partly organised in a guided work placement. Pupils not only work autonomously, but also start to work as parts of groups. They also become involved in teams to some extent. They have broad basic knowledge of their field. This can be credited in full in a follow-on training course in a related occupation regulated under the Vocational Training Act [*Berufsbildungsgesetz*].

Example	<i>Berufsfachschule I Elektrotechnik in Rheinland-Pfalz [Berufsfachschule I, Electrical Engineering, in Rhineland-Palatinate]</i>
Qualification	Basic vocational training in electrical engineering
Certifying authority	<i>Berufsfachschule</i> [full-time vocational school]
ISCED 97	2 B
Requirements for access	Leaving certificate from the <i>Hauptschule</i> [lower secondary general school] or an equivalent certificate.
Degree	Leaving certificate from the <i>Berufsfachschule I</i>
Connectivity	Crediting of prior vocational learning to a follow-on training under Section 7 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>] Attendance of the <i>Berufsfachschule II</i>
Place of learning	<i>Berufsfachschule</i> [full-time vocational school]
Duration of learning	One school year
Legal bases, curricula etc.	Framework curriculum for the occupational field of study in the basic vocational training year [<i>Rahmenlehrplan für den berufsbezogenen Lernbereich im Berufsgrundbildungsjahr</i>] <i>Berufsfachschule I</i> and <i>Berufsfachschule II</i> ordinance for Rhineland-Palatinate [<i>Berufsfachschulverordnung I und II für Rheinland-Pfalz</i>] of 17 September 2009 Curriculum for the <i>Berufsfachschule I</i> for Rhineland-Palatinate, technology [<i>Lehrplan für die Berufsfachschule I für Rheinland-Pfalz, Fachrichtung Technik</i>] of 5 August 2005 Framework agreement on <i>Berufsfachschulen</i> [full-time vocational schools] (Resolution of the Standing Conference of 28 February 1997 as amended on 7 December 2007) Electrical Engineering, Resolution of the Standing Conference of 16 May 2003
DQR/EQF level	2
Summary of reasons for the level allocation	The <i>Berufsfachschule</i> course of education fully maps the theoretical and practical contents of the first year of training for the electrical professions. In the theory part the curricula are identical to the curricula for dual vocational education and training. In the professional practice part the contents of the general training plan are presented in the form of learning fields. This does not diminish the content in any way. In professional practice teaching takes place in fully-equipped training workshops or may be partly organised as a guided work placement. The regulatory instruments refer to the acquisition of basic knowledge covering the occupational field as a whole and of basic competences through courses of action typical of the occupational field. The qualification therefore corresponds to a basic vocational training provided in the first year of training. Graduates are in possession of competences for the professional fulfilment of basic requirements within a clear and stably structured field of study and work. Fulfilment of tasks takes place largely under supervision.

***Berufsfachschule (Mittlerer Schulabschluss)* [full-time vocational school ([general education school leaving certificate obtained on completion of grade 10 at *Realschule* or, under certain circumstances, at other lower secondary school types)]**

The *Berufsfachschule* [full-time vocational school] to obtain the *Mittlerer Schulabschluss* combines general competences with competences relevant to the respective discipline and leads to the *Mittlerer Schulabschluss*. Occupational competence is promoted by opening up experiences and learning situations which support the individual learning process of pupils.

The two-year *Berufsfachschule* allows young people to acquire the initial abilities and skills related to a specific occupation in the relevant occupational field. In the course of education basic knowledge and competences which enable professional action are also acquired. Company training competences are acquired in workshops, laboratories or learning offices [*Lernbüros*]. Alongside professional competence, those personal competences which are of particular importance in the specific occupational field are promoted primarily. The acquisition of general competences oriented to the educational standards of the *Mittlerer Schulabschluss* leads, through the examination, to the entitlements conferred by the *Mittlerer Schulabschluss*.

Example	<i>Zweijährige Berufsfachschule Wirtschaft und Verwaltung [Two-year business and administration Berufsfachschule], Bremen</i>
Qualification	Basic vocational training in business and administration, <i>Mittlerer Schulabschluss</i> [general education school leaving certificate obtained on completion of grade 10 at <i>Realschule</i> or, under certain circumstances, at other lower secondary school types]
Certifying authority	<i>Berufsfachschule</i> [full-time vocational school]
ISCED 97	3 B
Requirements for access	Leaving certificate from the <i>Hauptschule</i> (lower secondary general school) or an equivalent certificate. No vocational training or professional activity is stipulated as a prerequisite.
Degree	Leaving certificate of the business and administration <i>Berufsfachschule</i> which leads to partial vocational qualification
Connectivity	Continuation of educational pathway in courses of education leading to professional qualifications or qualifying for academic study Crediting of prior vocational learning to a follow-on training under Section 7 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>]
Place of learning	<i>Berufsfachschule</i> [full-time vocational school]
Duration of learning	two school years
Legal bases, curricula etc.	Curriculum for subject-specific teaching at the commercial school of the Land of Bremen Framework curriculum for the occupational field of study in the basic vocational training year, business and administration Framework agreement on <i>Berufsfachschulen</i> [full-time vocational schools] (Resolution of the Standing Conference of 28 February 1997 as amended on 7 December 2007)
DQR/EQF level	3
Summary of reasons for the level allocation	Basic vocational training in business and administration competences and the entitlements conferred by the <i>Mittlerer Schulabschluss</i> are acquired in the two-year <i>Berufsfachschule</i> [full-time vocational school]. Graduates have a better foundation for choosing a career. They are in possession of competences for the autonomous fulfilment of technical requirements within a field of study or field of occupational activity which remains clear whilst being openly structured in some areas.

Dual vocational education and training

Vocational education and training in the dual system is carried out in two places of learning, in companies and at the *Berufsschule* [part-time vocational school]. The aim is to impart occupational competence in a structured training course. Successful completion allows immediate professional practice as a qualified specialist/skilled worker.

Within the framework of dual vocational education and training the 344 training occupations recognised under the Vocational Training Act [*Berufsbildungsgesetz*] and the Handicrafts Code [*Handwerksordnung*] are organised, depending on length, into two-year, three-year and three-and-a-half-year training occupations. After successful completion of a shorter (e.g. two-year) training course, training can be continued seamlessly in a similar but longer vocational training course, to which the acquired skills, knowledge and abilities can be credited.

The depth and breadth of the competences acquired are therefore to be viewed in relation with the length of training (number and increasing complexity of the fields of learning/action), which is why the two-year and the three/three-and-a-half-year dual vocational education and training courses are allocated to different DQR-levels.

Example	Duale Berufsausbildung Industrieelektriker/Industrieelektrikerin [Dual vocational education and training Industrial Electrician]
Qualification	Skilled worker [<i>Facharbeiter</i>] (industry), journeyman [<i>Geselle</i>] (skilled trades), skilled employee [<i>Fachangestellter</i>] (public service) State-recognised vocational training under Section 4, paragraph 1 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>].
Certifying authority	Chamber (e.g. chamber of industry and commerce, chamber of handicrafts)
ISCED 97	3 B
Requirements for access	In principal – as in the case of all recognised training occupations regulated under the Vocational Training Act [<i>Berufsbildungsgesetz</i>] or the Handicrafts Code [<i>Handwerksordnung</i>] – no specific schooling or prior vocational learning is required (can start only after completing full-time compulsory education).
Degree	Vocational qualification (chamber examination) Leaving certificate from the <i>Berufsschule</i> [part-time vocational school] Equivalence with the lower secondary level leaving certificate if the corresponding grades are achieved
Connectivity	Under Section 5, paragraph 2, point 4 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>], after successfully completed vocational training in the two-year training occupation ‘Industrial Electrician’, specialising in industrial engineering or in devices and systems, vocational training can be continued in accordance with the rules of the third and fourth year of training in the following occupations: <ul style="list-style-type: none"> • Electronics Technician for Automation Technology • Electronics Technicians for Building and Infrastructure Systems • Electronics Technician for Aviation Systems • Systems Informatics Technician. After completing initial vocational education and training and acquiring relevant professional experience there is the option of entering a technician’s or master craftsman’s further training course. Access to a higher education institution is regulated. <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i> (university of applied sciences)] on passing the additional examination.
Place of learning	Company <i>Berufsschule</i> [part-time vocational school]
Duration of learning	Two years (full-time) 960 hours of schooling

Legal bases, curricula etc.	<p>Recognised training occupation under Section 4, paragraph 1 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>]</p> <p>Ordinance on vocational training as an industrial electrician [<i>Verordnung über die Berufsausbildung zum Industrieelektriker</i>], Federal Law Gazette 2009, Part I, No 29, 4 June 2009</p> <p>Framework curriculum for the <i>Berufsschule</i> [part-time vocational school], Resolution of the Standing Conference of 23 April 2009</p>
DQR/EQF level	3
Summary of reasons for the level allocation	<p>Graduates possess essential prerequisites for skilled employment. They are in possession of competences for the autonomous fulfilment of technical requirements within a field of study or field of occupational activity which remains clear whilst being openly structured in some areas.</p>

For a detailed description of learning outcomes see the following Table.

Example of a detailed description of learning outcomes according to the German Qualifications Framework for Lifelong Learning (DQR) Manual (I):

Dual vocational education and training “Industrial Electrician”

Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Depth and breadth	Instrumental and systemic skills, judgement	Team/leadership skills, involvement and communication	Autonomous responsibility/responsibility, reflectiveness and learning competence
<p>Industrial electricians have an understanding of the interaction between mathematical and natural science contents and safety, economic and business administration, and environmental aspects.</p> <p>They have acquired extensive specialist knowledge particularly in electrical engineering, installation techniques, information technology, measuring and control technology.</p> <p>Industrial electricians are in possession of extended specialist knowledge allowing them to</p> <ul style="list-style-type: none"> - analyse electronic systems and test functions; - plan and implement electrical installations; - analyse and adapt control systems; - roll out IT systems. <p>Industrial electricians specialising in industrial engineering</p> <ul style="list-style-type: none"> - ensure electrical energy supply and the safety of manufacturing resources; - analyse devices and assembly groups in installations and test them; - program and implement control systems for installations; 	<p>Industrial electricians are in possession of cognitive and practical skills which enable them to process and connect mechanical components and equipment and to analyse electrical systems and test functions. They can assess work results and provide transfers of methods and solutions.</p> <p>They ...</p> <ul style="list-style-type: none"> - process, assemble and connect mechanical components and electrical manufacturing resources; - measure and analyse electrical functions and systems; - assess the safety of electrical installations and manufacturing resources; - install and configure IT systems. <p>Industrial electricians specialising in industrial engineering</p> <ul style="list-style-type: none"> - produce technical order analyses; - install electrical installations and commission them. - maintain installations and systems. <p>Industrial electricians specialising in devices and systems</p> <ul style="list-style-type: none"> - produce technical order analyses; 	<p>Industrial electricians are able to work in a team, provide mutual support, communicate correctly in technical language, help shape the learning and working environment, and present processes and results in a manner geared to their target group.</p> <p>They ...</p> <ul style="list-style-type: none"> - work predominantly in a team and communicate, in their professional activity, using correct technical language both in-house and externally with other people; - apply work, time and learning planning methods; - plan tasks within the team and coordinate them; - research, procure and evaluate information; - are able to present facts, draw up minutes, and use German and English technical terms; - converse with superiors and colleagues and within the team in a situation and target-oriented manner and consider cultural identities; - put together documentation and add to it; - take care of, protect, 	<p>Industrial electricians are able to work independently. Particularly when dealing with current-carrying components they act responsibly and carefully.</p> <p>They...</p> <ul style="list-style-type: none"> - plan work processes and subsidiary tasks taking into account economic and scheduling guidelines; - calculate and evaluate material and labour costs, record services performed; - apply customary requirements and take advantage of training opportunities; - recognise their own training requirements and take advantage of training opportunities; - - comply with standards and regulations, use technical regulations and provisions, datasheets and descriptions, operating instructions and other information typical to the profession, including in English; - apply standards, regulations and rules to ensure product quality, safeguard the uninterrupted working of installations and systems and contribute to constant improvement of workflows. - act responsibly taking account of safety aspects.

<ul style="list-style-type: none"> - select and integrate drive systems. <p>Industrial electricians specialising in devices and systems</p> <ul style="list-style-type: none"> - implement electrical energy supply for devices and systems; - conceptualise electronic assembly groups of devices, manufacture and test them; - configure the hardware and software required for assembly groups; - manufacture and test devices. 	<ul style="list-style-type: none"> - manufacture components and devices; - produce devices and systems and commission them. 	<ul style="list-style-type: none"> secure and archive data and documents; - explain services and products, and pass them on to users; - apply up-to-date information and communication systems to procure information, process assignments, and to document and present the results of work. 	
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Level 4

Dual vocational education and training

The educational format of dual vocational education and training is described in Level 3.

Example 2	<i>Duale Berufsausbildung Elektroniker für Automatisierungstechnik</i> [Dual vocational education and training Electronics Engineer for Automation Technology]
Qualification	Skilled worker [<i>Facharbeiter</i>] (industry), journeyman [<i>Geselle</i>] (skilled trades), specialised employee [<i>Fachangestellter</i>] (public service) Under Section 4, paragraph 1 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>] state-recognised vocational training. <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i> (university of applied sciences)] following an examination
Certifying authority	Chamber (e.g. chamber of industry and commerce, chamber of handicrafts)
ISCED 97	3 B
Requirements for access	In principal – as in the case of all recognised training occupations regulated under the Vocational Training Act [<i>Berufsbildungsgesetz</i>] or the Handicrafts Code [<i>Handwerksordnung</i>] – no specific schooling or prior vocational training is required (can start only after completing full-time compulsory education).
Degree	Vocational qualification (examination by the competent authority) Leaving certificate from the <i>Berufsschule</i> [part-time vocational school] Equivalence with the lower secondary level leaving certificate if the corresponding grades are achieved <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i> (university of applied sciences)] on passing the additional examination.
Connectivity	After completing initial vocational education and training and acquiring relevant professional experience there is the option of entering a technician's or master craftsman's further training course. Access to a <i>Fachhochschule</i> [university of applied sciences] or university is regulated. <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i>] on passing the additional examination.
Place of learning	Company <i>Berufsschule</i> [part-time vocational school] (1,680 hours of schooling)
Duration of learning	three and a half years

Legal bases, curricula etc.	<p>Recognised training occupation under Section 4, paragraph 1 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>] and Section 25, paragraph 1 of the Handicrafts Code [<i>Handwerksordnung</i>]</p> <p>Ordinance on vocational training as an electronics engineer for automation technology [<i>Verordnung über die Berufsausbildung zum Elektroniker für Automatisierungstechnik</i>], Federal Law Gazette 2009, part I, No 31, 3 July 2003</p> <p>Framework curriculum for the <i>Berufsschule</i> [part-time vocational school], Resolution of the Standing Conference of 23 April 2009</p>
DQR/EQF level	4
Summary of reasons for the level allocation	<p>Graduates are able, in a dynamic working environment, to plan work tasks for highly complex computerised systems independently and responsibly, to carry them out and to reflect on the results. They solve tasks based on their in-depth mathematical and scientific expertise as well as on safety, economic or business administration, and environmental skills.</p>

For a detailed description of learning outcomes see the following Table.

Example of a detailed description of learning outcomes according to the German Qualifications Framework for Lifelong Learning (DQR) Manual (II):

Dual vocational education and training “Electronics Engineer for Automation Technology”

Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Depth and breadth	Instrumental and systemic skills, judgement	Team/leadership skills, involvement and communication	Autonomy/responsibility, reflectiveness and learning competence
<p>Electronics engineers for automation technology have an understanding of the interaction between mathematical and natural science contents and safety, economic or business administration, and environmental aspects.</p> <p>They have acquired specialist theoretical knowledge particularly in electrical engineering, information technology, and measuring and control technology.</p> <p>Electronics engineers for automation technology have the in-depth theoretical professional knowledge required to</p> <ul style="list-style-type: none"> - analyse electronic systems and test functions; - plan and implement electrical installations; - analyse and adapt control systems; - roll out IT systems; - ensure electrical energy supply and the safety of manufacturing resources; - analyse installations and test their safety; - program and implement control systems for installations; - select and integrate drive systems; - integrate control and communication systems; 	<p>Electronics engineers for automation technology have a broad spectrum of cognitive and practical skills which enable them to process and connect mechanical components and equipment independently. They analyse electrical systems and test functions. They are able to evaluate work results and processes giving consideration to alternative courses of action and reciprocal effects with neighbouring areas, and provide transfers of methods and results.</p> <p>They ...</p> <ul style="list-style-type: none"> - assemble and connect electrical manufacturing resources; - measure and analyse electrical functions and systems; - assess the safety of electrical installations and manufacturing resources; -- install and configure IT systems; - advise and support customers, and provide services; - perform technical analyses of tasks and develop solutions; - build automation equipment; - configure and program automation systems; - test automation systems and commission them; - maintain automation 	<p>Electronics engineers for automation technology are able to communicate as part of a team, resolve conflicts and organise their work. They are able to communicate correctly and comprehensively using technical language, and are able to explain processes and results, present them in a manner geared to their target audience, and prepare documentation. They are able to advise and support customers. They are able to evaluate the results of work and contribute to constant improvement in business operations.</p> <p>They ...</p> <ul style="list-style-type: none"> - work and communicate, in their professional activity, in-house and externally with other people, including from other cultural circles; - are able to identify the expectations and needs of customers; - acquire conversational and cooperation techniques; - converse with superiors, colleagues and as part of a team in a situation and target-oriented manner; - organise and chair working sessions, reach decisions within the team and keep written records of talks; - solve conflicts within the team; 	<p>Electronics engineers for automation technology are able to set themselves learning and working objectives, reflect on them and assess and take responsibility for them. In their work they take account of economic and environmental, safety and legal aspects.</p> <p>They ...</p> <ul style="list-style-type: none"> - demonstrate a positive personal attitude to their work and take responsibility for the business process; - comply with standards and regulations, use technical regulations and provisions, datasheets and descriptions, operating instructions and other information typical to the profession, including in English; - plan appropriate learning and working periods and stick to mandatory schedules - organise their learning and work tasks autonomously and in a team and analyse, reflect and assess insights obtained in the process; - consider in the planning and implementation of the work ergonomic, economic, environmental and social aspects through responsible action; minimise, through the use of suitable materials and under consideration of environmental protection rules, negative

<ul style="list-style-type: none"> - commission automation systems and hand them over; - maintain and optimise automation systems; - plan and implement automation systems. 	<p>systems and optimise them;</p> <p>are oriented towards business processes and contribute to quality management.</p> <p>They have consolidated these skills in one of the following fields of application:</p> <ul style="list-style-type: none"> - production and manufacturing automation; - process automation; - network automation; - traffic control systems; - building automation. 	<ul style="list-style-type: none"> - plan tasks within the team and coordinate them; - perform calculations based on operational requirements, compare costs; - apply up-to-date information and communication systems to procure information, process assignments and projects, and document and present the results of work; - apply work, time and learning planning methods; - take over and hand over systems, train users how to operate them, and provide services 	<p>impacts on the environment;</p> <ul style="list-style-type: none"> - apply standards, regulations and rules to ensure production quality, safeguard the uninterrupted working of installations and systems, and contribute to constant improvement of workflows; - act responsibly taking safety aspects into account; - use training opportunities and apply different learning techniques.
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***Berufsfachschule* [full-time vocational school]: Assistant occupations**

The aim of the two-year *Höhere Berufsfachschule* [upper full-time vocational school] is to promote the professional and general competences required to qualify for an occupation, upgrade training and advance personal development. To this end general competences and competences related to a specific occupation to develop the professional ability to act are combined with an autonomous profile as a state-certified assistant. State-certified assistants have competences which give them the capacity to practice an occupation. They have professional flexibility and the ability and willingness to complete continuing education. Their enhanced sense of responsibility encourages them to play a part in public life and take charge of their own life.

The assistant training offered at the *Höhere Berufsfachschule* incorporates training courses which lead to a vocational training certificate which can only be obtained by attending a school.

In the final examination the acquisition of pre-stipulated competences in theory and practice is demonstrated.

Example	Höhere Berufsfachschule in Rhineland-Palatinate Energy systems technology and marketing specialising in solar technology
Qualification	<i>Staatlich geprüfter Assistent für Energiesystemtechnik und -marketing, Schwerpunkt Solartechnik</i> [State-certified assistant in energy systems technology and marketing, specialising in solar technology] <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i> (university of applied sciences)] following an examination
Certifying authority	<i>Berufsfachschule</i> [full-time vocational school]
ISCED 97	3 B
Requirements for access	<i>Mittlerer Schulabschluss</i> [general education school leaving certificate obtained on completion of grade 10 at <i>Realschule</i> or, under certain circumstances, at other lower secondary school types]
Degree	<i>Höhere Berufsfachschule</i> [upper full-time vocational school] leaving certificate, vocational qualification <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i> (university of applied sciences)]/ <i>Fachgebundene Hochschulreife</i> [higher education entrance qualification restricted to a specified field of study]/ <i>Allgemeine Hochschulreife</i> [general higher education entrance qualification] on passing the additional examination
Connectivity	Crediting of prior vocational learning to a follow-on training under Section § 7 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>] Admission to the vocational qualification final examination under Section 43, paragraph 2 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>] and Section 36, paragraph 2 of the Handicrafts Code [<i>Handwerksordnung</i>] Access to a <i>Fachhochschule</i> [university of applied sciences] or higher education institution is regulated.
Place of learning	<i>Höhere Berufsfachschule</i> [upper full-time vocational school]
Duration of learning	Two school years, or three to four years where the course of education leads to the <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i> (university of applied sciences)] or the <i>Allgemeine Hochschulreife</i> [general higher education entrance qualification].
Legal bases, curricula etc.	Curriculum for the <i>Höhere Berufsfachschule</i> [upper full-time vocational school], energy systems technology and marketing, specialising in solar technology in Rhineland-Palatinate of 24 August 2009 Land ordinance on the <i>Höhere Berufsfachschule</i> [upper full-time vocational school] in Rhineland-Palatinate of 16 January 2009 Framework agreement on <i>Berufsfachschulen</i> [full-time vocational schools] (Resolution of the Standing Conference of 28 February 1997 as amended on 7 December 2007)
DQR/EQF level	4

<p>Summary of reasons for the level allocation</p>	<p>The <i>Höhere Berufsfachschule</i> [upper full-time vocational school] promotes professional and general competences and leads to a professional qualification obtained at school, to upgrade training and advanced personal development. Graduates obtain a professional qualification in line with the profile of their discipline. The competences are geared to the requirements of the work and business processes typical of the occupation and are based on the dovetailing of school-based and vocational learning. The curriculum of the <i>Höhere Berufsfachschule</i>, energy systems technology and marketing, specialising in solar technology, is based on the training regulations for the following training occupations: Plant Mechanic for Sanitary, Heating and Air Conditioning Technology and Electronics Technician for Energy and Building Technology.</p> <p>Graduates are in possession of competences for the autonomous planning and processing of technical tasks assigned within a comprehensive field of study or field of occupational activity subject to change.</p>
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***Berufsfachschule* [full-time vocational school]: Full vocational qualification**

The three-year *Berufsfachschule* provides full-time school-based vocational education and training in courses which correspond to training occupations under the Vocational Training Act [*Berufsbildungsgesetz*] or the Handicrafts Code [*Handwerksordnung*] and also allow the necessary professional experience to be gained. There is a legal option of arranging for the equivalence of examination certificates from a three-year *Berufsfachschule* [full-time vocational school] with certificates attesting a pass in the final and journeyman examination in the corresponding training occupation.

Example	<i>Berufsfachschule – Handwerksberufe – an der Berufsbildenden Schule des Bezirksverbandes Pfalz in Kaiserslautern, Rheinland-Pfalz</i> [full-time vocational school – craft trades – at the vocational school of the Palatinate district association in Kaiserslautern, Rhineland-Palatinate] Systems Electronics Technician
Qualification	Skilled worker [<i>Facharbeiter</i>] (industry) Journeyman [<i>Geselle</i>] (skilled trades) Specialist employee [<i>Fachangestellter</i>] (public service) State-recognised vocational training under Section 4, paragraph 1 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>] <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i> (university of applied sciences)] following an examination
Certifying authority	<i>Berufsfachschule</i> [full-time vocational school]
ISCED 97	3 B
Requirements for access	Leaving certificate from the <i>Hauptschule</i> [intermediate secondary school] or an equivalent certificate and medical fitness for the intended course of education.
Degree	Vocational qualification Leaving certificate from the <i>Berufsfachschule</i> [full-time vocational school] Equivalence with the lower secondary level leaving certificate if the corresponding grades are achieved <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i> (university of applied sciences)] on passing the additional examination

Connectivity	<p>After completing initial vocational education and training and acquiring relevant professional experience there is the option of entering a technician's or master craftsman's further training course.</p> <p>Access to a higher education institution is regulated. <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i> (university of applied sciences)] on passing the additional examination.</p>
Place of learning	<i>Berufsfachschule</i> [full-time vocational school]
Duration of learning	3 years
Legal bases, curricula etc.	<p>Recognised training occupation under Section 4, paragraph 1 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>] and Section 25, paragraph 1 of the Handicrafts Code [<i>Handwerksordnung</i>]</p> <p>Equivalence of the examination certificates from a three-year <i>Berufsfachschule</i> [full-time vocational school] with certificates attesting a pass in the final and journeyman examination in the corresponding training occupation under Section 50, paragraph 1 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>] or Section 40 of the Handicrafts Code [<i>Handwerksordnung</i>]</p> <p>Ordinance on vocational training as a systems electronics technician, Federal Law Gazette 2003, Part I, No 31, 11 July 2003</p> <p>Framework curriculum for the <i>Berufsschule</i> [part-time vocational school], Resolution of the Standing Conference of 16 May 2003</p> <p><i>Berufsfachschule</i> [full-time vocational school] ordinance – craft trades – Kaiserslautern master craftsman's school of 25 May 2001</p>
DQR/EQF level	4
Summary of reasons for the level allocation	<p>Based on the training regulation and the framework curriculum, which regulate the objectives and contents of the vocational training, the leaving qualification in a recognised training occupation and – in connection with tuition in other subjects – the <i>Berufsfachschule</i> [full-time vocational school] leaving qualification are acquired. This creates the essential prerequisites for skilled employment. Equivalence of the examination certificates from a three-year <i>Berufsfachschule</i> [full-time vocational school] with certificates attesting a pass in the final and journeyman examination in the training occupation systems electronics technician has been confirmed according to Section 50, paragraph 1 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>] and Section 40 of the Handicrafts Code [<i>Handwerksordnung</i>] respectively.</p> <p>Graduates are in possession of competences for the autonomous planning and processing of technical tasks assigned within a comprehensive field of study or field of occupational activity subject to change.</p>

***IT-Spezialist (Zertifizierter)* [Information Technology Specialist (Certified)]**

The Information Technology Specialist qualification builds on an initial vocational training and represents the first level of the IT further education and training system under the IT Further Training Ordinance [*IT-Fortbildungsverordnung*] (see Chapter 2.7.). It describes a concept of further education and training based on workflows that leads to recognised further training qualifications by systematically linking learning and working. Self-directed learning in complete workflows in the company context is supported and accompanied by learning process facilitators and technical advisers. The implementation and documentation of a company project is followed by assessment through a final technical discussion. Information technology specialists should be able to perform IT tasks both in companies offering IT services and those using them. Unlike basic and further training, information technology specialists usually undergo personal certification in accordance with DIN EN ISO/IEC 17024 relevant to 14 specialist profiles. To this end an information technology specialist implements relevant processes or projects, documents them and submits this documentation to the certification body. The chambers of industry and commerce offer their own certifications as a Software Developer (IHK).

Example	<i>IT-Spezialist (Zertifizierter) [Information Technology Specialist (Certified)]</i> <i>Software Developer (Softwareentwickler)</i>
Qualification	Software Developer (Certified Information Technology Specialist)
Certifying authority	The personal certificate is issued by a certification body which is accredited by the German Association for Accreditation [<i>Trägergemeinschaft für Akkreditierung</i> (TGA)]. The chambers of industry and commerce issue their own certificates.
ISCED 97	Not covered
Requirements for access	A specific prior vocational learning is not stipulated by law. Requires an adequate level of qualification based on relevant vocational training in information and communication technology or relevant professional experience.
Degree	DIN EN ISO/IEC 17024 certificate Acquisition of the occupational title: “ <i>Zertifizierter IT-Spezialist – Software Developer (Softwareentwickler)</i> ” [“Certified Information Technology Specialist – Software Developer”]
Connectivity	Further education and training options: e.g. Operative or Strategic Information Technology Professional
Place of learning	Company
Duration of learning	The length of continuing education is not prescribed, and can therefore differ.
Legal bases, curricula etc.	Ordinance on vocational further education and training in the field of information and communication technology [<i>Verordnung über die berufliche Fortbildung im Bereich der Informations- und Telekommunikationstechnik</i>], Federal Law Gazette Part I, Page 2904 of 29 July 2002, as last amended by Article 1 of the Ordinance of 23 July 2010, Federal Law Gazette Part I, p. 1010 Amendment of the Notice of the Agreement on Specialist Profiles within the framework of the procedure to structure IT further education and training [<i>Bekanntmachung der Vereinbarung über Spezialisten-Profil im Rahmen des Verfahrens zur Ordnung der IT-Weiterbildung</i>] of 21 October 2004, Federal Gazette No 244a of 23 December 2004
DQR/EQF level	5
Summary of reasons for the level allocation	Upon successful completion of the certification process graduates obtain a DIN EN ISO/IEC 17024 certificate. Successful completion of the certification process proves the acquisition of competences allowing the autonomous planning and processing of comprehensive technical tasks assigned within a complex and specialised field of study or field of occupational activity subject to change.

Kfz-Servicetechniker (Geprüfter) [Motor Vehicle Service Technician (Certified)]

The certified service technician builds on the journeyman's examination certificate [*Gesellenabschluss*] and is an example of the first level of further vocational training. In the motor trade, the qualification is primarily aimed, for example, at journeymen in the motor vehicle technician industry and the automobile industry. The prerequisite is, therefore, completed training in a vehicle maintenance profession. Further training as a certified motor vehicle service technician qualifies trainees for responsible activities covering the following main areas:

- vehicle maintenance,
- discussing the diagnosis of technical problems with customers,
- discussing maintenance and repair measures with customers,
- supporting the training master craftsman in apprenticeship training,
- in-company communication functions,
- ensuring quality of work and the readiness to provide customer services.

Competences are acquired in the field of:

- service communication and quality of service,
- basic automotive engineering,
- basic motor vehicle electrics/motor vehicle electronics,
- engine management,
- comfort and safety electronics,
- diagnostics.

Motor vehicle service technicians acquire, in addition to a high level of technical competence in the fields electrics/electronics, pneumatics and hydraulics, competences in the fields of service communication and service quality. The motor vehicle service technician occupation is state-certified by virtue of an examination ordinance under public law.

Example	<i>Kfz-Servicetechniker (Geprüfter) Motor Vehicle Service Technician (Certified)</i>
Qualification	Certified Motor Vehicle Service Technician
Certifying authority	Chamber (e.g. chamber of industry and commerce, chamber of handicrafts)
ISCED 97	Not covered

Requirements for access	<p>Requires the final examination in one of the recognised training occupations. i.e. motor vehicle mechanic, motor vehicle electrician and automobile mechanic, which were abolished in 2003, or in the new recognised training occupation motor vehicle mechatronics technician.</p> <p>Graduates of other automotive technician training occupations are admitted to the examination if they have been working in the motor vehicle maintenance field for a year.</p> <p>Those who have completed training in another metalworking or electronics occupation must demonstrate three years of professional experience in motor vehicle maintenance.</p> <p>Further training may be started during the last year of training, and in any event immediately after passing the journeyman's examination.</p> <p>Those proving through submission of certificates or in another way that they have the necessary knowledge and experience can also be admitted to the further training examination.</p>
Degree	<p>Further training examination through the competent authority</p> <p>Acquisition of the occupational title "<i>Gepprüfter Kfz-Service-Techniker</i>" ["Certified Motor Vehicle Service Technician"]</p>
Connectivity	<p>Continuing education options</p> <p>Credited to the practical part (Part I) of the master craftsman examination for journeymen in the motor vehicle technician trade</p>
Place of learning	Vocational education and training centres run by the chambers, automobile industry training centres or other providers
Duration of learning	Around 2 to 6 months full-time, 6 to 12 months part-time
Legal bases, curricula etc.	<p>Examination regulated under § 53 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>] or Section 42 of the Handicrafts Code [<i>Handwerksordnung</i>]</p> <p>Ordinance on the examination leading to the recognised qualification Certified motor vehicle service technician [<i>Verordnung über die Prüfung zum anerkannten Abschluss Geprüfter Kraftfahrzeug-Service-Techniker</i>], Federal Law Gazette I p. 3,127 of 23 December 1997</p>
DQR/EQF level	5
Summary of reasons for the level allocation	<p>As technical specialists in companies in the automobile trade, motor vehicle service technicians autonomously perform complex maintenance, troubleshooting, repair, and fitting and refitting tasks. They are continuously confronted with new repair information and methods and corresponding alternatives, which requires a high degree of learning competence. As the link between journeymen and master craftsmen, motor vehicle service technicians are technical problem solvers. They are technically qualified to communicate with customers and colleagues in vehicle workshops. Their special knowledge and learned skills are in demand in the workshop and in customer service.</p> <p>They are in possession of competences for the autonomous planning and processing of comprehensive technical tasks assigned within a complex and specialised field of study or field of occupational activity subject to change.</p>

Bachelor

Bachelor's study courses may, according to sections 18 and 19 of the Framework Act for Higher Education [*Hochschulrahmengesetz – HRG*], be established by different types of higher education institution (universities, *Fachhochschulen* [universities of applied sciences] etc.) and provide the academic foundation, methodological skills and competences related to the professional field corresponding to the profile of the higher education institution and the specialist scientific orientation of the respective study course. Corresponding rules and regulations in the Common Structural Guidelines of the Länder for the Accreditation of Bachelor's and Master's Study Courses [*Ländergemeinsame Strukturvorgaben für die Akkreditierung von Bachelor- und Masterstudiengängen*], and in the Qualifications Framework for German Higher Education Qualifications [*Qualifikationsrahmen für Deutsche Hochschulabschlüsse*], ensure that with any Bachelor degree – regardless of type of higher education institution and profile and type of study course – the same levels of competence can be achieved, and thus that the same academic entitlements can be awarded. The Qualifications Framework for German Higher Education Qualifications also describes interfaces with vocational training.

The Common Structural Guidelines of the Länder include inter alia the following relevant rules and regulations:

- Bachelor's and Master's study courses can be established both at universities and higher education institutions of equivalent status as well as at *Fachhochschulen* without challenging the different educational objectives of these types of higher education institution (the degrees obtained from Bachelor's courses at *Berufsakademien* [professional academies] are equivalent to Bachelor's degrees obtained at institutions of higher education if the study programmes have been accredited).
- Bachelor's study courses can even be established if no corresponding Master's qualification can be obtained at the same higher education institution.
- The total standard period of study for consecutive study courses for a Bachelor's and Master's degree is five years. The standard period of study is between three and four years for Bachelor's study courses, and between a minimum of one and a maximum of two years for Master's study courses. In exceptional cases shorter or longer standard periods of study are possible if the study course is organised accordingly. Individual students may also move to another higher education institution for a two-year Master's study course once they have completed a four-year Bachelor's study course at their first higher education institution.
- For a Bachelor's degree, no less than 180 ECTS points are required. A Master's degree requires 300 ECTS points, including the preceding study course leading up to the first qualification for en-

try into a profession. This requirement can be waived in special cases where students can demonstrate that they are suitably qualified. This also applies if, after completing a Master's degree course, the student has not achieved 300 ECTS points. Proven equivalent competences and skills which have been obtained outside the higher education system can be credited to provide up to half of the credit points required for the study course (see resolutions of the Standing Conference of 28 June 2002 and 18 September 2008). The number of ECTS points to be acquired in Bachelor's or Master's study programmes is, moreover, determined by the various standard periods of study.

- Both Bachelor's and Master's study courses must be completed with a compulsory dissertation (Bachelor's/Master's dissertation), the purpose of which is to demonstrate the ability to deal with a problem in the relevant subject area autonomously within a set period of time using academic methods. The Bachelor's dissertation comprises a minimum of 6 ECTS points and must not exceed 12 ECTS points; the Master's dissertation should comprise between 15 and 30 ECTS points.
- Higher education institutions can award final degrees for Bachelor's and Master's study courses as listed in the Common Structural Guidelines of the Länder.

Example	<i>Bachelor of Science, B.Sc. Betriebswirtschaftslehre</i> [Bachelor of Science, B.Sc. in Business Administration], <i>Europa-Universität Viadrina Frankfurt (Oder)</i> [European University Viadrina Frankfurt (Oder)]
Qualification	Bachelor of Science (B.Sc.) (Career opportunities are available in commercial enterprises, in the public sector and in self-employment.)
Certifying authority	Higher education institution
ISCED 97	5 A
Requirements for access	Universities and equivalent institutions of higher education: the <i>Allgemeine Hochschulreife</i> [general higher education entrance qualification] or the <i>Fachgebundene Hochschulreife</i> [qualification entitling holder to study particular subjects at a higher education institution] or a qualification recognised as equivalent by the competent Land authority (e.g. Ministry for Cultural Affairs, the lower-level school supervisory authority or the higher education institution). Where applicable, entrance requirements specific to the higher education institution (if that institution has admission restrictions, for instance).
Degree	Academic degree

Connectivity	Qualification for entry into professional life, for advanced in-depth academic study or for a non-business studies supplementary course. Outstanding results can even lead directly to doctoral studies. Continuing education options.
Place of learning	University
Duration of learning	6-8 semesters
Legal bases, curricula etc.	<p>Study and examination regulation for the “Business Administration” study course leading to the degree Bachelor of the European University Viadrina, 21 January 2009 version</p> <p>Application for Accreditation of the “Business Administration” study course leading to the degree Bachelor of Science (B.Sc.) at the European University Viadrina Frankfurt (Oder) (January 2010)</p> <p>Qualifications Framework for German Higher Education Qualifications [<i>Qualifikationsrahmen für Deutsche Hochschulabschlüsse</i>], Standing Conference, 21 April 2005</p> <p>Common Structural Guidelines of the Länder for the Accreditation of Bachelor’s and Master’s Study Courses [<i>Ländergemeinsame Strukturvorgaben für die Akkreditierung von Bachelor- und Masterstudiengängen</i>], Standing Conference, 10 October 2003 as amended</p> <p>Rules on the accreditation of courses of study and for system accreditation [<i>Regeln für die Akkreditierung von Studiengängen und für die Systemakkreditierung</i>] (Accreditation Council [<i>Akkreditierungsrat</i>], 8 December 2009, as amended)</p>
DQR/EQF level	6
Summary of reasons for the level allocation	<p>The study course combines a sound scientific and methodological training with an appropriate qualification for the occupational field. The study forms the basis for later consolidation, broadening and specialisation and facilitates entry into the labour market or starting a Master’s degree programme.</p> <p>Graduates are properly prepared for lifelong learning and for employment in different occupational fields. They are able to analyse the basic structure of even previously unknown business administration issues and to produce abstract models as they have the necessary quantitative and qualitative methods. The methodological competence acquired allows them to successfully process entrepreneurial issues, particularly in the context of complex systems, with balanced consideration of economic, technical and social constraints.</p> <p>They are also, for instance, given an insight into non-economic operational requirements, such as acting in a socially competent manner, a constructive approach to conflict, and balancing intercultural differences. In this context, moreover, they acquire the prerequisites which allow them to develop leadership competences, particularly in companies operating on an international level.</p> <p>Graduates have learned to take on tasks in teams which are organised along work lines and composed of international members, to process work autonomously, to pick up the results of others and to communicate their own results effectively. They are therefore able to lead projects to a certain extent. Given their foreign language skills they are able to communicate results and problems in an international environment.</p>

Fachkaufmann (Geprüfter) [Commercial Specialist (Certified)]

The qualification Certified Commercial Specialist is subdivided into the fields Purchasing and Logistics, Foreign Trade, Office Management, Marketing, Staff Management, Balance Sheet Accounting, Organisation, Sales, Healthcare Management, and Advertising and Communication. Certified commercial specialists work in all fields of business, in industrial and commercial enterprises, in large craft enterprises and in the services sector. They also work in executive positions, e.g. in import/export departments of enterprises and in purchasing or sales or other specialist departments. They sometimes also work in overseas subsidiaries or as self-employed trade intermediaries in the import/export business. At middle management level they can carry out all specialist and management tasks required to plan, initiate and complete transactions autonomously and responsibly, including in foreign languages. They also undertake human resources and customer care tasks.

Alongside the function-related further training course for certified commercial specialists there are also industry-specific further training courses for commercial specialists, who can be employed in similar positions, e.g. Technical Business Management Specialist [*Technischer Fachwirt*], Commercial Business Management Specialist [*Handelsfachwirt*], Industrial Business Management Specialist [*Industriefachwirt*], etc.

Example	<i>Fachkaufmann für Außenwirtschaft (Geprüfter)</i> [Commercial Specialist in Foreign Trade (Certified)]
Qualification	Certified Commercial Specialist in Foreign Trade (qualified to carry out middle and top management tasks)
Certifying authority	Chamber (e.g. chamber of industry and commerce, chamber of handicrafts)
ISCED 97	5 B
Requirements for access	The prerequisite for admission to the further education examination is, as a rule, a pass in a final examination in a recognised commercial or administrative training occupation and afterwards one to two years of relevant employment. At least five years of professional practice also provides entitlement for admission. Those proving through submission of certificates or in another way that they have the necessary knowledge and experience can also be admitted.
Degree	Further training examination through the competent authority Acquisition of the occupational title “ <i>Geprüfter Fachkaufmann für Außenwirtschaft</i> ” [“Certified Commercial Specialist in Foreign Trade”]
Connectivity	Access to a higher education institution is regulated. Continuing education options.

Place of learning	Vocational education and training centres run by the chambers or other providers
Duration of learning	1-2 years part-time, 6-12 months full-time
Legal bases, curricula etc.	Examination regulated under § 53 of the Vocational Training Act [Berufsbildungsgesetz] or Section 42 of the Handicrafts Code [Handwerksordnung] Ordinance on the examination leading to the recognised degree Certified Commercial Specialist in Foreign Trade [<i>Verordnung über die Prüfung zum anerkannten Abschluss Geprüfter Fachkaufmann für Außenwirtschaft</i>] of 19 July 2005, Federal Law Gazette Part I p. 2191
DQR/EQF level	6
Summary of reasons for the level allocation	<p>Certified Commercial Specialists in Foreign Trade are able to,</p> <ul style="list-style-type: none"> • initiate import, export and transit transactions, draft relevant contracts and bring them to fruition; • develop proposals and decision-making aids for company policy in the field of foreign trade activities; • prepare collaboration with foreign trade companies, build up marketing and import organisations in Germany and abroad; • plan and implement marketing abroad; • take on management tasks. <p>They are in possession of competences allowing the processing of comprehensive technical tasks and problems and for autonomous management of processes within subareas of their field of occupational activity. The structure of requirements is characterised by complexity and frequent changes.</p>

***Fachschule* (State-certified...)**

Fachschulen are institutions of continuing vocational education and training, especially further training, in the post-secondary sector (Tertiary B) and provide, in various fields (agriculture, design, technology, business and social work), and in different organisational forms (full-time or part-time), a further vocational qualification in accordance with Land legislation. They can also offer complementary and follow-up courses, as well as career development programmes.

Fachschulen qualify graduates to take on advanced specialist work, and for leadership and management functions in middle and senior functional spheres, which are academically oriented and practical at the same time. The curricula are closely oriented to professional practice and the current specialist scientific reference disciplines.

Example	<i>Fachschule Technik, Fachrichtung Maschinentechnik in Baden Württemberg</i> [<i>Fachschule</i> for technology, mechanical engineering, in Baden Württemberg]
Qualification	State-Certified Technician in Mechanical Engineering [<i>Staatlich geprüfter Techniker für Maschinentechnik</i>] (qualified to carry out management functions) <i>Fachhochschulreife</i> [i.e. the higher education entrance qualification for the <i>Fachhochschule</i>] by examination
Certifying authority	<i>Fachschule</i>
ISCED 97	5 B
Requirements for access	Requires as a rule the final examination in a recognised training occupation relevant to the objective of the specialisation (including the <i>Berufsschule</i> qualification). At least one year's relevant professional practice is also required. The minimum school qualification required is, depending on the Land, the secondary general school certificate or an intermediate school leaving certificate.
Degree	State examination Acquisition of the occupational title " <i>Staatlich geprüfter Techniker</i> " ["State-Certified Technician"] <i>Fachhochschulreife</i> [higher education entrance qualification for the <i>Fachhochschule</i> (university of applied sciences)] on passing the additional examination
Connectivity	Those wishing to study can as a rule have qualifications credited to the higher education sector. Access to a higher education institution is regulated (access to higher education for vocationally qualified applicants without a higher education entrance qualification according to the Resolution of the Standing Conference of 6 March 2009).
Place of learning	<i>Fachschule</i>

Duration of learning	2 years (full time)
Legal bases, curricula etc.	<p>Ordinance of the Standing Conference on training and examination at the two-year <i>Fachschulen</i> for technology and design [<i>Verordnung des Kultusministeriums über die Ausbildung und Prüfung an den zweijährigen Fachschulen für Technik und für Gestaltung</i>] of 25 June 1999</p> <p>Educational plan for the <i>Fachschule</i> for technology, mechanical engineering [<i>Bildungsplan für die Fachschule für Technik, Fachrichtung Maschinentechnik</i>] of November 1999</p> <p>Framework agreement on <i>Fachschulen</i> (Resolution of the Standing Conference of 3 March 2010)</p>
DQR/EQF level	6
Summary of reasons for the level allocation	<p>The vocational qualification awarded at <i>Fachschulen</i> for technology is closely guided by the requirements of professional practice and the position of graduates in companies. Building on successfully completed vocational training and relevant professional experience, the training enables them to handle rapid technological change and to help shape the ensuing business developments. Personnel management competence and the ability to act in a cost-conscious manner are promoted in particular. This holistic professional qualification meets the requirements of middle management and self-employment. Mechanical engineers are, thanks to a broad-based education, able to work in the fields of development and construction of operating resources, production planning and production control, manufacturing, quality control and testing, and in technical customer service or sales.</p> <p>Mechanical engineers are in possession of competences for the planning, processing and evaluating of comprehensive technical tasks and issues, and for autonomous management of processes within subareas of a scientific subject or within a field of occupational activity. The structure of requirements is characterised by complexity and frequent changes.</p>

Fachwirt (Geprüfter) [Business Management Specialist (Certified)]

Certified Technical Business Management Specialists are able to work in different sizes of company in different sectors and in different fields and areas of activity within a company to assume operational, organisational and management functions and to act as an interface between the commercial and technical areas of the company through communicative competences. They adapt to changing methods and systems in production, structures of work organisation and new methods of organisational development, personnel management and development, and help shape technical and organisational change within the company.

Qualification as a Certified Business Management Specialist is connected to a specific sector. It has various specialisations and thus differs from a general further education course such as for instance a Certified Business Administrator or a study course in business administration.

Example	<i>Technischer Fachwirt (Geprüfter) [Technical Business Management Specialist (Certified)]</i> Further vocational education and training regulated consistently throughout Germany according to the Vocational Training Act [<i>Berufsbildungsgesetz</i>]
Qualification	<i>Technischer Fachwirt (Geprüfter)</i> [Technical Business Management Specialist (Certified)] (qualified to carry out tasks in middle and top management)
Certifying authority	Chamber (e.g. chamber of industry and commerce, chamber of handicrafts)
ISCED 97	5 B
Requirements for access	The prerequisite for admission to the continuing education examination as a technical business management specialist in the field of industry and trade is, as a rule, a pass in a final examination for a training course lasting at least three years and leading to a recognised commercial, administrative or industrial and technical training occupation followed by one year of relevant employment. The prerequisite for admission to the continuing education examination as a technical business management specialist in the field of handicrafts is a pass in a journeyman's examination or final examination in a handicrafts or other recognised industrial and technical training occupation, plus computer skills. Those proving through submission of certificates or in another way that they have the necessary knowledge and experience can also be admitted.
Degree	Further training examination through the competent authority Acquisition of the occupational title " <i>Geprüfter technischer Fachwirt</i> " ["Certified Technical Business Management Specialist"]

Connectivity	Access to a higher education institution is regulated. Continuing education options.
Place of learning	Vocational education and training centres run by the chambers or other providers
Duration of learning	Preparatory training courses for the continuing education examination last up to 2.5 years part time, or between 8 weeks and 14 months full time, as a rule.
Legal bases, curricula etc.	Examination regulated under § 53 of the Vocational Training Act [Berufsbildungsgesetz] or Section 42 of the Handicrafts Code [Handwerksordnung] Ordinance on the examination leading to the recognised degree Certified Technical Business Management Specialist [<i>Verordnung über die Prüfung zum anerkannten Abschluss Geprüfter Technische Fachwirt</i>] of 17 January 2006, Federal Law Gazette Part I p. 66, as last amended by Article 9 of Ordinance of 23 July 2010, Federal Law Gazette Part I p. 1010
DQR/EQF level	6
Summary of reasons for the level allocation	Certified Technical Business Management Specialists are able to work in different sizes of company in different sectors and in different fields and areas of activity within a company to assume professional, organisational and management functions and to act as an interface between the commercial and technical areas of the company through communicative competences. They adapt to changing methods and systems in production, structures of work organisation and new methods of organisational development, personnel management and development and help shape technical and organisational change within the company. The graduates are in possession of competences for processing comprehensive technical tasks and issues and for autonomous management of processes within subareas of a scientific subject or within a field of occupational activity. The structure of requirements is characterised by complexity and frequent changes.

Meister (Geprüfter) [Master Craftsman (Certified)]

Master craftsman is a regulated further vocational training qualification which is regulated by federal law; it is awarded above all in industrial and technical occupations. Through a successful pass in the master craft examination (in handicrafts: *großer Befähigungsnachweis* or ‘certificate of competence’) graduates demonstrate comprehensive theoretical knowledge and practical ability in their profession, commercial aspects and training. It equips them to run a business and to train trainees.. The legal basis is the Handicrafts Code [*Handwerksordnung*] (for *Handwerksmeister*, or master craftsmen in the handicrafts sector) or the Vocational Training Act [*Berufsbildungsgesetz*] (for *Industriemeister*, or master craftsmen in industry). The main focus is the technical, organisational and personnel management of working groups or departments in industrial enterprises.

Example	<i>Industriemeister der Fachrichtung Elektrotechnik (Geprüfter) [Master Craftsman in Industry, specialising in Electrical Engineering (Certified)]</i>
Qualification	<i>Geprüfter Industriemeister</i> [Certified Master Craftsman in Industry] (qualified to carry out leadership tasks at middle management level of a company or the management of their own company; trainer aptitude)
Certifying authority	Chamber (e.g. chamber of industry and commerce, chamber of handicrafts)
ISCED 97	5 B
Requirements for access	The prerequisite for the admission to the Master Craftsman in Industry examination is as a rule a successfully completed vocational training in a recognised training occupation, which can be assigned to the specialisation electrical engineering, and relevant professional practice (at least six months in the case of a professional qualification with a specialisation other than electrical engineering). Evidence must also be provided of the acquisition of the occupational and work-related pedagogical competences in accordance with the Ordinance on Trainer Aptitude [<i>Ausbilder-Eignungsverordnung</i>] according to the Vocational Training Act [<i>Berufsbildungsgesetz</i>] or on the basis of another state regulation, if the demonstrated knowledge is equivalent to the requirements according to Section 3, paragraph 1 of the Ordinance on Trainer Aptitude. On demonstrating knowledge, skills and experience which justify admission to the examination, derogations are possible from the required admission prerequisites.
Degree	Further training examination through the competent authority Acquisition of the title of Master Craftsman
Connectivity	Access to a higher education institution is regulated (access to higher education for vocationally qualified applicants without a higher education entrance qualification according to Resolution of the Standing Conference of 6 March 2009). Continuing education options.

Place of learning	Company practice, training courses to prepare for the master craftsman examinations at chambers and other providers
Duration of learning	Around 1 year full-time, between 2 and 4 years part-time, around 2.5 years in a correspondence course with supplementary seminars – depending on the previous knowledge of the participants; participation in the preparatory courses not obligatory for admission to the master craftsman examination.
Legal bases, curricula etc.	Regulated further vocational training according to § 53 Vocational Training Act [<i>Berufsbildungsgesetz</i>] Ordinance on the examination leading to the recognised qualification Certified Master Craftsman in Industry – Electrical Engineering [<i>Verordnung über die Prüfung zum anerkannten Abschluss Geprüfter Industriemeister – Fachrichtung Elektrotechnik</i>], Federal Law Gazette Part I No 64 of 7 December 2004
DQR/EQF level	6
Summary of reasons for the level allocation	<p>Certified master craftsman in industry specialising in electrical engineering assume specialist functions and management functions in companies in the electrical engineering sector, above all in planning and manufacturing. They are able to,</p> <ul style="list-style-type: none"> • assume operational, organisational and management functions in different sizes of company in different sectors and in different fields and areas of activity within a company and • adapt to changing methods and systems in production, structures of work organisation and new methods of organisational development, personnel management and development, and help shape technical and organisational change within the company. <p>They are in possession of competences allowing the processing of comprehensive technical tasks and issues and for autonomous management of processes within their field of occupational activity. The structure of requirements is characterised by complexity and frequent changes. Given the very short innovation cycles master craftsmen in industry must be able to constantly orient themselves afresh and to carry out continuing training. Alongside specialist competence a high degree of leadership, team and communication ability is expected.</p>

For a detailed description of learning outcomes see the following Table.

Example of a detailed description of learning outcomes according to the German Qualifications Framework for Lifelong Learning (DQR) Manual (II):

Master Craftsman in Industry, specialising in Electrical Engineering (Certified)

Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Depth and breadth	Instrumental and systemic skills, judgement	Team/leadership skills, involvement and communication	Autonomous responsibility/responsibility, reflectiveness and learning competence
<p>Graduates possess knowledge in the fields of</p> <ul style="list-style-type: none"> - operational maintenance, production; - operational maintenance, infrastructure; - manufacturing and assembly; - occupational and work-related pedagogics; - law; - business administration; - information, communication and planning methods; - in-company cooperation; - natural science and technical regularities; - technology (infrastructure systems and operating technology, automation and information technology); - Organisation (company cost management, planning, control and communication systems, work protection, environmental protection, and health and safe- 	<p>Graduates can</p> <ul style="list-style-type: none"> - with consideration to the relevant rules install electrical equipment and systems properly and plan, organise and monitor their maintenance - ensure the energy supply in the company, on installing new machines, plant and systems, recognise and consider the impacts on the manufacturing process when handling and processing new assembly groups and components; - taking into account relevant rules, plan automation and information systems, take them into operation and maintain them, implement the necessary changes to automation processes and introduce relevant measures, incorporate automation and information systems into upstream systems; - record and evaluate business administration correlations and cost-relevant factors, demonstrate cost control possibilities and plan, organise, introduce and monitor measures for cost-conscious behaviour; - apply calculation methods and time management methods; - evaluate and consider organisational and personnel measures including in their importance as cost factors; - recognise the importance of these systems, select them in line with requirements and apply appropriate systems to monitor planning objectives and processes; - recognise the importance of relevant guidelines and provisions and ensure compliance 	<p>Graduates ...</p> <ul style="list-style-type: none"> - manage staff in accordance with company objectives and allocate tasks to them taking into account the guide-lines, according to business criteria and in consideration of their personal data, qualifications and interests; - lead staff in autonomous, responsible action, motivate and involve them in the decision-making processes; - inform and involve in good time and in an appropriate manner staff and operational areas involved; - moderate and supervise groups; - promote the target-oriented cooperation and communication between and with staff, with superiors and with the works council; - cooperate on planning personnel requirements; - conduct assessments of individuals and groups, and strive for personal development appropriate to the competences of the staff; - promote staff readiness for innovation and work towards their systemic con- 	<p>Graduates ...</p> <ul style="list-style-type: none"> - plan work processes, including the use of material and operating resources, and are involved in the planning and implementation of new work techniques and manufacturing processes; - produce cost projections, monitor cost development and ensure cost-effective procedures; - plan quality and quantity guidelines and ensure compliance with them; - coordinate and monitor maintenance in coordination with the competent staff and the areas of the company involved; - guarantee compliance with work safety, environment and health provisions in close cooperation with the safety officer; - advise in collaboration with the staff upstream planning groups and incorporate workshop data and production results into the planning processes; - design workplaces in line with ergonomic principles and sites taking into account relevant guidelines; - establish ordinances and standards, implement technical developments in companies and organise and monitor new launches; - collaborate on the development of proposals for new technical concepts and help shape the permanent work and production improvement process.

<p>ty;</p> <ul style="list-style-type: none"> - Leadership and personnel (personnel management, personnel development, quality management) 	<ul style="list-style-type: none"> - with them, prevent risks, recognise and analyse faults and introduce measures to avoid or fix them; - ensure that staff are aware of work protection, environmental protection and health and safety and act accordingly; - implement systematic personnel development based on qualitative and quantitative personnel planning; - collaborate on implementing a quality management system and contribute to its improvement and continued development; - analyse and structure operational requirements and produce a reasoned solution. 	<ul style="list-style-type: none"> - continuing education within and outside the company; - discuss and explain suggested solutions using presentation techniques. 	
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Operativer IT-Professional (Geprüfter) [Operative IT Professional (Certified)]

Operative Professionals (second level of the IT further education and training system) are middle managers with responsibility for staff and budget. For the leadership of projects or departments they have broad social competences in dealing with staff, colleagues, and superiors. As a manager they demonstrate entrepreneurial thinking and behaviour.

For operative Professionals there are four requirement profiles with profile-specific competences: IT Systems Manager; IT Business Manager, IT Business Consultant or IT Marketing Manager.

Similar to the IT Specialists Operative IT Professionals also demonstrate their competence largely through documentation and technical discussion of practical projects and/or tasks they have implemented out of operational IT processes. The chambers of industry and commerce produce written profile-specific IT specialised tasks and hold oral and written examinations in leadership and personnel management. The relevant provisions on this are found in the *IT-Fortbildungsverordnung* [IT further training ordinance].

Example	Operative Professional: <i>IT-Entwickler (Geprüfter)</i> [IT Developer (Certified)] Regulated further vocational training according to § 53 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>]
Qualification	Operative professional (middle manager)
Certifying authority	Chamber of industry and commerce
ISCED 97	5 B
Requirements for access	The prerequisites for admission to the continuing education examination are as a rule a successfully completed vocational training in a recognised training occupation, which can be assigned to the field information and telecommunications technology, and at least one year's professional practice. The employment must incorporate a qualification as a certified IT specialist or a comparable qualification. Those proving through submission of certificates or in another way that they have the necessary knowledge and experience can also be admitted.
Degree	Further training examination through the competent authority Acquisition of the occupational title " <i>Geprüfter Operativer Professional – IT-Entwickler</i> " ["Certified Operative Professional – IT Developer]
Connectivity	Admission to a higher education institution is regulated. Continuing education options.
Place of learning	Educational institutes run by the chambers and other educational establishments as well as companies
Duration of learning	Training courses which prepare for the further training examination as an IT Developer take around 1.5 to 2 years part-time and as an e-learning course.

Legal bases, curricula etc.	<p>Examination regulated under § 53 of the Vocational Training Act [<i>Berufsbildungsgesetz</i>]</p> <p>Ordinance on further vocational training in the field of information and telecommunications technology [<i>Verordnung über die berufliche Fortbildung im Bereich der Informations- und Telekommunikationstechnik</i>], Federal Law Gazette Part I, Page 2904 of 29 July 2002, as last amended by Article 1 of the Ordinance of 23 July 2010, Federal Law Gazette Part I p. 1010</p>
DQR/EQF level	6
Summary of reasons for the level allocation	<p>IT Systems Managers are experienced experts who lead projects, teams or functional areas and specialist departments. To this end they have responsibility for staff and budget. As a rule IT Systems Managers implement the corporate objectives set by the management. They can adapt flexibly to new technologies, changed local and global market conditions, self-management and process management methods, and shape technical and organisational change taking into account social acceptability. As well as technical competence they have a high degree of leadership, team and communication ability. They are, therefore, also able to assume leadership tasks.</p> <p>They are in possession of competences for the planning, the processing and the evaluating of comprehensive technical tasks and issues and autonomous management of processes within subareas of a scientific subject or within a field of occupational activity. The structure of requirements is characterised by complexity and frequent changes.</p>

Master

Master's study courses may, under sections 18 and 19 of the Framework Act for Higher Education [*Hochschulrahmengesetz – HRG*], be established by different types of higher education institution (universities, *Fachhochschulen* etc.) and impart consolidated or broadened academic knowledge, methodological competence and competences related to the professional field which correspond to the profile of the higher education institution and the specialist academic orientation of the respective study course. Master's study courses provide a subject and academic specialisation which can be differentiated by the profile types "more practice-oriented" and "more research-oriented". When setting up a Master's study course it should, moreover, be established whether it is a consecutive course or course providing further education.

- Consecutive Master's study courses are to be arranged and organised as courses of study which consolidate, broaden, expand on or cover a different subject to the preceding study course (Bachelor's and Master's study courses may be studied consecutively at various higher education institutions, at different types of higher education institution and with phases of professional work between the first and the second degree).
- Master's study courses providing further education require qualified practical professional experience of, as a rule, no less than one year. The content of the Master's study courses providing further education should take professional experience into account and build on it. In designing Master's study courses which provide further education, the higher education institution sets out the connection between professional qualification and the study course on offer. Master's study courses providing further education correspond to the requirements for consecutive Master's study courses and lead to the same level of qualification and to the same rights.

In a system of tiered qualifications, Master's study courses enable a further degree qualifying for entry to a profession. The equivalence of requirements of the different types of Master's study course (practice-oriented, research-oriented, consecutive, further education course) is to be determined in the accreditation. Master's degrees acquired at universities and higher education institutions of equivalent status, or at universities of applied sciences (*Fachhochschulen*), always provide entitlement to doctoral studies.

The requirement for access to a Master's study course is, as a rule, a first higher education degree, e.g. a Bachelor degree (for basic information on Bachelor's and Master's study courses see Level 6, Bachelor).

Example	Master of Science M.Sc., Wirtschaftsingenieurwesen, [Master of Science M.Sc., Industrial Engineering] <i>Brandenburgische Technische Universität</i> (Brandenburg Technical University – BTU), Cottbus
Qualification	Master of Science, M.Sc. (Career opportunities are available in commercial enterprises, in the public sector and in self-employment.)
Certifying authority	Higher education institution
ISCED 97	5 A
Requirements for access	Evidence of a first professional qualification in higher education with a standard period of study of as a rule six semesters in an industrial engineering study course
Degree	Higher education degree, academic degree
Connectivity	Entry into professional life, doctoral studies, continuing education options
Place of learning	University
Duration of learning	4 semesters
Legal bases, curricula etc.	Qualifications Framework for German Higher Education Qualifications [<i>Qualifikationsrahmen für Deutsche Hochschulabschlüsse</i>], Standing Conference of the Ministers of Education and Cultural Affairs, 21 April 2005 Common structural guidelines of the Länder for the accreditation of Bachelor's and Master's study courses [<i>Ländergemeinsame Strukturvorgaben für die Akkreditierung von Bachelor- und Masterstudiengängen</i>], Standing Conference, 10 October 2003 as amended Rules on the accreditation of courses of study and for system accreditation [<i>Regeln für die Akkreditierung von Studiengängen und für die Systemakkreditierung</i>] (Accreditation Council [<i>Akkreditierungsrat</i>], 08 December 2009, as amended) The examination and study regulation for the Master's study course in industrial engineering of 25 September 2008 Application for accreditation for the Master's study course in industrial engineering at the <i>Brandenburgische Technische Universität</i> (Brandenburg Technical University – BTU) Cottbus of March 2009
DQR/EQF level	7

<p>Summary of reasons for the level allocation</p>	<p>The reforms of the content (of the study course) aim primarily to ensure that, alongside purely specialist training, greater priority is given to imparting methodological competence, problem-solving strategies and interdisciplinary skills. The Master's study course should moreover be closely connected to research, which is implemented through research-based, project-oriented learning. The aim is to prepare Master's graduates for professional activities in research and development. The Master's study course leads to a professional and academic qualification. The curriculum, with a core area which is compulsory for all students, 6 fields of study and extensive study options within the field of study and the involvement of students in the research activities of the teachers, document that the desired qualification levels can be achieved. Summing up it can be noted that the presentation describes and justifies the objectives in detail. The educational objectives are clearly described in the module handbook both overall and for each lecture course.</p>
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Strategischer IT-Professional (Geprüfter) [Strategic IT Professional (Certified)]

The strategic professionals' field consists of certified computer scientists and certified IT business engineers. The prerequisite for this course of further education is the qualification as an Operative Professional followed by at least two years of relevant professional practice or a successfully completed study of information and telecommunications technology. Knowledge of leadership and personnel management must also be demonstrated. English language knowledge is required in both cases. The Chamber qualification at strategic level confers a pass in the instructor aptitude examination at the same time.

A Strategic Professional must, building on his existing competences as an operative professional, develop his entrepreneurial, personal and social abilities and his leadership skills in particular. To this end he has specialist methodological competences such as knowledge of the relevant business processes, business skills and knowledge of modern management concepts, and also specialist knowledge of accounting law for instance. These skills are expanded to include topics such as Business Process (Re)Engineering, Organisational Forms, Balanced Scorecard, Financing and Financial Management, all relevant legal issues, intellectual property rights, norms and standards, etc.

As a manager the Strategic Professional has excellent social and personal competences in dealing with staff, colleagues, superiors, clients and business partners.

Example	Strategischer Professional: Informatiker (Geprüfter) Strategic Professional: Computer Scientist (Certified)
Qualification	Strategischer Professional: Geprüfter Informatiker (Führungskraft) Strategic Professional: Certified Computer Scientist (Manager) (qualified to carry out tasks in the middle and top management fields)
Certifying authority	<i>Industrie- und Handelskammer</i> [Chamber of Industry and Commerce]
ISCED 97	5 B
Requirements for access	The prerequisite for admission to the further training examination is, as a rule, a successfully completed course of further training as an operative professional or a successfully completed higher education degree programme in a relevant degree programme. Appropriate professional practice and evidence of English language skills are also required.
Degree/Qualification	<ul style="list-style-type: none"> • Final advanced training examination through the competent authority • Acquisition of the occupational title “Strategic Professional: Certified Computer Scientist” [<i>“Strategischer Professional: Geprüfter Informatiker”</i>]
Connectivity	Access to a higher education institution is regulated. Further education options.
Place of learning	Continuing education establishments and companies

Duration of learning	The length of the course of further education is not prescribed, and can therefore differ.
Legal bases, curricula etc.	Examination regulated under § 53 of the Vocational Training Act [Berufsbildungsgesetz] Ordinance on further vocational training in the field of information and telecommunications technology [<i>Verordnung über die berufliche Fortbildung im Bereich der Informations- und Telekommunikationstechnik</i>], Federal Law Gazette Part I, Page 2904 of 29 July 2002, as last amended by Article 1 of the Ordinance of 23 July 2010, Federal Law Gazette Part I p. 1010
DQR/EQF level	7
Summary of reasons for the level allocation	<p>IT Technical Engineers have comprehensive, detailed and specialist knowledge of the latest methods, up-to-date research knowledge and excellent industry knowledge in their market segment. Overall, they have an excellent overview of their technological field.</p> <p>They work as managers, heads of corporate divisions e.g. for research and development, or as managing directors or owners of SMEs, and perform strategic management functions in the technical field of information technology. They are able to strategically position a company's IT business activity on the market on a permanent basis and maintain and develop that position, to build strategic alliances and partnerships in the fields technology and development, make strategic decisions and develop strategic personnel measures, and manage managerial staff.</p> <p>Managing and coordinating teams which perform different tasks is the core function of a strategic professional. They are responsible for technical developments in particular.</p> <p>They are in possession of competences allowing the processing of new and complex professional tasks and problems, and autonomous management of processes within a scientific subject or within a strategically oriented field of occupational activity. The structure of requirements is characterised by frequent and unpredictable changes.</p>

Doctoral studies

Doctoral studies provide specialised in-depth scientific continuing education. Doctoral graduates are able to autonomously discuss findings and results in their subject with colleagues, and can communicate these to an academic international public as well as to lay people and instruct and guide the less qualified.

Doctoral students build up extensive knowledge and skills through project work and academic research and in the development of products and methods. Doctoral graduates have a systematic understanding of their subject. They master the development, modelling and simulation of processes, systems and their implementation. Doctoral graduates have a comprehensive knowledge of the literature in their field. They have conceived an independent academic research project autonomously and conducted this research using academic methodology and in accordance with ethical principles. The research has been evaluated and recognised by experts at least nationally, and preferably internationally, and has expanded the frontiers of knowledge.

Doctoral graduates can therefore independently identify academic questions and issues, analyse complex situations and processes, identify problems and draw objectives from them, demonstrate, evaluate and implement solutions, and advance scientific progress for the benefit of humanity on a global scale and with due regard to economic framework conditions. They are able to foster contacts with the international scientific community, lead interdisciplinary and international teams, plan and manage resources, and attract, plan and process projects, as well as to plan and keep track of project costs.

A doctorate is conferred on the strength of a doctoral thesis, which must be based on independent research, and oral examinations called *Rigorosum*. Oral examinations may be replaced by a defence of the student's thesis (*Disputation*). With the exception of structured programmes for doctoral students, a doctoral thesis need not be written within any prescribed length of time. The doctorate entitles a graduate to bear the *Doktorgrad* (title of *Doktor*).

Example	Doctorate in Mechanical Engineering
Qualification	<i>Doktor der Ingenieurwissenschaften (Dr.-Ing.)</i> [Doctor of Engineering Sciences (Dr.-Ing.)]
Certifying authority	University and establishment of equal status (with the right to award doctorates)
ISCED 97	6
Requirements for access	The prerequisite for access to doctoral studies programmes is the successful completion of academic study with a standard period of study of at least 8 semesters (Bachelor + Master) at a natural science or technical faculty of a German academic higher education institution (university).
Degree	Academic degree
Connectivity	Continuing education options
Place of learning	University
Duration of learning	Not prescribed. Procedure takes a maximum of six years.
Legal bases, curricula etc.	Qualifications Framework for German Higher Education Qualifications [<i>Qualifikationsrahmen für Deutsche Hochschulabschlüsse</i>], Standing Conference of the Ministers of Education and Cultural Affairs, 21 April 2005 Mechanical engineering doctoral regulations at the University of Karlsruhe
DQR/EQF level	8
Summary of reasons for the level allocation	<p>Doctoral graduates in engineering can independently identify scientific questions and issues, analyse complex situations and processes, identify problems and draw objectives from them, demonstrate, evaluate and implement solutions, and advance scientific progress for the benefit of humanity on a global scale and with due regard to economic framework conditions. They are able to maintain contacts with the international scientific community, lead interdisciplinary and international teams, plan and manage resources and attract, plan and process projects, as well as to plan and keep track of project costs.</p> <p>They are in possession of competences allowing them to obtain research results in a scientific subject or to develop innovative solutions and procedures within a field of occupational activity. The structure of requirements is characterised by novel and unclear problem situations.</p> <p>The allocation to level 8 is justified by the above competences and skills and through both comprehensive and specialised characteristics, in which process scientific networking beyond their own area of responsibility and familiarity with and development of the available scientific knowledge are fundamentally associated with the research work. Continuous reflection on one's own work is a basic prerequisite. Many tasks require the sustained activation and promotion of team members with key responsibilities.</p>

4.5. Criterion 5

The national quality assurance system(s) for education and training refer(s) to the national qualifications framework or system and are consistent with the relevant European principles and guidelines (as indicated in annex 3 of the Recommendation).

Annex 3 to the EQF contains a detailed list of common principles, which formulate the requirements of a comprehensive quality assurance system. It names as elements of quality assurance measures:

- *“clear and measurable objectives and standards, guidelines for implementation, including stakeholder involvement,*
- *appropriate resources,*
- *consistent evaluation methods, associating self-assessment and external review,*
- *feedback mechanisms and procedures for improvement,*
- *widely accessible evaluation results.”*

(Source: EC [2008]: The European Qualifications Framework for lifelong learning, Annex III, p.15)

The following section demonstrates with which measures and procedures the German education system complies with these standards.

4.5.1. Quality assurance and the DQR

The key quality assurance requirement for the DQR is ensuring that graduates of a course of education or training actually possess the competences described. This should not be done through the implementation of new quality assurance procedures explicitly geared to the DQR, as the different educational sectors in Germany already apply their own quality assurance systems and varied quality assurance approaches, and further develop them taking into account the common principles for quality assurance of the EQF and the EQAVET. These ensure that the desired learning outcomes are achieved, in which process to some extent identical or similar mechanisms and instruments are used. As the DQR promotes the orientation to competences and supports the profiling of the target definitions for the individual qualifications, it will make an important contribution to quality development in the German education system. However – in accordance with the non-regulating nature of the DQR – this will not be accompanied by changes in responsibilities. Quality assurance in education is the responsibility of the different educational sectors within a framework defined partly by Land law and partly by federal law. Section 4.3 describes how the incentives for competence orientation for the purposes of quality development are accepted here. The specific legislative frameworks, responsible bodies and mechanisms and instruments ensuring quality in the educational sectors are presented in detail below.

4.5.2. General and vocational schools

4.5.2.1. Specific legal framework

Detailed provisions for academic supervision are set out in the Education Acts and regulations of the Länder.¹⁸

4.5.2.2. Responsible bodies

School supervision is performed by the school supervisory authorities. The highest school supervisory authority in a Land is the Land ministry of cultural affairs or of schools. By providing advice and assistance and recommending changes in schools and by reporting to higher-ranking education authorities, the school supervisory authorities and institutes for school pedagogy make a contribution to the evaluation and further development of the school system.

In the Länder, schools are evaluated by external quality and evaluation agencies and procedures of inspection. The ministries of education have the responsibility. Basically, external evaluation is carried out by governmental authorities, such as State Institutes of Pedagogy or State Institutes of Quality Development and Assurance. Besides, some of the Länder are planning additional certification by agencies which are acknowledged by the state according to AZAV, which stands for accrediting and authorization regulation of employment promotion.

4.5.2.3. Quality assurance measures

School supervisory authorities

School supervisory authorities exercise academic supervision, legal supervision and staff supervision within the school system. Academic supervision concerns the teaching and educational work carried out by schools. The school inspectors support and foster the work of the school, ensure that curricula and other legal provisions are being adhered to and that teaching and education are being conducted professionally using appropriate methods and further improved wherever possible. Academic supervision is carried out by visiting schools, observing lessons and providing advice at school level. Legal supervision is a further element in school supervision. It involves monitoring the legality of management of what is called external school affairs (for example, the construction and maintenance of school buildings) by the *Schulträger*, the school's maintaining body. Finally, school supervisory authorities

exercise staff supervision over teachers and head teachers at public-sector schools, thus ensuring that teaching staff are carrying out their duties.

Evaluation measures in schools

The Länder have taken a number of evaluation measures in which various quality assurance and quality development procedures interact. These procedures include

- the development or further development of framework curricula,
- comparative tests across the Länder and schools in core subjects,
- the extension of external evaluation,
- the development of standards and their review,
- the development of quality management in schools,
- centralised final examinations (lower and upper secondary education).

These measures are embedded in the comprehensive strategy of the Standing Conference of the Ministers of Education and Cultural Affairs (*Kultusministerkonferenz – KMK*) for educational monitoring as well as in strategies of individual Länder for quality evaluation and quality assurance which, amongst other measures, include the strengthening of the autonomy of the individual school, the development of school-specific profiles, the promotion of inter-school cooperation as well as the strengthening of the advisory functions of the school supervisory authority. The evaluation procedures for schools in the Länder are in line with the educational standards for the primary sector, the *Hauptschulabschluss* and the *Mittlerer Schulabschluss* adopted by the Standing Conference of the Ministers of Education and Cultural Affairs in 2003 and 2004. These cross-Länder target criteria are in most Länder complemented by the provisions of the so-called frameworks for school quality which provide schools with a frame of reference by means of indicators of school and teaching practice quality.

As part of these overall strategies, increasing weight is given to measures for the evaluation of individual schools. In the school-specific programmes, the individual schools specify the main focuses and objectives of their work on the basis of Land regulations regarding the content and qualifications obtained after completing the courses.

¹⁸ The German Basic Law stipulates that the entire school system is under the supervision of the state (Article 7, Paragraph 1). The authority of the Länder to carry out academic supervision is derived from this state sovereignty.

Comprehensive strategy for educational monitoring

In Germany fundamental changes are being implemented in the educational sector. In this context, special importance is attached to the various efforts for quality assurance and quality development in the school sector and the higher education sector. In the school sector, the introduction of national educational standards and the establishment of the Institute for Educational Quality Improvement [*Institut zur Qualitätsentwicklung im Bildungswesen – IQB*] to review and develop these standards marked the beginning of a paradigm shift towards an output-oriented control of the education system. In order to systematically link the individual measures for the observation and further development of educational processes, the Standing Conference of the Ministers of Education and Cultural Affairs has adopted a comprehensive strategy for educational monitoring which consists of four interconnected areas: international comparative studies of pupil achievement, the central review of the achievement of educational standards in a comparison between the Länder, comparative studies in order to review the efficiency of individual schools within the Länder, and the joint education reporting of the Federal Government and the Länder. In October 2010 the Centre for International Student Assessment [*Zentrum für internationale Vergleichsstudien – ZIB*] was set up in Munich. It is to make a contribution to securing educational monitoring in an international comparison, and to increasing the extent and presence of German educational research in the context of international comparative studies of education.

Currently Länder quality development and quality assurance measures in the school sector are increasingly focused on boosting equality in education, and further improving the permeability between the various school types in the education system. Improving educational opportunities for young people is key. The goal is to promote pupils from migrant backgrounds in a targeted manner so as to improve their levels of performance. The numbers of pupils leaving school without any qualifications and people dropping out of training are to be substantially reduced.

4.5.3. In-company vocational training in the dual system

4.5.3.1. Specific legal framework

Quality assurance in in-company vocational education and training is achieved mainly through laws and regulations and through the recommendations of the Board of the Federal Institute for Vocational Training [*Bundesinstitut für Berufsbildung – BIBB*]). The Vocational Training Act [*Berufsbildungsgesetz*] places a high value on quality assurance and quality development. This focus includes making the training quality control instruments more flexible, and supplementing them with a number

of new quality assurance guidelines, amongst other measures. Moreover, procedures are to be drawn up for the external evaluation of quality assurance in initial and continuing vocational education and training.

4.5.3.2. Responsible bodies

For recognised training occupations the competent ministry, usually the Federal Ministry of Economics and Technology, adopts training regulations in agreement with the Federal Ministry of Education and Research, which contain minimum standards for the in-company part of vocational training. The procedure for adopting training regulations makes an important contribution to the quality of training in the dual system.

The Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*], the social partners (employers and trade unions) and the Federal Government work together in this process. Based on the needs of the working world, the initiative comes from professional associations, leading employer organisations, trade unions or the Federal Institute for Vocational Education and Training. Following consultation with all stakeholders, the competent federal ministry decides, in agreement with the Länder. Beforehand the Federal Institute for Vocational Education and Training often submits an expert opinion or – particularly in the case of major reform plans – carries out a research project. Research into vocational education and training creates the prerequisites allowing the training regulations to be redesigned as well as amended and adapted in line with the economic, technical and social changes.

To this end, as a first step, training regulation “benchmarks” are defined in an “initial application dialogue” at the competent ministry (generally the Federal Ministry of Economics and Technology [*Bundesministerium für Wirtschaft und Technologie – BMWi*]). During the drafting and coordination phase the training regulations for companies and framework curricula for vocational schools are developed and coordinated with each other. The Federal Institute for Vocational Education and Training asks leading employer organisations and trade unions to nominate specialists who then act (as representatives of operational practice), together with the Federal Institute, as experts on behalf of the Federal Government and draw up the restructured training occupation. The so-called “paragraph section” of the training regulation defines inter alia the professional title of the training occupation, the training occupation profile and the examination requirements, while the “general training plan” sets out the factual structure and timeframe of the training. In coordination with the work of the experts acting on behalf of the Federal Government, Länder experts draft a framework curriculum for teaching at *Berufsschulen* [part-time vocational schools]. In a joint session at the end of the drafting phase the

experts of the Federal Government and of the Länder finally consult on both drafts and bring the time-tables and content into line with one another.

A favourable opinion by the Federal Institute for Vocational Education and Training's Board (see Section 2.1) serves at the same time as a recommendation to the Federal Government to adopt the training regulation in the submitted form. If the Federal-Länder Coordination Committee for Vocational Training Regulations/Framework Curricula ("*Bund-Länder-Koordinierungsausschuss Ausbildungsordnungen/Rahmenlehrpläne*") approves the new training regulation and the framework curriculum that has been coordinated with it, the training regulation is enacted.

The procedure ensures the development of training regulations which guarantee a comprehensive training for the respective professional field just as much as great practical relevance of the contents taught.

Since vocational education and training in the dual system is characterised by the division of responsibilities between the Federal Government for in-company training and for inter-company training and the Länder for the *Berufsschule* [part-time vocational school], the quality of training depends largely on the cooperation between the Federal Government and the Länder¹⁹. This takes place through:

- a) the procedure agreed between the Standing Conference of the Ministers of Education and Cultural Affairs and the Federal Government in the Joint Memorandum of 30 May 1972 to develop and coordinate training regulations for the training occupations recognised under the Vocational Training Act [*Berufsbildungsgesetz*]/Handicrafts Code [*Handwerksordnung*] and the Framework curricula for the occupational teaching in the *Berufsschule* [part-time vocational school],
- b) the Land representation, regulated by the Vocational Training Act [*Berufsbildungsgesetz*], in the committees of the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*], in particular its Board.

The implementation of vocational training in private companies and public administration is controlled by the "competent authorities". "Competent authorities" describes/designates the chambers (chambers of industry and commerce, chamber of handicrafts, chambers of agriculture, chambers representing the liberal professions, e.g. the medical associations), the competent authorities of the public service and the competent authorities of the churches and other religious communities governed by public law.

The competent authorities have the task inter alia of:

- monitoring vocational training preparation [*Berufsausbildungsvorbereitung*], vocational training, and vocational retraining,
- keeping a list of apprenticeships, in which the key content of the vocational training contract is to be entered,

- advising companies on all training questions through training advisers,
- monitoring the aptitude of training staff and the training establishment, and
- holding intermediate and final examinations or journeyman examinations.

The competent authority sets up examination boards to hold the final examination. The examination board consists of at least three members, who must be knowledgeable about the examination areas and be suitable to participate in the examination system. The board must comprise equal numbers of representatives of employers and employees, and at least one teacher from a vocational school. At least two thirds of the total number of members of the examination board must be representatives of employers and of employees (sections 39 and 40 of the Vocational Training Act [*Berufsbildungsgesetz*]).

Vocational training boards shall contribute to developing the quality of training:

- Länder committees for vocational education and training, which are established in the highest Land authorities (usually the Land ministries of economic affairs), and
- vocational education and training boards established in the competent authorities (chambers), which have equal representation of employers, employees and teachers at vocational schools.

4.5.3.3. Quality assurance measures

The Federal Government lays down the legal framework for vocational education and training through laws and ordinances. Training regulations are legal provisions that lay down the objectives, content and examination requirements for in-company vocational training. They apply nationwide, have the force of legislation, and are an important instrument for quality assurance for vocational education and training²⁰. They lay down the objectives and contents of training for state-recognised training occupations as minimum requirements. Training regulations are legally binding for all those involved in vocational training: training companies, those responsible for the training, trainees, chambers of industry and commerce, chambers of handicrafts, competent authorities of the public sector, the liberal professions and agriculture.

The so-called exclusivity principle states that in-company training for young people under 18 years of age can only be carried out in state-recognised training occupations. The Vocational Training Act [*Berufsbildungsgesetz*] defines the requirements of this kind of training occupation. According to this, vocational training must convey the necessary vocational skills, knowledge and abilities required to carry out a skilled professional activity in a changing world of work through a structured course of

¹⁹ For the *Berufsschule* [part-time vocational school] please also refer to sections 2.2.5., 2.3.1 and 2.4.

training which also allows the acquisition of the required work experience. This ensures a binding quality standard for the in-company training of young people.

A training regulation regulates (under section 5, paragraph 1 of the Vocational Training Act [*Berufsbildungsgesetz*])

- the designation of the training occupation,
- the duration of training,
- the profile of the training occupation (the skills, knowledge and abilities typical of the occupation in summary form),
- the general training plan (guidance on how to structure the teaching of the skills, knowledge and abilities factually and in time terms) and
- the uniform examination requirements.

To become active in the dual system of vocational education and training, a company must be qualified for training, i.e. it must be a suitable training facility and have trainers who are suitable personally and in terms of professional aptitude. Professional aptitude covers above all the job-related skills and knowledge required for the respective occupation. In-company trainers must demonstrate their workplace training skills through a special qualification certificate according to the Ordinance on Trainer Aptitude [*Ausbilder-Eignungsverordnung – AEVO*]. This covers independent planning, implementation and evaluation of vocational education and training in the following fields of action:

- testing training requirements and planning training,
- preparing training and contributing to the employment of apprentices,
- implementing training, and
- concluding training.

The competent authorities (chambers) monitor compliance with the legal guidelines in this field.

To promote quality assurance in vocational education and training, moreover, the German Reference Point for Quality Assurance in Vocational Education and Training [*Deutsche Referenzstelle für Qualitätssicherung in der beruflichen Bildung – DEQA-VET*] has been set up. It is the central point for information, communication and cooperation between all the relevant stakeholders in vocational education and training. DEQA-VET is established as a part of the European Network for Quality Assurance in Vocational Education and Training (ENQA-VET), the European umbrella organisation for the national reference points, at the Federal Institute for Vocational Education and Training [*Bundesinsti-*

²⁰ The framework curricula for dual vocational education and training which are consistent throughout Germa-

tut für Berufsbildung – BIBB]. In line with the ENQA-VET quality cycle (planning – implementation – evaluation – checking) quality assurance is developed through the competent authorities and through an external examination. Education policy initiatives to ensure the quality of vocational education and training in Germany can, through the Reference Point, be incorporated more strongly in the European process and used for the further development of standards and methods in the framework of the European Network for Quality Assurance.

Vocational education and training research and pilot projects contribute to ongoing quality development in vocational education and training.

4.5.4. Continuing education

Learning in continuing education partly falls under the non-formal sector and partly the formal sector. The latter involves regulated vocational further training.

4.5.4.1. Specific legal framework

For vocational further training the Vocational Training Act [*Berufsbildungsgesetz*] and the Handicrafts Code [*Handwerksordnung*] apply throughout Germany. They define the quality standard for recognised further training ordinances.

In distance learning, the Distance Learning Protection Act [*Fernunterrichtsschutzgesetz*] and the control of the state-run Central Office for Distance Learning [*Zentralstelle für Fernunterricht – ZFU*] ensure the quality and development of the offer.

For the area of non-regulated continuing education, the Federal Government and the Länder have, in their laws and legal provisions on the promotion of continuing education, formulated structural and quantitative general minimum requirements of continuing education providers. The minimum requirements apply to publicly funded providers.

4.5.4.2. Responsible bodies

For vocational further training the same legal framework conditions and responsibilities apply as for initial vocational education and training (see Section 4.5.3.2.).

The Central Office for Distance Learning of the Länder of the Federal Republic of Germany [*Staatliche Zentralstelle für Fernunterricht der Länder der Bundesrepublik Deutschland – ZFU*] decides whether or not a correspondence course is approved.

For the non-regulated area of continuing education there is a free market, on which private and public providers and those linked to associations as well as publicly funded providers of continuing education all offer varied services. Competition between these continuing education providers ensures a high level of flexibility. The employment agencies entrusted external certification bodies with the task of inspecting continuing education providers and their measures in the area of continuing vocational education and training funded by the Federal Employment Agency [*Bundesagentur für Arbeit*].

Furthermore, the Federal Ministry of Education and Research [*Bundesministerium für Bildung und Forschung – BMBF*] promotes comparative tests of continuing education media, continuing education measures and continuing education advice by *Stiftung Warentest*, Germany's independent product and service testing agency.

4.5.4.3. Quality assurance measures

Regulated vocational further training

To ensure the quality of regulated further training the Federal Committee for Vocational Training [*Bundesausschuss für Berufsbildung*] – today the Board of the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung (BIBB)-Hauptausschuss*] – adopted recommendations on the design of procedures and examination regulations in regional further training systems. In addition, an agreement between the Confederation of German Trade Unions [*Deutscher Gewerkschaftsbund – DGB*] and the leading industry organisations, as amended in 2008, lays down framework conditions for quality assurance inter alia. A recognised initial vocational training qualification is a prerequisite for admission to the further training examination in a further training occupation recognised under the Vocational Training Act [*Berufsbildungsgesetz*]/Handicrafts Code [*Handwerksordnung*]. Therefore the legal framework conditions for initial vocational training are also of importance to further vocational training. The framework conditions which ensure the quality of initial

vocational training therefore also indirectly influence the quality of further vocational training through the admission requirements. The content requirements of the further training regulations and the legal provisions on the composition of the examination boards ensure quality. As in the field of initial vocational training, further development is to take place here according to the ENQA-VET quality cycle.

Distance learning

In the Federal Republic of Germany, distance learning courses offered by private organisations (distance learning institutes) must be state-approved under the law on the protection of participants in distance education – Distance Learning Protection Act [*Fernunterrichtsschutzgesetz*]. Under an approval procedure, checks are carried out by the Central Office for Distance Learning [*Staatliche Zentralstelle für Fernunterricht – ZFU*] and the Federal Institute for Vocational Education and Training [*Bundesinstitut für Berufsbildung – BIBB*] not only on the factual and didactic quality of the learning material in relation to the course objective, but also on advertising and on the form and content of the distance learning agreement which has to be concluded between the student and the distance learning institute.

Non-regulated continuing education

A large part of state-funded continuing vocational education is defined by quality criteria of the Federal Employment Agency [*Bundesagentur für Arbeit*]. The Ordinance on Accreditation and Approval for Employment Promotion [*Anerkennungs- und Zulassungsverordnung Arbeitsförderung – AZAV*] defines continuing education requirements which are promoted under Social Security Code III²¹. Continuing education providers who wish to carry out a funded continuing education measure according to SGB III have to meet certain quality requirements and are then accredited according to the AZAV. The employment agencies have entrusted external certification bodies with the task of inspecting continuing education providers and their measures. Certification of the provider of a continuing education measure or of the continuing education course by an expert body is a prerequisite before participants can obtain financial support in accordance with Social Security Code III. Amongst other things, providers of continuing education must prove that they apply a recognised quality assurance system. Around four-fifths of German continuing education providers have introduced this kind of quality management system. ISO standard 9001 et seq. is most widespread, with a 36 per cent share. Five out of six providers also have formal recognition by a public body, an association or a company for the implementation of special, often financially supported, continuing education offers or the award of

²¹ Social Security Code III regulates the German law on employment promotion. It covers all services and measures which promote employment. It is therefore the basis of the work of the Federal Employment Agency [*Bundesagentur für Arbeit – BA*] and the regional employment agencies.

protected certificates. One in ten establishments has quality assurance or management systems specially developed for continuing education. These include certificates/seals of approval from regional associations of continuing education institutions, and certificates from continuing education associations. Examples include: BQM [*Bildungs-Qualitäts-Management*, or education quality management], DIN ISO 29990:2010 [Learning services for non-formal education and training - Basic requirements for service providers], DIN PAS 1037:2004 [*QM-Stufenmodell*, or QM phased model], DVWO [*Qualitätsmodell des Dachverbandes der Weiterbildungsorganisation e. V.*, or quality model of the umbrella association of the continuing education organisation], *Lernerorientierte Qualitätstestierung in der Weiterbildung* (LQW) [learner-oriented quality certification in continuing education], QESplus, QVB [*Qualitätsentwicklung im Verbund von Bildungseinrichtungen*, or quality development in the association of education providers]²².

Moreover the Federal Government and the Länder together and individually support numerous projects to improve quality assurance in continuing education.

4.5.5. Higher education

4.5.5.1. Specific legal framework

Under Section 59 of the Framework Act for Higher Education [*Hochschulrahmengesetz*] and the higher education legislation in place in the Länder, higher education institutions are subject to state supervision which is exercised by the Länder. The evaluation of research and teaching has been provided for in the higher education sector since the amendment to the Framework Act for Higher Education of 1998. Higher education legislation of most Länder now includes regulations regarding both internal and external evaluation.

²² There are also a number of other quality management models with a regional or Land-specific orientation, e.g. the quality principles of the *Wuppertaler Kreis e.V.*, the *Gütesiegelverbund Weiterbildung in Nordrhein-Westfalen* [seal of approval association for continuing education in North Rhine Westphalia), the *Arbeitsgemeinschaften für berufliche Fortbildung* [working groups for further vocational training] and the *Qualitätszertifikat des Volkshochschulverbandes* [Quality Certificate of the Adult Education Association] in Baden Württemberg, the *Siegel Qualitätsgeprüfte Weiterbildung* [seal: quality-tested continuing education] in Hessen, the *Hamburger Prüfsiegel* quality seal, the *Qualitätsgemeinschaft Berufliche Weiterbildung Region Köln* [quality group for continuing vocational education in Cologne region] or the *ZAW-Qualitätssiegel* seal of quality in Mecklenburg-Western Pomerania.

4.5.5.2. Responsible bodies

Legal supervision of the higher education institutions is incumbent on the Land ministries or senate administrations responsible for the higher education institutions. According to the legal provisions of the Länder, the higher education institutions in turn are responsible for the quality of their services and offers in their different fields of action such as study and teaching, research etc. The higher education institutions comply with this responsibility with the help of internal quality management systems.

A Foundation for the Accreditation of Study Courses in Germany [*Stiftung zur Akkreditierung von Studiengängen in Deutschland*] was established by the Länder to coordinate the external quality assurance through accreditation, which serves to fulfil the following tasks:

- accreditation and re-accreditation of accreditation agencies by granting, for a specific period of time, the entitlement to accredit study courses through the award of the 'Foundation's seal,
- compilation of the common and the specific structural guidelines of the Länder into binding guidelines for the accreditation agencies,
- regulation of minimum requirements for accreditation procedures including the prerequisites and limits of bundled accreditations,
- monitoring of accreditations undertaken by the accreditation agencies.

The Foundation also determines the pre-requisites for the recognition of accreditations by foreign institutions taking into account developments in Europe. The rules and procedures for accreditation in Germany are decided by the Accreditation Council. The Council comprises four representatives from institutions of higher education, four representatives from the Länder, five representatives from among professional practitioners, including one representative from the ministries of the Länder responsible for legislation governing service and wages, two students and two foreign representatives with accreditation experience, as well as one representative of the accreditation agencies in a consultative capacity. Fundamental to all Accreditation Council rulings are the European Standards and Guidelines of Quality Assurance (ESG) and the guidelines of the Standing Conference of the Ministers of Education and Cultural Affairs.

Programme and system accreditations are implemented through agencies approved by the Accreditation Council. Eight of a total of ten accreditation agencies approved in Germany are already listed in the European Quality Assurance Register for Higher Education (EQAR) and thus can be shown to meet the requirements of the ESG.

4.5.5.3. Quality assurance measures

Supervision of higher education institutions

Higher education institutions are subject to legal supervision which is exercised by the Land ministries or senate administrations responsible for the higher education institutions. Legal supervision encompasses all activities of the higher education institution. It is checked here, if necessary, whether the higher education institution has, by its actions or omissions, infringed laws or other statutory provisions.

According to the legal provisions of the Länder, the higher education institutions in turn are responsible for the quality of their services and offers in their different fields of action such as study and teaching, research etc. The higher education institutions comply with this responsibility with the help of internal quality management systems.

A legal obligation to submit regular reports on developments in the various fields of action already exists in most Länder. These reports are usually set up by the departments within higher education institutions and published by the institution's governing body.

Evaluation in the higher education sector

In Germany, a two-tiered system of evaluation is applied which combines internal and external evaluations. The internal evaluation consists of a systematic inventory and analysis of teaching and studying, taking account of research performed by the individual department or the faculty, and concludes with a written report. An assessment by external experts takes place on this basis; these external experts also lay down their findings and recommendations in a written final report.

Internal or external evaluations are mainly initiated by the higher education institutions or their faculties and departments and serve to develop quality in study and teaching and/or research and/or other further areas of responsibility.

External evaluation is often carried out by regional evaluation agencies at Land level or by higher education networks or associations operating across the Länder.

At both the level of the institutions of higher education and at ministry level, various international cooperation initiatives exist for the development and implementation of evaluation measures. External evaluations generally take place in the form of peer reviews, i.e. they are performed by competent experts from other institutions of higher education, research establishments or from the business community and are repeated at various intervals.

Student criticism of classes as well as surveys of graduates on the study courses have now also become a widespread method of evaluating teaching in the higher education sector. Such criticism primarily serves the purpose of optimising teaching within the higher education institution and is not an official means of monitoring teaching staff.

Accreditation of study courses

The accreditation of Bachelor's and Master's study courses is mandatory through the Common Structural Guidelines of the Länder laid down by the Standing Conference of the Ministers of Education and Cultural Affairs and called for as a requirement for state approval in the individual higher education acts of the Länder in various ways. The aim of accreditation is inter alia to examine compliance with the structural guidelines. Accreditation is essentially performed by external peer review. Periodically, the study courses are re-accredited.

In contrast to the accreditation of study programmes, in which the quality assurance is directed at an individual study course, in system accreditation the focus of quality assurance is laid more firmly on the accountability of the higher education institutions. In the context of system accreditation the structures and processes relevant to study and teaching are examined to see whether the qualification objectives can be achieved and a high quality of the study courses ensured. The European Standards and Guidelines for Quality Assurance in Higher Education (ESG), Common Structural Guidelines of the Länder laid down by the Standing Conference of the Ministers of Education and Cultural Affairs and the criteria of the Accreditation Council are applied in this process. The accreditation of an internal quality assurance system within the context of system accreditation results inter alia in the fact that all study courses which have gone through the quality assurance system are accredited for a period of six years.

The further development of accreditation and evaluation and the development of the tiered study structure in the course of the Bologna Process serve quality development and quality assurance. With the amendment of the Common Structural Guidelines of the Länder for the Accreditation of Bachelor's and Master's Study Courses in February 2010 the Standing Conference of the Ministers of Education and Cultural Affairs responded comprehensively to criticism of the implementation of the Bologna Process and made considerable progress with regard to the improvement of feasibility for study simplification of the recognition of study and examination results, and increased mobility.

4.6. Criterion 6

The referencing process shall include the stated agreement of the relevant quality assurance bodies.

The competent quality assurance bodies have been described in sections 4.5.1. to 4.5.5. of this Referencing Report.

The competent authorities for quality assurance in educational sectors are members of the “German Qualifications Framework Working Group” (*Arbeitskreis DQR*). They are therefore involved directly and fully in the referencing process and have also contributed to the production of the referencing report.

4.7. Criterion 7

The referencing process shall involve international experts.

The involvement of international experts played an important role in the development of the DQR. On the one hand experts were invited to workshops and conferences to discuss specific common issues. On the other hand selected experts were involved in the referencing process.

4.7.1. Workshops and conferences involving international experts

When developing the DQR a range of international experts were involved in workshops and conferences on various issues. They provided important advice on how to establish mutual confidence, in particular as regards the description of qualifications in the German education system, learning-outcome orientation, and quality assurance in the various areas of the education system.

The topics of international exchange were:

- the allocation of dual vocational qualifications into the national Qualifications Frameworks and the compatibility of the allocations with the EQF (13 September 2010, Berlin)
- the relationship between higher education and vocational education and training in the German or national Qualifications Frameworks (levels 5-8), and the compatibility of the results with the EQF (16 September 2010, Berlin)

- the relationship between national higher education frameworks and national qualifications frameworks/DQR and the interaction with the EHEA framework and the EQF (26 January 2011, Berlin)
- EU expectations of national referencing reports and exchanges of experience on the production of the referencing reports (9 February 2011, Berlin).
- the importance of quality assurance systems and instruments in the context of qualifications frameworks at European and national level (23 January 2012, Berlin)
- the recognition of non-formally and informally acquired competences in the context of qualifications frameworks at national and European level (11 June 2012, Berlin)

4.7.2. Involvement of international experts in the context of the referencing process

In the course of producing the referencing report experts from three European countries were involved in the process. The experts were selected based on the nature of the education system in each of the countries. The selection of Austria provided a country with an education system comparable to that of Germany, while the UK systems clearly differ from the German education system – particularly as regards vocational education and training. Finland was chosen because it has taken far-reaching and successful steps in some subareas – for instance in including the results of informally acquired competences.

The aim was to make the German procedure transparent – in particular the allocation of the qualifications to the DQR and the connection to the EQF – and thereby increase mutual trust. As already mentioned, the principle of consensus is an important basis in the drawing up of the DQR. Given the complexity of the implementation process and the extensive involvement of stakeholders from all educational sectors, decisions on key aspects of DQR implementation (e.g. on the allocation of formal qualifications and the inclusion of the results of non-formal and informal learning processes) were taken only in 2011 and 2012. The aim was, however, to present the structure of the DQR (e.g. matrix with the qualifications allocated) to the international experts in an already largely agreed version. For this reason the experts were involved at a relatively late point in time, namely at a stage when referencing had already started taking into account the ten criteria set out by the EQF Advisory Group.

The international experts had the status of critical observers. Their task was to assess whether the referencing and the referencing report were transparent and understandable.

Two full-day meetings took place. The main objective of the meetings was to ensure a clear description of the referencing process. The first meeting was held in June 2012 and was organised on the basis of key questions centred on the ten referencing criteria. To this end the DQR design, compliance with the ten referencing criteria, and those allocations of qualifications to the DQR which had already been carried out were presented and discussed. Already after this first meeting a range of very useful advice was recorded and taken into account in the further drawing up of the referencing report. Thus, for instance, it was suggested by the experts that the German report should draw more attention to the fact that the national qualifications framework in the German context is understood predominantly as a framework for transparency and less as an approach to reform of the education system. Moreover, it was considered helpful that descriptions of selected qualifications, as presented in the DQR Manual, be incorporated into the report as examples to make it easier to understand the allocations.

At the second meeting in October 2012 the referencing report was discussed. This pointed on the one hand to specific terminology matters which had led to ambiguities in the English translation of the report. On the other hand it addressed aspects which the experts felt could be gone into in greater detail. While on the positive side it was noted that the report presented the German education system extremely comprehensively, given its complexity information on typical educational pathways would nonetheless be helpful as a guide. The future workflow to implement the DQR was, in the opinion of the experts, not yet explained adequately, while the principle of consensus as a basis for decisions in the DQR process could be emphasised even more strongly. The latter in particular was, according to the experts, a strong point and a specific characteristic of the German process. It was also recommended that the report explain more clearly why general education will not be allocated to the DQR for the time being without, however, departing from its purpose as a framework extending across all educational sectors. This and other suggestions were, therefore, taken into account in the further drawing up of the German referencing report.

The following experts were involved:

- Mike Coles and Caroline Egerton, UK
- Sirkka-Liisa Kärki, Finland
- Thomas Mayr, Austria

Special thanks go to them for their helpful suggestions regarding the structure of this report.

Statements of the international experts

Mike Coles, Caroline Egerton

The referencing of the DQR to the EQF has been completed in a professional way. The German system is rather complex when viewed from an international perspective but the referencing report makes clear the different types of qualifications and their target groups. The process of linking descriptors for the DQR to EQF descriptors has been carried out with openness and attention to detail. Likewise the links between VET and higher education qualifications and the DQR levels is explained and exemplified in a way that gives confidence in the outcomes. The referencing process has been open to critical international opinion throughout. Even at a late stage changes were made which makes the report more understandable and robust from an international perspective. Even with a strong national consensus built up through extensive consultation, the allocation of some qualifications to levels remains for the future - this underlines the priority given to national consensus on the allocation and reflects the importance of the DQR and the EQF in supporting transparency and improving quality in the qualifications system.

Sirkka-Liisa Kärki

The description and the discussions with the persons, who have been responsible for the process, have shown that the development process of the German Qualification Framework (DQR) has been very systematic and well organized. The objectives of the DQR are very well illustrated in the report and there has been also outlined very clearly what the DQR is not. The German system, although it's very complex, has been illustrated in the referencing report so that it's understandable internationally. The different stakeholders have been involved in the process very widely both during the development phase of the DQR and during the referencing process. The principle of consensus has been an important issue. The DQR has been accepted by different stakeholders during the different phases of the process. The pilot and evaluation phases have been organized and the evaluation also after the implementation process has been planned.

The referencing of the DQR to the EQF has been done very systematically. The referencing process has been open in Germany and also internationally. The comparisons of the level descriptors between DQR and EQF have been done very carefully. The correspondence between the DQR levels and the eight levels of EQF has been shown very systematically and transparently. The examples of the different qualifications are very informative. The referencing report is understandable and transparent. Discussions with the representatives of the Federal Ministry of Education and Research have been very

open and constructive. The questions, comments and suggestions of the international experts has been taken into account very well in the report.

Thomas Mayr

The DQR has been developed on the basis of an on-going and sustained involvement of different stakeholders including the Social Partner and Chambers. The DQR thus is accepted and supported by very different players. This “sense of co-ownership” of the DQR is an important achievement as it defines a common perspective on qualifications in Germany. Notably the allocation of VET qualifications from continuing education to the DQR as higher level qualifications alongside academic qualifications is an important step to signal the relative value of these qualifications in a national and international context.

4.7.3. Country network meeting Germany – Lichtenstein – Austria – Switzerland (D-L-A-CH)

In spring 2012, at the suggestion of Austria, an international network was established with representatives from Germany, Liechtenstein, Austria and Switzerland. Its aim is to carry out exchange on different aspects of the development of national qualifications frameworks. It is also interesting to see how countries with comparable education systems – particularly as regards (dual) vocational education and training – locate and map themselves adequately and in terms of their specific performance in the EQF system. In 2012 three meetings were arranged, focusing on the allocation of initial and continuing vocational education and training in the national qualifications frameworks, and the aspects of learning-outcome orientation and quality assurance. Further meetings are planned.

4.8. Criterion 8

The competent national body or bodies shall certify the referencing of the national qualifications framework or system with the EQF. One comprehensive report, setting out the referencing and the evidence supporting it shall be published by the competent national bodies, including the National Coordination Point, and shall address separately each of the criteria.

This report documents the results of a working process which extends across all educational sectors. The composition of the Federal Government/Länder Coordination Group and of the German Qualifications Framework Working Group [*Arbeitskreis DQR*], under the aegis of the Federal Ministry of Education and Research and the Standing Conference of the Ministers of Education and Cultural Affairs, guarantees the involvement of all relevant stakeholders. This has ensured the participation of the competent authorities from the different educational sectors in the design and coordination of the report. Consideration of the referencing criteria has been discussed in detail in Section 4. The report will be published on www.deutscherqualifikationsrahmen.de.

4.9. Criterion 9

The official EQF platform shall maintain a public listing of member states that have confirmed that they have completed the referencing process, including links to completed referencing reports.

Once the final version of the referencing report has been produced it will be published, including the overview of allocations, on the DQR web site with a link to the EQF platform. All relevant documents will be shared.

4.10. Criterion 10

Following the referencing process, and in line with the timelines set in the Recommendation, all new qualification certificates, diplomas and Europass documents issued by the competent authorities contain a clear reference, by way of national qualifications systems, to the appropriate European Qualifications Framework level.

From 2013 a reference to the appropriate EQF level is to be made on new qualifications certificates and/or Europass documents in the formal sector. The necessary prerequisites for this are currently being examined.

5. Annexes

5.1. DQR-Document



The German Qualifications Framework for Lifelong Learning

*adopted by the "German Qualifications Framework Working Group"
(AK DQR)*

Status: 22 March 2011²³

²³ According to the results obtained during the referencing process some minor changes in the English translation of the DQR will be carried out in the near future.

I. Introduction

The German Qualifications Framework for Lifelong Learning (known by its German abbreviation of DQR) provides for the first time a framework which encompasses all qualifications within the German educational system across every field of education. In its capacity as a national implementation of the European Qualifications Framework (EQF), the DQR accords due consideration to the specific characteristics of the German educational system and assists in achieving appropriate evaluation and comparability for German qualifications in Europe. The objective is to make equivalences and differences between qualifications more transparent and to use this as a vehicle for supporting permeability. The important aspect here is to achieve reliability via quality assurance and development and to promote the idea that qualifications processes should be based on learning outcomes (“outcome orientation”). This means that the DQR will act in the interests of affording the best possible level of opportunity by helping promote the mobility of learners and employees between Germany and other European countries. The objective is to foster and enhance access to and participation in lifelong learning and use of qualifications for everyone, including those who are disadvantaged or affected by unemployment.

The DQR has undergone a somewhat lengthy process of development. In October 2006, the Federal Ministry of Education and Research (BMBF) and the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK) agreed to work together on the development of a German Qualifications Framework for Lifelong Learning (known by its German abbreviation of DQR).

The starting point for the present decision is the Recommendation of the European Parliament and of the Council on the Establishment of the European Qualifications Framework (EQF), which entered into force on 23 April 2008. This Recommendation encourages the member states to:

Recommendation
of the European
Parliament
and the Council

- “1. use the European Qualifications Framework as a reference tool to compare the qualification levels of the different qualifications systems and to promote both lifelong learning and equal opportunities in the knowledge-based society, as well as the further integration of the European labour market, while respecting the rich diversity of national education systems;
2. relate their national qualifications systems to the European Qualifications Framework by 2010, in particular by referencing, in a transparent manner, their qualification levels to the levels set out in Annex II, and, where appropriate, by developing national qualifications frameworks in accordance with national legislation and practice;
3. adopt measures, as appropriate, so that, by 2012, all new qualification certificates, diplomas and ‘Europass’ documents issued by the competent authorities contain a clear reference, by way of national qualifications systems, to the appropriate European Qualifications Framework level;
4. use an approach based on learning outcomes when defining and describing qualifications, and promote the validation of non-formal and informal learning in accordance with the common European principles agreed in the Council conclusions of 28 May 2004, paying particular attention to those citizens most likely to be subject to unemployment or insecure forms of employment, for whom such an approach could help increase participation in lifelong learning and access to the labour market;
5. promote and apply the principles of quality assurance in education and training set out in Annex III when relating higher education and vocational education and training qualifications within national qualifications systems to the European Qualifications Framework;²⁴

²⁴ Recommendation of the European Parliament and of the Council on the Establishment of the European Qualifications Framework for Lifelong Learning, Strasbourg 23 April 2008

In embracing this recommendation, the primary objective of the BMBF and the KMK is to achieve appropriate alignment of qualifications acquired in Germany and to use this as a vehicle for enhancing the opportunities for our citizens on the European labour market. The BMBF and the KMK have established a joint “Federal Government/Federal States Coordination Group” for the German Qualifications Framework” (known by its German abbreviation of B-L-KG DQR), which has been commissioned with the task of managing the process of drawing up a proposal. This process involves stakeholders from general education, higher education and initial and continuing vocational education and training, the social partners and other experts from research and practice. This has essentially taken place within the “German Qualifications Framework Working Group” (known by its German abbreviation of AK DQR), the members of which have facilitated feedback on results to delegates’ home institutions and committees. Further Federal Government and federal state ministers with special responsibility and expertise within this area have been involved in the process along the way.

Development
process

In February 2009, the AK DQR presented a DQR draft (comprising an introduction, matrix and glossary) to act as a discussion proposal for the second phase of development of the DQR²⁵. This draft was piloted from May 2009. The results of the pilot phase were evaluated and proposed changes made to the matrix and glossary.

The DQR represents the first comprehensive use of matrix for the alignment of qualifications. It extends *across educational areas* and acts as a considerable aid to navigation within the German educational system. For this purpose the DQR describes on eight reference levels professional and personal competences which direct the alignment of qualifications obtained in general education, higher education and vocational education and training.

Structure
of the DQR

The eight reference levels contained within the DQR each describe the competences required to obtain a qualification. They do not, however, map individual learning and occupational biographies. The term competence, constituting the heart of the DQR, depicts the ability and readiness of the individual to use knowledge, skills and personal, social and methodological competences and conduct himself or herself in a considered and individually and socially responsible manner. Competence is understood to refer to comprehensive action skills within this context.

This means that, in line with the German understanding of education, the DQR is subject to a further educational concept even if the DQR, like the EQF, is expressly only focused on selected characteristics. Notwithstanding this, aspects such as reliability, precision, stamina and attentiveness, intercultural and interreligious competence, active tolerance and democratic patterns of behaviour and normative, ethical and religious reflectiveness act as constitutive elements for the development of action skills.

Underlying
educational
concept

The DQR differentiates between two categories of competence. These are “Professional competence”, subdivided into “Knowledge” and “Skills” and “Personal competence”, subdivided into “Social competence” and “Autonomy” (“four-column structure”). These analytical differentiations have been actioned in the full knowledge of the interdependence which exists between the various aspects of competence. Given the fact that the DQR consistently makes mention of competence, any use of the modal verb “can” has been avoided throughout the DQR matrix.

Underlying
categories

²⁵Discussion Proposal for the Development of a German Qualifications Framework for Lifelong Learning – drawn up by the “German Qualifications Framework Working Group”, February 2009

Methodological competence is understood as a transversal competence and for this reason is not separately stated within the DQR matrix.

A standardised structure has been stipulated for the description of the eight reference levels within the DQR.

<i>Level indicator</i>			
Structure of requirements			
<i>Professional competence</i>		<i>Personal competence</i>	
Knowledge	Skills	Social competence	Autonomy
Depth and breadth	Instrumental and systemic skills, judgement	Team/leadership skills, involvement and communication	Autonomous responsibility/ responsibility, reflectiveness and learning competence

The attached glossary contains explanatory definitions of the key terms used.

When using the DQR matrix, consideration needs to be accorded to the fact that each reference level maps *equivalent* qualifications rather than *homogeneous* qualifications. Formulations are in strict accordance with the principle of inclusion. This means that characteristics already described at a lower level are not mentioned again at the subsequent higher levels unless enhancement takes place. Notwithstanding this, the knowledge and skills contained within the description of professional competence at each higher reference level do not necessarily in every case include the knowledge and skills encompassed within the respective level below.

Equivalence of qualifications rather than homogeneity

In allocating qualifications to the DQR all *formal* qualifications of the German system of general education, higher education and vocational education and training – including continuing education in each case – are to be included. Competences acquired through non-formal or informal learning should equally be taken into consideration in the DQR. These are extremely significant areas in both quantitative and qualitative terms. But it is also all the more important given that, against the background of a looming shortage of skilled workers, validation and recognition of competences obtained in non-formal and informal learning and at work is urgently needed. As part of the DQR development process recommendations on the inclusion of non-formally and informally acquired competences in the DQR have already been drawn up, which describe the clarification processes and stages of work that still have to be implemented. These form a basis for the next steps²⁶.

All stakeholders and responsible parties involved are in agreement that the alignment of the qualifications within the German educational system to the reference levels of the DQR should *not* replace the existing system of access qualifications. Achieving a certain reference level of the DQR does not provide automatic entitlement to access the next level. The achievement of a reference level has also not been considered in conjunction with the implications for collective wage agreements and laws relating to remuneration.

No effect on access entitlements

26 Amendment agreed by the German Qualifications Framework Working Group on 19 June 2012.

Relationship to Higher Education Qualifications Framework

Alignment takes place in accordance with the principle that each qualifications level should always be accessible via various educational pathways. The DQR is compatible with the Qualifications Framework for German Higher Education Qualifications (HQR). With regard to the requirements and competences described, levels 6, 7 and 8 of the German Qualifications Framework correspond to levels 1 (Bachelor level), 2 (Master level) and 3 (Doctorate level) of the Qualifications Framework for German Higher Education Qualifications (cf. Annex).

The implementation of the DQR provides Germany with an opportunity to further embrace the principle that the important thing is what someone can do, not where he or she has learned to do it. The overall effect of the DQR will be to strengthen lifelong learning.

The rules for the alignment of qualifications acquired in Germany to the levels of the DQR will be specifically developed and stipulated in a handbook.

II. DQR matrix

Level 1			
Be in possession of competences for the fulfilment of simple requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place under supervision.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Be in possession of elementary general knowledge. Have an initial insight into a field of study or work.	Be in possession of cognitive and practical skills required to carry out simple tasks in accordance with pre-stipulated rules and to evaluate the results of such tasks. Establish elementary correlations.	Learn or work together with others, obtain and exchange information verbally and in writing.	Learn or work under supervision. Appraise own actions and the actions of others and accept learning guidance.

Level 2			
Be in possession of competences for the professional fulfilment of basic requirements within a clear and stably structured field of study or work. Fulfilment of tasks takes place largely under supervision.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Be in possession of basic general knowledge and basic professional knowledge with a field of study or work.	Be in possession of basic cognitive and practical skills required to carry out tasks within a field of study or work, evaluate the results of such tasks in accordance with pre-stipulated criteria and establish correlations.	Work within a group. Accept and express general feedback and criticism. Act and react in accordance with the given situation with regard to verbal and written communication.	Learn or work in a responsible manner and largely under supervision within familiar and stable contexts. Appraise own actions and the actions of others. Use pre-stipulated learning guides and request learning guidance.

Level 3			
Be in possession of competences for the autonomous fulfilment of technical requirements within a field of study or field of occupational activity which remains clear whilst being openly structured in some areas.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Be in possession of extended general knowledge or extended professional knowledge within a field of study or field of occupational activity.	Be in possession of a spectrum of cognitive and practical skills for the planning and processing of technical tasks within a field of study or field of occupational activity. Evaluate results in accordance with criteria which are largely pre-stipulated, provide simple transfers of methods and results.	Work within a group and occasionally offer support. Help shape the learning or working environment, present processes and results to the appropriate recipients of such information.	Learn or work autonomously and responsibly including within contexts which are less familiar. Appraise own actions and the actions of others. Request learning guidance and select various learning aids.

Level 4			
Be in possession of competences for the autonomous planning and processing of technical tasks assigned within a comprehensive field of study or field of occupational activity subject to change.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Be in possession of deeper general knowledge or theoretical professional knowledge within a field of study or field of occupational activity.	Be in possession of a broad spectrum of cognitive and practical skills which facilitate autonomous preparation of tasks and problem solving and the evaluation of work results and processes according consideration to alternative courses of action and reciprocal effects with neighbouring areas. Provide transfers of methods and solutions.	Help shape the work within a group and the learning or working environment of such a group and offer ongoing support. Justify processes and results. Provide comprehensive communication on facts and circumstances.	Set own learning and work objectives, reflect on and assess such objectives and take responsibility for them.

Level 5			
Be in possession of competences for the autonomous planning and processing of comprehensive technical tasks assigned within a complex and specialised field of study or field of occupational activity subject to change.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Be in possession of integrated professional knowledge within a field of study or integrated occupational knowledge within a field of activity. This also includes deeper, theoretical professional knowledge. Be familiar with the scope and limitations of the field of study or field of occupational activity.	Be in possession of an extremely broad spectrum of specialised, cognitive and practical skills. Plan work processes across work areas and evaluate such processes according comprehensive consideration to alternative courses of action and reciprocal effects with neighbouring areas. Provide comprehensive transfers of methods and solutions.	Plan and structure work processes in a cooperative manner, including within heterogeneous groups, instruct others and provide well-founded learning guidance. Present complex facts and circumstances extending across professional areas in a targeted manner to the appropriate recipients of such information. Act in an anticipatory manner in considering the interests and requirements of recipients.	Reflect on and assess own learning objectives and learning objectives set externally, undertake self-directed pursuit of and assume responsibility for such objectives, draw consequences for work processes within the team.

Level 6			
Be in possession of competences for the planning, the processing and the evaluating of comprehensive technical tasks and problems set and be in possession of competences for autonomous management of processes within subareas of an academic subject or within a field of occupational activity. The structure of requirements is characterised by complexity and frequent changes.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
<p>Be in possession of broad and integrated knowledge including knowledge of basic academic principles and the practical application of an academic subject as well as a critical understanding of the most important theories and methods (corresponding to level 1 – Bachelor level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>be in possession of broad and integrated occupational knowledge including current technical developments.</p> <p>Be in possession of knowledge for the further development of an academic subject</p> <p>or</p> <p>of a field of occupational activity.</p> <p>Be in possession of relevant knowledge at interfaces to other areas.</p>	<p>Be in possession of an extremely broad spectrum of methods for the processing of complex problems within a scientific subject (corresponding to level 1 – Bachelor level – of the Qualifications Framework for German Higher Education Qualifications), further fields of study</p> <p>or</p> <p>field of occupational activity.</p> <p>Draw up new solutions and evaluate such solutions including according consideration to various criteria even in circumstances where requirements are subject to frequent change.</p>	<p>Assume responsibility in working within expert teams</p> <p>or</p> <p>show responsibility in leading²⁷ groups or organisations.</p> <p>Instruct the technical development of others and act in an anticipatory manner in dealing with problems within the team.</p> <p>Present experts with arguments for and solutions to complex professionally related problems and work in conjunction with such experts on further development.</p>	<p>Define, reflect on and assess objectives for learning and work processes and structure learning and work processes autonomously and sustainably.</p>

²⁷ This encompasses companies, government authorities or non-profit making organisations.

Level 7			
Be in possession of competences for the processing of new and complex professional tasks and problems set and be in possession of competences for autonomous management of processes within an academic subject or within a strategically oriented field of occupational activity. The structure of requirements is characterised by frequent and unpredictable changes.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
<p>Be in possession of comprehensive, detailed, specialist and state-of-the-art knowledge in an academic subject (corresponding to level 2 – Master level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>be in possession of comprehensive occupational knowledge in a strategically oriented field of occupational activity.</p> <p>Be in possession of extended knowledge in adjoining areas.</p>	<p>Be in possession of specialised technical or design concept skills relating to the solution of strategic problems in an academic subject (corresponding to level 2 – Master level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>in a field of occupational activity.</p> <p>Consider alternatives even in circumstances where information is incomplete.</p> <p>Develop and use new ideas or procedures and assess such ideas and procedures according consideration to various evaluation criteria.</p>	<p>Assume responsibility for leading groups or organisations within the scope of complex tasks set and present the results of the work of such groups or organisations. Promote the technical development of others in a targeted manner. Lead divisionally specific and cross-divisional debates.</p>	<p>Define objectives for new applications or research oriented tasks reflecting on possible societal, economic and cultural implications, deploy appropriate means and tap autonomously into own knowledge for the purpose.</p>

Level 8			
Be in possession of competences for the obtaining of research findings in an academic subject or for the development of innovative solutions and procedures within a field of occupational activity. The structure of requirements is characterised by novel and unclear problem situations.			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
<p>Be in possession of comprehensive, specialised, systematic state-of-the-art knowledge in a research discipline and contribute towards the expansion of knowledge within the specialist discipline (corresponding to level 3 – Doctorate level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>be in possession of comprehensive occupational knowledge in a strategically and innovation oriented field of occupational activity.</p> <p>Be in possession of appropriate knowledge at the interfaces to adjoining areas.</p>	<p>Be in possession of comprehensively developed skills relating to the identification and solution of novel problems set in the areas of research, development or innovation within a specialised academic subject (corresponding to level 3 – Doctorate level – of the Qualifications Framework for German Higher Education Qualifications)</p> <p>or</p> <p>in a field of occupational activity.</p> <p>Also design, implement, manage, reflect on and evaluate innovative processes including in cross-activity areas.</p> <p>Evaluate new ideas and procedures.</p>	<p>Lead groups or organisations from a position of responsibility in complex or interdisciplinary tasks whilst activating the areas of potential within such groups or organisations. Promote the professional development of others in a targeted and sustained manner. Lead cross-specialist debates and introduce innovative contributions to specialist professional discussions including in international contexts.</p>	<p>Define objectives for new complex applications or research oriented tasks reflecting on possible societal, economic and cultural implications, select appropriate means and develop new ideas and processes.</p>

III. DQR glossary

The main terms used in the DQR are explained below.

- The **ability to act as part of a team** is the ability to cooperate on the achievement of goals within a group.
- **Academic subject** indicates a professional specialisation rather than a subject of study and also encompasses creative and artistic areas.
- **Autonomous responsibility** designates the ability and endeavour to make appropriate decisions in various situations and to act without outside assistance.
- **Autonomy** describes a person's ability and readiness to act in an independent and responsible manner, reflect on the own actions and on the actions of others and to develop his or her own action skills further.
- **Breadth** refers to the number of areas contained within general, occupational or technical knowledge associated with a > *Qualification*.
- **Communication** designates the exchange of information aimed at conveying understanding between persons, in groups and in organisations.
- **Competence** within the DQR describes the ability and readiness of the individual to use knowledge, > *Skills* and personal, social and methodological competences and to behave in a considered, individual and socially responsible manner. Competence is understood in this sense as comprehensive action skills.
The DQR presents competence within the dimensions of > *Professional competence* and > *Personal competence*. > *Methodological competence* is understood as a cross-sectional competence and for this reason is not separately stated within the DQR matrix. (By way of contrast, the EQF describes competence only in terms of the assumption of responsibility and autonomy.)
- **Complexity** designates the property of a > *Requirements structure* in which consideration needs to be accorded to a multitude of factors exerting a reciprocal effect and in which the *Solution of* > *Problems* demands the matching of individual partial aspects and of the overall context within an iterative process.
- **Depth** of knowledge designates the degree of penetration of an area of general, occupational or technical knowledge.
- **Field of occupational activity** describes a > *Work area* in which a person is in gainful employment.
- A **field of study** is an area in which > *Competences* are acquired or developed further and which is defined in terms of a characteristic > *Requirements structure*, e.g. a > *Academic subject*.
- **Innovation** is understood to mean the practical implementation of ideas into new products, services, processes, systems and social interactions.
- **Instrumental skills** are applied skills deployed in respect of ideas, theories, methods, tools, technologies and devices.
- The ability of **involvement** makes it possible to engage constructively in the further development of environmental conditions within a > *Field of study or work*.
- **Judgement** is the ability to compare learning or work processes and their results against relevant yardsticks and carry out an evaluation on this basis.

- **Knowledge** describes the body of facts, principles, theories and practice within a > Field of study or work as the result of learning and understanding.
- **Leadership skills** designate the ability to act in a targeted and constructive manner within a group or organisation to steer and guide others and exert an influence on their behaviour.
- **Learning competence** is the ability to obtain a realistic picture of one's own competence development and to take appropriate steps to progress competence development further.
- **Learning guidance** designates the support of learning processes via the illustration of targets and learning tools. The ability and readiness both to use learning guidance offered and to offer learning guidance oneself are important aspects of > *Personal competence*.
- **Learning outcomes** describe what learners know, understand and are able and ready to do on completion of a learning process. The DQR describes learning outcomes which have been bundled to form > *Competences*.
- **Methodological competence** describes the ability to be guided by rules when acting. This may also include the considered selection and development of methods. > *Professional competence* and > *Personal competence* each incorporate methodological competence.
- **Occupational knowledge** is a combination of knowledge of facts, basic principles and theories and practical knowledge within a field of activity of relevance to the labour market and particularly refers to knowledge of possible procedures and approaches to be adopted.
- **Personal Competence** is also referred to as human competence and encompasses > *Social competence* and > *Autonomy*. It describes a person's ability and readiness to develop further and to shape his or her own life in an autonomous and responsible manner within the respective social, cultural or occupational context.
- **Problem solving** is the achievement of a desired target status. Problem solving (in contrast to *Fulfilment of a > Task*) requires the autonomous specification of the starting situation needing to be overcome (problem definition) and demands the identification and in certain circumstances also the development of methods suitable for the achievement of the goal.
- **Professional competence** encompasses > *Knowledge* and > *Skills*. It constitutes the ability and readiness to process tasks and problems in an autonomous, professionally appropriate and methodical manner and to evaluate the result.
- **Professional knowledge** describes knowledge of facts, rules and/or justifications.
- **Reflectiveness** includes the ability to deal with changes, to learn from experiences and to think and act critically.
- **Responsibility** designates the ability and readiness to contribute in a self-directed manner towards the structuring of processes whilst considering the possible consequences.
- **Skills** describe the ability to apply > *Knowledge* and use know-how to complete tasks and solve problems. As in the European Qualifications Framework, skills are described as cognitive (use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).
- **Social competence** describes a person's ability and readiness to work together with others in a target oriented manner, understand the interests and social situations of others, deal with and communicate with others in a rational and responsible way and be involved in shaping the world of work and the lifeworld.
- **Specialisation** designates the development of a deeper expertise in subareas of a > *Field of study or work* where a certain breadth of control or mastery has already been achieved.

- **Strategy orientation** characterises fields of occupational activity in which a crucial role is played by the target definition of processes and organisational units.
- The **structure of requirements** within a > *Field of work or study* contains essential information for the alignment of a > *Qualification* to a reference level. This is described in terms of the characteristics of complexity, dynamics, necessary > *Autonomy* and ability to innovate.
- **Systemic skills** are targeted at generating something new. They are conditional on > *Instrumental skills* and require an ability to assess complex correlations and deal with these adequately.
- **Task, fulfilment of**, is the achievement of a defined and desired target status using familiar and stipulated methods. This is delineated from the *Solution to a > Problem*.
- **Theoretical professional knowledge** describes > *Professional knowledge* including knowledge of the main theories of a subject.
- **Qualification** describes a formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved > *Learning outcomes* to given standards.
- A **work area** is a field of practical application of > *Competences* and is defined in terms of a characteristic > *Structure of requirements*.

The following terminology is used to describe the DQR.

- **Descriptors** are the texts contained within the individual matrix fields of the DQR. They describe the characteristics of competences at a certain level (e.g. “Skills at level 5”).
- The **competence categories** used in the DQR are > *Professional competence* – sub-divided into > *Knowledge* and > *Skills*, and > *Personal competences*, sub-divided into > *Social competence* and > *Autonomy*. Reference is made to various sub-categories for alignment to the levels. In the case of knowledge, these sub-categories are > *Depth* and > *Breadth*, in the case of skills > *Instrumental skills*, > *Systemic skill* and > *Judgement*, in the case of social competence > *Team/leadership skills*, > *Involvement* and > *Communication* and in the case of autonomy > *Autonomous responsibility*, > *Responsibility*, > *Reflectiveness* and > *Learning competence*.
- The **level indicator** provides a summary of the characteristics of the requirements structure within a field of study or work, within an academic subject or within a field of occupational activity.
- The **levels** align competences in accordance with complexity and the dynamics of the respective fields of study and work. The DQR is not an ordinal scale with steps of the same scope. Arithmetic operations such as the calculation of averages are not possible.

Qualifications Framework for German Higher Education Qualifications

(Produced by the German Rectors' Conference, the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany and the Federal Ministry of Education and Research, and adopted by the Standing Conference on 21 April 2005)

Foreword

The development of a national Qualifications Framework

The aim of the Bologna Process is to create a system of transparent and comparable higher education qualifications. The introduction of a two-tier study structure is an important instrument to this end. There is wide-reaching consensus among the countries who have committed to the Bologna Process as regards the quantitative requirements for Bachelor's and Master's degrees (Bachelor's degree 180-240 ECTS credits, Master's degree 60-120 ECTS credits), the nomenclature of the two study levels (Bachelor's and Master's degrees, or corresponding national designations), and certain fundamental principles (employability, internationalisation, etc.). One challenge for the future shape of the European Higher Education Area is achieving general agreement on the qualifications profiles to be attained for specific degrees, and universally understandable designations (standard terminology).

In the Berlin Communiqué (September 2003) the European education ministers agreed to “elaborate a framework of comparable and compatible qualifications for their higher education systems, which should seek to describe qualifications in terms of workload, level, learning outcomes, competences and profile.” They also undertook to “elaborate an overarching framework of qualifications for the European Higher Education Area”. This European Framework can only define general qualifications. Acceptance of the European Framework will depend on whether it provides added value as regards the desired transparency. It is intended, therefore, to

- bring together the national Qualifications Frameworks, which form the core of the European framework,
- guarantee the transparency of an increasingly diversified higher education system and take account of the need for comprehensibility by students and employers, and
- describe the diversity of qualifications in Europe.

What is a Qualifications Framework?

A Qualifications Framework is a systematic description of the qualifications offered by the education system of a particular country. It incorporates:

- a general description of the qualifications profile of a graduate holding the corresponding degree,
- a list of the desired learning outcomes,
- a description of the competences and skills which the graduate should possess, and
- a description of the formal aspects of a training level (workload in terms of ECTS credits, admission criteria, designation of the degrees, formal entitlements). Previously German degree programmes were described above all in terms of course contents, admission criteria and duration of study. A Qualifications Framework, however, enables their description in terms of the qualifications which graduates should have acquired once they have successfully completed the degree. This reflects the shift from an input focus to an output focus, and is intended to promote the transparency of the education system.

A Qualifications Framework serves the following goals:

1. Increased transparency, comprehensibility and improved comparability of the degree programmes on offer – both national and international – by
 - clearly setting out the qualification profiles,
 - defining entry and exit points, and overlaps between study and training processes,
 - clarifying alternative educational processes, the relative positioning of qualifications to each other and the possibilities for development in the education system.
2. Improved information for prospective students and employers.
3. Support for evaluation and accreditation
 - by defining reference points.
4. Simpler curriculum development
 - by providing a reference framework which must be completed specific to the subject.
5. Greater comparability of qualifications in the European and the international context.

Explanation of the current draft

The present Qualifications Framework focuses initially on higher education and also describes interfaces with vocational training. Building on this first fundamental classification, in the coming years the Qualifications Framework is to be developed for other sectors of the education system (particularly vocational training and continuing education).

Guidelines

In drawing up the Qualifications Framework particular importance was attached to the following guidelines:

a) Compatibility with a European Qualifications Framework

The debate on a national Qualifications Framework was closely coordinated with the developments at European level and the establishment of other national Qualifications Frameworks. Compatibility with a European Qualifications Framework is a key goal.

b) Subject-independent descriptors

The subject-specific structure of the Qualifications Framework resides in the subjects and higher education institutions. To this end, the Qualifications Framework is to be viewed as a reference framework.

c) Descriptors independent of higher education institution type

The Qualifications Framework does not distinguish fundamentally between *Fachhochschulen* (universities of applied sciences) on the one hand and universities and equivalent higher education institutions on the other. The different educational objectives of these types of higher education institution should not, however, be challenged, but should be harnessed for the development of the new structures.

d) Involvement of all relevant groups

In order to generate broad acceptance for the Qualifications Framework, feedback was sought from all stakeholders concerned (faculty and departmental conferences, students, employers and employees, accreditation agents) right from the development phase.

Explanation of the categories

The division into categories was undertaken in accordance with the Tuning Project, a transnational project which for a number of years has addressed the description of subject-specific qualifications. The Dublin Descriptors, developed by the Joint Quality Initiative, were also employed as an additional reference point. Learning outcomes are included in both of the categories selected here (knowledge and understanding, and ability). The category *Knowledge and understanding* describes the competences acquired with regard to subject-specific knowledge acquisition (specialist competence). The category *Ability* covers the competences which enable a graduate to apply knowledge (methodological competence), and to perform a knowledge transfer. Communicative and social competences are also included in this category.

International initiatives

- Joint Quality Initiative (informal network for quality assurance and accreditation of Bachelor's and Master's programmes; Austria, Belgium, Denmark, Germany, Ireland, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom) => Dublin Descriptors (definition of qualifications to distinguish between Bachelor's and Master's programmes)
- European Consortium for Accreditation (ECA)
- Tuning Project 2001 – 2004 => (generic und subject-related competences)
- Bachelor-Master Generic Qualification Initiatives
- EUA Master degrees survey (Andrejs Rauhvargers, Christian Tauch, September 2002)
- NARIC-ENIC Meeting, January 2003, Brussels, on issues relating to recognition of the new qualifications
- Transnational European Evaluation Project (TEEP), 2002-2003, coordinated by ENQA (development of criteria for transnational external evaluation)

Other Qualifications Frameworks

- Danish Qualifications Framework
- Irish Qualifications Framework
- UK Qualifications Framework
- Scottish Credit and Qualifications Framework

Qualifications Framework for German Higher Education Qualifications

NB: This draft is restricted initially to higher education qualifications. In future it is to be extended to cover the overall school system and the vocational training and lifelong learning sectors.

Degree system in the European Higher Education Area		
Degree levels	Formal aspects	Qualifications conferred by higher education institutions Higher education degrees and <i>Staatsexamina</i> (State examinations) ²⁸
1st level: Bachelor's level	Degrees at Bachelor's level: 3, 3.5 or 4 years' full-time study or 180, 210 or 240 ECTS credits; All degrees qualify graduates to apply for Master's degrees	B. A.; B. Sc.; B. Eng.; B.F.A., B. Mus, LLB <i>Diplom (FH)</i> [<i>Diplom</i> degree awarded by a university of applied sciences], <i>Staatsexamen</i> [State examination]
2nd level: Master's level	Degrees at Master's level: normally 5 years' full-time study or 300 ECTS credits; in multi-cycle degree programmes 1, 1.5 or 2 years or 60, 90 or 120 ECTS credits at Master's level; Types of Master's degrees: more practice-oriented, more research-oriented, artistic profile, teaching career profile; all degrees qualify graduates to apply for a doctorate ²⁹	M.A., M. Sc., M. Eng., M.F.A., M. Mus., LLM, etc. <i>Diplom (Univ.)</i> [<i>Diplom</i> degree awarded by a university], <i>Magister</i> , <i>Staatsexamen</i> [State examination] Non-consecutive Master's and Master's programmes which are designed for continuing education ³⁰
3rd level: Doctoral level	(Degrees generally build on a Master's-level degree, i.e. 300 ECTS credits or more) ³¹	Dr., Ph.D.

²⁸ See list in Annex 1. *Staatsprüfungen* [State examinations] are as a rule assigned to the second level of study; however the following special rules apply: degree programmes leading to a *Staatsprüfung* cover a standard study period of 3 years (primary school or primary level and lower secondary level teaching careers, which may be assigned to the 1st level of study) to 6.5 years (medicine); this is equivalent to 180 - 390 ECTS credits.

²⁹ For artistic degree programmes at Kunst- und Musikhochschulen (Universities of Art/Music) this entitlement applies only under certain conditions.

³⁰ The degree designations for non-consecutive Master's and Master's programmes which are designed for continuing education are not prescribed and are not limited to the given degree designations, e.g. MBA.

³¹ Particularly qualified holders of a Bachelor's degree or a *Diplom (FH)* degree [*Diplom* degree awarded by a university of applied sciences] may also be admitted directly to doctoral studies.

Level 1: Bachelor's level (180, 210 or 240 ECTS)

Knowledge and understanding	Ability (developing knowledge)	Formal aspects
<p><u>Extending knowledge:</u></p> <p>Graduates' knowledge and understanding build on the level of the higher education entrance qualification and extend significantly beyond this.</p> <p>Graduates have proven their broad and integrated knowledge and understanding of the scientific principles of their field of learning.</p> <p><u>Consolidating knowledge:</u></p> <p>Graduates have a critical understanding of the key theories, principles and methods of their degree programme and are able to consolidate their knowledge vertically, horizontally and laterally. Their knowledge and understanding corresponds with the state of specialist literature, but should, at the same time, include some consolidated areas of knowledge of the current state</p>	<p>Graduates have acquired the following competences:</p> <p><u>Instrumental competence:</u></p> <ul style="list-style-type: none"> - They can apply their knowledge and understanding to their occupational or professional context and can develop and advance solutions to problems and arguments in their subject area. <p><u>Systemic competences:</u></p> <ul style="list-style-type: none"> - They can collect, assess and interpret relevant information, in particular on their degree programme; - They can draw scientifically-founded conclusions that consider social, scientific and ethical insights; - They can independently organise advanced learning processes. 	<p><u>Admission requirements:</u></p> <ul style="list-style-type: none"> - higher education entrance qualification (see Annex 2) - in accordance with the regulations of the Länder on admission to higher education for vocationally qualified applicants without a higher education entrance qualification³² <p><u>Duration:</u></p> <p>(incl. thesis) 3, 3.5 or 4 years (180, 210 or 240 ECTS credits)</p> <p>Degrees at Bachelor's level represent the first qualification for entry into a profession.</p> <p><u>Postgraduate options:</u></p> <p>Master's level programmes (outstanding results can even lead directly to Doctoral level programmes), other continuing education options</p>

³² Cf. Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (publisher): *Synoptische Darstellung der in den Ländern bestehenden Möglichkeiten des Hochschulzugangs für beruflich qualifizierte Bewerber ohne schulische Hochschulzugangsberechtigung auf der Grundlage hochschulrechtlicher Regelungen* (Synoptic presentation of the opportunities available in the Länder for access to higher education by vocationally qualified applicants without a higher education entrance qualification on the basis of higher education institution regulations). Version: March 2003

of research in their field of learning.		
	<p><u>Communicative competences:</u></p> <ul style="list-style-type: none"> - They can formulate specialised positions and solutions to problems and can defend these through argument; - They can discuss information, ideas, problems and solutions with specialists and non-specialists; - They can take on responsibility in a team. 	<p><u>Transferring from vocational education and training:</u></p> <p>Qualifications and competences acquired outside higher education institutions and proven by examination can, on starting a degree programme at a particular higher education institution, be credited on the basis of an equivalence testing procedure to the amount corresponding to the requirements of the respective degree programme³³.</p>

³³ Cf. *Gemeinsame Empfehlung des BMBF, der KMK und der HRK an die Hochschulen zur Vergabe von Leistungspunkten in der beruflichen Fortbildung und Anrechnung auf ein Hochschulstudium* (joint recommendation by the Federal Ministry of Education and Research, Standing Conference and the German Rector's Conference to the higher education institutions on the award of credits in further vocational education and crediting them to a higher education degree programme of 26 September 2003.

Level 2: Master's level (300 ECTS credits, after a Bachelor's level degree 60, 90, 120 ECTS credits)

Knowledge and understanding	Ability (developing knowledge)	Formal aspects
<p><u>Extending knowledge:</u></p> <p>Master's graduates have a proven level of knowledge and understanding that normally builds on the Bachelor's level and significantly consolidates or extends this. They are able to define and interpret the special features, limits, terminologies and schools of thought in their field of learning.</p> <p><u>Consolidating knowledge:</u></p> <p>Their knowledge and understanding form the basis for the development and/or application of independent ideas. This may be more practice-oriented or more research-oriented. They have a broad, detailed and critical understanding of the latest state of knowledge in one or more special areas.</p>	<p>Graduates have acquired the following competences:</p> <p><u>Instrumental competence:</u></p> <ul style="list-style-type: none"> - They can also apply their knowledge and understanding as well as their problem-solving skills to new and unfamiliar situations that lie in a broad or multidisciplinary context relating to their academic subject. <p><u>Systemic competences:</u></p> <ul style="list-style-type: none"> - They can integrate knowledge and handle complexity; - They can make scientifically-founded decisions and draw conclusions, also on the basis of incomplete or limited information, and in so doing can consider social, scientific and ethical insights that also derive from the application of their knowledge and their decisions; - They can independently acquire new knowledge and ability; - They can carry out independent scientific or applied research projects in a largely self-directed 	<p><u>Admission requirements:</u></p> <p>For degree programmes leading to a first degree (<i>Diplom, Magister, Staatsexamen</i>):</p> <ul style="list-style-type: none"> - higher education entrance qualification - in accordance with the regulations of the Länder on admission to higher education for vocationally qualified applicants without a higher education entrance qualification³⁴ <p>For Master's level: first higher education qualification providing qualification for a profession at not less than Bachelor's level, plus additional admission requirements to be laid down by the higher education institution</p> <p><u>Duration:</u></p>

³⁴ Cf. Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (publisher): *Synoptische Darstellung der in den Ländern bestehenden Möglichkeiten des Hochschulzugangs für beruflich qualifizierte Bewerber ohne schulische Hochschulzugangsberechtigung auf der Grundlage hochschulrechtlicher Regelungen* (Synoptic presentation of the opportunities available in the Länder for access to higher education by vocationally qualified applicants without a higher education entrance qualification on the basis of higher education institution regulations). Version: March 2003

	<p>and/or autonomous manner.</p> <p><u>Communicative competences:</u></p> <ul style="list-style-type: none"> - They can communicate their conclusions, the underlying information and their reasons to specialists and non-specialists both clearly and unambiguously on the basis of the state of research and application; - They can discuss information, ideas, problems and solutions at a scientific level with specialists and non-specialists; - They can take on lead responsibility in a team. 	<ul style="list-style-type: none"> - for Master's programmes 1, 1.5 or 2 years (60, 90 or 120 ECTS credits) - for degree programmes leading to a first higher education qualification 4, 4.5 or 5 years, incl. thesis (240, 270 or 300 ECTS credits) -for degree programmes leading to a <i>Staatsexamen</i>³⁵ <p><u>Postgraduate options:</u></p> <p>Doctorate, continuing education options</p> <p><u>Transferring from vocational education and training:</u></p> <p>Notwithstanding the requirement for a first higher education qualification providing qualification for a profession, qualifications and competences acquired outside higher education institutions and proven by examination can, on starting a degree programme at a particular higher education institution, be credited on the basis of an equivalence testing procedure to the amount corresponding to the requirements of the respective degree programme³⁶.</p>
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³⁵ See footnote 1.

³⁶ Cf. *Gemeinsame Empfehlung des BMBF, der KMK und der HRK an die Hochschulen zur Vergabe von Leistungspunkten in der beruflichen Fortbildung und Anrechnung auf ein Hochschulstudium* (joint recommendation by the Federal Ministry of Education and Research, Standing Conference and the German Rector's Conference to the higher education institutions on the award of credits in further vocational education and crediting them to a higher education degree programme) of 26 September 2003.

Level 3: Doctoral level
300 ECTS +

Knowledge and understanding	Ability (developing knowledge)	Formal aspects
<p><u>Extending knowledge:</u></p> <p>Doctoral graduates have a systematic understanding of their research field and have mastered the skills and methods used in research in this field</p> <p>They have a comprehensive knowledge of the relevant literature.</p> <p><u>Consolidating knowledge:</u></p> <p>By presenting a scientific paper or thesis they have made an independent contribution to research that is capable of extending the borders of knowledge and can stand up to national or international review and examination by experts and specialists in the field.</p>	<p>Doctoral graduates have acquired the following competences:</p> <p><u>Instrumental competence:</u></p> <ul style="list-style-type: none"> - They can independently design and carry out significant research projects with scientific integrity. <p><u>Systemic competences:</u></p> <ul style="list-style-type: none"> - They can independently identify scientific questions and issues; - They can critically analyse, develop and synthesise new and complex ideas; - They can advance the social, scientific and/or cultural progress of a knowledge society in an academic or non-academic professional environment. <p><u>Communicative competences:</u></p> <ul style="list-style-type: none"> - They can discuss findings and results from their special fields with colleagues, and can communicate these to an academic public as well as to the general public; - They can lead a team. 	<p><u>Admission requirements:</u></p> <p><i>Master (Univ., FH)</i> [Master's degree awarded by a university, Master's degree awarded by a <i>Fachhochschule</i> (university of applied sciences)], <i>Diplom (Univ.)</i> [<i>Diplom</i> degree awarded by a university], <i>Magister, Staatsexamen</i> [State examination], outstanding Bachelor's degree or outstanding <i>Diplom (FH)</i> [<i>Diplom</i> degree awarded by a university of applied sciences]</p> <p>Additional admission requirements are set by the faculty.</p>

Annex 1

Overview: *Staatsexamen* [State examinations]

- Primary school or primary level teaching careers (6-7 semesters)
- General teaching careers at primary level and at all or individual lower secondary level school types (7-9 semesters)
- Teaching careers at all or individual lower secondary level school types (7-9 semesters)
- Upper secondary level (general education subjects) or *Gymnasium* teaching careers (9 semesters)
- Upper secondary level (vocational subjects) or vocational school teaching careers (9 semesters)
- Special educational teaching careers (8-9 semesters)
- Law (9 semesters)
- Medicine (13 semesters)
- Dentistry (11 semesters)
- Veterinary medicine (11 semesters)
- Pharmacy (8 (-9) semesters)
- Food chemistry ((8-) 9 semesters)

Annex 2

Overview: Higher education entrance qualifications

- *Allgemeine Hochschulreife* [general higher education entrance qualification]
- *Fachgebundene Hochschulreife* [qualification entitling holder to study particular subjects at a higher education institution]
- *Fachhochschulreife* [qualification entitling holder to study at a *Fachhochschule* (a university of applied sciences)] (can be for a particular subject or degree programme)
- Land-law regulated options for admission to higher education for vocationally qualified applicants without a higher education entrance qualification

5.2. Joint Resolution

Joint Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs, the Federal Ministry of Education and Research, the Conference of Ministers of Economics of the Länder, and the Federal Ministry of Economics and Technology concerning the German Qualifications Framework for Lifelong Learning (DQR)

Preamble

The European Parliament and the Council of the European Union have, with their Recommendation on the establishment of the European Qualifications Framework for lifelong learning of 23 April 2008 (European Qualifications Framework for lifelong learning – EQF), created a European reference framework which is intended to promote the transparency and comparability of qualifications in Europe while maintaining educational diversity. The European reference framework serves as a translation device which makes national qualifications comprehensible across Europe. The EQF is, therefore, an important element in strengthening mobility between the European education systems and on the increasingly opening European labour market.

The EQF is the starting point for the development of a German Qualifications Framework for Lifelong Learning (DQR) which takes account of the special characteristics of the German education system. The DQR should, as a comprehensive matrix for the allocation of qualifications which extends across educational sectors, facilitate orientation in the German education system on the one hand and contribute to the comparability of German qualifications on the other.

Article 1

Object

- (1) The Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Standing Conference), the Federal Ministry of Education and Research, the Conference of Ministers of Economics of the Länder and the Federal Ministry of Economics and Technology have agreed to implement the European Qualifications Framework for lifelong learning (EQF) in Germany through a German Qualifications Framework (DQR), which enables the allocation of general education, higher education and vocational education and training qualifications – including continuing education in each case – to the EQF levels on the basis of learning outcomes (Annex).
- (2) The Signatories agree that the allocation of qualifications to the levels of the DQR does not confer any entitlement. The allocation does not replace the existing system of entitlements in Germany; and in particular it does not have any impact on access to or on decisions on recognition in this system of entitlements. Moreover, Directive 2005/36/EC remains unaffected³⁷. There is also agreement that the training and examination regulations applicable in Germany and the responsibilities for these will be unaffected by the allocation of qualifications to the levels of the DQR and of the EQF.
- (3) For the procedure of allocating qualifications to the levels of the DQR and of the EQF an overview of allocations and a Manual are provided, which are intended to guarantee procedural quality in the allocation of the individual qualifications.

Article 2

³⁷ Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications (OJ L 255 of 30 September 2005, p. 22), as amended by Council Directive 2006/100/EC (OJ L 363 of 20 December 2006, p. 141).

Certification of the reference level

- (1) Qualification certificates [beginning progressively in 2012 – *need to update*] are to contain a reference to the respective DQR/EQF level, and the competent authorities responsible for this in all educational sectors are to ensure, through appropriate measures, that the references correspond to the overview of allocations. This applies to both public-sector schools and higher education institutions, and to privately-maintained schools and higher education institutions, non-public sector education providers and competent authorities under the Vocational Training Act [*Berufsbildungsgesetz*] and the Handicrafts Code [*Handwerksordnung*].
- (2) Qualifications from privately-maintained schools and higher education institutions and other non-public-sector education providers which are not included under state measures may be incorporated into the directory of allocations to a level of the DQR and of the EQF if they accept the DQR and its underlying principles and have completed the allocation procedure described in the Manual.

Article 3

Federal Government/Länder Coordination Point for the German Qualifications Framework

- (1) To coordinate the tasks arising from this Joint Resolution, representatives of the Standing Conference and of the Federal Ministry of Education and Research, and representatives of the Conference of Ministers of Economics of the Länder and of the Federal Ministry of Economics and Technology constitute the Federal Government/Länder Coordination Point for the German Qualifications Framework. If necessary, representatives of other competent ministries are consulted. The German Qualifications Framework Working Group is involved as an advisory body. The Federal Government/Länder Coordination Point for the German Qualifications Framework acts as the National Coordination Point in the sense of the Recommendations of the European Parliament and of the Council of the European Union of 23 April 2008. It examines the allocations with a view to ensuring consistency in the overall structure and performs in particular the following tasks:
 - providing recommendations for referencing DQR qualification levels to those of the EQF.
 - ensuring that a transparent methodology is used to reference DQR qualifications levels to the EQF in order to facilitate comparisons between them (Manual).
 - keeping a directory of allocations performed by the competent authorities to a level of the DQR and of the EQF and publication at least once a year of an updated version of the directory.
 - providing information and guidance to stakeholders on how and under which guidelines qualifications acquired in Germany can be related through the DQR to the EQF.
 - involvement of the social partners, business organisations and other interested organisations.
- (2) The Federal Government/Länder Coordination Point for the German Qualifications Framework consists of a total of six members. Two members each are appointed by the Standing Conference and by the Federal Ministry of Education and Research, and one member each by the Conference of Ministers of Economics of the Länder and by the Federal Ministry of Economics and Technology. It meets twice a year as a rule and adopts its own rules of procedure.
- (3) The work of the Federal Government/Länder Coordination Point for the German Qualifications Framework is supported by the competent units of the Secretariat of the Standing Conference and the Federal Ministry of Education and Research. The units collaborate in performing their tasks.

- (4) The Coordination Point is chaired by one member appointed by the Standing Conference and one member appointed by the Federal Ministry of Education and Research working together.
- (5) The German Qualifications Framework Working Group is composed of stakeholders from general education, higher education and vocational education and training, the social partners and other experts from research and practice.
- (6) Differences in opinion which arise in interpretation or implementation of the Joint Resolution are settled amicably through consultations between three representatives appointed by each the Federal Government and the Länder (DQR steering committee) taking into account the recommendations of the German Qualifications Framework Working Group advisory committee.

Article 4

Costs

- (1) The costs arising through implementation of this Joint Resolution shall be borne by each party in accordance with the budgetary resources at its disposal for its own area of responsibility. It is assumed that this will lead to a uniform financial burden, making additional regulations superfluous.
- (2) The necessary staffing and administrative expenses required to organise meetings shall be borne by the seconding authorities themselves.
- (3) The obligations arising from this Joint Resolution shall be subject to the release of the necessary budget funds.

Article 5

Entry into force

The Joint Resolution shall enter into force on 1 May 2013.

Article 6

Closing provision

This Joint Resolution shall in accordance with the Recommendations of the European Commission in the coming years be extended to other educational sectors. The accession of further competent ministerial conferences and federal ministries to this Resolution is therefore welcomed.

5.3. Statement of the German Qualifications Framework Working Group

Inclusion of non-formally and informally acquired competences in the DQR

Statement of the German Qualifications Framework Working Group on the Recommendations of the Working Groups of 22 November 2011

The Recommendation of the European Parliament and of the Council on the Establishment of the European Qualifications Framework (EQF) of 23 April 2008 encourage the member states to

“... promote the validation of non-formal and informal learning in accordance with the common European principles agreed in the Council conclusions of 28 May 2004, paying particular attention to those citizens most likely to be subject to unemployment or insecure forms of employment, for whom such an approach could help increase participation in lifelong learning and access to the labour market;”

The German Qualifications Framework Working Group has taken up this Recommendation:

A first expert workshop took place in July 2010 and showed the broad range of positions that currently exist on this issue in Germany. It also became clear that Germany already has a range of procedures to recognise and validate informally acquired competences, which could be built on in future developments. In a further stage in June 2011 two expert working groups were set up. They had the task of drawing up recommendations for the possible inclusion of non-formally and informally acquired competences in the DQR. Written opinions from various academics were submitted for consideration in the discussions of the two working groups. The recommendations of the working groups were brought to the attention of the German Qualifications Framework Working Group, which commented as follows:

The German Qualifications Framework Working Group thanks the members of the working groups and in particular their Chairs. The recommendations have provided important insights into possibilities, and in particular also the prerequisites for the inclusion of non-formally and informally acquired competences in the DQR, and have thus created a basis for further steps.

Some recommendations may be followed up in the framework of the DQR process. Others go beyond the mandate of the DQR committees and should be taken up and further developed by other bodies.

The German Qualifications Framework Working Group is in agreement with the recommendations of the working groups on the objectives:

- **Promoting lifelong learning**

The promotion of lifelong learning is a key objective of education policy in the Federal Republic of Germany. In this sense education is not simply a process which begins in childhood and is completed in early adult life. General school education and a sound initial training in the vocational or higher education sector represent essential foundations. In addition to this, however, learning in all stages of life is becoming more and more important. For this reason it is necessary to create new means of access to education and learning, increase the variety of pathways allowing acquisition of competences, and dismantle barriers between educational sectors.

- **Recognising the importance of non-formal and informal learning**

Non-formally and informally obtained learning outcomes are of great importance in both quantitative and qualitative terms. By linking the different forms of learning and improving permeability between courses of education a more efficient use could be made of existing resources, thus increasing participation in education and, as a result, also increasing labour market participation. Greater attention must therefore be paid to non-formally and informally acquired competences, particularly with a view to securing a skilled workforce and developing employment potential, but also in the sense of promoting comprehensive ability to act.

The German Qualifications Framework Working Group advocates

- **Appropriate mapping of the different forms of learning**

The different ways of acquiring competence in non-formal and informal learning are to be considered. The increasing link between formal, non-formal and informal learning in an individual's learning biography must be adequately reflected.

- **Building on existing procedures**

Existing procedures to assess competences and validation procedures are to be further developed and standardised with regard to non-formally and informally acquired competences. In this process it is recommended that the procedure be focused on one or more fields of work or study. Fields of work or study denote, within the meaning of the DQR, contexts in which it is possible to demonstrate competences which can be acquired in jobs or in (school or study) subjects. Information and advice should build on tried and tested structures.

- **A broad definition of the target groups**

The target groups for the assessment and evaluation of results of non-formal and informal learning should be broadly defined.

- **Allowing the results of non-formal and informal learning processes to be allocated as qualifications to the DQR at all levels.**

However, not all results of non-formal and informal learning processes necessarily have to be defined as qualifications and incorporated into the DQR.

The German Qualifications Framework Working Group proposes

- **that an exemplary allocation of qualifications in the non-formal sector be developed through an expert group.**

As there are qualifications in the non-formal sector which are very similar to formal qualifications, the inclusion of the learning outcomes of this sector in the DQR is to be promoted in a first stage. To this end, and following the pilot phase for the exemplary allocation of formal qualifications, an **expert group is being set up** which will allocate to the DQR around 15 selected qualifications from the non-formal sector which can potentially be allocated by way of example as so-called anchor qualifications, and shall draw up minimum requirements for the allocation of non-formal qualifications.

The task and time frame are, as in the second phase of development, to be clearly described using guidelines, with the composition of the expert group, and the selection of the qualifications to be examined, effected by the German Qualifications Framework Working Group. The examples are to be referred to different levels of competences. The results of the expert group will be presented to the German Qualifications Framework Working Group which will consult on it.

The German Qualifications Framework Working Group welcomes the fact,

- **that the Federal Ministry of Education and Research, against the background of the European Commission’s “Proposal for a Council Recommendation on the validation of non-formal and informal learning”, is to set up a working group with the responsible partners on “Systematic validation of non-formally and informally acquired competences”. The results will be discussed with respect to the possible consequences for the DQR in the German Qualifications Framework Working Group.**

5.4. Committees and working groups

5.4.1. Federal Government/Länder Coordination Group for the German Qualifications Framework

Chair:

- Bundesministerium für Bildung und Forschung (*Federal Ministry of Education and Research*), Berlin/Bonn
- Kultusministerkonferenz (*Standing Conference of the Ministers of Education and Cultural Affairs of the Länder*), Berlin/Bonn

Members:

- Behörde für Schule und Berufsbildung, Hamburg
- Bundesministerium für Bildung und Forschung (*Federal Ministry of Education and Research*), Berlin/Bonn
- Bundesministerium für Wirtschaft und Technologie (*Federal Ministry of Economics and Technology*), Berlin/Bonn
- Hamburger Institut für Berufliche Bildung (*Hamburg Institute for Vocational Education and Training*)
- Kultusministerkonferenz (*Standing Conference of the Ministers of Education and Cultural Affairs of the Länder*), Berlin/Bonn
- Ministerium für Bildung, Wissenschaft und Kultur Mecklenburg-Vorpommern, Schwerin
- Ministerium für Schule und Weiterbildung des Landes Nordrhein-Westfalen, Düsseldorf
- Wirtschaftsministerkonferenz (*Conference of Ministers of Economics of the Länder*,) Berlin/Bonn

Number of sessions: 44

5.4.2. German Qualifications Framework Working Group

Chair:

- Bundesministerium für Bildung und Forschung (*Federal Ministry of Education and Research*), Berlin/Bonn
- Kultusministerkonferenz (*Standing Conference of the Ministers of Education and Cultural Affairs of the Länder*), Berlin/Bonn

Members:

- Bundesagentur für Arbeit (*Federal Employment Agency*), Nuremberg
- Bundesarbeitsgemeinschaft der Freien Wohlfahrtspflege e.V., vertreten durch die Katholische Fachhochschule Freiburg (*Federal Association of Non-statutory Welfare, represented by Catholic University of Applied Sciences Freiburg*)
- Bundesinstitut für Berufsbildung (*Federal Institute for Vocational Education and Training*), Bonn
- Bundesministerium für Bildung und Forschung (*Federal Ministry of Education and Research*), Berlin/Bonn
- Bundesministerium für Wirtschaft und Technologie (*Federal Ministry of Economics and Technology*), Berlin/Bonn
- Bundesvereinigung der Deutschen Arbeitgeberverbände (*Confederation of German Employers' Associations*), Berlin
- dbb beamtenbund und tarifunion, vertreten durch den Bundesverband der Lehrerinnen und Lehrer an Wirtschaftsschulen/Bundesverband der Lehrerinnen und Lehrer an beruflichen Schulen, Berlin
- Deutscher Gewerkschaftsbund (*Confederation of German Trade Unions*), Berlin
- Deutscher Industrie- und Handelskammertag (*Association of German Chambers of Industry and Commerce*), Berlin
- Expert, Hochschule Osnabrück (*Hochschule Osnabrück - University of Applied Sciences*)
- Expert, Universität Duisburg-Essen (*University of Duisburg-Essen*)
- freier Zusammenschluss von studentInnenschaften, Berlin
- Gewerkschaft Erziehung und Wissenschaft (*Union Education and Science*), Frankfurt am Main
- Hochschulrektorenkonferenz (*German Rectors' Conference*), Bonn
- Industriegewerkschaft Metall (*Metalworkers Union*), Frankfurt am Main
- Kultusministerkonferenz (*Standing Conference of the Ministers of Education and Cultural Affairs of the Länder*), Berlin/Bonn

- Kuratorium der Deutschen Wirtschaft für Berufsbildung, vertreten durch den Handelsverband Deutschland – HDE – Der Einzelhandel (*German Employers' Organisation for vocational and further training represented by German Retail Federation*) Berlin
- Rat der Weiterbildung, vertreten durch den Deutschen Volkshochschulverband e.V., Bonn
- Stiftung zur Akkreditierung von Studiengängen in Deutschland, Bonn
- Wirtschaftsministerkonferenz (*Conference of Ministers of Economics of the Länder*), Berlin
- Zentralverband des Deutschen Handwerks (*Confederation of Skilled Crafts.*) Berlin

Sessions: 24

5.4.3. Working groups in the second phase of development

5.4.3.1. Working group on “Metalworking and electrical professions”

Members:

- Autohaus R. Angerer, Schierling
- Bayerisches Staatsministerium für Wissenschaft, Forschung und Kunst, Munich
- Berufsbildungswerk des Deutschen Gewerkschaftsbund, Erkrath
- BMW AG, Obermotzing
- Bundesinstitut für Berufsbildung (*Federal Institute for Vocational Education and Training*), Bonn
- Bundesministerium für Bildung und Forschung (*Federal Ministry of Education and Research*), Berlin/Bonn
- Bundesministerium für Wirtschaft und Technologie (*Federal Ministry of Economics and Technology*), Berlin/Bonn
- Fachhochschule Westküste (*West Coast University of Applied Sciences*), Heide
- Hauni Maschinenbau, Hamburg
- Hochschule für Angewandte Wissenschaften Hamburg (*Hamburg University of Applied Sciences*)
- Industrie- und Handelskammer für München und Oberbayern (*Chamber of Commerce and Industry for Munich and Upper Bavaria*), Munich
- Internationaler Bund e. V., Frankfurt am Main
- Karlsruher Institut für Technologie (*Karlsruhe Institute of Technology*)
- Landesvereinigung der Arbeitgeberverbände, Düsseldorf
- Lehnkering GmbH, Wolfenbüttel
- Leibniz Universität , Hanover
- Ministerium für Bildung und Frauen Schleswig-Holstein (today: Ministerium für Bildung und Wissenschaft Schleswig-Holstein (*Ministry of Education and Science Schleswig-Holstein*), Kiel
- Ministerium für Kultus, Jugend und Sport Baden-Württemberg, Stuttgart
- Pädagogisches Zentrum Rheinland-Pfalz, Bad Kreuznach
- Universität Bremen (*University of Bremen*)
- Westdeutscher Handwerkskammertag (*West German Chambers of Crafts and Skilled Trades' Council*), Düsseldorf
- Zentralverband des Deutschen Handwerks (*Confederation of Skilled Crafts*), Berlin

Workshops: 6

5.4.3.2. Working group on “Health/care”

Members:

- Arbeitsgemeinschaft für Kinder- und Jugendhilfe (*Child and Youth Welfare Association*), Hamburg
- ASKLEPIOS Konzern, Asklepios Krankenpflegeschulen gGmbH, Wiesbaden
- Bayerisches Staatsministerium für Unterricht und Kultus, Munich
- Bundesarbeitsgemeinschaft der Heilmittelverbände e. V., Cologne
- Bundesärztekammer (*German Medical Association*), Berlin
- Bundesministerium für Bildung und Forschung (*Federal Ministry of Education and Research*), Berlin/Bonn
- Bundesministerium für Gesundheit (*Federal Ministry of Health*), Bonn
- Deutsche Krankenhausgesellschaft e. V., Berlin
- Gesellschaft für medizinische Ausbildung, Erlangen
- Hochschule München (*University of Applied Sciences Munich*)
- Marburger Bund, Berlin
- Ministerium für Bildung, Wissenschaft und Kultur Mecklenburg-Vorpommern, Schwerin
- Ministerium für Schule und Weiterbildung des Landes Nordrhein-Westfalen, Düsseldorf
- Staatliche Schule Gesundheitspflege, Hamburg
- Sekretariat der Kultusministerkonferenz, (*Secretary of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder*), Berlin
- Thüringer Ministerium für Bildung, Wissenschaft und Kultur, Erfurt
- Universität Osnabrück (*Osnabrück University*)
- Vereinte Dienstleistungsgewerkschaft ver.di (*United Services Union*), Berlin
- Volkshochschule im Landkreis Cham e. V.

Workshops: 5

5.4.3.3. Working group on “Trade”

Members:

- Arbeitsgemeinschaft für Kinder- und Jugendhilfe (*Child and Youth Welfare Association*), Berlin
- Bundesinstitut für Berufsbildung (*Federal Institute for Vocational Education and Training*), Bonn
- Bundesministerium für Bildung und Forschung (*Federal Ministry of Education and Research*), Berlin/Bonn
- Bundesministerium für Wirtschaft und Technologie (*Federal Ministry of Economics and Technology*), Berlin/Bonn
- Deutsche Angestellten Akademie, Hamburg
- Deutscher Industrie- und Handelskammertag (*Association of German Chambers of Industry and Commerce*), Berlin
- EDEKA Aktiengesellschaft, Bottrop
- Fachhochschule Kiel (*University of Applied Sciences*)
- Hochschule Osnabrück (*University of Applied Sciences*)
- Gesamt-Jugend- und Auszubildendenvertretung Karstadt, Dortmund
- Handelsverband Deutschland – HDE – Der Einzelhandel (*German Retail Federation*), Berlin
- Hochschulrektorenkonferenz (*German Rectors’ Conference*), Bonn
- Kultusministerkonferenz (*Standing Conference of the Ministers of Education and Cultural Affairs of the Länder*), Berlin/Bonn
- Ministerium für Bildung, Wissenschaft, Jugend und Kultur Rheinland-Pfalz, Mainz
- Ministerium für Kultus, Jugend und Sport Baden-Württemberg, Stuttgart
- Sächsisches Staatsministerium für Kultus, Dresden
- Senatorin für Bildung und Wissenschaft, Bremen
- Technische Universität Chemnitz (*Chemnitz University of Technology*)
- Vereinte Dienstleistungsgewerkschaft ver.di (*United Services Union*) Bundesvorstand, Berlin

Workshops: 6

5.4.3.4. Working group on “IT”

Members:

- Arbeitskreis deutscher Bildungsstätten (*Association of German Educational Organizations*), Berlin
- Bezirksregierung Düsseldorf
- BITKOM e.V. (*Federal Association for Information Technology, Telecommunications and New Media*), Berlin
- Bundesinstitut für Berufsbildung (*Federal Institute for Vocational Education and Training*), Bonn
- Bundesministerium für Bildung und Forschung (*Federal Ministry of Education and Research*), Berlin/Bonn
- Bundesministerium für Wirtschaft und Technologie (*Federal Ministry of Economics and Technology*), Berlin/Bonn
- Deutsche Telekom AG, Bonn
- Deutscher Gewerkschaftsbund (*Confederation of German Trade Unions*), Berlin
- Hochschule Fulda (*Fulda University of Applied Sciences*)
- Hochschule Bonn-Rhein-Sieg (*Bonn-Rhein-Sieg University of Applied Sciences*), Sankt Augustin
- Industriegewerkschaft Metall (*Metalworkers Union*), Frankfurt am Main
- Industriegewerkschaft Metall (*Metalworkers Union*), Initiative IT-50plus, Sulzbach
- Industrie- und Handelskammer zu Köln, Cologne
- Sächsisches Staatsministerium für Wissenschaft und Kunst, Dresden
- Senatsverwaltung für Bildung, Wissenschaft und Forschung, Berlin
- Staatsinstitut für Schulqualität und Bildungsforschung, Munich
- Universität Paderborn, Institut für Informatik (*University of Paderborn, Department of Computer Science*)

Workshops: 6

5.4.4. Working groups to take account of non-formal and informal learning

5.4.4.1. Working group on “General, political and cultural education”

Members:

- Arbeitsgemeinschaft katholisch-sozialer Bildungswerke in der Bundesrepublik Deutschland, Hamminkeln
- Bundesarbeitsgemeinschaft Evangelische Jugendsozialarbeit, Stuttgart
- Bundesarbeitskreis Arbeit und Leben, Wuppertal
- Bundesministerium für Bildung und Forschung (*Federal Ministry of Education and Research*), Berlin/Bonn
- Bundesnetzwerk Bürgerschaftliches Engagement / Deutsches Rotes Kreuz Generalsekretariat, Berlin
- Deutscher Bundesjugendring, Berlin
- Deutsches Institut für Erwachsenenbildung (*German Institute for Adult Education*), Bonn
- Deutscher Olympischer Sportbund, Frankfurt am Main
- Fachstelle für Internationale Jugendarbeit der Bundesrepublik Deutschland e.V., Bonn
- Gewerkschaft Erziehung und Wissenschaft (*Union Education and Science*), Frankfurt am Main
- Institut für Entwicklungsplanung und Strukturforschung, Hanover
- Katholische Bundesarbeitsgemeinschaft für Erwachsenenbildung, Bonn
- Ministerium für Schule und Weiterbildung des Landes Nordrhein-Westfalen, Düsseldorf
- Münchner Volkshochschule GmbH
- Rat der Weiterbildung / Deutscher Volkshochschul-Verband e.V., Bonn
- Sekretariat der Kultusministerkonferenz, (*Secretary of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder*), Berlin
- Verband Deutscher Privatschulverbände e.V., inlingua Sprachschule GmbH, Münster

Opinions:

- Prof. Dr. Klaus Meisel, Volkshochschule München, Munich
- PD Dr. Bernhard Schmidt-Hertha, Technische Universität Braunschweig
- Dr. Elisabeth Brugger, Austria

5.4.4.2. Working group on “Occupational fields metalworking/electrical professions, health/care, trade, IT”

Members:

- Arbeiterwohlfahrt Bundesakademie, Berlin
- Paul Arzberger
- Berufsbildungswerk des Deutschen Gewerkschaftsbundes, Erkrath
- Bildungswerk der Bayerischen Wirtschaft gGmbH, Augsburg
- Bundesagentur für Arbeit (*Federal Employment Agency*), Nuremberg
- Bundesministerium für Bildung und Forschung (*Federal Ministry of Education and Research*), Berlin/Bonn,
- Bundesverband Deutscher Verwaltungs- und Wirtschaftsakademien (*Federal Association of the Academies of Business Administration and Public Management*), Frankfurt am Main
- Currenta GmbH & Co oHG (formerly BBS), Leverkusen
- DAA GmbH, Hamburg
- Deutsche Bahn Mobility Logistics AG DB Training, Duisburg
- Deutscher Gewerkschaftsbund Bundesvorstand (*Confederation of German Trade Unions, National Executive Committee*), Berlin
- Deutscher Industrie- und Handelskammertag (*Association of German Chambers of Industry and Commerce*), Berlin
- Deutscher Verein für öffentliche und private Fürsorge (*The German Association for Public and Private Welfare*), Berlin
- Die Senatorin für Bildung und Wissenschaft, Bremen
- DVWO Dachverband der Weiterbildungsorganisationen, Neustadt am Rübenberge
- Hochschule Osnabrück (*Hochschule Osnabrück - University of Applied Sciences*)
- Hochschulrektorenkonferenz (*German Rectors' Conference*), Bonn
- Kuratorium der Deutschen Wirtschaft für Berufsbildung / Handelsverband Deutschland (*German Employers' Organisation for Vocational and Further Training / German Retail Federation*), Berlin
- Paritätische Bundesakademie gGmbH, Berlin
- Präha Gruppe, Prävention und Rehabilitation, Kerpen
- Sekretariat der Kultusministerkonferenz, (*Secretary of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder*), Berlin/Bonn
- Telekom TrainingCenter, Ense
- TÜV Rheinland Akademie GmbH, Berlin

- Volkshochschule Wilhelmshaven, (*Adult Education Centre Wilhelmshaven*)
- Westdeutscher Handwerkskammertag (*West German Chambers of Crafts and Skilled Trades' Council*), Düsseldorf
- Zentralverband des Deutschen Handwerks (*German Confederation of Skilled Crafts*), Berlin

Opinions:

- Prof. Dr. Thomas Bals, Universität Osnabrück
- Annemarie Gehring, Schweiz
- Prof. Dr. Dieter Gnahs, Deutsches Institut für Erwachsenenbildung (*German Institute for Adult Education*), Bonn
- Dr. Harry Neß, Deutsches Institut für Internationale Pädagogische Forschung (*German Institute for International Educational Research*), Frankfurt am Main
- Irmhild Rogalla, Institut für praktische Interdisziplinarität, Berlin
- Prof. Dr. Peter Sloane, Universität Paderborn (*University of Paderborn*)
- Prof. Dr. Georg Spöttl, Universität Bremen (*University of Bremen*)

5.5. International workshops

- Peer Learning Activity “National Qualifications Frameworks - Bridges for HE & VET in terms of learning outcomes”
15th and 16th June 2009 in Berlin
- “International Expert Discussion within the Framework of the second Elaboration Phase of the German Qualifications Framework”
22nd October 2009 in Berlin
- Expert Workshop “Classification of dual vocational qualifications in the national qualifications frameworks and compatibility of the classification with the European Qualifications Framework”
13th September 2010 in Berlin
- Expert Workshop “The link between higher education and vocational training in the German Qualifications Framework or national qualifications frameworks (a discussion of levels 5 to 8) and the compatibility of the results with the European Qualifications Framework”
16th September 2010 in Berlin
- Expert Workshop "The national higher education framework and the NQF/GQF and the interplay with the European higher education qualifications framework and the EQF"
26th January 2011 in Berlin
- Expert-Workshop "EU expectations directed at the national referencing reports and exchange of experiences in drafting the referencing reports"
9th February 2011 in Berlin
- Peer Learning Activity „Recent developments of the NQFs in the participating countries
19th July 2011 in Berlin
- Expert workshop on “The importance of quality assurance systems and instruments in the context of qualifications frameworks at European and national level”
23rd January 2012, Berlin
- Expert workshop on “The recognition of non-formally and informally acquired competences in the context of qualifications frameworks at national and European level”
11th June 2012, Berlin

5.6. Conferences

- First Conference “The German Qualifications Framework for Lifelong Learning, Expectations and Challenges”
5th and 6th March 2008 in Berlin
- Second Conference “The German Qualifications Framework for Lifelong Learning”
19th October 2010 in Berlin
- Third Conference “The German Qualifications Framework for Lifelong Learning“ 11th September 2012 in Berlin