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Background Report Germany

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I. The VET-system: main characteristics, structure, interfaces

In Germany vocational training is based on the Vocational Training Act (BBIG) from 1969, which was amended in 2005. The term "vocational training" covers vocational training preparation, initial training, further training and retraining. Its objectives are described in Section 1 of the Vocational Training Act (Berufsbildungsgesetz, BBIG, 2005):

- *Vocational Training preparation* shall serve to impart basic skills required for the acquisition of vocational competence and thus facilitate placement in initial training in a recognized training occupation.
- *Initial Training* shall, through a systematic training programme, impart vocational skills, knowledge and qualifications (the ability to act / vocational competence – berufliche Handlungsfähigkeit) necessary to engage in a form of skilled occupational activity in a changing world. Initial training shall also enable trainees to acquire the necessary occupational experience.
- *Further training* shall enable individuals to maintain and upgrade or broaden their vocational competence and advance their careers.
- *Retraining* shall qualify individuals for another form of occupational activity.

In the core of this report is the *initial training within the framework of the dual system leading to a full vocational qualification.* A particular focus will be put on existing credit/accreditation-procedures at the interfaces "access to initial training" (from vocational training preparation to initial training) and "transition" (from school based initial training into the dual system or between initial training and further training and/or higher education). The description of the main characteristics of the system (steering mechanisms, structure of qualifications) and – as a consequence – the variety of training pathways and prerogatives make the challenges at the interfaces visible.

I.1 Main characteristics: shared responsibility, "dualities" and "Berufskonzept"

Vocational Training in Germany is mainly based on two basic principles: Most of all it is the concept of occupation (Berufskonzept) which determines the German system of vocational education and training. It is anchored in the Vocational Training Act and reflected in the training regulations. Secondly, the German system is characterised by its "dualities" which – at least – consists of more than learning at two venues (company and school). Whereas the term "dualities" describes the steering mechanisms in VET, the "Berufskonzept" covers the underlying principles of VET and clarifies the structure of qualifications.

Underlying principles and structure of qualifications: The occupational concept

In Germany "occupation" is seen as a binding key between work and the labour market."[1] However, the concept of an occupation (a "Beruf") is not only depending on the employment system. According to Benner (1995) occupations ("Berufe") can be characterised as both training-related and employment-related constructs. The principle of an occupation ("Beruf") stands for a "universal principle for regulating training contents and qualification standards in initial vocational training and thus for shaping a large segment of the qualification structure in Germany" (Reuling, 2002). There are two salient aspects associated with vocational training for an recognised occupation ("Beruf"): VET prepares trainees for a range of skilled activities which are not specific to any single company profile and – as a main feature of the dual system – it is geared to promote the process of personality development of trainees. Training for the majority of these vocations / occupations is provided within the framework of a total of 340 recognised training occupations, e.g. in vocational apprenticeships within the dual system combining learning and working, theory and practice.

The "occupation principle" (Berufsprinzip) is anchored in the Vocational Training Act (BBIG). Under the Vocational Training Act vocational training has to be provided in systematic training programmes that teach the individual the vocational skills, knowledge and competences that he or she will need for qualified, skilled employment in an ever-changing working world. It also requires training programmes to make it possible for apprentices to acquire requisite occupational experience. Section 4 of the Vocational Training Act determines that initial training in a recognised training occupation may only be provided on the basis of the initial training regulations, which are legally binding for all recognised training occupations. This ensures binding quality standards for in-house vocational training for young persons, in keeping with legislation aimed at protecting children and young persons in public. According to the Vocational Training Act the primary aim of training is to enable young people to acquire comprehensive vocational competence designed to make them capable of fulfilling their work efficiently, effectively and innovatively, autonomously, and in cooperation with others. The capacity to practice an occupation in a qualified way includes, in particular, autonomous planning, implementation and control. This bundle of competences must be demonstrated in (final) examinations regulated by law. Partial qualifications are not foreseen.

Shared responsibilities and the so-called "consensus-principle" play a major role in the development of new or the adaptation of existing training regulations. A systematic procedure has been implemented in the Federal Republic of Germany since 1969 that incorporates the Federal government, Länder governments, employers and unions. The training regulations lay down the designation of the training occupation, the

[1] Reuling (2002) explains the characteristic features of a "Beruf" as follows: "A "Beruf" entails a typical set of activities. To pursue a "Beruf" the individual likewise needs a combination of formal knowledge, skills and experience, but unlike in the case of jobs, these skills are more systematized and their deployment is not geared to any single work site. A "Beruf" is thus a currency for trading labour for money. Understood from this viewpoint, "Berufe" – the plural form of "Beruf" – present a matrix for structuring and regulating the labour market." Reuling (2002). S. 23.

duration of initial training, the vocational skills, knowledge and qualifications to be imparted in the training occupation profile, an outline of the syllabus and timetable (overall training plan) and the examination requirements (Section 5, BBIG). Training regulations are developed in accordance with the the skeleton curricula of the Länder for vocational schools and they describe a minimum standard for in-company training and define the necessary input conditions for training.

The governance of the VET: Shared responsibilities and "dualities"

One of the main steering mechanisms of education in Germany is the shared responsibility among the Federal Government and the Länder. This principle is anchored in the Basic Law (Grundgesetz, GG) and reflected in the so-called cultural sovereignty (Kulturhoheit) giving the Länder a predominant responsibility for education, science and culture. They have almost exclusively the right to legislate and administrate within the school sector, the higher education sector, adult education and continuing education – corresponding detailed regulations are laid down in the constitutions of the Länder and in separate laws of the Länder. The Federal Government has responsibility particularly for in-company vocational training and vocational further education (KMK, 2009). In both the original and the amended Vocational Training Act, the German Government declared all vocational training that is not provided through vocational schools to be the government´s responsibility.

One of the dual system´s core features is to be seen in the active involvement of various players working together in the corporate regulation of vocational training. This leads to the following responsibilities for the dual system on the various levels:

- The guiding and coordinating ministry on the federal level is the Federal Ministry of Education and Research (BMBF). Other relevant federal ministries also issue ordinances and coordinate with the BMBF (their provisions are subject to the approval of the BMBF). In the Board of the Federal Institute for Vocational Training (BIBB) representatives of employers, the unions, the Länder and the Federal Government work together on an equal basis.
- The Länder governments, represented by their own ministries of cultural affairs, are responsible on Länder level for general and vocational schools. With a view to coordinating cooperation in the areas of education and training, as well as cultural matters, the Länder established the Standing Conference of the Ministers of Education and Cultural Affairs (KMK, Ständige Konferenz der Kultusminister der Länder). The KMK is an instrument for co-operation among the Länder and the Federal Government: the Federal Government is responsible for regulating training in companies, while the Länder are responsible for vocational training in schools. The Länder committees for vocational training are made up of representatives of employers, employees and the relevant Länder governments. These Länder committees advise their Länder governments on vocational training issues. They are charged especially with promoting cooperation between school-based and

in-company vocational training and with taking account of vocational training in overall development of schools.

- On the regional level, the autonomous organizations within the economy, especially the chambers of industry and commerce and crafts chambers, have important competencies. They are responsible for advising and monitoring companies offering training within their districts, as well as for reviewing the suitability of such companies and the aptitude of their training instructors. They are also charged with registering training agreements and with establishing examination boards for intermediate and final examinations in vocational training and further training. Furthermore, they issue individual regulations for their own regions, where they are empowered to do so under the Vocational Training Act and the Crafts Code. As a rule, the Länder ministers of economics are responsible for supervising regional competent bodies for in-company vocational training.
- On the basis of several statutory regulations, such as the Vocational Training Act and the Law on Constitution of Enterprises, the trade unions have acquired participation of vocational training. They have equal representatives on the "vocational training committees" of the chambers. At the level of the Länder they also have equal representation on the "Länder Committees for vocational training" together with the representatives of the employers and the public purse. At federal level the trade unions have equal representation on the "Main Board" of the Federal Institute for Vocational Training.

Shared responsibilities lead to the following statutory framework conditions of the system, clarifying as well what is meant with the term "dualities":

Duality 1: Basic laws	In-company training is anchored in the Vocational training Act whereas the part-time vocational schooling is based on the laws of the the respective Land.
Duality 2: Learning Venues	Vocational Training takes place in a company/firm (under private law) and in part-time vocational schools (public law)
Duality 3: legislative competence	Vocational Training is regulated by the Federal government (in-company training) and the Government of the respective Land (part-time vocational schools)
Duality 4: judicial regulation	In-Company vocational training is based on a training contract between the enterprise and the trainee (private law), part time vocational schooling is based on compulsory attendance at the school (Berufsschulpflicht)
Duality 5: Content	The content for the in-company vocational training is stipulated in the training regulations, the content for part-time vocational school is laid down in the framework curriculum (Rahmenlehrplan)

Duality 6: Supervision	Vocational training is supervised by the competent bodies (concerning the company-based part of VET) and by education authorities (part-time vocational schools).
Duality 7: Financing	In-company vocational training is paid by the companies, the governments of the respective Länder pay for the part-time vocational schools

In addition to the above mentioned dualities there are some more concerning the status of the learner ("apprentice" in the company / student in school), the educational staff (trainers in companies / teachers in schools), the organisation of learning (related to the work process in the company / theory-based in school), the examination procedures (final examination at the competent body / school certificate) and the organisation of training (2/3 of the training in the company / 1/3 in school).

I.2 The basic structure of the Vocational Education and Training: "dual" and school-based

There are various pathways leading to a vocational qualification: Vocational training at upper secondary level is provided within the framework of the dual system (apprenticeship training) as well as in full-time vocational schools. Whereas the responsibility for the dual system is in the hands of the Federation, the Länder are responsible for school based VET.

Apprenticeship training (dual system)

The dual system is the largest provider of education at upper secondary level. About one third of all employees in Germany have passed a dual training during their educational pathway, e.g. they acquired vocational competence mainly in companies and in part-time vocational schools. In 2008, 64, 7 % of the school-leavers from general education opted for a dual-system apprenticeship. The dual system does not have any formal admission prerequisites: by law, access is not dependent on the young applicant´s school leaving certificate. Apprenticeship training combines theory and practise, knowledge and skills, learning and working in a particular manner. Vocational schools and companies have a joint educational responsibility for vocational training: Trainees/Apprentices spend one or two days in vocational school and three or four days a week in the company. Vocational schools also establish special classes oriented to the various relevant occupations – also on a supra-regional basis for less-popular occupations.

The companies sign contracts with the applicants under private law and assume the costs of the on-the-job-training and pay the trainee allowance in accordance with the collective bargaining agreement in the sector concerned. They train them in line with the binding provisions of the vocational training regulations which guarantee a national standard. This is monitored by the competent bodies. The dual system provides training for some 340 recognised occupations (Berufe). The duration of vocational training-programmes is fixed in the Vocational Training Act, Section 5 (BBIG): they shall not be longer than three or fewer than two

years. In final examinations, trainees must show that they have acquired “the necessary skills, the necessary practical and theoretical knowledge” (from their companies) and that they have mastered “the course material, as taught in vocational schools, that is central to the vocational training in question” (BMBF, 2003). The final examination is administered by the authorities responsible for vocational training. These finals have a practical and a written component. The responsible authorities include regional and sector organisations from the various branches of industry and commerce, e.g. chambers of industry and commerce, or handicrafts, or liberal professions and of agriculture that perform governmental functions in the domain of vocational training. The competent bodies can also be public authorities. The boards of examiners are made up of representatives of industry and labour and teachers from vocational schools. Successful candidates are awarded an examination certificate. Concomitantly the vocational school issues a leaving certificate if the trainee has achieved at least adequate performances in all subjects. This certificate incorporates on the candidate´s achievements. If the relevant tuition has been given, the Fachhochschulreife may also be attained (KMK, 2009, p. 137).

The formal qualifications awarded on successful completion of initial training undergone in the dual system correspond mainly to ISCED level 3 and provide recognition for employment as

- Skilled worker in industry (Facharbeiter / Facharbeiterin der Industrie)
- Skilled employee in business and administration (Fachangestellter /Fachangestellte in Wirtschaft und Verwaltung) and
- Journeyman (Geselle / Gesellin im Handwerk)

The apprentices successfully completing the training are immediately entitled to do skilled work.

School-based training (full-time vocational schools)

The majority of the Länder offer various types of school based vocational training opportunities on the various levels. School based vocational training on upper and post secondary level is offered at full-time vocational schools (Berufsfachschulen), senior technical schools (Fachoberschulen / Berufsoberschulen) and vocational grammar schols / specialised grammar schools (Berufliche Gymnasien, Fachgymnasien) and other types of schools that exist only in some Länder or are of marginal importance due to their small numbers (KMK, 2009, S. 114). They differ in their emphasis:

Of the vocational schools, *full-time vocational schools (Berufsfachschule)* have the highest numbers of students. The usual entry requirement is successful completion of the secondary general school. The range of training provision in schools of this type is extremely diverse. Different qualifications can be obtained, depending on admission requirements; these qualifications are either of a vocational or a general educational nature. Depending on the training goal being pursued, access requirements are either at lower secondary school or intermediate secondary school leaving certificate (corresponding to ISCED level 2).

Two-year full-time vocational school in its various branches of study leads to a professional qualification as a state-certified technical assistant in biochemistry, garment making, information technology or mechanical engineering or as a state-certified business assistant specializing in business administration, clerical operations, foreign languages or data processing (KMK, 2009. p. 137). Students who complete full-time vocational school attain ISCED level 3 B. In cases where such schools do not provide a full career qualification, the successful completion of the full-time vocational school may, under certain conditions, be credited as part of the training period in the dual system (sect. 7 of the Vocational Training Act).

School based vocational Education and Training at post-secondary level is provided at *senior vocational schools (Berufsoberschulen) and technical grammar schools / upper level of the gymnasium with a vocational bias* (Berufliches Gymnasium / Fachgymnasium) which both lead to an academic standard. The *senior technical school* (Fachoberschule / Berufsoberschule) offers two-year training courses in the fields of technical skills, business, agronomy, nutrition and home economics, social affairs and design. Practical training takes place in the first year of this school type, as a relevant controlled placement in companies or equivalent institutions. The allocation of students to a training orientation is based on the initial training already completed or the occupation already worked in. In two years of full-time education, senior vocational schools lead to the subject-restricted higher education entrance qualification (fachgebundene Hochschulreife) and, with a second foreign language, to the general higher education entrance qualification (Allgemeine Hochschulreife). Admission to the vocational senior school requires a certificate from intermediate school (Mittlerer Schulabschluss) and at least two years´ successful vocational training or at least five years´ relevant practical experiences. *Vocational grammar schools/specialised grammar schools* (berufliche Gymnasien / Fachgymnasien) provide specialized knowledge in various areas such as economics, technology, nutrition, agriculture, information and communication technologies. They usually lead up to the university entrance examination. Some vocational and technical grammar schools also offer the opportunity to acquire both, a higher education entrance and a vocational qualification under Land law (e.g. for so called “assistant occupations”). The duration of these courses is three to four years. The certificates of both types of school correspond to ISCED level 4 A.

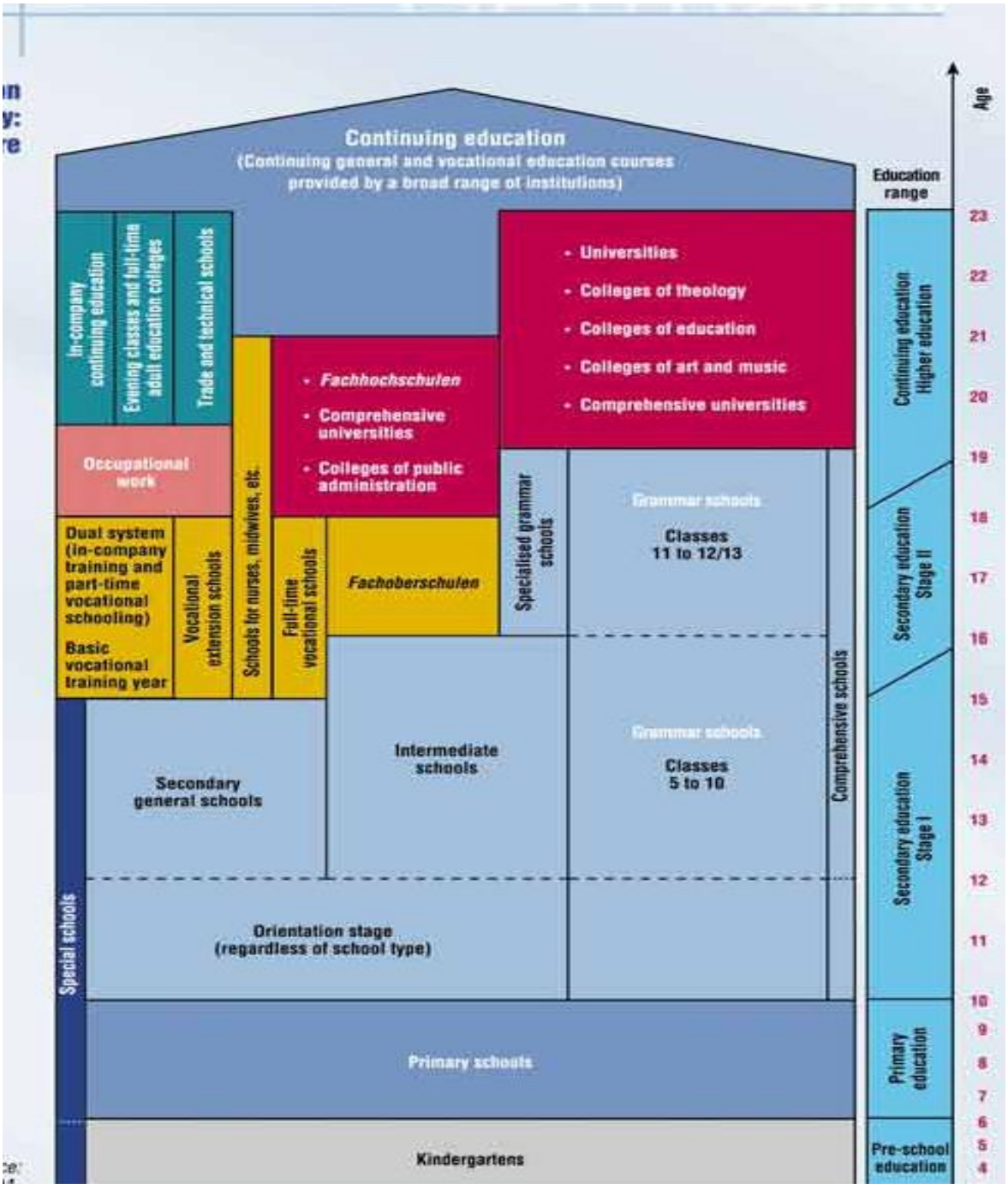
Vocational training on tertiary level (ISCED 5 A): Universities of applied science and dual study programmes

Vocational training on tertiary level (ISCED 5 A) is mainly provided at Universities of applied sciences (Fachhochschulen) where emphasise is put on application and on the requirements of occupational practice. Entitlement to study in Fachhochschulen is provided by a certificate confirming the academic standard required for admission to higher education (Hochschulreife), a subject-based certificate confirming such a standard, or a certificate confirming the academic standard required for entrance to a Fachhochschule. Courses normally run for a Bachelor degree or for a Masters degree. Fachhochschulen offer particularly courses of study in engineering sciences, economic sciences, social affairs, administration

and administration of justice, computer science, design, mathematics, information and communication technology, healthcare and nursing (ReferNet, 2008). In order to serve the demands of the labour market by creating and improving career pathways for vocationally qualified persons *dual study programmes* (duale Studiengänge) have been implemented during the last years. They are provided at *universities of applied sciences* (Fachhochschulen), *vocational academies* (Berufsakademien)[2], *universities, administration or business academies* (Verwaltungs- und Wirtschaftsakademien) or at the "*dual university of Baden-Württemberg"* (Duale Hochschule). There are various types of dual study programmes: (a) Programmes awarding a Bachelor Degree and a full vocational qualification (ausbildungsintegrierende Studiengänge) and (b) programmes integrating placements in enterprises or part-time employment (praxisintergrierende duale Studiengänge). For both types access is based on certificates confirming the academic standard required for admission to higher education (Hochschulreife) or for entrance to Fachhochschule (Fachhochschulreife). In addition to that applicants are only accepted if they already possess a training contract with a company. (c) Study Programmes in the framework of continuous vocational training (berufsintegrierende und berufsbegleitende duale Studiengänge) are open for persons already possessing a full vocational qualification and vocational experience. Access does neither depend on certificates required for higher education entrance nor on certificates required for entrance to Fachhochschule. (www.ausbildungsplus.de).

[2] Vocational academies (Berufsakademien) combine academic training at a study institution (Studienakademie) with in-company training, thus constituting a dual system. 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. Depending on the Land legislation, applicants with professional qualifications but without the higher education entrance qualification can pass an entrance examination or the regulations governing admission to higher education institutions for employment persons will apply. Once the training contract has been concluded, applicants are registered at the study institution by the company responsible for training them (KMK, 2009, S. 162).

Fig. 1: The basic structure of Education in Germany



Source: Spotlight on VET Germany, CEDEFOP 2007

I.3 The system at the interfaces "access" into initial training and "transition" from initial training into tertiary education

Entrance into initial training within the dual system:

Six month after leaving the general education system, approximately a fourth of the school leavers attend a vocational training in an enterprise, another fourth attend full-time vocational schooling (including study courses) and another fourth participate in compulsory measures covering basic vocational training (Beicht, 2009). The measures which are provided by the Länder, the Federation and the Federal Employment Agency are characterised by the Educational Reporting Consortium 2006 as "located below the level of vocational training which leads to formal vocational qualification or that do not lead to recognised qualification but rather target improving a young person´s individual skills with the aim of starting vocational training or employment, and in some cases makes it possible for the individual to earn a school leaving examination as a mature student" (Educational Reporting Consortium 2006, p. 79).

The Länder provide pre-vocational training in the framework of

- a school-based pre-vocational training year (Berufsvorbereitungsjahr, BVJ)

- full-time vocational school programmes which lead to partial vocational qualification (Berufsfachschule) and

- a basic vocational training year (Berufsgrundbildungsjahr, BGJ) where students obtain basic education in a specific occupational field (e.g. metalworking techniques, electrical engineering, business and administration). The BGJ can be completed either in the form of a year at school full-time or in cooperative form in a company and a school.

Until August 2009 there was the possibility that training periods which were provided within the framework of the basic vocational training year (BGJ) and the school-based pre-vocational training year (BVJ) could be credited on a following vocational (initial) training. The precondition was that the intended training occupation was listed in the attachment of the relevant training regulation and that training responded to the description in the crediting regulation. According to the amended Vocational Training Act which entered into force on 1st April 2005 all crediting regulations are annulled. The possibility to credit training periods in relevant courses of education provided by vocational schools ceased in August 2009. From August 2009 on the crediting of prior learning in full-time vocational schools only takes place upon a joint application by training company and trainee (see chapter II). There is currently only little information available concerning the acceptance and the implementation of the new regulation by the Länder.

In addition to the Länder activities the Federal Employment Agency (Bundesagentur für Arbeit – BA) provides pre-vocational training measures (berufsvorbereitende Bildungsmaßnahmen) under section 61 of

the Sozialgesetzbuch (SGB III). The target group includes young people and adults who have not undergone initial vocational training, are not yet 25 years and have completed compulsory general education.

As a sub-element of the "National Training Pact" the Federal Government launched in 2004 the programme "Introductory in-company training (Einstiegsqualifizierung, EQJ) which was in 2007 incorporated into employment promotion law as a routine entitlement. Companies offering introductory training are supported with a subsidy (i.e. at most EUR 192 plus a standardised share of the total social insurance contribution) towards the monthly allowance paid to the young person with whom they enter a training contract. Company-based introductory training consists of a pre-vocational work experience placement in a company lasting 6 to 12 month. Young people have the opportunity to obtain partial qualifications in a training occupation via qualification modules (Qualifizierungsbausteine) and specific vocational modules (berufsfeldspezifische Module). On the basis of a testimonial from the company the successfully acquired entry-level qualification is certified by the competent body. Six months´ training can be credited to subsequent training.

Transition to formal advanced training (Meister and Techniker, ISCED 5B)

After obtaining a vocational qualification and gaining work experience, it is possible to take an upgrading qualification (i.e. senior clerks, foremen, master craftsmen – Vocational Training Act, Sections 53). The master craftsman is the highest professional qualification in crafts and a state-approved grade. At federal level there are currently around 200 such qualifications, of which master craftsman qualifications account for 170. Advanced vocational training as a "Meister" entitles the holder to practice a craft trade independently and to employ and train apprentices and opens up access to courses at craft academies and universities of applied sciences. The requirements to become a master craftsman are usually at least three years of work experience as a journeyman in the craft in which the master course is pursued. Only then training courses which are provided by the chambers of crafts can be followed. The duration of courses depends on the craft and usually takes some years. The examination includes theoretical, practical (masterpiece) and oral parts and takes some days. Master courses are fee-based and have to be paid by the candidates.

Besides this advanced vocational training is offered by full time or part-time trade and technical schools which provide further qualifications building on the vocational training completed to become a middle manager. Trade and technical schools offer courses in agronomy, design, engineering, business and social affairs, with over 160 subjects (ReferNet, p. 40). The amendment of the Crafts Code of 17 May 2005 explicitly recognized the equivalence of state-approved technicians or designers on the one hand and master craftspersons on the other: graduation from a technical college is fully equal to a master craftspersons´ test. Like Master´s schools trade and technical schools end with a final state examination under Land law. The conditions for entrance vary depending on the subject area, for trade/technical schools

an applicant normally requires a qualification in a full-time vocational qualification and work experience of at least one year, or a qualification from full-time vocational school and relevant work experience of at least five years. The obtained qualifications are no academic degrees but a recognized vocational qualification (Tutschner/Wittig/Rami, 2009). The completion of the advanced training programme gives access to studies at universities of applied sciences.

Transition to higher education:

Entitlement to study at a university for applied science is provided by a certificate confirming the academic standard required for admission to higher education (Hochschulreife), a subject-based certificate confirming such a standard or a certificate concerning the academic standard required for entrance to universities of applied science (Fachhochschulreife). Entitlement to study at a university is provided by a certificate confirming the academic standard required for admission to higher education (Hochschulreife).

In all Länder there are other ways for vocationally qualified applicants without a higher education qualification to obtain the right of entry to higher education. Graduates of the master craftsman´s qualifying examination and equivalent vocational examinations, as well as graduates from Fachschulen and Fachakademien, are generally admitted to study a specific subject at a university of applied science. The Framework Act for Higher Education (Hochschulrahmengesetz) provides in section 27 that “persons with vocational qualifications” may provide evidence of qualification for higher educational studies “according to more detailed provisions of Länder law, also by other means” than relevant school education. In accordance with the independence of the Länder in cultural and educational matters in the area of higher education, there are widely varying procedures (higher education entrance examination, direct access and probationary studies) which can be summarized (see Synopse KMK). However, the applicants have to prove that they have the knowledge and abilities required for higher education by undergoing an entrance procedure (e.g. by provisionally enrolling for a probationary period of study) or an examination procedure (e.g. placement or aptitude test, interview, aptitude assessment procedure). In some Länder, vocationally qualified candidates do not have to sit for an examination allowing them to pursue a course of study. Based on their previous vocational qualifications, applicants are usually granted a limited right to study only in a specific course of study (KMK, 2009, S. 159).

In March 2009 the Ministers of Cultural Affairs of the Länder decided that access to higher education at university should be given – without any restriction concerning the specific subject – to graduates

- of the master craftsman´s qualifying examination
- possessing an advanced training degree (based on the Vocational Training Act §§ 53, 54 BBIG) and
- from full-time vocational schools.

Although there are these various ways of access to higher education, the Authoring Group Educational Reporting (2008) states that direct transition from vocational education and training to higher education is hardly possible in Germany: “Since 1990, all of the Länder have introduced diverse measures of entry to higher education for applicants with full vocational qualifications but no higher education qualification. However, these opportunities, which can be subsumed under the term third chance education (Dritter Bildungsweg) only account for 1 % of all admissions to university and 2 % of all admissions to universities of applied sciences.”

I.4 Procedures for crediting prior learning:

In Germany most of the existing procedures for crediting prior learning are regulated on a legislative basis leading to a formal recognition within the education and training system – some of them have their roots in the 1960s. The existing procedures were implemented with the aim to overcome the market social selectivity of the education system and increase educational opportunities for all, and on the other to increase employment, and hence strengthen the economy by easing access restrictions to higher education to attain a higher level of qualification for employees.

Existing procedures for crediting prior learning achievements within the initial training are geared towards the completion of a full qualification in a state recognized training occupation. It is to emphasize that the crediting refers to prior certificated learning as well as to prior experiential learning. Corresponding regulations are laid down in the Vocational Education and Training Reform Act (BBIG). They focus on

- the relation between full-time vocational schools and the dual system (section 7 and section 43, subsection 2, Vocational Training Act) and
- the admission of so-called “externals” to the final examination (section 45, Vocational Training Act).

The formal recognition of informally gained competences is not very advanced in Germany. Beside the examination for externals which is seen as the one and only means for the accreditation of non-formally and informally acquired learning, procedures have been developed which are not anchored in the legislation.

Crediting prior certificated learning towards the dual system

Due to the fact that a substantial portion of initial training meanwhile takes place in schools, the amended Vocational Training Act modified in section 7 and section 43, sentence 2 the procedures for the crediting of vocational training provided in full time vocational schools. Section 7 determines the crediting of previous vocational education and training towards the period of initial training within the dual system: “(1) The Land governments may (…) by ordinance stipulate that attendance of a vocational training course or initial

training in some other facility be credited either wholly or in part towards the period of initial training. The authorization may in turn be transferred by ordinance to supreme Land authorities. (2) Crediting pursuant to subsection (1) shall require a joint application by trainees and training employers. The application shall be submitted to the competent body. It may be limited to parts of the maximum creditable period". With this section the Vocational Training Act delegates to the Länder the decision on whether to allow prior learning at a vocational school or other vocational training establishment to be credited towards a subsequent period of initial vocational training in a recognised occupation. Thus the Länder can enact regulations by statutory order concerning the crediting of periods of vocational education towards the duration of company-based initial vocational training, and what length of reduction to allow. This possibility can only be contemplated if the syllabus contents and timetables of such training courses correspond to those set out in the training regulation of a recognised training occupation. From August 2009 onwards the crediting of prior learning in full-time vocational schools only takes place upon a joint application by training company and trainee since the granting of credit inevitably shortens the length of in-company training, in effect modifying the contractual terms binding the respective parties (Sondermann 2005, S. 20).

Section 43 determines in subsection (2) the admission to the final examination for persons "if they have undergone initial training at a vocational school or some other vocational training facility and this qualification pathway corresponds to initial training for a recognised training occupation." This section delegates to the Länder governments the decision on which training courses meet all the standards specified in the Vocational Training Act for an initial training programme[3]. Moreover: It enables the Länder to offer full-time school-based vocational training courses according to the structures and syllabus content specified in the Vocational Training Act and to conduct final examinations in accordance with the Vocational Training Act. Section 7 and 43 (2) can therefore be understood as a "confirmation of equivalence" between full-time vocational schooling and the dual system. According to Sondermann (2005, p. 20) this part of the Act gives the Länder the scope to exercise their responsibilities. It remains to be seen whether and to what extent the Länder make use of the opportunity. In recognition of this uncertainty, the plan is to carry out an evaluation to study the influence of the provision on the overall system of dual vocational training. The decision whether this provision should be retained or removed will be taken in August 2011.

Crediting of prior certificated learning for higher education:

In 2002 the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (Kultusministerkonferenz, KMK) published a resolution which can be seen as the starting point for formalized accreditation of prior learning activities in higher education (Universities and Universities of

[3] "A qualification pathway shall correspond to initial training for a recognised training occupation if (1) It is equivalent in terms of subject matter, standards and duration to the respective initial training regulations, (2) it is pursued in a systematic manner, in particular within the framework of a syllabus and timetable; and (3) an appropriate proportion of practical specialized initial training is ensured through cooperation between learning locations", BBIG, § 43.2 (1-3).

Applied Sciences) by stipulating that "knowledge and skills acquired outside the higher education system can be accredited for a higher education programme on a basis of a (...) level assessment when their content and level is equivalent to the part of the study programme that is to be replaced" (KMK, 2002). A maximum of 50% of a higher education programme can be replaced with knowledge and skills acquired elsewhere. In 2003 the German Federal Ministry of Education and Research (BMBF), the German Rectors´ Conference (HRK) and the Standing Conference (KMK) jointly signed a set of recommendations for higher education institutions related to the KMK resolution with a strong focus on the accreditation of prior certificated learning and qualification linkages between further and higher education. The accreditation of prior certificated learning, especially state-wide recognized further education certificates, should be considered as partly equivalent. Since education lies in the responsibility of the Länder, the realization is governed by the higher education laws of the Länder (Freitag, 2005, p.11). The development and testing of models of accreditation and recognition of prior vocational learning on higher education programmes were in the core of the ANKOM-initiative of the Federal Ministry of Education and Research; they are to be introduced in chapter III.

Crediting of informal and non-formal learning

Important legislative provisions relating to the assessment of non-formal and informal learning achievements are laid down in section 45 (2) of the Vocational Training Act and section 37 (2) of the Crafts Code (Handwerksordnung) which determine the admission of so-called "externals" to the final examination. The external examination is a means for non-apprentices to get special admission to the qualifying examination in a recognised occupation) and may be therefore seen as a type of "formal recognition" of prior learning achievements. Competences which are acquired informally, non-formally or outside the dual system of vocational training are recognised by an admission procedure, the aim being to facilitate participation of external candidates in the regular final examination within the dual system. The Vocational Training Act (BBIG) also states stipulations and criteria on the basis of which persons are admitted to the final examination. Admission is primarily aimed at the individuals who have not completed training within the framework of the dual system. The external examination regulation draws a distinction between categories of "qualified" and "non-qualified" individuals, thus differentiating between candidates on the basis of their prior learning or prior formal qualification. It differentiates between two forms of evidence:

- The one which can be clearly provided in the form of formal proof (BBIG, sect. 45, clause 1: "Persons able to demonstrate that they have been working in the occupation forming the object of the examination for a period of time at least equal to one and a half times that the stipulated training time shall also be admitted to the final examination". Training periods spent in another relevant occupation also count as times of occupational activity (sect. 45, paragraph 2, clause 2) and

- the other way of evidence which opens up access to the final examination under the external examination regulation (Clause 1 in BBIG may also be rescinded in whole or in part "if the applicant credibly demonstrates that he or she has acquired the necessary employment skills by presenting references or by providing evidence in another way" (BBIG, sect. 45, paragraph 2, clause 4).

Being a regulatory instrument, the legislative organs of the Federal Republic of Germany are the key actors. At the level of practical implementation the other main actor involved are chambers of industry and commerce, chambers of crafts and trades, and chambers of agriculture, in their capacity of competent bodies. One of their main tasks is to issue admission to the external examination on the basis of existing documentation, e.g. certificates. Concerning the selection of appropriate documents the individuals can turn to the chambers for advice. In addition to the documentation courses which cover the theoretical part of the examination are offered. In principle the participation in the courses is optional; it is however argued that the courses are necessary for the successful participation in the examination since the vocational school part of the vocational training cannot be compensated by practical experience in the work area. This means that recognition procedure not only refers to output-oriented criteria, but also input-oriented criteria expressed in the courses (Annen/Schreiber, 2009). In Germany there are no quality standards concerning the recognition process because the economy has the constitutional right on self-organization and the competent bodies are allowed to set their own standards.

Beside procedures aimed at formal recognition there is a growing awareness in Germany for the implementation of forward-looking steps to recognise competences acquired in informal and non-formal routes. Since 2004, the "Strategy for Lifelong Learning in the Federal Republic of Germany", jointly developed by the Federal and the Länder governments, has set out an education policy approach for Germany in which substantial significance is attached to the validation on non-formally and informally acquired skills and competencies as a development focus within the promotion of lifelong learning (BLK, 2004). The significance of the topic is reflected in different federal policy programmes and initiatives, in scientific studies and the convocation of expert panels.

In the past years a variety of approaches and methods addressing the aspect of identification has emerged in different sectors of education and spheres of life. Two steps are described as examples: the "ProfilPASS" system for ascertaining and reviewing skills acquired in different ways, and the DFG (Deutsche Forschungsgemeinschaft, German Research Community) priority programme "Skills models for recording individual learning outcomes and for reviewing educational processes". The latter is geared to create and empirically test models of competence structure and development as a basis to construct valid and fair measuring instruments on two levels:

(1) on the level of promoting individual learning processes and

(2) on the level of monitoring educational institutions and systems.

The priority programme consists of 22 individual projects which started in 2007 for the duration of six years (www.kompetenzmodelle.dipf.de). Whereas "Skills models" focus on methods emphasising quantitative measurement, quality-based methods which make use of portfolio-like instruments are implemented in the framework of the ProfilPASS (www.profilpass-online.de). The ProfilPASS is a contribution to the promotion of social recognition of informally acquired competencies and is operated at sub-legislative level. The core idea is the process of self-assessment supported by qualified guidance, in which the individuals explore their own skills and competencies and by making aware of personal strengths and weaknesses. Beginning with a compilation of biographical elements in various fields of activity, related activities are analysed to identify the skills and competencies applied. These are subsequently drawn together in a report. The assessment of the current status is followed up by formulating goals and an action plan. The ProfilPASS is designed as a universal approach for use across educational sectors and target groups. In the course of a pilot scheme it became clear that it most effectively reaches adults in turning-point situations, whereas the principle of focusing on strengths works in a much more limited way with young people. In the light of this, a target-group-specific version of the ProfilPASS was created for young people.

Financed with funding from the Federal Ministry of Education and Research and the European Social Fund, the ProfilPASS was initially developed on the basis of a feasibility study as a network project by a consortium of research institutes: German Institute for International Educational Research (DIPF), the German Institute for Adult Education (DIE) and the Institute of Development Planning and Structural Research. The main parties involved were the Federal and Länder (Saarland) governments along with the social partners. Development consisted of a phase of trial, evaluation and optimizing of the instrument and the guidance approach, followed by a nationwide implementation. The ProfilPASS was rolled out to the whole of Germany in May 2006, followed by the ProfilPASS for young people in May 2007. ProfilPASS is promoted by more than 50 so-called "ProfilPASS-dialogue centres" all over Germany. Currently ProfilPASS is used in the context of individual guidance sessions and seminar-style programmes for individual orientation and/or for intensive profiling by training providers, as well as in the framework of continuous vocational education and training and in personal development measures.

However, it can be determined that a legal basis for the formal recognition of informally gained competence has not yet been created. Apart from traditionally established structures in the education system, which are being developed in the direction of the formal recognition of informal learning, diverse concepts below the level of administrative policies can be found. Putting it in a nutshell it is to consider that there is not one system of crediting and recognition in Germany, but a wide spectrum of procedures and concepts. This is a series of co-existing procedures, unconnected with one another, which are subject to different legal regulations and responsibilities.

Table 1: Crediting and recognition procedures with regard to their fields of application

Objective / Direction	*Means / foundation*	*Operation*	*Admission*	*Prerequisite*	*Comment*
Completion in a state-recognised occupation	Final examination for externals (BBIG, sec. 45)	Case-by-case	Competent body	./.	./.
Crediting full-time vocational learning towards training in the dual system	BBiG, sec. 7	Case-by-case, joint application by trainee and employer necessary	Competent body	Regulations are enacted by the Land	Granting of credit shortens the length of in-company training
Admission to chamber examination for full-time vocational school leavers	BBIG, sec. 43(2)	Land	Competent body	Land has decided which training courses at school meet the standards of BBIG	Only little information available on de-facto-use
Crediting of up to 50% of prior learning towards higher education	Jointly signed Recommendation(BMBF, KMK, HRK)	Case-by-case *exception: The "blanket-recognition"-approach (ANKOM)	University	Rules for implementation are determined in the Higher education law of the Land	Only few information available on the current state of implementation
Accreditation of informal and non-formal learning	ProfilPASS	Case-by-case	ProfilPASS centre	./.	Legal basis is lacking

I.5 Main challenges: Improving the transition management, fostering the outcome-orientation in VET and increasing permeability between the sub-systems of education and training.

The main challenges for vocational training in Germany are related to changes in the economic and occupational system as well as to demographic changes: In Germany, the number of employees in the field of personal services as well as knowledge and information professions requiring high and new qualifications is increasing over-proportionally while the demand for unqualified labour force is further declining. On the

other hand, owing to demographic changes it has become necessary to qualify more people and to recruit them for the labour market. Even if all the members of the current generation now entering the school system were to be employed in twenty years (and not only 60 %, as is now the case for the generation of 25- and 26 years old), this would not suffice to replace the number of workers then reaching the age of retirement (Authoring Group Educational Reporting, 2008). In addition to the above mentioned points crucial challenges are seen with regard to the transition system: The Authoring Group Educational Reporting 2008 highlights that the transition system has expanded for years and it now bears the brunt in preparing students with low levels of qualification – particularly young people with migrant background – for vocational education and training. In this area in particular, it has markedly revealed its advantages, but also its weaknesses in recent years.

In 2006 the "Innovation Circle on Vocational Education" (Innovationskreis Berufliche Bildung, IKBB) and the "Innovation Circle on Continuing Education and Training" (Innovationskreis Weiterbildung, IKWB) identified the central challenges for innovation in the German vocational education and training system drew up the political priorities for VET. They mainly emphasised the following topics:

- Modernisation / transition to a more flexible organisation of VET, i.e. the re-defining of training programmes based on a modular approach ("training-bricks" / "Ausbildungsbausteine")
- Improving the so-called "transition management", i.e. by crediting prior learning activities on initial training
- Enhancing permeability and integration between sectors and educational sub-systems
- Strengthening the European dimension, i.e. by the development of a NQF and the implementation of ECVET (IKBB, 2006).

The pillar of the current strategy to strengthen vocational training is described by the Federal Ministry of Education and Research with the following headings (www.bmbf.de):

- increasing the attractiveness of vocational training by increasing permeability and interlinking with other areas of education, i.e. Universities;
- increasing training opportunities through initiatives to improve regional training structures and to increase participation of migrant companies in training;
- optimising and improving transition management through further development of measures promoting the disadvantaged and creating instruments for qualifying young adults without a school or training qualification;
- Opening up Europe by using the Europass instruments, supporting the development of a National Qualifications Framework and by means of pilot projects relating to a European credit transfer system in vocational training.

II. Improving access and transition at the various interfaces of the dual system: Driving forces and origins

Domestic and European issues became interwoven over the last years. The aims of improved transparency of educational pathways, simplified access to the tertiary sector and more equal opportunities and transfer opportunities between the educational systems and levels are moving closer to the centre of education-policy initiatives. In 2006 the Innovation Circle on Vocational Training (IKBB) convened by the Federal Ministry of Education and Research recommended amongst others the creating of additional, differentiated opportunities for transition and learning credit between vocational education and higher education.

II.1 Driving forces

It is to be assumed that the main driving forces for the piloting of various approaches of crediting of prior learning activities are created by the challenges described above, I.e. skills shortage and demography. Due to the shrinking and ageing population and the falling number of people entering professional life, the work necessary to sustain society will be distributed between fewer and older people in the coming years. Beyond this, it is possible that an upcoming and rapid specialist skills requirement in the technology-oriented and knowledge-intensive industrial and service sectors will also become relevant to the economy and to society. It is uncertain whether the current approval and assessment procedures can ensure that sufficient highly-qualified people will emerge from the German education system. There is a broad consensus in VET that existing barriers must be broken down and transfer opportunities in the education system increased. The present debate is geared firstly to experiential learning, learning “in passing” when meeting the day-to-day challenges at work and at home, which is a major area of skills growth, secondly to skills in the sense of competence, and thirdly to outcomes of learning processes. The intention is to make qualifications the start of a learning career, not the end and to accelerate study periods by tying into what has already been learned. By identifying and recognising learning outcomes, it is expected that it will be possible to utilise previously neglected potential, increase occupational mobility and hence reduce individual wrong decisions and stagnation (Hanf, 2010). The identification and recognition / crediting of learning performance are important prerequisites for an increase in the level of education in Germany, with effects on the participation of the low-skilled in the labour market, integration in jobs, the education of people with a migratory background and the number of students. The European developments and initiatives therefore come at the right point in time: they are expected to have a strengthening effect and orientation function in particular for domestic reform policies.

II. 2 Origins

Due to its complexity with regard to the different legislative foundations (Vocational Training Act, Länder Laws, Higher Education Framework Act) the examples introduced below are developed in the framework of

funded pilot-initiatives (mainly from the Federation´s side). There is only one example in Germany where the social partners themselves propelled the development and implementation of an overarching qualification and credit framework, namely in the field of IT. In the core of the various approaches is the comparison of equivalences: between vocational training and higher education (ANKOM / AITTS) and between full-time vocational schooling and the dual system (JOBSTARTER). This is done on the basis of learning outcomes.

Example 1: A sector-oriented credit-system: The advanced IT training system (AITTS)

In Germany there is only one sector where a qualification and credit- framework is implemented: the IT sector. Its starting point was in 1999 when the Social partners agreed on "Markers for the restructuring of vocational education and training in the IT-sector". The purpose of the agreement was to counter the staff shortage at all levels in the IT field with a system advanced training that opens up career pathways for IT specialists and to increase the attractiveness of the sector for potential applicants. In the "markers", certificates corresponding to section 45, subsection 2, Vocational Training Act were planned for the so-called "professionals" certificates (chamber examination). The new qualification profiles (specialists) were supposed to finish with certificates that would be recognized by means of an accreditation as proof of examination performance in the advanced training examinations.

Between 1999 and 2000 experts from IT-companies together with the Federal Institute for Vocational Education and Training (BIBB) developed the structures of the advanced IT training system. It was constituted by a legal training regulation in 2002 and based on three consecutive levels (section 1, subsection 1 Vocational Training Act):

- vocational qualification as certified specialists (14 profiles) Individual Certification ISCO/IEC
- upgrading training as operative professionals (4 certificates) Chamber-examination
- upgrading training as strategic professionals (2 certificates). Chamber-examination

This gave rise to a horizontally and vertically integrated continuing education and training system and not just separate, parallel certificates that were interconnected to a greater or lesser degree (Weißmann 2008). In addition to that the social partners supported the idea that in-company continuing IT education and training measures should be interlocked with university computer sciences courses. As a tool for credit-transfer of the learning and examination outcomes achieved in in-company continuing training to courses of study, they proposed the European Credit Transfer System (ECTS) model of credit points. Thus care was taken in formulating the professional profiles to ensure that the final qualification level was comparable with the corresponding university degrees (Bachelor and Master). The advanced IT training system thus was developed as an alternative to university studies. It remains to be seen whether the new graduation certificates are accepted in the labour market, domestically and internationally, as equivalent to university

degrees. The certification is not regulated by public law, instead of this it takes place on the basis of the international standard ISO/IEC 17024 and thus safeguards qualification standards recognised throughout Europe. According to Weißmann (2008), the extent to which this can promote international recognition of the certificates depends on how the market develops.

The advanced IT training system is often cited in Germany as a "model of good practice" regarding the recognition of informally and non-formally acquired learning and the creation of transition pathways to higher education: Practitioners without relevant qualifications of the above mentioned IT-occupations as well as lateral entrants from other fields now obtain access to work-process-oriented continuing education. Furthermore qualified people in employment get the opportunity of entering into higher education, although each German Land has a different combination of requirements and no universal regulation is in force. In all cases professional experience is the decisive admission criterion. Given the emphasis on the concept of proficiency in VET and the more meta-cognitive understanding of competence in higher education, however, practical implementation gives rise to certain difficulties of compatibility between these sectors.

Example 2: Crediting vocational prior learning at the interface to higher education: ANKOM

ANKOM is the acronym for "Accreditation of vocational competences for Higher Education Programmes – Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge". Its starting-point is the "Joint recommendation of the BMBF, the KMK and the HRK to the German universities on the award of credit points in further training and transfer of credits towards a higher education degree" dating from 2003 which was itself rooted in the context of the 1999 Bologna-Declaration. The Federal Ministry of Education and Research launched the pilot initiative ANKOM for a term from 2005 until 2007/2008. The overall objective of the initiative was to develop methods for identifying and assessing qualifications and competencies acquired in advanced training and for awarding credits towards higher education programmes (Bachelor and Master). Equivalences between vocational and university qualifications with reference to learning outcomes served as basis for comparisons. Eleven projects contributed to the development and piloting of models, operating as project consortia in which higher education institutions worked alongside CVET providers, chambers of trade and industry in their capacity as competent bodies, companies in their capacity of IVET providers, unions and employer organisations, practice centres and professional associations. The special feature of the ANKOM-approach is that it sees higher education institutions applying competence-based rather than workload-based methods for assessment. Furthermore, it draws together different perspectives on competence, bearing in mind the more meta-cognitive outlook in higher education and the more proficiency-based outlook in the vocational system. These differences have been taken into account by special procedures for the recognition of learning outcomes, namely individual recognition and blanket recognition.

(1) "Individual recognition" means that students are given the opportunity to demonstrate their knowledge and skills acquired in formal, non-formal and informal learning processes and to have these learning outcomes recognised as equivalent to a certain module or course. The knowledge and skills in question are individually assessed on the basis of a portfolio of authentic documents and critical reflections of their learning experience together with a complex assignment (Hanf et al. (2008), p. 302-303, Tutschner / Wittig / Rami (2009), p.13).

(2) "Blanket" or "systemic" recognition describes a procedure in which general accreditation of a specific (advanced) vocational qualification is checked on a one-off basis for all graduates. The recognition and the associated shortening of the following higher education programme are based on learning outcomes that are supposed by all holders of the vocational qualification in question alike. Blanket recognition is characterised by the following features:

- students who have already completed certain vocational training programmes are exempt from taking modules in higher education containing of learning outcomes that are already acquired in vocational training
- the university once checks the correspondence between learning outcomes from vocational and higher education. Based on the results of "equivalence checks" the university decides which modules students with a certain vocational qualification can be exempt from taking.
- The university grants the blanket recognition to any holder of the vocational qualification (Tutscher / Wittig / Rami (2009), p. 13).

The models developed in the ANKOM-framework were mostly applied in the participating higher education institutions, but no details of wider dissemination or implementation are currently available. At the moment an evaluation is being undertaken by Hochschul-Informations-System GmbH (H.I.S) by means of scientific monitoring, with the aim of generating a system-wide reference framework for recognition of vocational learning programmes based on the findings in the individual development projects. The underlying quality criteria will be the quality of the formulated competencies, the equivalence of the competencies acquired, transparency of credit and recognition procedures and assessment criteria, simplicity of application, and the sustainability and transferability of the instruments used.

Example 3: Fostering the institutional framework conditions for crediting school based learning: JOBSTARTER

At the beginning of 2006 the Federal Ministry of Education and Research initiated a programme geared to improve regional IVET-structures - "JOBSTARTER – Training for the Future". It aimed first and foremost at creating additional in-company apprenticeship places, but it contained as well an extra-strand geared to support the implementation of sections 7 and 43 (2) of the Vocational Training Act into practice.

By improving cooperative links among local actors the aim is to strengthen regional responsibilities for VET and, at the same time, contribute to regional structural development. Regional projects were selected in the term from 2006 until 2009 on the basis of the current funding guidelines which defined the thematic priorities with reference to funding components and funding conditions. Within the framework of the JOBSTARTER-programme several projects have taken up the new possibilities of the BBiG and thus taken new pathways to training. These projects have developed and tested tailor-made models regarding a distinctive region or a distinctive sector. The idea was first and foremost to build up a conceptual and organisational framework in the regions in question. This framework made possible the arrangements and further developments of new cooperative training pathways which were also supported by chambers and companies. In this context the following development steps were and are to be highlighted:

- regional surveys of company and school training capacities which are suitable for a cooperative way of training
- the establishment of a regional "round table" which enrolled all relevant stakeholders and actors into the project work (mainly the competent bodies, trade unions, school administration, employers organisations) and which accompanied the whole process. The cooperation was based on jointly signed agreements
- the establishment of a pool of suitable companies which offer placements in accordance with the training programme.

All these projects were tailor-made in accordance with the need of skilled-workers in a sector (e.g. micro-technology) or the strategies for further regional development. How different the projects are – they all seek for specific solutions to shorten "waiting loops" for young applicants. In total around 400 projects throughout Germany are or were funded under the JOBSTARTER programme; around 10 under the pilot measures for BBiG-sections 43 (2) and 7. Out of the total number of apprenticeship places reported in 2007, 1,975 were categorised as new school-based training places (http://www.jobstarter.de).

III. Methodological-conceptual foundations and institutional framework conditions

In Germany there is the strong expectation (namely from the Federal Ministry´s side) that the European developments result in new opportunities at the national level that can contribute to modernizing the dual system of VET and make it more flexible. At the same time, the European developments (mainly in terms of qualification frameworks and credit-systems) provoke doubts and hesitation in the unions, who foresee a fragmentation and weakening of the dual system. There is the fear that qualification frameworks and credit transfer systems clashes with the dual system which imparts a comprehensive range of specialists, methodological, social and personal skills for occupational proficiency in broadly-drawn occupations. They impose an urgent requirement for the competences and qualifications covered by these types of IVET and

CVET programmes to be defined and then classified for credit transfer purposes. Moreover, in qualification frameworks divided into levels, recognised training occupations would be assigned to different competence levels depending on the difficulty of the demands they make, rendering the fiction of equivalent qualification untenable.

The insistence on the principles of the dual system and the demand for reforms regarding the implementation of a system for lifelong learning create a field of tension. The “German Position on a European System for Vocational Education and Training (ECVET)” from March 2007 points out that “the dual system is the central mode of acquiring vocational skills in Germany. This system should *in principle* be maintained. The occupational concept and the final examination as a proof of the desired employability are the mainstays of this system” (German Position, p. 4). At the same time the “German position” highlights the increasing transfer opportunities and flexibility in vocational education and training by the structuring of complete vocational qualifications in the form of learning units with credit points and reference levels which – in the medium term – could set off reforms of national systems in initial and continuing training (German Position, p. 3). Models and procedures which are currently under development in order to ease access and transition in VET having to deal with the above mentioned framework conditions. The approaches are characterised by three core features:

a) by implementing the learning outcome approach into training regulations (“training bricks”)

b) by crediting learning outcomes at the interfaces of the system (ANKOM, DECVET, Jobstarter connect) and

b) by convincing and involving the stakeholders of the various sub-systems into a comprehensive strategy for lifelong learning.

The activities are accompanied by the work on a national qualification framework (DQR) which has an impact on the implementation of learning outcomes as well as on the stakeholder´s commitment.

III.1 Implementing the outcome-principle in the system

Seen from a didactic point of view, the intended shift to learning outcomes is connected with the challenge of guaranteeing the binding standards which permit the acquisition of the desired competencies. A curricular orientation to outcomes is therefore predicated on preserving the bond with the structural framework conditions of initial vocational training (see the examples below). Taking into account this principle, it is expected that learning outcomes can serve as a means for connecting learning processes more closely to the achievement of individual behavioural and dispositional potential and must not lead to a situation where the responsibility for training standards drifts towards arbitrariness. VET-pedagogic stresses the fact that permeability and the decoupling of qualification and training pathways require at least a standardisation of the verification procedures for recording, documentation, validation and certification; otherwise qualifications will be awarded which do not guarantee the competence standard that is relied

upon at the next stage. Since the traditional input-based regulations also acted as quality assurance for formal education and training programmes, new and wider-ranging quality assurance instruments and procedures which do justice to outcome-orientation must now be tested and established (Frommberger, 2009). Based on the recommendations of the "Innovation Circle on Vocational Education" (Innovationskreis Berufliche Bildung, IKBB) concrete steps have been taken to put the learning outcome approach into practice. In the beginning of 2008 the Federal Ministry for Education and Research commissioned the Federal Institute for Vocational Training with the developing of a system of "training bricks" (Ausbildungsbausteine) which should especially support unsuccessful training applicants (i.e young persons who are capable of being trained and have for at least one year unsuccessfully tried to obtain an apprenticeship) in obtaining access into regular dual training by crediting the successfully passed training bricks on initial training or in getting admission as external candidates to chamber examinations.

Training bricks were designed for fourteen occupations in the dual system:

Trade and Industry	**Crafts**
Management assistant for retail services (5 training bricks)	salesperson specialising in foodstuffs (7 training bricks)
Sales Assistant for retail services (5 training bricks)	plant mechanic for sanitary, heating and air conditioning systems (7 training bricks)
Freight forwarding and logistics services clerk (5 training bricks)	painter and varnisher (6 training bricks)
warehouse logistics operator (7 training bricks)	electronics technician, speciality "Energy and building technology" (5 training bricks)
warehouse operator (5 training bricks)	motor vehicle mechatronics technician (7 training bricks)
chemical technician (7 training bricks)	Buildung and object coater (6 training bricks)
industrial mechanic (8 training bricks)	
Electronics technician for industrial engineering (5 training bricks)	

The development of training bricks began in July 2007 in BIBB with an Opening Conference in which representatives of the most important leading bodies of the German economy, the relevant branch organisations, the social partners, the Federation and the Länder and the universities participated. After the nomination of experts from the social partners' side – and in analogy with the procedures of the development of training regulations – the development work began in eleven work groups related to occupational fields. Whereas representatives of the Standing Conference of the Länder (KMK) were

involved from the beginning, the unions abstained from participation due to basic doubts (Frank, 2008). Training bricks are based on the following principles:

(1) They are oriented at state-recognised training occupations, I.e. they contain the minimum standard that is described in the training regulation, the training framework curriculum and the skeleton-curriculum of schools.

(2) They are oriented at the holistic approach of the occupational concept. By the designing of units the content is only structured and formulated in a new way.

(3) They are oriented at the concept of the vocational competence to act and based on section 1 of the Vocational Training Act.

(4) They are oriented at a comprehensive understanding of the term “competence”, i.e. they are competency-based and formulated in terms of learning outcomes. Vocational competence is understood as “the willingness and the ability of each individual to behave in an appropriate, reflected, individually and socially responsibly manner in work-related, societal and private situations” (KMK, 2000).

(5) They are oriented at typical work tasks which are didactically expressed in terms of learning processes.

(6) They are oriented on existing regulations of assessment, I.e. training bricks don´t contain new regulations, the existing ones which are determined in the training regulations are still valid. This also means that the training bricks are not to be assessed individually.

Training bricks are designed with an average duration of 4 to 6 month. In a whole, the various training bricks of one occupation cover all the contents which are determined in the training regulation.

III. 2 Pilot-initiatives for crediting prior learning at the interfaces of the system:

Simultaneously to the development of “training bricks” in which the training itself is newly structured further initiatives regarding the improvement of permeability and the enhancement of geographical mobility are launched by the Federal Ministry of Education and Research. They are currently in the development, testing or evaluation phase and not yet implemented.

Example 1: Putting "training bricks" into practice – JOBSTARTER connect

The training bricks are currently tested in the framework of a new programme of the Federal Ministry of Education and Research - "JOBSTARTER connect". It is expected to implement them with regard to four areas of application in about 50 pilot regions via annually project selections.

The areas of application are:

- training of "unsuccessful applicants" via training bricks
- implementing training bricks at the interface of external training / promotion of disadvantaged persons into in-company training
- implementing training bricks at the interface full-time vocational schools – dual training according to the vocational training act and
- implementing training bricks for young adults enabling them to complete a full qualification.

A close cooperation between project promoters with competent bodies and local municipalities is seen as a prerequisite for the implementation. The areas of application cover both, an individual and a systemic approach:

Individual: Unsuccessful applicants and young adults without completed lower secondary education should be prepared via training bricks either to the admittance to the examination of externals or to transferring into initial training. In both cases training bricks are geared to the completion of a full qualification. Training bricks should also give the opportunity for the assessment of prior learning – mainly for young persons without any certificated learning documents and therefore serve as a means for validating and accrediting of prior learning.

Systemic: training bricks are also geared to enhance structural and regional improvements in VET by the creation of better linkages between the regional supply structures and training structures in companies. They are aimed to support the quick transition from school leavers into VET.

The first 27 projects were selected in 2009. 16 projects are selected in 2010. Training bricks are tested with regard to shorten the waiting time between school leaving and initial training and thus to give young persons an additional sustainable possibility for integration into the labour market. In addition to that, training bricks should help to re-structure existing measures in the various regions (no new measures will be arranged). During the first project selection about 3700 young persons will pass through qualification measures via training bricks. In July 2009 the second funding guideline was published in the Federal Gazette. Projects are promoted among others by chambers, municipalities, vocational schools, research institutions as well as training providers. The programme is accompanied by an advisory body, involving representatives from the Länder, social partners, and research.

Example 2: Developing a German Credit System for VET: DECVET

For implementation of the IKBB guidelines the Ministry immediately launched several new programmes and projects in 2007; one of these is the pilot-initiative "German Credit-System for Vocational Training – Deutsches Leistungspunktesystem für die Berufsbildung". The acronym of the initiative "DECVET" clearly refers to the European ECVET-process. DECVET is intended to use ECVET for the promotion of domestic reforms. In the core of the initiative is the improvement of the transition opportunities at the various vertical and horizontal interfaces of the dual system. Four aspects of permeability and flexibility are tested:

- between vocational training preparation and initial training within the dual system (3 projects),
- between school based vocational training and the dual system (2 projects),
- between cross-cutting VET qualifications within a single occupational field (2 projects) and
- between dual initial training and advanced vocational training (3 projects).

Tendering took place in the second half of 2007, resulting in selection and approval of ten projects which should serve as a vehicle for the development and testing of transferable procedures for the accreditation of competences and learning outcomes. Taking a learning-outcome description in the individual areas of training as a starting point, the projects are working to develop, pilot and implement evaluation, equivalence, assessment and credit transfer procedures. Experiences and tools (e.g. the method of "equivalence check") gained under the ANKOM initiative are taken into account and – where possible – applied to the framework conditions in VET. It is expected that the pilot-projects explore if and how a unit-based credit-system can enhance permeability in the German context. Moreover, the initiative is supposed to contribute to a better linkage of learning modes and co-operation of learning venues. Due to this comprehensive approach DECVET is supported and accompanied by an Advisory Council representing a large spectrum of stakeholders: the Federal Ministries together with the Länder institutions, the Federal Employment Agency together with labour market representatives, associations for trade and industry or crafts together with the unions. DECVET is aligned towards the main principles of the German VET-system, i.e. the dual system of vocational training with its concept of state-recognised occupations and the Vocational Training Act (BBIG). The term of the initiative that was supposed to end in 2010 has been prolonged until the end of 2012.

Table 3: Pilot-programmes in order to promote access and transition at the various interfaces

Interface	***Initiative***	***Projects objectives/ tasks***	***Term***	***Number of projects***
Access to initial training within the dual system	DECVET	Developing and testing of models and procedures for the recognition and crediting of pre-vocational learning on initial dual training	2008-2012	2
	JOBSTARTER connect	Integrating young adults without a full-qualification and so-called "disadvantaged persons" into initial training via "training bricks"	2008-2015	31
Transition from full-time vocational training into initial training	DECVET	Development and testing of models and procedures for the recognition and crediting of full-time vocational training on dual training	2008-2012	2
	JOBSTARTER	Enhancing regional cooperation-structures by supporting the establishment of networks in order to implement the Sec. 43 (2), Vocational Training Act into practice	2006-2013	1
	JOBSTARTER connect	Improving structures of regional training provision for disadvantaged persons, implementing the opportunities of sec. 43(2) Vocational Training Act in order to credit full-time vocational schooling towards periods of initial dual training	2009-2015	*6*
Transition within a "Berufsfamilie" ("vocation family")	DECVET	Development and testing of models and procedures for the recognition and crediting of learning outcomes acquired in one training when passing to another training in the same "vocation family"	2008-2012	2
Transition from IVET into CVET	DECVET	Development and testing of models and procedures for the recognition and crediting of learning outcomes acquired in vocational training on continuous or advanced vocational training	2008-2012	3
Accreditation of informally and non-formally acquired learning	JOBSTARTER connect	Using "training bricks" as a means for the validation and accreditation of prior learning, esp. for young adults without school certificates	2009-2015	6
Transition into higher education	ANKOM	Development and testing of models and procedures for the recognition and crediting of learning outcomes acquired in VET for the transition to HE	2006-2009	11

III.3 The current state of the German Qualification Framework (DQR) (by Georg Hanf)

The debate on the design of a German qualification framework (DQR) has accelerated since the submission of the draft of the European Qualification Framework (EQF) as a result of the Lisbon process. The German NQF is a work in progress. Already in the submission responding to the EQF consultation (December 2005) Germany announced the development of a Qualifications Framework. In October 2006 the Federal Ministry of Education (BMBF) and the Standing Conference of the Ministers for Education and Cultural Affairs of the *Länder* (KMK) agreed to develop a German Qualifications Framework (DQR). In June 2007 the BMBF and the KMK established Coordination Group for the DQR which manages the process of drawing up the DQR. This process involves a large number of stakeholders (about 30), from governance and provider level, from general education, higher education and vocational education and training, representatives of the social partners and the employment services as well as experts from research. Together with the Coordination Group these stakeholders form the "National Working Group on the DQR" (German abbreviation: AK DQR). On behalf of the BMBF a DQR Büro (DQR Office) has been set up to provide technical and administrative support to the process. In spring 2008 the stakeholders agreed on the essentials of a DQR. In February 2009 the AK DQR published a draft DQR (www.deutscherqualifikationsrahmen.de) that extends across all educational areas and, like the EQF has the promising subtitle 'for lifelong learning'. In its capacity as a national implementation of the EQF, the DQR is aiming to accord due consideration to the specific characteristics of the German educational system and to assist in achieving appropriate evaluation and comparability for German qualifications in Europe. All formal qualifications within the German educational system, including general, higher education and vocational education and training, are included in the alignment of qualifications to the DQR. A further objective is to accord due consideration to the results of informal learning at a later stage. Two papers were commissioned on this issue, but it is still an open question whether and how the DQR might be used for the recognition of informally acquired learning outcomes. The Federal Government-Federal State Coordination Group (BLK-G, Bund-Länder-Koordinierungsgruppe) and the DQR Working Group (AK DQR) 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 to qualifications. Alignment takes place in accordance with the principle that each qualification level may be accessible via various educational and training pathways. 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 collective wage agreements and laws relating to remuneration. The draft DQR is designed to integrate all existing German qualifications and to be compatible with the EQF. Therefore it describes learning outcomes on eight reference levels which direct the referencing of qualifications obtained in general education, higher education and vocational education and training. The number of levels was an issue in the debate; trade unions wanted fewer and even now it is still not clear what to put on level 1 and 2 since there are no qualifications on these levels so far. Whereas the number of levels is the same, the frameworks differ

slightly when it comes to the different categories of learning outcomes: The draft DQR is based on an overarching leading concept of action competence which integrates to main categories: “Professional competence”, subdivided into “Knowledge” and “Skills” and “Personal competence”, subdivided into “Social competence” and “Self-competence”. The term “competence” depicts the ability to use knowledge, skills and personal, social and methodological competences in work or study situations and for occupational and personal development. In 2009 the functionality of the draft DQR has been tested by referencing a selection of about 50 qualifications from 4 domains across all educational sectors and all levels. The aim is to review the structure of the draft DQR matrix and the validity of the descriptive categories. Curricula, training regulations and other relevant documents are analysed with regard to contents and terminology of the draft DQR for the selected qualifications. For each qualification 5-10 activity areas are identified. Learning outcomes for each of the areas are tested against each of the descriptors in the 4 columns of the draft DQR. At first the referencing is carried out per activity area, only then for the complete qualification. The referencing of general qualifications is not clear yet. The testing phase will be finished in the first half of 2010. The Coordination Group for the DQR is in charge of the referencing process – advised and coordinated by the DQR Büro. In 2010 all nationally recognised qualifications shall be referenced to the DQR. Afterwards the DQR will be referenced to the EQF. In 2010/2011 the Federal Government and States will decide on the formal and institutional basis of the DQR and put it into force. By 2013 the implementation of the DQR shall be finished. It is clearly stated that the DQR as such should not have a regulatory role. It is still an open question which regulatory arrangements would be needed to establish the institution responsible for the referencing of qualifications to the framework. The procedure as such still needs to be defined. There is a major concern that existing structures/institutions should be in charge for quality assurance and no additional bureaucracy should be established. A big issue is the question whether and how the DQR would have an impact on individual rights on the one hand and on the power sharing between the Federal Government and the Länder on the other. To come to terms in that respect the Ministry commissioned a legal opinion. Since Germany is moving into the implementation phase of its framework, the Board of the Federal Institute for Vocational Training asked for a formative evaluation and accompanying research to get a picture of the possible impact on education and employment.

The current working status of the German Qualification framework is illustrating the political dimension of the learning outcome approach: In a national perspective the DQR is expected to support the shift to the learning outcome principle, i.e. that it is important what someone knows, understands and can do, not where he or she has learned it. Based on descriptors for learning outcomes the DQR shall support the permeability of the entire system and allow for access from non-formal backgrounds. All stakeholders agree on the transparency function, the VET faction stressing the opportunity to demonstrate the equivalence of VET and Higher Education. As to the credit transfer and progression function the VET faction sees a more active role for the framework than the general and academic higher education faction. The same applies for the recognition of informally acquired knowledge, skills and competence. Employers’ organisations are

stressing the professional competence orientation of all education; some also see the option to use the framework for personnel development – but with no relevance for wage tariffs. The Unions are stressing the integration of the system, based on the professional competence orientation but also on social and personal competence beyond the occupation. For them it is important that public responsibility for a full qualification according to the Berufsprinzip will not be undermined by the learning outcomes approach. Higher education organisations/ institutions are warning not to expect too much in terms of transfer and progression, wanting to keep control of the gates. The private schools, the providers of continuing training as well as the organisations providing training for the 'excluded' (for different reasons) consider the framework as an opportunity for becoming part of one integrated system, offering their clients better access. For some of the stakeholders – across the factions - it is clear that in the future qualifications and curricula need to be written in a different way, according to the descriptors in the framework. The Federal Institute for Vocational Training has started to re-write and test competence orientated training regulations.

IV. Status of implementation and practical use

The report showed that there are a number of approaches – some are implemented since the 1960s, some of them are at their very beginning, some of them are ready for dissemination and transfer - which are geared to enabling progression and transition among the sub-systems of education and training by crediting prior learning. In addition to concrete procedures which are targeted to the individual and operated case-by-case (e.g. the external examination, the ProfilPASS), other (more "systemic") approaches focus on the establishment of essential and appropriate framework conditions in order to implement concrete procedures.

Procedure / tool	Pracitical use / status of implementation
Crediting up to 50% of prior learning on higher education	As regards admission to higher education for individuals with vocational qualifications via the third pathway, an average less than 1 % of all students enter higher education via this route. There is currently no information available about the implementation of the "Joint recommendation" of BMBF, KMK and HRK.
Implementing § 43 (2) and § 7 of the vocational training act into practice	A query to the German Länder as to whether they had made use of the regulatory powers delegated to them under the reformed Act, which would mean greater flexibility for young persons undertaking initial training, yielded the following results as of October 2007: Considerably more use is being made of the authorisation to pass a regulation on credit transfer (Section 7, BBIG) than to grant admission to a final chamber examination on completion of school-based vocational courses (section 43 BBIG). A total of eight Länder regulations pursuant to Section 7 BBIG are in prospect, of which five are already in force while three others are at the planning stage (Bellaire / Brandes, 2007). Regulations pursuant to Section 43 BBIG have only been passed in two cases. According to information received from the Länder, however, both credit for prior qualifications and admission to final chamber examinations are also being realised at levels subordinate to the powers delegated under the reformed BBIG, e.g. by means of concrete agreements between the Länder ministries and the competent bodies (usually chambers of trade and industry) (Bellaire / Brandes, 2007).

ProfilPASS	Around 25.000 ProfilPASS documents for adults and young people have been issued. According to the REFERnet Policy Report 2009 some 1800 people have undertaken a two-day training course in preparation to work as ProfilPASS guidance counsellors.
External Examination:	The currently available and little differentiated data on procedures connected with formal recognition indicate a comparatively low proliferation. For example, in 2006, 29.258 people, which equates to around 7.2% of examination entrants (excluding crafts), gained admission under the special-case provisions (Annen/Schreiber, 2009). The vast majority of candidates had many years of relevant work experience. Since the year 2000 the proportion has risen notably but has not reached the 1995 level. Viewed over time, the figures fluctuate considerably and no clear trend can be discerned (Annen/Schreiber, 2009).
ANKOM	The models developed in ANKOM were mostly applied in the participating higher education institutions, but no details of wider dissemination or implementation are currently available. The ANKOM-idea is meanwhile transferred to the Land Brandenburg where a call for proposals was announced in 2009.
AITTS	Specialist level: As of July 2007, about 900 persons had registered for personal certification for one of the 29 IT-specialist occupations. By the middle of 2007 about 350 graduates had successfully taken specialist qualification courses, according to the certification bodies Cert-IT and GPS-Cert. These specialist-certificates are not regulated by law. The proportion of lateral entrants (47%) to IT continuing education to become IT specialists in 2006 however is substantially higher than the previous examples, but the total number is so low that a comparison of proportions is not very meaningful. Operator-level: In 2005 23 chambers of industry and commerce had offered qualification courses in the preparation for the operative professional examination. About 50 qualification courses took place in 2008.

Other models and procedures which are to be developed and tested in the framework of funded pilot-initiatives and programmes like JOBSTARTER connect and DECVET are in an early stage of work - currently it is not assessable in which way they can achieve practical use or impact on national VET-politics.

V. Perspectives:

Most of the models and procedures which are already implemented or which are under development are entirely dealing with problems arising from the “German specifics” (Berufskonzept, governance of VET). All activities which are geared to improve the crediting of learning achievements at the interfaces are facing the following challenges:

(1) There are no systematic interface structures between the dual system and school-based initial vocational training; they have developed and they are still developing along parallel trajectories almost without coordination. The various strands of the education system (dual system, school-based vocational training, vocational and continuous education, higher education) have only little linkages at their points of contacts and in terms of content.

(2) Relationships between the different educational sectors in Germany tend to be more competitive than cooperative. According to Kremer (2008) the notion of making school-based initial training carried out on the dual principle (see the amended Vocational Training Act) more easily

transferable, e.g. admitting successful school-leavers to chamber examinations, is seen by the protagonists of the dual system as an attack on established structures rather than an opportunity to forge better links between the two systems. The German Länder, who are responsible for school-based IVET, show little inclination to push for more extensive involvement of social partners in these arrangements.

(3) A similar relationship holds between VET and higher education institutions. The two-phase-degree structure (bachelors´ and masters´ programmes) and the European dimension introduced by the European credit transfer system (ECTS) are not being used until now as an opportunity to build wider bridges between challenging IVET and CVET programmes and tertiary-level study, nor for the recognition of equivalences. Each side perceives the other as a competitor for school-leavers and/or employees. They are only willing to cooperate to a limited extent (Kremer 2008. p.11).

(4) Some of the stakeholders observe the European processes connected to qualification frameworks and credit transfer systems with a very critical eye: Qualification framework and credit system are considered as tools which are to clash with the German system of IVET with its comprehensive range of specialists, methodological, social and personal skills for occupational proficiency in broadly-drawn occupations.

However: It is obvious that the present European discussion on ECVET already has an impact on the development of further strategies for VET in Germany. The official position of the board of the Federal Institute for Education and Training on the EQF as well as the German position on ECVET explicitly support the shift to learning outcomes – mainly with regard to the enhancement of transnational mobility. The board of the BIBB believes that the EQF "represents a comprehensive instrument which will aid transparency, comparability and translation, promoting occupational mobility on the European labour market as well as occupational mobility between the various training systems themselves" (Official position, 2005). But first and foremost it is to be expected that EQF/DQR and ECVET will give an additional boost for the improvement of permeability within the national training system. The German position on ECVET therefore is highlighting positive effects which arise by implementing the ECVET in Germany: "The structuring of complete vocational qualifications in the form of learning units with credit points and reference levels could in the medium term also set off reforms of national systems in initial and continuing training" (German position, p. 3).

First steps towards the implementation of the learning outcome principle are made with the development of training bricks and the pilot programme JOBSTARTER connect which are especially geared to ease access to initial training. The amended Vocational Training Act as well as programmes like ANKOM are aiming for better transitions at the various interfaces within the training system (transition). The testing of the ECVET principles is in the core of the pilot-initiative DECVET (which in its name clearly refers to ECVET). Although these approaches show that – from a pedagogical point of view – it is possible to maintain the principles of

the dual system when implementing the learning outcome principle, the question of crediting prior learning is mainly determined by political considerations. It is to be assumed that the different legislative foundations (Vocational training Act, Länder laws) and – connected to the corresponding sub-system - the stakeholders´ diverse interests are obstacles for achieving sustainability of already tested procedures and for establishing a comprehensive system. Against this background the interviews which will be conducted in the framework of the CS3L-project will emphasise the stakeholders' opinions at the various interfaces with regard to the implementation of already existing models and procedures of crediting prior learning as well as their readiness for ECVET.

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