



## Success factors for the dual training Possibilities of transfer



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# Table of Contents

R O A D M A P .....	5
I.    Core aspects and design elements .....	6
System decision.....	6
II.   Structural decisions .....	10
<i>Success factor 1: "Social partners - especially companies - are the carriers of the apprenticeship"</i>	12
Governance and Financing .....	12
<i>Success factor 2: "Vocations are more than jobs".....</i>	15
Vocational concept .....	15
<i>Success factor 3: "An apprenticeship is also useful for the training company".....</i>	17
Benefits for the factories .....	17
<i>Success factor 4: "Quality is the responsibility of all stakeholders".....</i>	19
Mechanisms of quality assurance .....	19
<i>Success factor 5: "An apprenticeship adjusts to changing qualification requirements"</i>	
Customization and innovation mechanisms	22
<i>Success factor 6: "An apprenticeship as an attractive training path for young people"</i>	
from young people	Demand 23
<i>Success factor 7: "Lean administration and clear, transparent processes"</i>	Administration 25
and Implementation	
III.  Timing Roadmap.....	26
R E P O R T .....	29
1    Initial situation and objective.....	30
2    Apprentice training in the European context.....	33
2.1  Definition of concept.....	33
2.2  International comparison of initial vocational education and training systems.	35
2.3  Austria, Germany, Switzerland: Classic apprenticeship training systems.....	37
2.4  Dual vocational training and entry into the job market for young people .....	45
3    Key cornerstones of dual training .....	48
3.1  Governance and Funding Aspects.....	50
3.1.1  Basic structure of governance using the example of the Austrian Apprenticeship System.....	51

3.1.2	Financing structure using the apprenticeship in Austria as an example .....	53
3.1.3	Aspects relevant for decisions for a dual training system .....	59
3.2	Vocational concept .....	63
3.2.1	Implementation of the vocational concept in apprenticeships .....	66
3.2.2	Aspects relevant for decisions for a dual training system .....	67
3.3	Benefits for companies .....	69
3.3.1	Costs-Benefit ratio .....	70
3.3.2	Aspects relevant for decisions for a dual training system .....	79
3.4	Mechanisms of quality assurance .....	82
3.4.1	Quality assurance instruments in the Austrian example .....	84
3.4.2	Examples of quality assurance in Germany and Switzerland .....	90
3.4.3	Aspects relevant for decisions for a dual training system .....	92
3.5	Adaptation and innovation mechanisms .....	95
3.5.1	Adaptation and innovation mechanisms in the Austrian example .....	95
3.5.2	Competence-based training programmes / regulations .....	97
3.5.3	Innovative models of the apprenticeship for various target groups .....	99
3.5.4	Aspects relevant for decisions for a dual training system .....	101
3.6	Demand on the part of young people - access to training .....	102
3.6.1	Admittance into apprenticeship training in the Austrian example .....	104
3.6.2	Vocational guidance .....	106
3.6.3	Vertical progression .....	110
3.6.4	Aspects relevant for decisions for a dual training system .....	111
3.7	Administration and implementation .....	114
3.7.1	Special forms .....	117
3.7.2	Aspects relevant for decisions for a dual training system .....	118
4	Development of new apprenticeships .....	119
A N N E X E S .....		122
ANNEX A:	Practical experience .....	123
A.1	German-Portuguese collaboration .....	123

A.2	Implementation of apprenticeships in the "Electrical / IT" department - a comparison .....	124
ANNEX B:	Modularisation of apprenticeships in Austria .....	129
ANNEX C:	Development of new apprenticeships .....	132
C.1	Germany .....	132
C.2	Switzerland .....	136
ANNEX D:	List of apprenticeships in Austria as of 1 June 2013 .....	140
ANNEX E:	The structure of a modular apprenticeship with examples .....	146
ANNEX F:	Job profile and training regulation with the example of an apprenticeship in the area of "metal processing" .....	148
FEDERAL LAW GAZETTE	.....	148
ANNEX G:	Tasks and involved parties in the promotion of the apprenticeship training programme and quality assurance .....	153
Glossary	.....	154
Literature	.....	160
Online sources	.....	167

## Introduction and Overview

Under the pressure of an increasing shortage of skilled labour especially in operational production and at the same time a high rate of youth unemployment, there is intense discussion in many of the European countries and even beyond about the introduction of a dual training system. For this, it is first necessary to create and/or change the legal frameworks so that the training offer can be implemented in the first concrete pilot areas, and so that an existing dual system can have strong operational components added to it.

For this, it would make sense to first identify the success factors for a functioning apprentice training concept on the basis of experience in successful dual training systems (for example in Austria, Germany and Switzerland). Subsequently, it would be possible to develop implementation models for establishing these core elements in the target countries and to support the actual implementation.

The current study is dedicated to identifying these central success factors, and thus forms the support structure for any further work or decision process. The study purposely does not give any recommendations for the actual design of a vocational training system in individual countries; it is intended rather to only show the relevant approaches and the different possibilities for designing an apprenticeship. Its concrete implementation can only be effected taking into account the special national situation and framework conditions.

Apart from a detailed analysis of relevant research literature from countries with traditional dual systems (mainly Austria, Germany and Switzerland), the knowledge and conclusions also result from many discussions with representatives of training institutions and potential training companies.

A **ROADMAP** is created at the beginning of the study that helps in supporting the work and decision process in the respective target countries for developing the professional system towards dual training. It summarizes the results of research in the form of questions and design elements and is intended to show which topics are to be discussed as part of system development and on what aspects decisions are to be taken. In this sense, the roadmap is also a summary of the results of the study.

After a brief overview in **CHAPTER 1**, **CHAPTER 2** offers a summary of the basic forms of apprentice training and similar training systems, an international comparison of professional initial training systems, an analysis of the significance of the dual vocational training system for entry into the job market for young persons and, as a transition to Chapter 3, a basic comparison of trainee systems in Germany, Austria and Switzerland.

**CHAPTER 3** forms the core of this study. It presents seven factors for success that appear important for establishing a successful and sustained dual apprenticeship training system.

The attractiveness and sustainability of an apprenticeship training system lies mainly in its flexibility and adaptability for the purpose of a reaction that is as prompt as possible to

changes that occur in the qualification requirements, and thus the trends in qualification demands. **CHAPTER 4** is therefore dedicated to the basic approaches for developing apprenticeships in the countries being compared.

There is a detailed **APPENDIX** that further elaborates on some aspects of this study and provides a series of background information and materials. Further, the appendix also contains a glossary with a brief explanation of some technical terms.

This study was conducted as part of a trans-border co-operation effort between Austria and Slovakia as part of the SMART NET project with the goal of developing and establishing a dual training system in the Slovakian Republic. For the current version of the report, certain aspects specific to Slovakia, and in particular a chapter on vocational education in Slovakia, have been taken out of the overall report and thus a generally applicable, country-independent report has been generated.

# R O A D M A P

This roadmap is intended to support the working and decision process for developing a vocational training system on the lines of dual training. It includes a summary of the results of research in the form of questions and design elements, which are intended to show which topics are to be discussed as part of system development and on what aspects decisions are to be taken. Based on the order, the details concentrate on the analysis of relevant aspects of the implementation and design of a dual apprentice training system (= system with the two learning locations, companies and schools, whereby training mainly takes place in the company setting.) It is explicitly mentioned here that the document is more in the nature of a manual for supporting the work process and thus is not linked to a recommendation for the actual design of a vocational training system in the respective target countries.

A timing roadmap is presented to elucidate upon which decisions are to be taken when in order to design and implement a dual apprenticeship training program.

## I. Core aspects and design elements

The following section deals with a summary of the core issues and corner points that are important in developing a dual vocational training system of special relevance and that need to be handled and decided upon in the course of implementation.

**IMPORTANT:** The statements made in the following sections are only intended to be starting points for discussion and debate even though they may have been stated as

### System decision

The basis and pre-requisite for all other activities and decisions is a consensus amongst the relevant stakeholders as to how a future vocational training system should basically designed - from the point of view of the authors, these stakeholders include at least the relevant ministries including school boards, industry representatives and labour representatives.

The possible designs move between two extreme poles: A purely full-time-school vocational training system (with or without a share of practicals)<sup>1</sup> on the one hand and a purely dual apprenticeship training system with a dominant share of company training and accompanying part-time vocational school for apprentices<sup>2</sup> on the other hand. Between

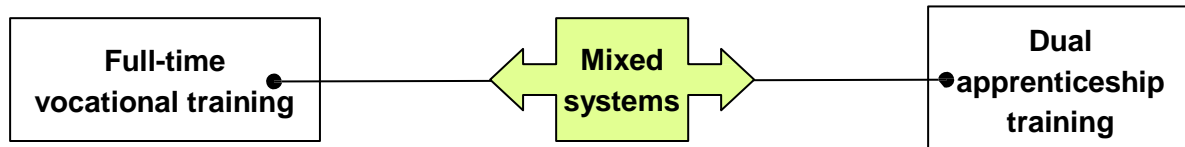
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<sup>1</sup> Basically corresponding to the current vocational training system in Slovakia or the Czech Republic

<sup>2</sup> Extreme form that does not exist in reality; the Danish, German and Swiss vocational training systems come closest to this form

these two extremes there can be mixed systems<sup>3</sup> that offer full-time-school vocational training systems as well as dual training systems (having the same value but not of the same type) (see following elucidation).

FIGURE 0-1: Instances of a vocational training system



Source: own research

For many countries, a mixed system would perhaps be relevant where there would be full-time-schooling supplemented with a real dual apprenticeship training system.

Mixed systems can be designed in such a way that they

- a) exist in parallel for the school as well as dual training in the same vocational field and thus there is a certain competition between school and dual training.
- b) School and dual training are restricted to vocational fields that are clearly demarcated from each other.

Depending on this basic system decision, there can be different conclusions for the implementation (see II. structural decisions).

In the context of system decision, the relationship between the types of training and to other general schooling patterns needs to be regulated. It would be advisable to have a regulation of progression, including mutual recognition/credit of completion certificates and training duration between the systems and also clear and countrywide-uniform entry regulations between the systems.

### **Company and workplace as environments conducive to learning**

Precisely in the qualification systems based on schools, there is challenge of recognizing the company setting/workplace as an environment conducive to and important for learning and also valuing it as such. It is necessary to expand the necessary **trust in the companies** so that these can and would want to provide high-quality training.

It is an integral part of this that such companies must also be given the ability to choose the learning models and methods to be used in training.

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<sup>3</sup>such as the Austrian vocational training system

## ASPECTS RELEVANT TO DECISION-MAKING

- **Definition of the basic model of an apprenticeship:**
  - Definition of the "dual principle" = two learning sites - the company and the school

Is dual training set up as being primarily workplace-oriented, i.e. as a "true" apprenticeship (firm where apprentices are trained + part-time vocational training school) or only as school-based system (school with compulsory practical training)
  - Definition of the learning locations (company & school) as well as the respective share of learning time and content; also potentially definition of the additional supplementing learning locations (training associations, course providers, etc.)
  - Basic consensus: An apprentice is a learner & colleague ⇨ the workplace is a learning-conducive setting.

Therefore, the definition of the contractual relationship between learner (apprentice), the company and school: the learner is in a direct training relationship with the company and is thus an apprentice and an employee of the company ⇨ "actual" apprentice in contrast with the "Student & Intern" relationship.
  - Definition of the target group, esp. age, entry criteria
  - Definition of the possibilities and forms for vertical progression
  - Definition of training duration: Definition of the bandwidth for the training duration of an apprenticeship. The learning time for a specific profession can be regulated within a time schedule according to the complexity of the profession.
- **Apprenticeship contract Regulation of the relationship between apprentice ⇔ company**
  - Position of the trainee and the employer
  - Training institution/company itself selects the apprentices
  - Apprenticeship contract between the company and young people ⇨ Increases and secures the commitment on both sides (incl. any regulations about retention periods and premature closing of apprenticeship contract)
  - Registration of the training relationship ⇨ Who will take over the administration?
- **Regulation of the relationship between company ⇔ part-time vocational training school**
  - Definition of the **mandatory attendance of a part-time vocational training school**

## ASPECTS RELEVANT TO DECISION-MAKING - contd.

- **Progression**

- Giving credit for and maintaining equivalence between related trainings
- Procedure for deciding on competencies
- Progression towards tertiary training including bridge courses and examinations
- Access to those completing school education and training ⇒ reduction in training period
- Access for adults with and without professional experience ⇒ Reduction in training period
- Clear and unique design of progression between formal system elements ⇒ What completion certification must I have to access further training; which completion certificates have the same weightage or are similar?

## II. Structural decisions

There is an interplay of several factors that contribute to the functioning of a dual apprentice training system. A practicable governance system, efficient administrative structures and mechanisms for quality assurance and innovation are as much a part of this as are motivated young persons interested in the training.

The core elements of an apprentice training system are thus the **companies** that bring forth a willingness to function as **training institutions**. Even if in established apprenticeship training systems, many factories emphasize their social involvement in training young people to equip them with skills necessary to make a successful entry in the professional world; generally, the **cost-benefit ratio is a legitimate goal** that is the key factor. This is even more true in countries where a dual apprenticeship training system is going to be established and companies are not used to this tradition.

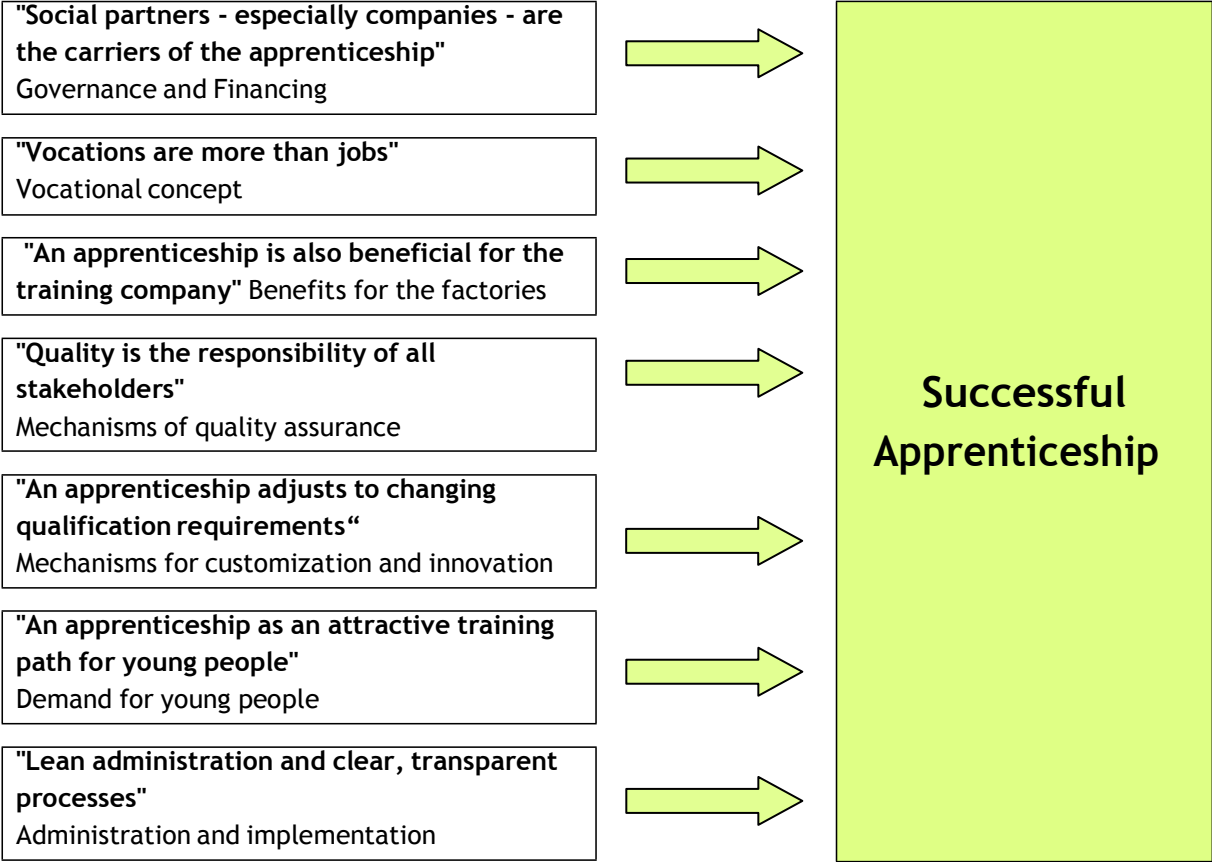
It is also necessary to politically recognize this situation and ask which catalytic factors are necessary for training and learning activities of a company to be converted into a comprehensive and sustained involvement in apprenticeship training that then becomes an integral part of the vocational training system. How can apprenticeship training system be made attractive to companies?

Practice-related job descriptions and training patterns that are designed to suit the organisation's needs make a significant contribution, whereby the practical orientation can be secured by directly involving the companies and their associations in the development process. Straightforward administration structures and efficient support mechanisms (from sponsor systems to training the trainers to helping in apprentice recruitment or supporting through training materials) will facilitate companies entering into the training process. However, the companies must bring along a conviction that the dual apprenticeship training system will enable them to have control over training up a **well-qualified talent pool in the company**.

The following section identified seven success factors for an apprenticeship (see figure 0-2). These are the fundamental principles of establishing a functioning dual apprentice training system in a successful and sustained way. The benefit aspect for the training companies has been highlighted in success factor 3; apart from this, it also plays an essential role in other success factors.

The actual design and implementation of these success factors can be effected only within the framework of the political, institutional and structural realities in Slovakia.

FIGURE 0-2: Contents of the core dimensions for sustained implementation of a modern dual apprentice training system



Source: own research

**Success factor 1: "Social partners - especially companies - are the carriers of the apprenticeship"**

**Governance and Financing**

**Brief description:**

Social partners, especially companies and their branch offices, are the carriers of the apprenticeship. This is also reflected in the entire governance and financing structure. Governance includes the statutory regulations and responsibilities in apprentice training. At the overall state level, this is applicable also to the ministries involved in school and company-based training. The legal basis for the apprenticeship has been defined in a separate law (in Austria: the Berufsausbildungsgesetz or the Vocational Training Act). While developing job profiles and training patterns, it has been proven that the direct involvement of the companies' practical experience is beneficial; they can be involved through their associations and interest groups in working out the job descriptions and training regulations and also in other matters of apprenticeship training in a consulting and regulating role (for example in consultation committees in which the representatives of the employees are also actively involved). For this, it is necessary that the relevant ministries and authorities are ready to transfer competencies to such a committee and also accept and implement its recommendations and concepts.

For the administration of the different aspects of apprenticeship training, (for example maintaining a log of apprenticeship contract, ascertainment procedures for authorization to undergo training, conducting the apprenticeship completion exams, etc.), it is necessary to have a executing authority (in Austria these are the apprenticeship offices of the Economic Chambers of the individual states).

As part of governance, it is also necessary to regulate the responsibility for setting up, equipping and managing the day-to-day operations of the part-time vocational schools and the payment of the apprenticeship salaries. The part-time vocational training schools are themselves integrated into the economic processes at their respective locations. The direct contact with the apprentice training factories in the region is one of the most important pre-requisites for the optimal implementation of apprenticeship training.

Basically, the **financing structure** in traditional apprenticeship training systems such as those in Austria is characterized through co-financing: Firms where apprentices are trained finance the training structures in the company and pay remuneration to the apprentice (in Austria: apprentice remuneration); the government funds the part-time vocational schools and also grants funds for the firms where apprentices are trained and for the apprentices. A major part of the costs for vocational training during apprenticeship is borne by the firms where the apprentices are trained.

## ASPECTS RELEVANT TO DECISION-MAKING

- **Regulation of the responsibilities for participation in**
  - Developing a legal framework
  - Financing and funding structures
  - Developing and/or customizing the job profiles and training patterns
  - Developing and/or customizing the training schedules
  - Developing and/or customizing the exam regulations
  - Training and recognizing the trainers in the factories
  - Training the trainers
  - Setting up, equipping and maintaining of part-time vocational training schools
  - Conducting the final apprenticeship examination
  - Quality assurance and control
  - Recognition and accreditation
  - Supervision of implementation in schools and factories
- **Developing/adaptating the legal foundations**
  - A basic legal framework defines the rights and duties of all the concerned parties.
  - Checking whether other laws are affected by changes: for example in the area of youth protection, youth employment, working hours, work safety, school organization and classroom lectures, etc.
- Development of **participation structures** for the different stakeholders involved in apprentice training: Consultation processes, listening, informing and/or advising
  - Defining the form and level at which participation should be possible: national, regional and/or local
- Establishing a **committee** that brings together the different stakeholders involved in apprentice training and who take decisions ⇨ for example the "Berufsausbildungsbeirat" (A) or "Bundesinstitut für Berufsbildung" (G): Definition of the tasks, rights and duties of this committee The principle of unanimity.

**Tasks of the Committee:** Makes decisions about the creation of a new apprenticeship, defines the training profile of an apprenticeship, and the contents and forms (for example the training modules, etc.)

Systematic involvement of the "social partners" while working out a Vocational Training Act

  - The **companies** form the backbone of the apprenticeship system: They have the responsibility for the contents of the apprenticeship as well the training in the companies; if possible, they are the primary (local) carriers of the administrative system.

### ASPECTS RELEVANT TO DECISION-MAKING - contd.

- Representation of employees: Ensuring a certain range in the vocational profile so that general as well as transferable skills are conveyed; ensuring compliance with regulations about work and youth protection (for example overtime, working night shifts) as well as protection of the apprentices against exploitation.
- **"State"**: Judiciary; role as agent and initiator: Defining the relevant ministry - question of uniformity in responsibility and distribution of competence to different ministries (such as the Ministry of Education and Ministry of Economics); regulation of the part-time vocational training schools (Ministry of Education)
- Uniform statutory regulations for co-operation between companies and schools
- **Financing**: All stakeholders contribute towards covering the costs and are also those who enjoy the benefits.
  - **Firms offering training**: Expenses for the training of the apprentices in the factories (including Apprenticeship remuneration) are to be offset through income from the productive services of the apprentices.
  - **Government** will finance the part-time vocational schools and will provide for financial incentives for the firms imparting training (Allowances' model<sup>4</sup>, fund solutions<sup>5</sup>, exemptions, etc.).
    - ✓ Investments in the infrastructure of the vocational schools for apprentices. Support from companies?
    - ✓ Participation of the State in the costs of schools and any other involvement in the costs of the companies : a) transparent b) uniform across the country
  - **The apprentice** also implicitly bears the costs because during the apprenticeship period, as he/she is paid remuneration that is below the minimum wages agreed with the trade unions.

### The challenge of capacity building

- What options are available for the concerned parties to provide institutional capacities as well as expertise?
- What are the options available for expanding/enhancing institutional competence?
- For companies: "On-site apprentice office" and/or branch approach

<sup>4</sup> A model of basic allowance + special allowance would be conceivable for high-quality apprentice training or a (partial) takeover of costs for health/ accident insurance by the government or motivational funding for companies that are entering into apprentice training for the first time.

<sup>5</sup> For example: levying a certain percentage of the total wages of a company and providing this money to the firms offering apprentice training.

## **Success factor 2: "Vocations are more than jobs"**

### **Vocational concept**

#### **Brief description:**

An apprentice training system needs a base in the form of a "vocational concept". A vocation or profession includes a set of activities for which qualification is effected within a framework of a broad-based training course. It is ensured that the capacity to act required for executing qualified professional activity has been acquired, and that the acquired competencies can be utilised on the job market. Thus, it combines on the one hand working and learning and on the other professional qualification and personal development. This thus demarcates the vocational principle as a constituting element of an apprentice profession from other concepts that qualify for strictly demarcated work: a "job". The dual principle of vocational training equips the trainee not only with the professional qualification in a relatively short period of time; it also gives him/her a professional identity and a professional confidence. This represents a value that cannot be underestimated for personal development and the social integration of young people.

The chief characteristics of a vocational concept are, among others, mainly the following:

- Specific activity fields and/or professional positions that are relevant beyond the frontiers of any company
- Access to an area of activity is effected on the specific basis of knowledge and competency.
- The authorization to practice a specific vocation takes place through a qualification during training that is publicly recognized and completed through a certificate/diploma.
- Mobility within and across organizations that can be promoted through advanced and further training.

## ASPECTS RELEVANT TO DECISION-MAKING

- **Development of a job profile**

Job profiles must be strictly demarcated (i.e. they must be specific to the subject and relevant to the company) in order to provide a professional identity; at the same time, they should be broad enough to enable a board approach/change/reorientation/higher qualification or retraining outside of the training institution.

- ➔ Development of job profiles and training patterns based on the consensus principle by involving the representatives of the management and the employees
- ➔ Linking the development of job profiles to the qualification requirements within the organization ⇒ Which professions are needed by the economy?
- ➔ Job profiles and training patterns are the basis for the development and/or adaptation of the VET syllabus ⇒ Coordination
- ➔ Defining uniform and recognized professional training standards and vocations across the country (incl. clarification of international recognition)
- ➔ Classification of training professions into the existing vocational classification

- Profession gained through apprenticeship is a **fully professional qualification**, i.e. the apprenticeship imparts all the relevant qualifications (skills, knowledge, competencies) needed to practice the profession ⇒ Demarcation/difference from schools that "qualify" a person for professional fields.
- Apprenticeship qualification is a **formal national completion of training** ⇒ Integration of the apprenticeship completion certificate/examination into the national Slovakian training hierarchy
- Development of **training and advanced training structures**, that on the one hand enable a person to gain qualification and on the other hand allow for higher qualification that goes beyond professional career.

### **Success factor 3: "An apprenticeship is also useful for the training company"**

#### **Benefits for the factories**

#### **Brief description:**

The involvement of companies and training institutions in adequate numbers and quality is an indispensable core dimension of a sustained, functioning apprentice training system. However, this is only the case when companies are to expect benefits. Empirical studies sufficiently show that apprentice training will secure a talent pool of their own for companies for the future, and will thus promote operational continuity and innovation. The expenses for company-based training (time, resources, trainee workshops, trainers, remuneration to apprentices) are to be offset through the productive services of the trainees during the apprenticeship period. The expected cost-benefit ratio during the training is an important deciding factor for offering a training slot in the company whereby the benefit cannot be quantified only through the productive output - it is also associated, for example, with an investment motive in the medium term.

#### **ASPECTS RELEVANT TO DECISION-MAKING**

- Initiation and establishment of **corporate associations** that bring in the interests of the company (including development of job profiles, examinations, training associations, development of laws)
- Clear financial structure for company-based training: Complete **tax recognition** of the company costs as operational costs
- Apprenticeship market: Organization and access
  - Support/Organization through public offices such as a Public Employment Service, online apprenticeship exchanges
  - Direct access to schools
  - Companies themselves select their apprentices
- Transparent **funding structures and funding models**
  - Direct contributions
  - Tax concessions
  - Exemption from payment of premiums
  - Non-monetary promotion and services supplied by the government (advisory boards)
- Private part-time vocational training schools should be made possible legally and government recognition must be ensured ⇒ Taking over the costs of trainers
- Transparent **information about costs and benefit aspects** that enable a company to evaluate the scheme for the company

### ASPECTS RELEVANT TO DECISION-MAKING - contd.

- Optional financing: funding options borne by the companies (voluntary or compulsory) at a regional or sectoral level
- Well-prepared information for companies that want to be involved in training of apprentices.
  - Info events
  - Setting up contact points and search services that inform and advise the companies (for example "company scouts") ⇒ especially to advise about legal framework, financing, support and organization of the training
- Transparent criteria for **suitability as a training company** ⇒ Accompanying measures for achieving this suitability
  - Initiation of **training associations** and supra-company training institutions ⇒ especially for small and medium-sized companies
- Develop other **support services** and **training aids** etc.
  - Training the trainer and advanced training
  - Guidelines for starting the training, for recruiting apprentices, for company visits and open house events, etc.
  - Training guidelines, training materials, training documentation
  - Explanation about legal texts
  - Materials for professional information and for marketing the professional training
  - Help in selecting; conducting aptitude tests
  - Organizing overseas internships
  - Initiation and organization of competitions amongst apprentices

## ***Success factor 4: "Quality is the responsibility of all stakeholders"***

### **Mechanisms of quality assurance**

#### **Brief description:**

The fourth core dimension for functioning apprenticeship training systems deals with questions of quality development and assurance. The formal completion of training and thus that of the apprenticeship function as signs for the job market: It therefore must be ensured that a person who has completed the apprenticeship is fully equipped with the associated knowledge, skills and competencies. This is important from the point of view of the school-leaver for his/her job market options "outside" the company where the training has been completed. It needs to be ensured that irrespective of the company where the training has been completed, the training quality has attained a guaranteed level; only then will each vocation also be in demand on the job market. The quality assurance dimension is thus important on all levels: From the learning institute itself (quality requirements to be fulfilled by the company imparting the training, security, support and development of training quality in the company), to quality of vocational training in the part-time school offering VET, to the final apprenticeship examination.

## ASPECTS RELEVANT TO DECISION-MAKING

- **Assessment procedure:** Basic pre-requisites to be fulfilled by a firm imparting training: complete compliance with the training profile; existence of a training manager, compliance with work safety/ general safety regulations, etc.
  - Enabling the formation of **training associations** for ensuring that a company that cannot train in all the aspects of the job profile can still impart the training ⇒ Definition of additional permitted learning institutions of any type
- Promoting the quality of company-based training by the government through practical support such as manuals, training guidelines, explanations about training patterns and job profiles, access to companies' good practices, examples, check-lists for trainers and training institutions

Another option for supporting the training quality would be public awards for excellent training institutions.

- **Trainers**
  - Definition of the person responsible for imparting training in the company to the apprentices
  - What are the competencies that this person must have? – Professional, vocational training-based, legal?
  - How will the trainer acquire these competencies (for example Train the Trainer) ⇒ Create mechanisms for further training
  - Challenge: Ensuring the required competencies as simultaneously as possible with minimal training expense and less regulatory depth (trainer is NOT a teacher)

## ASPECTS RELEVANT TO DECISION-MAKING - contd.

- Who is responsible for reviewing the training quality / standards?
- Ratio: Trainer - Apprentice How many trainees under one trainer?
- **Vocational schools:**
  - Designing the classes at VET: the same profession or job profile in one class
  - Qualification of the trainers
    - ✓ training and technical know-how
    - ✓ What levels of training and practical experience are expected
    - ✓ Qualification and training options for the practitioners
  - Ensuring relevance to practice - including in school
  - Feedback structures between the school and company
  - Quality assurance of examinations in the schools offering VET
  - Equipment and facilities in a part-time vocational training school
- **Final apprenticeship examination:** How is the achievement of competency in vocation and training ascertained?

Defining what is tested, who will test, how, when and where

  - Under what area of responsibility does the final examination fall?
  - Composition of the Examination Committee ⇨ Integration of the representatives of management and employees
  - Designing the final examination ⇨ How will school-based training be integrated into the final examination
    - ✓ Common examination for company- and school-based training
    - ✓ Separate competence testing for the company and school part ⇨ with or without credits
  - Process of defining competence
    - ✓ Options: Interim tests, external evaluation of the final examination
    - ✓ Possible integration of ongoing observation of performance
  - Ensuring practical alignment

### The "Mutual Trust" challenge

One pre-requisite for constructive dialogue between the stakeholders (the company, representatives of employees, government, VET schools etc.) in dual apprenticeship training is **mutual trust** that the efforts of all the stakeholders are directed towards the common goal of high-quality professional training.

The basic responsibility for ensuring and developing quality in training at the individual learning sites lies with the respective stakeholders.

**Success factor 5: "An apprenticeship adjusts to changing qualification requirements"**  
**Customization and innovation mechanisms**

**Brief description:**

As part of the dual training, it is necessary to adjust the vocations and their concepts to economic developments and trends, and the resulting changes in qualification requirements. Only then would it be possible to ensure that the apprenticeship will impart all the relevant professional skills that are required by the economy and are therefore in demand in the job market.

Therefore, the individual items in the job profile are not static; they should be formulated in such a way that they can be quickly and simply customized to suit new developments. The initiative for reorganization can generally come from the respective industries or also from the social partners and concerned ministries; however, it is normally from the companies themselves because they are more directly aware of change as it occurs. In any case, the requirements of professional life and the practical requirements of the industry are at the forefront. They should be supported through studies and evaluations.

**ASPECTS RELEVANT TO DECISION-MAKING**

- How are new apprenticeships developed? ⇒ Definition of who, on what informational basis, and how decisions can be made about a new vocation, or existing ones can be adapted.
  - Committee of apprentice training; the right of all stakeholders to initiate ⇒ Consensus principle
  - Support through approaches of analysis of qualification requirements, company surveys, feasibility studies in individual job profiles.<sup>6</sup>
- Learning outcome-oriented structure of the regulations (vocational education and examination regulations)
- Thoughts and approaches for the integration of less-fortunate target groups into the dual training system,
- Strategic planning for setting up professional higher qualification facilities such as master/ supervisor training, dual studies, universities of applied sciences, professional

<sup>6</sup> Company-based training is primarily demand-driven, whereas school-based training primarily depends on the offer.

**Success factor 6: "An apprenticeship as an attractive training path for young people"**  
**Demand from young people**

**Brief description:**

Young people find dual training attractive because it offers a wide range of options that are also diverse. An apprenticeship equips a person with all the important skills and competencies that are necessary for practising a certain vocation. It also imparts general and supra-company, transferable competencies that are useful not only in the training institution but also in the industry and generally on the job market.

The dual system thus covers a wide range of different pre-requisites. In this, "on-the-job learning" is a key, attractive feature from the viewpoint of many young people. Other important attractive aspects include stable professional and job prospects, good opportunities on the job market, regulated working conditions and channels for advanced training, as well as an improvement in income opportunities. One important advantage of the dual training as compared to full-time school systems lies in the possibility of being directly taken on in a professional role immediately after completing the training. Earning money even during the training period is an important plus point of the dual training system for many young people.

## ASPECTS RELEVANT TO DECISION-MAKING

- Access to training - **entry criteria** (pre-qualification, age)
- **Progression:**
  - Entry for upper secondary school-leaving certificate holders ⇒ Reduction in the apprenticeship period
  - Progression for apprentices to tertiary education (Berufsreifepfung model)
- **Transition, school ⇔ vocational training**
  - Bridging offers for young people who are not yet ready for training
- **Orientation offers:** early start to enhance the image of professions and vocation ⇒ The motivating factor of students being able to respond to this
  - Image-based and information campaigns
- **Career guidance offers** - generation and expansion
  - Regulation of responsibilities
  - The role of the school in career guidance
  - Integration of the parents into the decision process
- Promote the **mobility** of young people
  - Vocations with a relatively small number of apprentices may need to be trained only at one part-time school offering VET
  - Regional variations in the apprenticeships on offer
  - Support services: Travel allowances, housing allowances
- **Remuneration to apprentices** (students during the practical training) – Inspection and adaptation of the legal framework
  - Regulation of remuneration at a national level, basically on the basis of collective contracts (allow excess payment?) ⇒ Health / accident insurance as provided to employees
  - Also, basic cover for the remuneration of skilled workers (the extent of this cover is relevant for determining the cost “burden” on training companies, which is thus an incentive for making apprenticeships available; the extent of cover is also relevant for the students ⇒ How attractive the training is)
  - Concretisation: Extent depending upon the apprenticeship, year of training given by the board or social partner for wage setting.
- **Offers for slower learners** – Individual extension of the training period; if required, limiting the job description to partial qualifications
  - Generation of simple job descriptions
- Offer for people with a low level of qualifications in the form of an “extraordinary” final apprenticeship exam for acquiring a formal vocational qualification by recognising non-formal and informally acquired competencies.

## **Success factor 7: "Lean administration and clear, transparent processes" Administration and Implementation**

### **Brief description:**

Streamlined, transparent administrative structures and processes are another fundamental element of effective apprentice training systems. In this respect, the basic element in Austria is the apprenticeship contract between the instructor and the apprentice, which must be concluded in writing. The apprenticeship office checks the data in the apprenticeship contract and the suitability of the training firm, and acknowledges chargeable vocational training periods. Logging the apprenticeship contract is a prerequisite for subsequent qualification for taking the final apprenticeship examination. The apprenticeship contract must mainly include the following details: the name of the apprenticeship in which the training will be conducted, the duration of the training period, the beginning and end of the training, possible training within the framework of a training alliance with other companies or educational institutions, the amount of apprenticeship wages, etc.

### **ASPECTS RELEVANT TO DECISION-MAKING**

- Regulation of the responsibility for direct administration: Who is responsible for what?
- **Apprenticeship contract:**
  - Regulates the basic relationship between the training firm and the apprentice
  - Determination of the apprenticeship, training period, apprenticeship remuneration, trial period etc.
- **Apprenticeship remuneration:** uniform regulation for Germany ⇨ on the basis of collective contracts (see also success factor 6)
- **One-shop principle:** Clearly defined, institutionalised focal points for companies locally
  - Regional or
  - industry-specific

### III. Timing Roadmap

The basic challenge lies in

- ... recognizing that the workplace in the company is a setting conducive to learning..
- ... Capacity Building: Establishing the required stakeholders on the part of the company, the trade unions as well as the government with the required level of expertise
- ... establishing an Action/Decision-Making Committee in which all these stakeholders are represented
- ...Deciding on the desired basic model of an apprenticeship
- ... Establishing a Vocational Training Act that gives the apprenticeship a legal basis and defines the tasks, rights, duties and responsibilities of the actors.

**The relevant stakeholders must give themselves an organizational, legal and decision-motivating setting that also defines the contents of the basic sections of an APPRENTICESHIP (vocational concept, apprenticeship contract, interplay of company and school as training institutions, etc.)**

**1st Step: Defining the basic model of the apprenticeship ⇔ Establishing an "Initiative Decision Committee"**

Basically, this "Initiative Committee" will decide the key contents of the cornerstones of an apprenticeship. The most important aspect here is the integration/inclusion of all the important stakeholders into this negotiation process (principle of consensus); these are in particular the social partners and government/public administration and/or a "nucleus" (for example an automotive cluster on the part of the companies).

The tasks are:

- Defining the **basic model of the apprenticeship**, i.e. the cornerstones of the cooperation as well as the division of tasks between the firm offering the apprenticeship and the part-time VET, developing of the vocational concept
- Defining the **basic structure** for
  - ➔ Financing responsibilities
  - ➔ Apprenticeship contract and apprentice remuneration
  - ➔ Recognition of the apprenticeship as a formal national completion of training (integration of the apprenticeship into the Slovakian qualification system)

**The following need to be done in advance or in parallel: Capacity Building & Trust Building**

## **2nd Step: Defining the governance model of the apprenticeship ("Vocational Training Act")**

The tasks are:

Establishing a **legal basis** (comparable to the Austrian Vocational Training Act) that gives legal roots to the apprenticeship and defines the tasks, rights, duties and responsibilities of the individual stakeholders.

The key focus of this is the legal implementation of the joint results achieved in step 1. Within this, the core lies in the clear definition of the role of the "decision-making committee of social partners". This committee is entrusted with the main task of detailed controlling (defining concrete apprenticeships, their job profiles, examination modes, etc.)

## **3rd Step: Preparatory implementation tasks**

- Defining the process(es) for quality control in the firms offering vocational training (defining the procedures, i.e. does the company fulfil all the pre-requisites in order to be a firm offering apprenticeship)
- Defining the required trainer competencies as well as creating the training mechanisms relevant for them
- Create a list of first apprenticeships (to be started)
- Establish the administrative entities ("apprenticeship offices on site")

## **4th Step: Detailed implementation tasks for the individual apprenticeships**

For each apprenticeship from step 3, the necessary concrete and detailed tasks are taken up for implementation:

- Defining the basic training contents that are to be imparted in these apprenticeships as well any other training modes (modules, etc.)
- Concretisation of the training contents of the part-time vocational training school with those of the company-based training → Curriculum of the part-time school
- Learning times (timing of the part-time school)
- Final apprenticeship examination types etc.
- Defining the amount of remuneration to be paid in the individual apprentices during the apprenticeships

## **5th Step: Starting the first apprentice training**

- Assessment procedure for interested companies
- Creating training plans in the companies (setting up apprenticeship training workshops, if necessary)
- Training the Trainers
- Recruitment of apprentices

- Signing of apprenticeship contracts between young people (legal Guardian) and companies
- Starting the part-time vocational training school Defining the location, equipment

**Probable support activities:**

- "Scouts for training companies" Persons who will inform potential training companies about opportunities for training (legal framework, master conditions, financing and funding modalities, etc.), motivate the companies to offer training places and consult and advise the companies during their entry into apprentice training.
- Information material for factories offering training and young people
- Information for trainers
- Preparatory material for trainees for completing the final examination
- Support material for testers, etc.
- Public online apprenticeship exchanges
- Aids for selecting the apprentices

Steps 3 to 5 could also be established gradually with the help a smaller number of apprenticeships. These would thus function as "**Pilot apprenticeships**" i.e. on the basis of the experience gained in establishing these, it would be possible to make generalizations (for example formulating rules for implementation in a general sense that can then be applied to all apprenticeships). Experience shows that negotiations and finalization processes in actual apprenticeships often bring with them a certain level of detailing. To ensure that the generalization needed for a well-established apprenticeship training system is achieved, the ibw, can therefore be integrated into these development/implementation phases as the consulting institution. The ibw would refer to other necessary, relevant and general aspects and requirements that go beyond the actual apprenticeships under consideration.

# R E P O R T

## 1 Initial situation and objective

Under the pressure of an increasing shortage of skilled labour, especially in production, and at the same time a high rate of youth unemployment, there is intense discussion in many countries about the (re-)introduction of a dual training system. In some countries, the legal framework is currently being set and/or adapted so that the offered training can be soon supplemented with a dual training system with strong commercial components. Many pilot projects have been initiated or developed in parallel; these are directed towards sounding out and investigating the existing laws and looking into options and scope for company-based training, and co-operation between companies and schools. This may help in identifying the strengths and weaknesses of the existing system and creating starting points for the necessary enhancements and changes to the legal and structural framework conditions. The pilot projects also offer a chance to test, within this framework, the options for future co-operation between the key players (for example companies and company associations, ministries, and schools) and, if necessary, build up the structures for such a co-operation. A transfer can be meaningfully effected at those points in the system where there are already "enclaves" with forms of work organization that are already supported by qualified experts. The possibilities for expansion into other areas can then be investigated in the next step. (cf. EULER 2013, P. 23)

To achieve this, success factors should be identified on the basis of the experiences of successful dual training systems (mainly Austria, Germany and Switzerland) for a functioning dual training system; implementation models should be developed for establishing these core elements in the target county; and concrete implementation should be supported and contribute to establishing a dual training system in the respective target country by means of a transfer of know-how. However, it needs to be note that it is unrealistic and also does not appear beneficial to effect a complete system transfer, such as from Austria to another country. Training systems have evolved under very specific and rather different circumstances and historical contexts. They therefore cannot be simply and straightforwardly transferred. While establishing a dual system, the existing structures and traditions of the respective target country must not only be taken into account; the training structure must more be derived and developed from these structures so that reservations and resistances, if any, in the traditional systems can be overcome. This is a process that will not least take a lot of time.

A key basis for the development of an apprenticeship system can give rise to a situation, in certain countries and especially in Central and Eastern European countries, where there is experience from the past with a training system of a dual nature and elements of practical training have already been included in the syllabus in many existing vocational training systems. Another conducive circumstance could be that in some target countries there are many multinational companies with strong dual traditions in their homelands, and that these companies are greatly interested in establishing a dual system, indicating a willingness to be involved in redesigning the existing vocational training system.

The present study presents the first step towards establishing an apprentice training system: Its main purpose lies in identifying the key, core elements (success factors) that

appear to be necessary for a successful and sustained implementation of a dual apprentice training system.

In the preliminary discussions that were carried out, seven content-related dimensions that are relevant for a corresponding know-how transfer were identified:

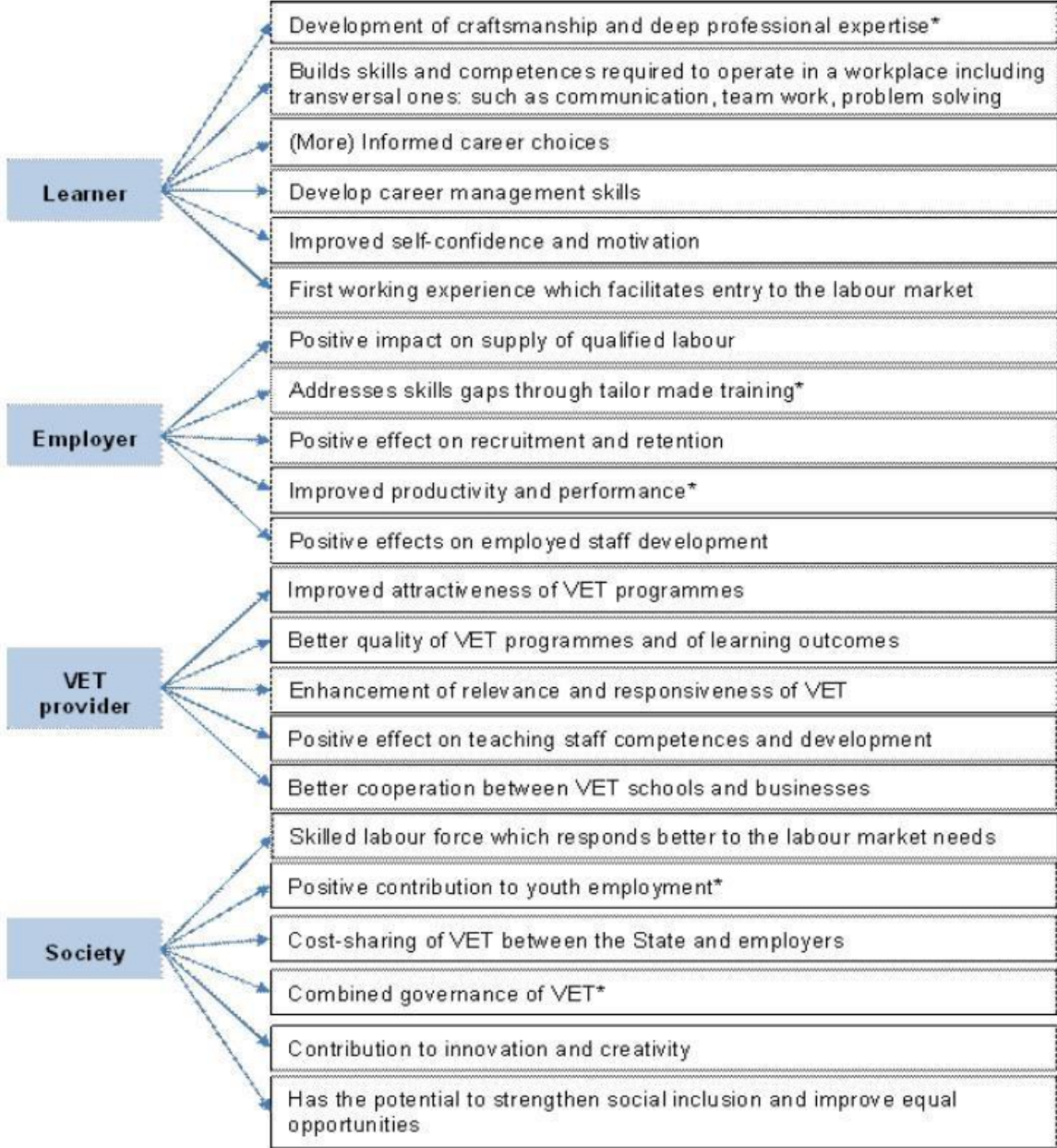
- 1) Establishing the legal and institutional framework conditions
  - Institutional framework conditions/governance/controlling/legal aspects and fundamentals
  - Audit/analysis of all vocational training offers - preparing profiles/modernization/re-specialization of the technical secondary schools (focusing on the key vocational fields)
  - Possible forms of apprentice training including apprenticeship training workshops, training associations etc. - options/models and their consequences
- 2) Inclusion of the companies
  - Involvement of the companies; requirements
  - Definition of the professions and their requirement/demand
  - Motivational instruments, funding systems
  - Tools for recruiting apprentices
- 3) Adaptation of the training contents
- 4) Preparation of the infrastructure required for training
- 5) Qualification of the training staff: Trainers, teachers at the part-time vocational school
- 6) Quality assurance and quality control, testing system
- 7) Profession orientation/marketing of professions

Subsequently, from these dimensions, the success factors outlined in this report are derived for a sustained implementation of an advanced dual apprentice training system.

The knowledge gained through this study and the experiences acquired from the actual implementation of this study, such as in Slovakia, is also to be used as the basis for a general recommendation for action. The recommendation should summarize the fundamentals and implementation stages worked out in this project (cf. Roadmap) for the implementation of a dual training system in a country-independent manner, and subsequently contribute to the development of a dual training system in other countries, especially in the Danube region.

The pre-requisite for the development of an apprentice training system is a positive evaluation of the benefits for all involved parties and stakeholders. The benefits of work-place-related training programmes for the concerned players, independent of the actual way in which they have been designed (apprentice training, internships, etc.), have been summarized in a report provided by the European Commission as follows:

FIGURE 1-1: Benefits of work-place-related training programmes



Source: EUROPEAN COMMISSION 2013, P. 8

## 2 Apprentice training in the European context

### 2.1 Definition of concept

The existing systems of initial vocational training according to the dual system in the European member countries - often within the individual countries themselves - vary significantly. It is therefore quite difficult to finalize a uniform definition of the concept of "apprentice training". One general parameter of this training route, however, is the two-fold path of training that takes place on the one hand in schools (or other relevant institutions) and on the other hand at the work place. Therefore, in countries with a longer tradition of apprentice training, a "dual" training system is discussed. The type and dimension of the training at the work-place, however, differs in some aspects from country to country. (cf. EUROPEAN COMMISSION 2012, P. 22)

Currently, in the relevant discussions, there is apparently no unambiguous and generally accepted definition of apprenticeship training. However, there are various attempts to form such a definition, for example by CEDEFOP:

"Apprenticeship training refers to a structured plan of learning divided between the workplace and training centre/school. The classic apprenticeship model is one where individuals receive practical training at the workplace and general/theoretical education at a training school or centre, with a core curriculum prescribed by the social partners and sectoral/professional bodies, but which may be elaborated at local level." (CEDEFOP 2008a, P. 27)

A similar, generally formulated version of this definition is provided by Gelderblom: "Apprenticeship is a kind of alternance learning that takes place at two intrinsically different learning environments and that, due to the didactic-pedagogical integration of these two learning environments, gives added value." (GELDERBLOM 1998, P. 336). A newer publication of EUROSTAT also contains a similar attempt to come up with a concept definition: "Apprenticeships aim at completing a given education and training programme in the formal education system. Learning time alternates between periods of practical training at the workplace (inside or outside the employer premises) and general/theoretical education in an educational institution or training centre (on a weekly, monthly or yearly basis)." (EUROPEAN COMMISSION 2012, P. 22)

EUROSTAT then also lists some formal fulfilment criteria for apprenticeship training: This means that training of this type must be a part of the formal education program and facilitate a formal, recognized completion of the practice of the learnt vocation or a profession within a professional group. The contents and objectives of the training (employment, duration of the training, knowledge and skills that need to be acquired, etc.) must either be defined in the form of a formal agreement between the apprentice and the company or generally as part of the education system. According to the Eurostat definition, even the financial remuneration of the apprentice is an integral part of the "apprenticeship training". (quoted from EUROPEAN COMMISSION 2012, P. 22). The following

overview shows an interplay of the key parameters of the different forms of apprenticeship training and related training forms.

TABLE 2-1: Key parameters of apprentice training and related training routes

Features	Traineeship	Internship	Informal Apprenticeship	Work-place learning	Apprenticeship
Remuneration	Possible	No	Allowance or similar	Yes	Yes
Legislative framework	No	No	No	No	Yes
Work-place-based	Yes	Yes	Yes	Yes	Yes
Training programmes	No	No	No	No	Yes
On-the-job training	Possible	Possible	Possible	Possible	Yes
Off-the-job training	No	No	No	No	Yes
Formal checking	No	No	No	No	Yes
Recognized completion	No	No	No	No	Yes
Temporal duration	Variable	Variable	Variable	Variable	Defined

Source: STEEDMAN 2012, P. 3

In **Austria**, dual apprenticeship training has been defined by the Austrian Federal Ministry of Economics, Family and Youth Affairs as follows: The training takes place at two learning locations (company and part-time vocational training school); the trainees are in a training relationship with the respective firm offering the apprenticeship training and are simultaneously students of the part-time vocational school whereby the training at the company takes up most of the time of the apprenticeship time (80% of the training period). The final apprenticeship examination is conducted by job-specific professional experts and focuses on the practical skills and knowledge acquired by the trainee based on what is required in future in the profession. (cf. BMWFJ 2012a, P. 5)

Currently, in the member countries of the European Union, there are very different instances of initial vocational training at secondary level II, wherein it needs to be mentioned that one or the other form of vocational training - where the practice-related training at the work-place plays an important role - is to be found in all the member countries.

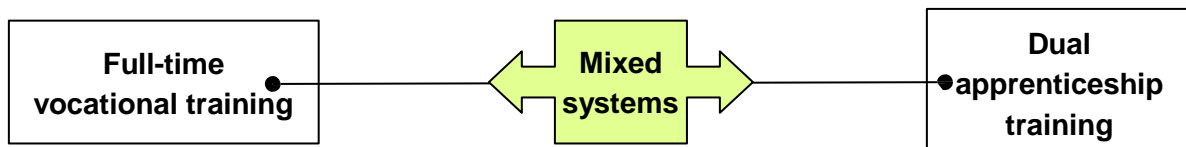
A publication from the European Commission on the topic of "Apprenticeship training in Europe" from 2012 makes a basic distinction between two instances of training within EU-27, wherein both training types are to be found simultaneously in most of the countries: On the one hand, these are apprenticeship training that is mainly handled in companies, i.e. more than 50% of the training is done in the company itself. These systems can be referred to as apprenticeship training systems in the traditional sense. On the other hand, these are apprenticeship training systems that are mainly handled in the part-time vocational school. (cf. EUROPEAN COMMISSION 2012, P. 30)

## 2.2 International comparison of initial vocational education and training systems

From a wide of professional initial vocational education and training systems, most countries have a basic separation in general education and vocational education in the secondary level II.<sup>7</sup> As Schmid and Hafner further elaborate, both these areas can be divided further into courses with higher requirements and those with basic requirements ("average qualifications"). Courses with higher requirements normally lead to entitlement for education offers in the tertiary sector. Courses that equip with average qualifications are often to be found in the vocational training area and prepare the incumbent for the job market. (cf. SCHMID and HAFNER 2011, P. 32)

The possible designs move between two extreme poles: A purely full-time-school vocational training system (with or without a share of practicals)<sup>8</sup> on the one hand and a purely dual apprenticeship training system with predominantly company-based training and accompanying part-time vocational school for apprentices<sup>9</sup> on the other hand. Between these two extremes there can be mixed systems that offer full-time-school vocational training systems as well as dual training systems (having the same value but not of the same type) (see following elucidation).

FIGURE 2-1: Instances of a vocational training system



Source: own research

Figure 2-2 on the next page shows how strongly the secondary level II and thus the initial training systems vary in the 30 countries being compared, based on the dimension of General education/VET.

The gamut ranges from countries where almost all young people attend a general school at secondary level II (USA, Canada, Japan, Korea, etc.) to countries where almost half of young people attend a general school and/or vocational training school (for example Spain, France, Poland, Denmark, Australia, etc.), to countries with a low share of students in a general school but a large number of young people in vocational training schools (such as Austria, Czech Republic, Slovakian Republic, Belgium, Holland, Switzerland, etc.).

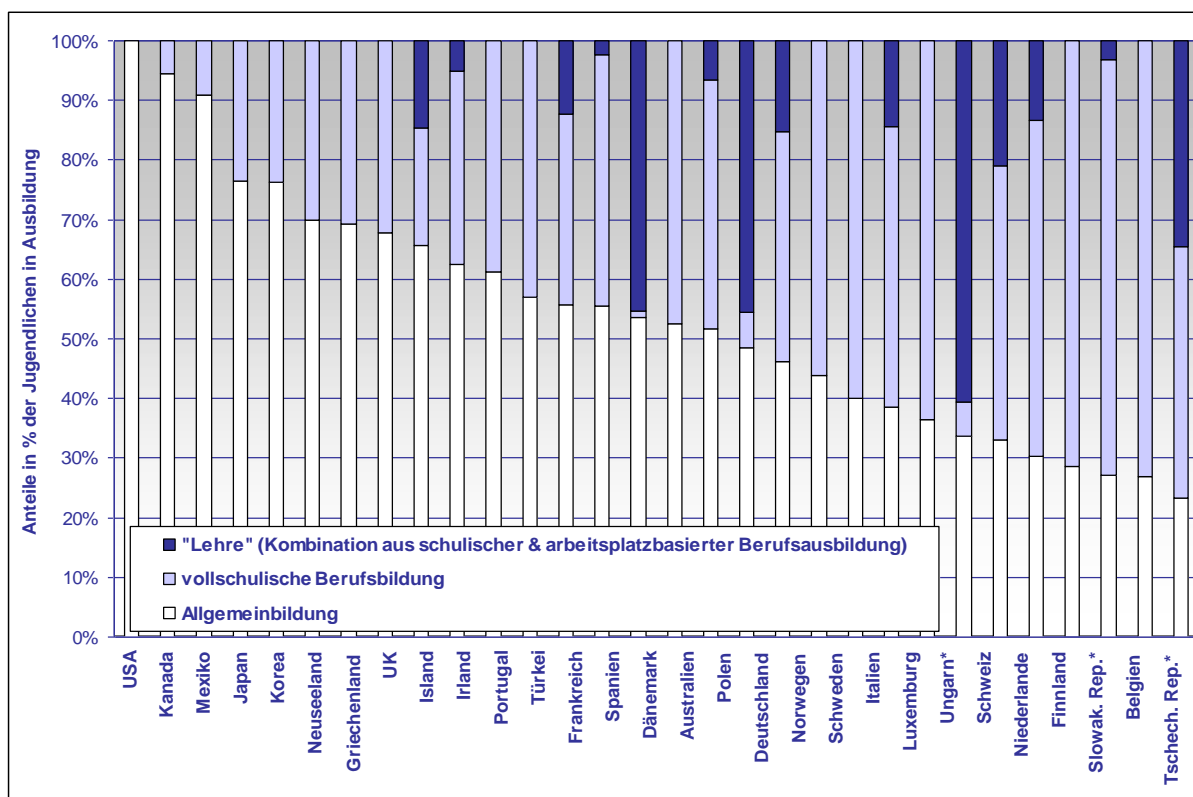
<sup>7</sup> In the last few years, in some countries like Austria, Germany, Netherlands, Switzerland and Bulgaria, these differences begin as early as in secondary sector I. However, this is more an exception than a rule.

<sup>8</sup> Basically corresponding to the current vocational training system in Slovakia or the Czech Republic

<sup>9</sup> Extreme form that does not exist in reality; the Danish, German and Swiss vocational training systems come closest to this form

FIGURE 2-2: Distribution of young people in the Secondary Level II based on general schooling, training forms concentrated in school as well as "apprenticeship" (2010)

*Ranking based on the number of young people in general education*



Source: OECD database, ibw calculations

Remark: The UOE database (UOE = UNESCO/OECD/EUROSTAT) does not provide any differentiated information as to whether the category "combination of school and work-place-based vocational training" deals with "classic" apprenticeship training or a primarily school-based vocational training (with compulsory internships, workshops, etc.). This means that, for example in the Czech Republic and Slovakia, there is a large number of secondary level II students in this training form - on the other hand, according to the information provided by CEDEFOP (2010 and 2011), there is no apprenticeship training in the Czech Republic, Slovakia and Hungary. These values have therefore been modified accordingly for these countries according to this publication.

In this comparison of countries, Austria has the largest number of young people in the training forms related to vocational training. Countries such as the Slovakian and the Czech Republic or Belgium also have a large share of vocational training in this ranking. In contrast to Austria or Switzerland with their well-expanded apprenticeship systems, the initial education and vocational training in these countries takes place only in school-based training forms. As Schneeberger also emphasizes, there are major differences internationally as regards the learning locations and the education levels in imparting vocation-specific qualifications. (cf. SCHNEEBERGER 2006, P. 11)

According to this vocational qualification, only few countries have established apprenticeship systems to an extent worth mentioning, namely, Switzerland, Denmark, Germany, and Austria. In several other countries (primarily in Europe), there are similar

forms of apprenticeship training (and/or training forms that are based on a combination of school and work-place-based vocational training) - however, this form of training amounts to only 5 to 20% of an age group; for example in the Netherlands, Finland, Norway, France, Poland, Iceland, Hungary As discussed above, in view of the manifold ways of actually combining school and work-place-related vocational training, defining the concept of apprenticeship training is extremely complex. It is therefore possible to find some sort of vocational training, in all member countries, where practice-related training plays a key role in the workplace. However, the countries differ greatly as regards the percentage of young people that undergo this sort of practice-related training.

Table 2-2 shows examples of some instances of vocational training, as it is mainly to be found in Austria, but also partially in Germany and Switzerland. The main definitive character in this case is the training location.

TABLE 2-2: **Instances of apprenticeship training based on training location**

Instance	Special characteristics
Training purely in the part-time school offering VET	no or hardly any company-based training parts
Dual training	Splitting up of the training between company and part-time school offering VET; mostly a strong emphasis on the aspect of training in the company.
Three-tiered training	In Switzerland: Splitting up of the apprenticeship training over the company, school offering VET and supra-company courses in special training centres or in in-company apprenticeship training workshops. In Austria, for example in the construction sector: Distribution of the training between firm offering the apprenticeship training, the part-time school offering VET and school of construction activities.
Training associations	Companies in the association provide mutual assistance in practical vocational training when one company offering training cannot impart training on certain aspects of the training.
Supra-company training of apprentices	Takes place in a training institution; this must be organized and equipped in such a way that all the skills and competencies outlined in the job profile can be imparted.

Source: own research

### 2.3 Austria, Germany, Switzerland: Classic apprenticeship training systems

The structure and implementation of the dual training system are in many aspects similar across Austria, Germany and Switzerland - also due to their similar social and economic traditions and development.

Even if there are significant differences in the details of the design of the systems, all three countries have the dual principle in common, with two learning locations - company and part-time vocational training school - as the basic pillar of apprenticeship training,

wherein the most part of the training takes place in companies. Further, the other important common features of these "classic" apprenticeship training systems are: the clearly regulated governance structures with the involvement of the economy, to which a clear, if entirely different, role is assigned, a direct contractual relationship between the company and the apprentice, and an underlying vocational concept. This means that apprentices are trained for a concrete profession based on clearly regulated contents of the training program. However, this also means that based on the basic understanding of a vocational concept, a certain set of skills and abilities needs to be imparted and the same has to be covered, amongst other things, within a certain duration of training (apprenticeship period).

As table 2-3 on the two following pages shows, the important core elements of this educational route are to be found in all the three countries; however, there are some structural and institutional country-specific aspects that are then elucidated after the overview.

TABLE 2-3: Framework conditions and characteristics of dual apprenticeship training in Austria, Germany and Switzerland

Aspects	Austria	Germany	Switzerland
<b>Pre-requisites for entry</b>	Completion of nine years of compulsory schooling	Fulfilling the full-time school obligation	Completion of obligatory, compulsory schooling
<b>Underlying legal principles</b>	Vocational Training Act (2012)	Vocational Education Act (2005)	Vocational Education Act (2002)
<b>Identifying the suitability of the firms offering apprenticeships</b>	Identification letter of the apprenticeship office (economic chambers) in co-operation with the chamber of labour	Concerned economic chamber (for example the Chamber of Industry and Commerce, Chamber of Trades, etc.)	Approval for training from the department of "vocational training" of the relevant canton
<b>Legal framework Company ⇔ Apprentice</b>	Apprenticeship contract	Vocational training contract	Apprenticeship contract
<b>Responsible institutions</b>			
<b>At the federal level</b>	Federal Ministry for Economics, Family and Youth passes <i>training regulations</i> (training part in the company)	Federal Ministry for Education and Research	State Secretariat for Education, Research and Innovation
	Federal Ministry for Learning, Art and Culture (part related to training in school)	Concerned ministries such as Federal Ministry for Economics and Technology	Federal College of Vocational Training
	Federal Advisory Board for Vocational Training	Bundesinstitut für Berufsbildung (BIBB)	
<b>At the state Level</b>	Apprenticeship offices of the economic chambers	Conference of ministers of culture	Swiss Conference of the cantonal directors of education
	Federal Advisory Board for Vocational Training	Relevant economic chamber (for example Chamber of Industry and Commerce, Chamber of Trades, etc.)	Cantonal vocational training offices
	Regional school inspectors		
	Governors		
<b>Training duration</b>	2 to 4 years	2 to 3.5 years	2 to 4 years
<b>Number of apprenticeships</b>	199 (2013)	approx. 340 (2012)	Approx. 230 (2013)

Aspects		Austria	Germany	Switzerland
Learning locations	regularly	Company, part-time vocational school for apprentices	Company, part-time vocational school for apprentices	Company, part-time vocational school for apprentices, courses across companies (mostly in industry-specific learning centres)
	additionally	courses across companies <sup>10</sup> supra-company institutions (ÜBA) <sup>11</sup>	supra-company courses <sup>12</sup>	
Share of the vocational school education in the overall training programme		Approx 20%, 1 to 2 days per week (2 half days) or blocks	20 to 40%: 1 to 2 days of the week or block	20 to 40%: 1 to 2 days of the week; block in exceptional cases
Financing of the company part of the training		Companies (approx ¾ of the overall training costs), supported by public funding	Net costs of the factories totally amount of 84% of the total training costs (2007): supported on case-by-case basis through public funding	Share of private expenses for the basic vocational training - approx 43% (2010); industry-specific vocational training funds
Qualification		Final apprenticeship examination at the end of the training with theory and practical examination	Interim examination or 1st Part of the extended final examination - for example in the middle of the training; final examination and/or additional apprenticeship examination (in trade) at the end of the training	Final examination at the end of the training in the company and school part; integration of continuous assessment grade given during the training (school + company)
Examples of examination		Written tasks (based on company practice), Practical work, vocationally-specific interviews	Written tasks (based on company practice), Practical work and vocationally-specific interviews	Practical work with vocationally-specific interviews, written qualifying exam
Credits for performance in		No theory examination if the part-time	No credits - separate certificates for	The school examination is part of the

<sup>10</sup> in individual industries (for example colleges of architecture)

<sup>11</sup> for young persons who have not found an apprenticeship slot in the company or in a school

<sup>12</sup> supra-company training courses in the training centres of the chambers of trade

school	vocational school results are positive	the part-time vocational school and skilled labourer test	final examination; continuous assessment grades are included in the overall assessment
Responsibility for examination	Apprenticeship offices of the economic chambers	Chambers of Commerce and Industry and/or Trade Chambers	Cantons, professional associations in some regions/ professions
Aspects	Austria	Germany	Switzerland
Securing progression to the academic tertiary level	Higher vocational school leaving certificate holders	Since 2011, a "Dual vocational training with school completion" model experiment has been implemented in some training professions and countries.	Higher vocational school leaving certificate (additional qualification, integrated into or following completion of the apprenticeship)
Securing progression to the academic tertiary level	Master craftsperson examination, proof of competence examination, industrial master examination	Training for promotion: Master courses, etc.	Tertiary level: Tertiary vocational education and training (vocational examinations, higher technical examinations, higher schools of applied sciences)
Share of fresh apprentices with upper secondary school-leaving certificate	0.6% (2011/12)	23.1% (2011)	-
Initiative for innovations	Organizations of employers and employees (associations, chambers, trade unions) or ministries	Organizations of employers and employees (associations, chambers, trade unions) or Federal Institute for vocational training	Organizations of employers and employees (professional and industrial associations, trade unions) or other organizations and providers of vocational training
Creating new training regulations	Educational research institutes (ibw in particular); certificate of the Federal Vocational Training Advisory Board for the Ministry of Commerce	Federal Institute of vocational training, expert (nominated by employers and employees)	State Secretariat for Education, Research and Innovation
Creating new framework syllabi	Group of experts under the leadership of the Ministry of Training	Expert from the states (nominated by the Culture Ministry)	Organizations from the working world; approval from the State Secretariat for Education, Research and Innovation

Source: various sources, own research. Note: FM = Federal Ministry

A superficial evaluation of the three systems leads to the conclusion that the model is more or less homogeneous; however, there are differences in the details that show the significant and important scope available for system transfer to other countries in the concrete designing of apprenticeship training.

Thus Euler comes to the conclusion that the transfer question should be reflected upon at the level of elements, and that only those elements that match best the specific own goals, structures and cultures should be included and adapted. (cf. EULER, P. 14.) As an example, he states "...for example it is not necessary to establish a complex chamber system such as in Switzerland; the testing and certification can also take place close to the place of learning." (ibid., P. 14) Further, the implementation of a dual system is also conceivable in other learning location combinations; here, the meshing of theory and practice is important. (cf. ibid., P. 34)

Further, some differences between the German, Austrian and Swiss systems are presented as examples; on the one hand, they show the scope for designing a system and on the other hand they also elucidate that even if the initial situations seems to be somewhat similar, the structural and national conditions do lead to very different instances.

**ENTRY INTO APPRENTICESHIPS.**In Germany, the entry into apprenticeships after the completion of a general completion examination assumes a quantitatively important role and this means it differs greatly from the situation in Austria and Switzerland, where the majority of apprentices start their training immediately after the completion of the years of compulsory schooling. In 2010, the share of apprentices in Germany who had just signed the apprenticeship contract and were authorized to study at the University was 21%. This percentage was especially high in the professional group "secondary service professions" <sup>13</sup> at almost 46% and the "new professions" <sup>14</sup> with around 33% having completed the Abitur. On the other hand, the production vocations show a comparatively low share with only around 10% of the incumbents having completed the upper secondary school-leaving certificate (cf. BIBB 2012, P. 155)

**DOUBLE APPRENTICESHIP TRAINING.**One difference between apprenticeship training in Austria as compared to German and Switzerland is the option of "double apprenticeship training". "Austria is the only country where an attempt is made to avoid too high level of specialization through the option of "double apprenticeship training". There, trainees can simultaneously acquire a qualification in two (related) vocations (for example a being a baker in combination with confectioner or caterer together with being a chef)." EBNER 2009, P. 4.) Simultaneous training in two vocations is regulated through the Federal Training Act. The apprenticeship duration results from half of the total duration of the two

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<sup>13</sup> Secondary service professions include professions whose activities mainly concentrate on planning, developing, organizing, managing, caring, maintaining, advising, teaching etc. (cf. BIBB 2012, P. 126)

<sup>14</sup> The term "new professions" is included in the BIBB data report to indicate training professions that have only been introduced in recent years.

apprenticeships plus one year, but not exceeding four years. (cf. BMWFJ 2012c, Section 6 Para. 2)

**RESPONSIBILITIES.** Another difference in the organization of the dual training lies in the fact that in Germany the content of company-based training is defined at the federal level; however, the training in the part-time school offering VET comes under the State - even if the Conference of Cultural Ministers passes the framework syllabus for the lectures in the part-time school offering VET. As a result, the learning contents are not uniform across the country. On the other hand, in Switzerland and Austria, company-based training as well as that at the part-time school is regulated by the Federal Government.<sup>15</sup> (cf. EBNER 2009, P. 5)

Switzerland has followed an innovative approach through the change in the constitution in 1999. This created the basis for a Vocational Training Act that regulates vocational training with its series of references to policies in the fields of education, work and social issues in an overall context. The author feels that this has significantly improved the pre-requisite for controlling the vocational training. (cf. RAUNER 2008, P. 7)

**PROGRESSION AND TRANSITIONS.** Another system difference is to be seen in the fact that experts feel that dual training system in Germany is closed "downward": A considerable number of young people with mostly low grades in school do not manage the jump to regular training. They start an assistance measure, the time of which normally cannot be added to the subsequent training. For example, there are other options available in Switzerland for inclusion: Since 2004, an attempt has been being made there to train such young people in a standardized - i.e. uniformly controlled on a national level - profession (for example as a kitchen assistant). This training lasts for two years and concludes with the "Federal Professional Attestation". Those completing the course can either then find a job, or the training is given credit for the normal three or four year vocational training with a "Federal Skill Certification" (in this case, as a chef).

Even in Austria, the form of supra-company apprentice training exists (in German: überbetrieblichen Lehrlingsausbildung (ÜBA)); this is an instrument for widening the access options in the field of initial vocational training (see also CHAPTER 3.5) The employment package that has come into force in 2008 has created a uniform training type of supra-company apprenticeship training on behalf of the Public Employment Service. This supra-company training in training institutions basically envisages the migration to company-based training, taking into account the training periods; however, if such a transition is not achieved, then it also allows for the entire training up to the completion of the apprenticeship to be conducted in the normal supra-company facility. (cf. LENGER et al. 2010, P. 12)

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<sup>15</sup> The Danish Central government also regulates company-based training and that at the part-time school. However, the part-time schools offering VET have a much higher level of autonomy than in the German-speaking countries. Further, the Danish training patterns are largely master regulations and not curricula that are formulated right up to the last detail. (cf. EBNER 2009, P. 5)

Inclusive vocational training (German: Inclusive Berufsausbildung (IBA)) makes it easy for young people in Austria, who are personally disadvantaged when it comes to finding an apprenticeship opportunity to get access to vocational training, by increasing the apprenticeship period by one year; alternatively, the job profile to be trained can be restricted to partial qualifications.

The German dual training system is also, however, institutionally sealed off "upward", towards college and university. Even during dual training, demanding the completion of an entrance exam in the form of a 'Fachabitur', thereby gaining access to a school of applied sciences, is hardly realistic. On the other hand, this option has been available in Switzerland since 1993 ("Eidgenössische Berufsmaturität"). (see EBNER 2009, P. 3.) In Austria, since 1997, apprentices have had the option of completing a vocational qualification exam; since autumn 2008, this has also been possible in the form of "vocational graduation" - free of charge and in parallel to the apprenticeship: "Three of the four partial exams (German, modern foreign language, mathematics and one technical subject from the respective apprenticeship) can be done even before the final examination apprenticeship; the last partial test after turning 20. ... Through the innovative Berufsreifeprüfung Act and an additional promotional program by the central government, from September 2008, apprentices will also now have the option of preparing for the Matura free of charge and in parallel to the apprenticeship." (<http://www.bmukk.gv.at/schulen/bw/bm/berufsmatura.xml>, 10.10.2013)

In all the three countries, ensuring **progression to the tertiary vocational training** is of crucial significance. As well as the option of higher qualification in the field, this is also associated with further authorizations for practising the respective profession. Thus, in Austria for example, it is necessary in many areas of independent practice of professions in regulated trades to have passed a master or a proof of competence examination.

The implementation of the tertiary vocational training in the individual countries is also quite different. In Austria, the successful completion of the apprenticeship training offers access to the master and qualifying examinations, and industrial master training in the respective functional areas; in Germany, however, those completing the apprenticeship have access to training for promotions. These include master courses or other recognized courses that provide preparation for completing advanced training that leads to acquiring higher vocational qualification. In Switzerland, these are the vocational examinations called "tertiary B", and are higher-level examinations and higher-level technical schools that enable those completing the basic vocational training to have access to higher qualifications in the chosen trade.

Table 2-4 describes some special instances of apprenticeship training in Austria; this will be then explained in greater detail later.

TABLE 2-4: Instances of apprenticeship training based on target group

Instance	Special characteristics
Modularized apprenticeship training	Classification of the training into different sub-modules; in Austria: base, main and special module.
Apprenticeship following Matura (upper secondary school-leaving certificate)	The apprenticeship period can be reduced by one year with the permission of the company imparting the training; there can also be an exemption from the general studies imparted in the part-time school offering VET.
Training with Matura	The Matura is completed or at least started during the apprenticeship period. In Austria, the apprenticeship period can also be extended by half a year if the preparatory courses are attended during the apprenticeship period.
Inclusive vocational training	For the persons who are at a disadvantage on the job market; in Austria: Either only a partial qualification is acquired or the apprenticeship period is extended by one year (in exceptional cases even by two years).
Apprenticeship as retraining	The Vocational Training Act provides the option of "exceptional permission for final apprenticeship examination" for people who have not completed or have completed only a part of the apprenticeship training.

Source: own research

## 2.4 Dual vocational training and entry into the job market for young people

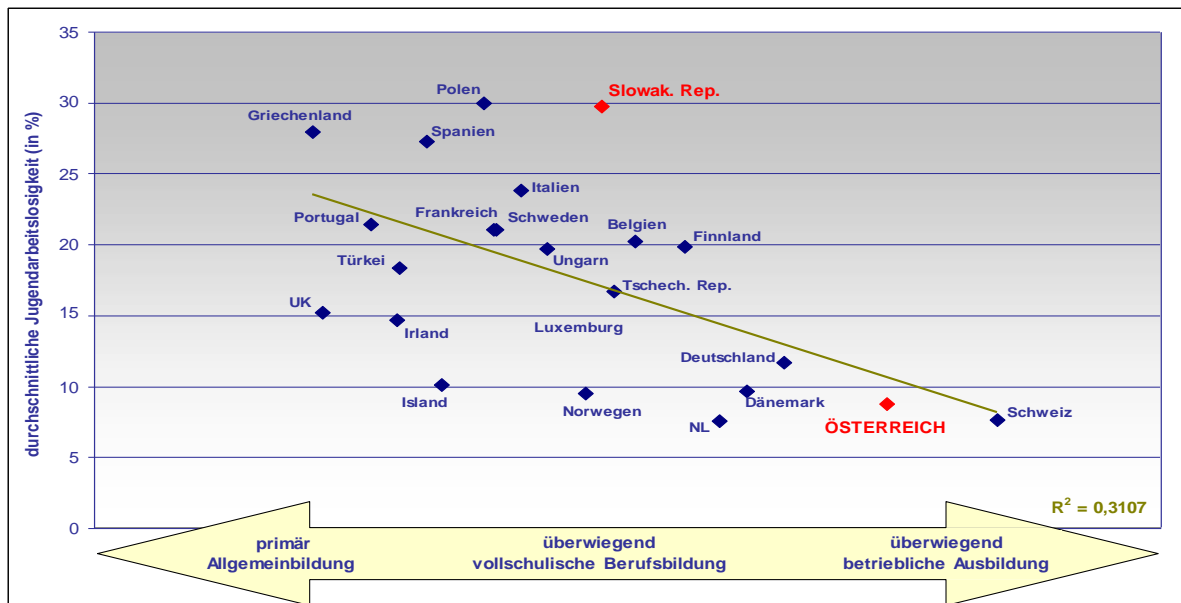
The relevance of professional qualification and especially of a well-established apprenticeship system for employability and opportunities for the entry into the job market are evident. If we compare, for example, the extent of vocational training in the European countries at secondary level II with the rates of youth unemployment, (see. figure 2-3), a strong connection is clear: countries with a focus on vocational qualification<sup>16</sup> tend to have a lower rate of youth unemployment than countries that offer only general education (degree of certainty: approx. 31%). Especially in the countries with a high share of young people in apprenticeship training (such as in Austria, Germany, Switzerland and Denmark), youth unemployment levels is the lowest.

Of course, some countries with primarily a school-based vocational training (such as Norway, Holland and Ireland) have managed to keep youth unemployment at a low level - however, the countries with qualification systems of this type apparently mostly have problems in imparting vocational training and competencies that match the current, quality-based requirements of the job market. This can be seen from the significantly higher levels of unemployment. The highest unemployment amongst young people is seen in countries that primarily or predominantly impart general education at secondary level II

<sup>16</sup> The index of vocational training is calculated as weighted share of students in secondary level II based on the three training paths (general education, full school-based vocational training, and "apprenticeship").

(such as Greece, Spain, Portugal, etc.) The Slovakian Republic does have a large share of vocational qualification at secondary level II (as compared to the countries mentioned above); however, it has one of the highest youth unemployment rates in Europe. This indicates apparently significant problems in imparting adequate professional qualifications in the Slovakian full-school vocational training system.

FIGURE 2-3: Correlation between the dimensions of initial vocational training and youth unemployment (average 2002 to 2011)

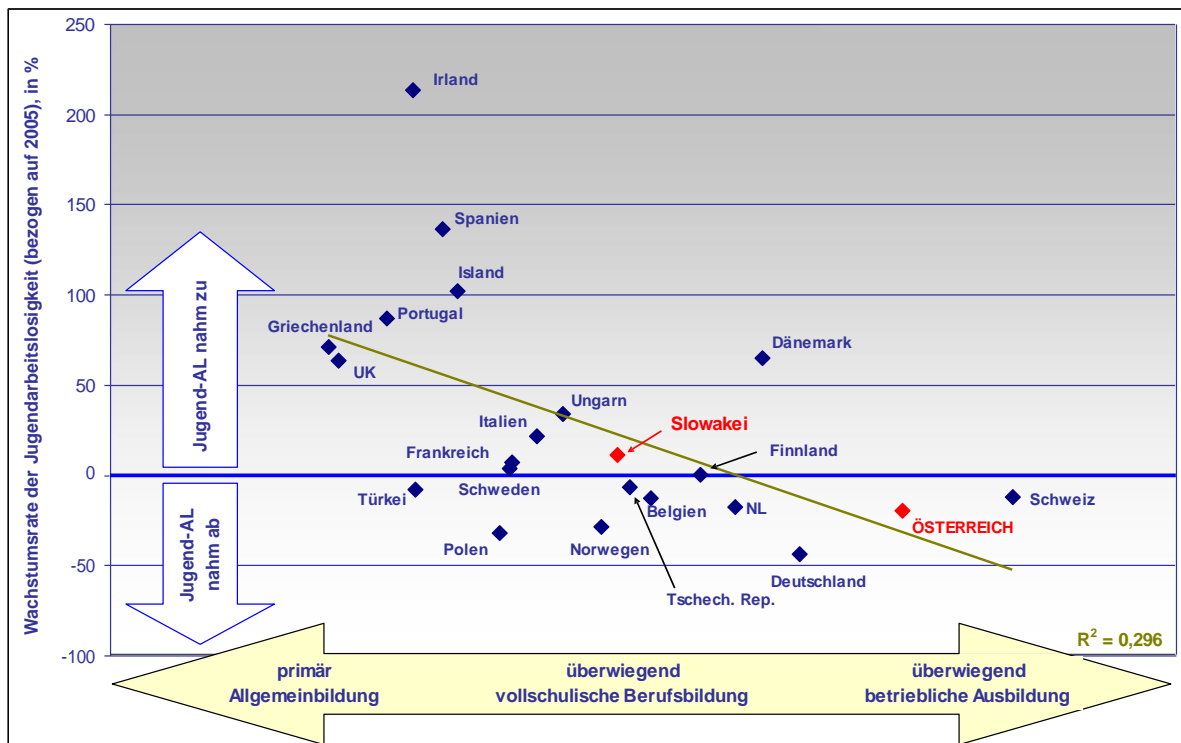


Source: Eurostat and OECD regarding youth unemployment rates as well as own calculations regarding the vocational training index based on the data source as per figure 2-2.

If the change in youth unemployment during recent years (with 2005 as the base year for comparison) are correlated in relation to the training systems (based on the indicator of vocational training in secondary level II), then it can be seen that countries with a high share of vocational qualification at secondary level II tend to show better results: i.e. in these countries, either the youth unemployment has fallen in the period under comparison (for example Switzerland, Austria, Germany or Holland) or their growth as compared to the countries with a predominantly general education at secondary level II is not as strong. This also throws some light on the relevance of vocational qualification and especially of an apprenticeship training system for young people to enter the job market without friction (see figure 2-4).

Of course, the structure of an initial training system may only partially explain the differences seen in the countries (for youth unemployment). National "special factors" such as economic and company structures, economic development, regional specifics, work regulations, employment policies etc. must also always be taken into account.

FIGURE 2-4: Growth rates of youth unemployment and training systems



Source: Eurostat and OECD regarding youth unemployment rates as well as own calculations regarding the vocational training index based on the data source as per figure 2-2.

### 3 Key cornerstones of dual training

There is an interplay of several factors that contribute to the functioning of a dual apprentice training system. A practicable governance system, efficient administrative structures and mechanisms for quality assurance and innovation are as much a part of this as are motivated young persons interested in the training.

The core elements of an apprentice training system are thus the **companies** that bring forth a willingness to function as **training institutions**. Even if in established apprenticeship training systems, many factories emphasize their social involvement in training young people to equip them with skills necessary to make a successful entry in the professional world; generally, the **cost-benefit ratio is a legitimate goal** that is the key factor. This is even more true in countries where a dual apprenticeship training system is going to be established and companies are not used to this tradition.

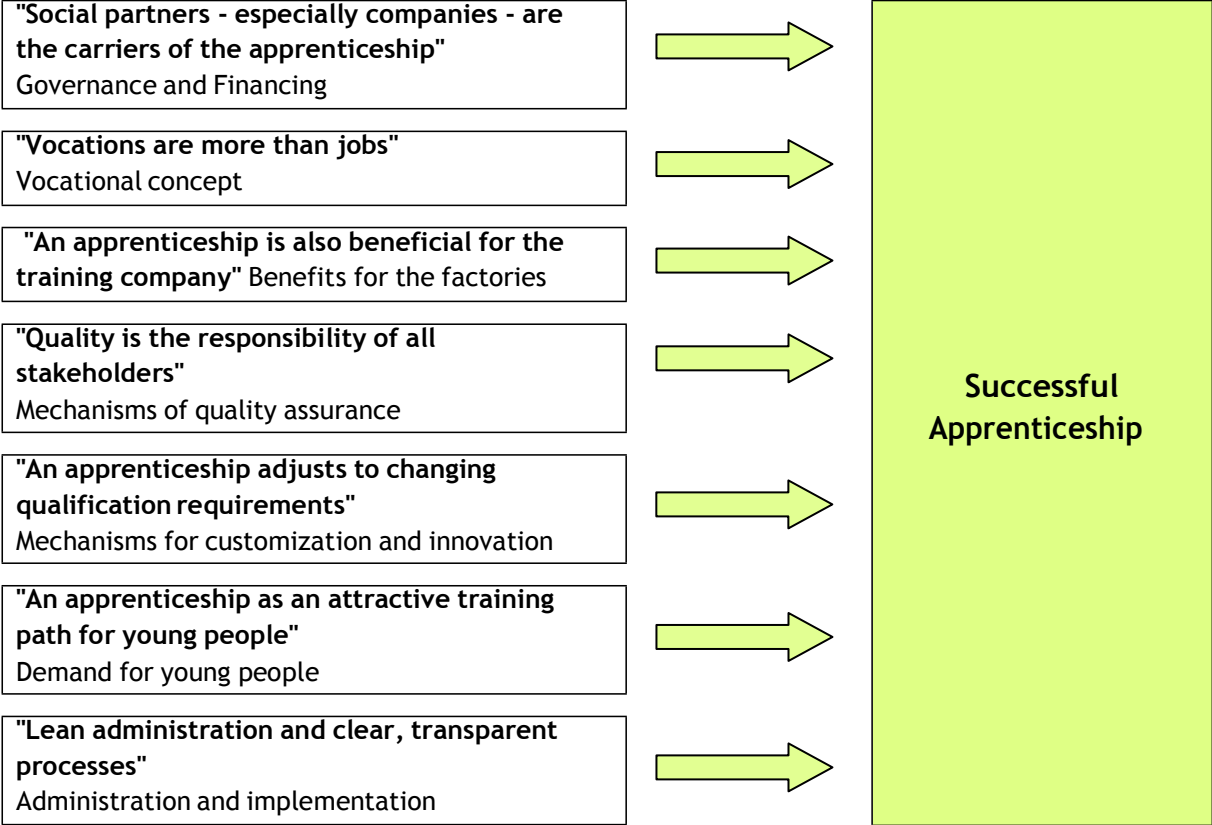
It is also necessary to politically recognize this situation and ask which catalytic factors are necessary for training and learning activities of a company to be converted into a comprehensive and sustained involvement in apprenticeship training that then becomes an integral part of the vocational training system. How can apprenticeship training system be made attractive to companies?

This chapter presents and empirically prepares the dimensions that are especially relevant for a functioning apprenticeship training system. From the point of view of the authors, these dimensions must be 'fulfilled' in order for apprenticeship training to not only be established but also sustained. The benefit aspect for the training companies has been highlighted in success factor 3; apart from this, it also plays an essential role in other success factors.

It must be generally mentioned that the entire analysis is largely based on the Austrian (and the German/Swiss) understanding of an apprenticeship, and on the Austrian implementation of its controlling governance system. The core dimensions that have been presented have been mainly derived from the Austrian perspective and experience and the implementations in other countries with the "classic dual system" (primarily Germany and Switzerland) have also been included in the analysis. The aspects where these countries deviate significantly from the Austrian system or where rather divergent paths have been established will be outlined. The elucidations thus provide space for alternative thinking on how certain dimensions can be concretely designed.

The following figure shows the core dimensions of a functioning apprenticeship system; this will be discussed in this chapter.

Figure 3-1: Contents of the core dimensions for sustained implementation of an advanced dual apprentice training system



Source: own research

These results are also confirmed in a few recent research reports (for this, see INAP Memorandum 2012 or ILO 2012).

A separate chapter has been dedicated to each of these seven core dimensions; within this, there is a short description of the relevant contents at the beginning of each of these chapters. The practice-relevant aspects of implementation are outlined for each core dimension.

### 3.1 Governance and Funding Aspects

#### BRIEF DESCRIPTION:

Social partners, especially companies and their branch offices, are the carriers of the apprenticeship. This is also reflected in the entire governance and financing structure. Governance includes the statutory regulations and responsibilities in apprentice training. At the overall state level, this is applicable also to the ministries involved in school and company-based training. The legal basis for the apprenticeship has been defined in a separate law (in Austria: the Berufsausbildungsgesetz or the Vocational Training Act). While developing job profiles and training patterns, it has been proven that the direct involvement of the companies' practical experience is beneficial; they can be involved through their associations and interest groups in working out the job descriptions and training regulations and also in other matters of apprenticeship training in a consulting and regulating role (for example in consultation committees in which the representatives of the employees are also actively involved). For this, it is necessary that the relevant ministries and authorities are ready to transfer competencies to such a committee and also accept and implement its recommendations and concepts.

For the administration of the different aspects of apprenticeship training, (for example maintaining a log of apprenticeship contract, ascertainment procedures for authorization to undergo training, conducting the apprenticeship completion exams, etc.), it is necessary to have a executing authority (in Austria these are the apprenticeship offices of the Economic Chambers of the individual states).

As part of governance, it is also necessary to regulate the responsibility for setting up, equipping and managing the day-to-day operations of the part-time vocational schools and the payment of the apprenticeship salaries. The part-time vocational training schools are themselves integrated into the economic processes at their respective locations. The direct contact with the apprentice training factories in the region is one of the most important pre-requisites for the optimal implementation of apprenticeship training.

Basically, the *financing structure* in traditional apprenticeship training systems such as those in Austria is characterized through co-financing: Firms where apprentices are trained finance the training structures in the company and pay remuneration to the apprentice (in Austria: apprentice remuneration); the government funds the part-time vocational schools and also grants funds for the firms where apprentices are trained and for the apprentices. A major part of the costs for vocational training during apprenticeship is borne by the firms where the apprentices are trained.

The success and further development of the training is ensured through the partner-based cooperation of many institutions and enterprises at different levels. Within this, it is of utmost importance that an apprenticeship is not "imposed" top-down, but can be "lived and executed" by stakeholders on-site. "Parties involved become participants and are committed to the implementation of rules and agreements; contribution to social

acceptance of the apprenticeship training." (EULER 2013, P. 38) Therefore, social partnership-based cooperation based upon political negotiation processes is accordingly important. Additionally local/regional anchoring and the inclusion/consideration/involvement of concrete individual business interests and needs are of high relevance. Congruence with adequate degrees of participation of those involved is also essential in terms of the financing structure.

### **3.1.1 Basic structure of governance using the example of the Austrian Apprenticeship System**

**AT THE FEDERAL LEVEL.**At the federal level, primarily the Federal Ministry for Economic Affairs, Family and Youth (BMWVJ, referred to here as: Ministry of Economics) and the Federal Ministry for Education, Arts and Culture (BMBWF) deal with the apprenticeship training. The company part of the apprenticeship training falls within the competence of the Ministry of Economic Affairs. The legal basis for the training has been specified in the Vocational Training Act (BAW). The training regulations for the individual apprenticeship are issued by the Ministry of Economic Affairs as per the advice of the federal advisory board for apprenticeship training (BBAB).

The members of the federal advisory board for apprenticeship training will be appointed by the ministry for economic affairs on the advice of the social partner (Austrian Federal Economic Chamber, federal chamber of employment). The teachers of the apprenticeship training schools are also a part of this in an advisory function. The Federal Advisory Board for Vocational Training presents opinions and concepts to the ministry for economics, which have to be taken into consideration in case of enacting or modification of regulations. Thus the social partners are also significantly involved in the designing of the apprenticeship training system at state level.

The regulations regarding the organization of the part-time vocational schools for apprentices and the basic curriculum regulations are stipulated in the School Organisation Act of the federation. The Federal Ministry for Education, Arts and Culture (BMBWF) prescribes the curriculum for each apprenticeship for the part-time vocational schools for apprentices. The salaries of the teaching staff in the part-time vocational schools for apprentices are 50% financed by federal funding.

**AT STATE LEVEL.**At state level, the apprenticeship offices are involved on the one hand. These are the apprenticeship training authorities in the first instance and are resident in the economic chambers of the individual Federal states. They check (together with representatives of the chamber for workers of the Federal states) the suitability of the accredited training enterprise technically and regarding the personnel, and are responsible for the examination and logging of the apprenticeship contracts. They must in principle take care of all questions in the interest of the apprentice and the accredited training enterprise, and ensure comprehensive consultation in this regard. They are supported in this by the apprenticeship and youth protection office of the chambers for employees' welfare. The chairmen of the examination commissions are to be appointed by the

apprenticeship office head on the basis of a recommendation which must come from the state apprenticeship training advisor. The final examinations and the promotions for the accredited training enterprise are also handled by the apprenticeship offices.

The state governments of the federal states are responsible for the construction and equipment (machines, devices and teaching aids) of the part-time vocational schools for apprentices. They also finance 50% of the salaries for the staff in the part-time vocational schools for apprentices.

In the federal states, this responsibility is carried by the governors and the supporting office of the state government as the apprenticeship training office in the second instance. They decide about vocations in matters relating to apprenticeship training, such as against the withdrawal of the authorization to train, and about the cancellation of unlawfully registered apprenticeship contracts. The governors appoint the members of the respective state apprenticeship training advisory boards.

Besides at the state level state, apprenticeship training advisory boards have also been set up as an advisory committee. These are also occupied as a social partnership and are responsible for the forming of the assessments, proposals and suggestions, which directly affect the apprenticeship entity in the respective federal province. On the basis of their proposal, the apprenticeship office head appoints the chairpersons of the apprenticeship training final examination commission.

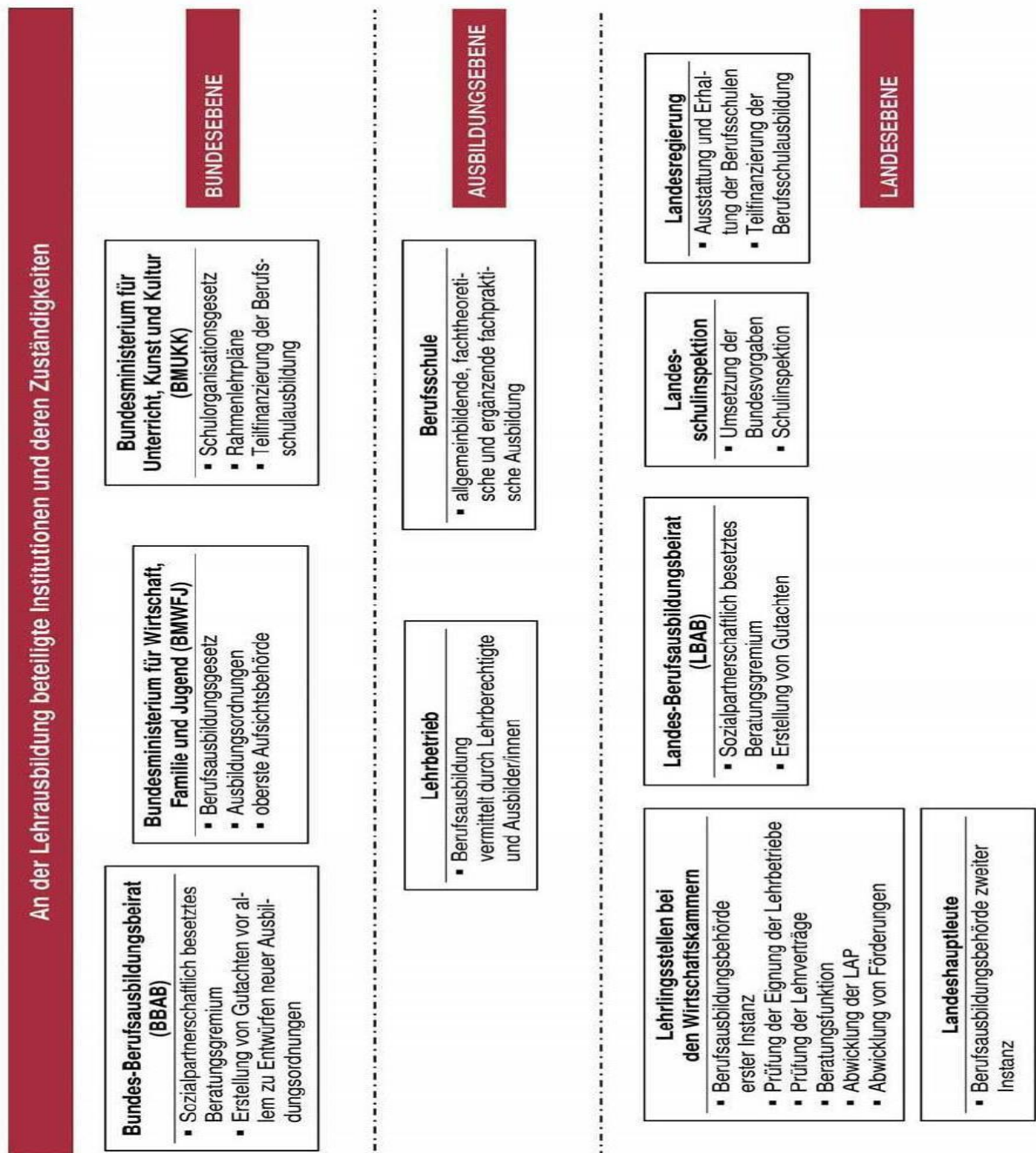
The state school inspectors are entrusted with the school inspection and are responsible for the protection of the agendas in their areas of responsibility as well as the implementation of the federal syllabus framework in the form of the state syllabus.

**AT THE REGIONAL LEVEL.**At the regional level, there are ultimately the responsible authorised apprenticeship trainers. In companies, the apprentice is trained with the support of the trainers to become a qualified specialist.

The part-time vocational training schools are themselves integrated into the economic processes at their respective locations. The direct contact with the apprentice training companies in the region is one of the most important pre-requisites for the optimal implementation of apprenticeship training. (cf. BMWFJ 2012a, P. 21f)

The following figure gives a summary of the significant stakeholders in the apprenticeship and their competencies and responsibilities

FIGURE 3-2: An overview of the structure of governance in the Austrian apprenticeship system



Source: BMWFJ 2012a, P. 23

### 3.1.2 Financing structure using the apprenticeship in Austria as an example

Basically, the financing structure in traditional apprenticeship training systems such as those in Austria are characterized through co-financing: Accredited training enterprises invest in/finance company-based training and pay remuneration to the apprentices - public

financing funds the part-time vocational schools for apprentices and grants subsidies for the accredited training enterprises and accredited apprenticeships. The apprentices receive apprenticeship remuneration, which is lower than collectively agreed skilled worker wages due to their still only emergent level of productivity.

**COSTS TO THE COMPANY.**The costs for company-based training are borne by the respective accredited training enterprises and consist mainly of the apprentice remuneration, the personnel costs for the trainers and equipment and material costs. They vary significantly depending on the apprenticeship, duration of the training and the industry. The largest cost element is usually the apprentice's remuneration. The amount is laid down in the collective contracts. In the event that there is no collective contract regulation, the apprentice's remuneration should be fixed individually in the apprenticeship contract. The apprenticeship remuneration increases with every year of training and amounts in the last year to an average of about 80% of the corresponding collectively agreed skilled worker salary. However, especially in technical apprentices, the material and equipment costs (for example apprentice training workshops) could mean a significant expense for the firm offering training.

At the same time, the apprentice contributes in the course of the training through productive work to the income of the training company. This productivity of the apprentices increases with each year of training.

The costs of the training decrease the profit of the company and therefore the tax revenues. In this way, the state indirectly pays a part of the apprenticeship training costs.

**PART-TIME VOCATIONAL SCHOOL FOR APPRENTICES.**The school-based training (part-time vocational schools for apprentices) is funded by the public sector. The costs for equipping the part-time vocational schools for apprentices with machines, devices and teaching aids are borne by the federal states. The costs for the teaching personnel are paid half and half by the Federal Government and the respective state (cf. BMWFJ 2012a, P. 21f)

**SPONSORSHIPS.**The company-based training can be sponsored by the public sector in different ways. Along with direct financial sponsorships exemptions from contributions, tax benefits and also consulting services play a role.

In Austria, in the first two apprenticeship years, the contributions for the health insurance for both the employer as well as for the apprenticeship are dropped. The apprentices are nevertheless fully insured. The contributions for accident insurance are waived for the entire training period whilst the insurance coverage still remains intact. (cf. *ibid.*, P.18)

In terms of financial support, there is a whole range of sponsorships for training companies. In addition to the basic subsidy for each apprenticeship contract, these are primarily quality-related sponsorships: efforts to support high-quality training. The training company can apply for basic subsidisation after completion of a training year. The amount

is based on the apprentice remuneration and is dependent upon which year the respective apprentice is in.<sup>17</sup>

Comparable sponsorship is also available for apprenticeship contracts for adults.

The quality-related sponsorships cover:

- Internal and supra-company training measures (training association measures, vocation-related additional training of apprentices, preparatory courses for final examinations)
- Advanced training measures for trainers
- Final apprenticeship examinations with good results or distinction
- Sponsorship of preparatory measures for the final examination
- Free-of-charge second or third attempt at the final examination
- Sponsorship of exemptions for preparation for the participation in EuroSkills or WorldSkills
- Measures for apprentices with learning problems (for example tutoring courses for compulsory school level in German, Mathematics, modern foreign languages)
- Equal access for young women and young men to different apprenticeships (eligibility for sponsorship covers: accompanying job coaching for apprentices and projects focusing on the placement of young women in apprenticeships with a share of women of up to 30%)
- Training abroad for apprentices
- Take-over premium for apprentices from supra-company training institutions.

On the basis of the BAG-amendment 2011, consulting, maintenance and support services for increasing the chances of successful apprenticeship training, as well as increasing training participation especially in areas with few training companies, is promoted. These include:

- Coaching of apprentices and consultancy services for companies
- The provision of training manuals for ten central apprenticeships
- The ensuring of the quality of the final examination by the institution of the LAP clearing office

On the part of the public employment service (PES), there is funding for the following categories of persons:

- Girls in vocations with a low proportion of women
- Young people, who is disadvantaged in the employment market

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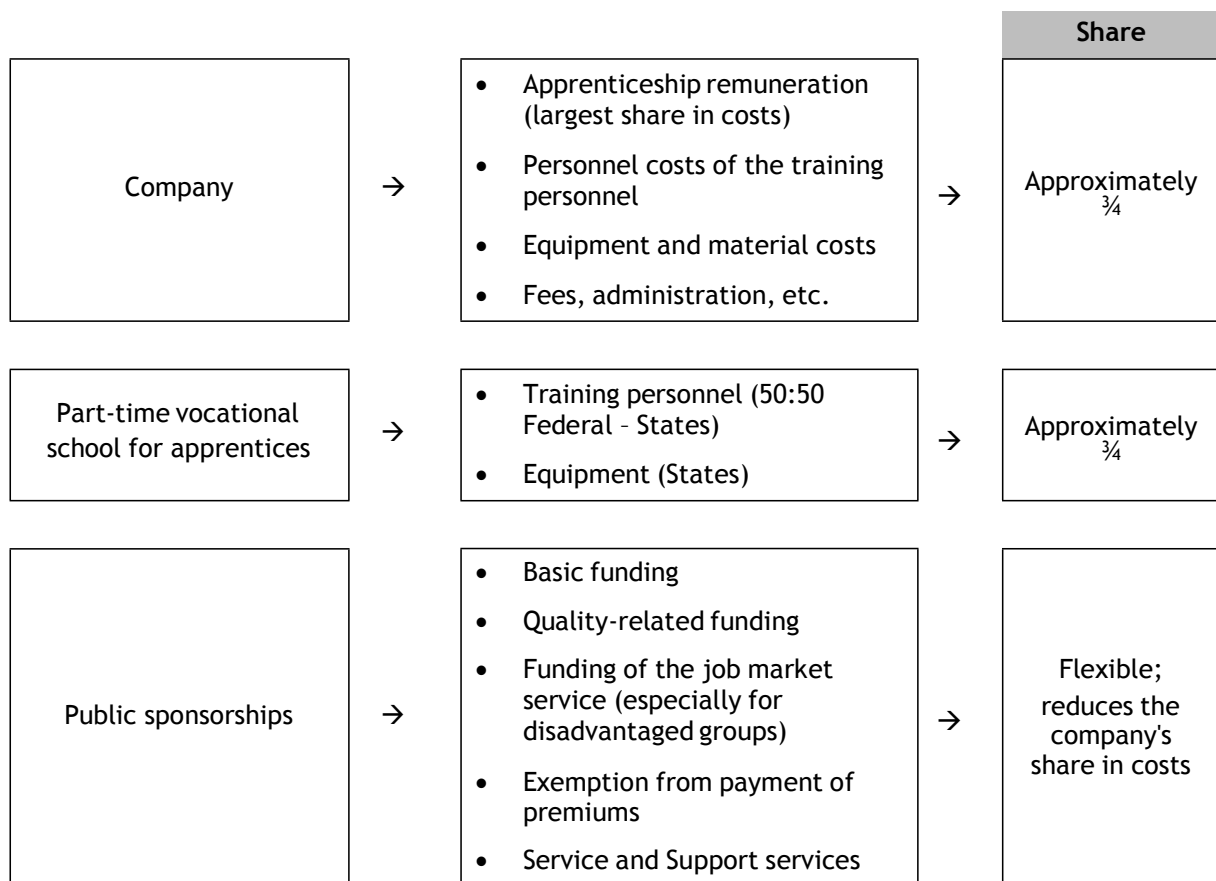
<sup>17</sup> The basic funding for the 1st Year of training year amounts to three collective contract monthly gross apprenticeship remuneration, for the 2nd Year of training year 2 and for the 3rd or 4th year each to a collective contractual gross apprenticeship remuneration; for half apprenticeship years, to half of the collectively agreed monthly gross apprenticeship remuneration. In the case of apprenticeship period calculations and decreases in apprenticeship duration, the basic funding will be calculated aliquot.

- Participants in an inclusive apprenticeship training as well as
- People who have turned 19 before the start of the apprenticeship And whose employment problem, which is due to a lack of qualifications, can be solved through apprenticeship training (these also include holders of the certificate of secondary education).

The financing of the basic funding as well as the quality-related funding come from taxes, which all the employing companies must pay (0.55% of the payroll). The sponsorships of the public employment services are paid from the funds of the employment policy. (cf. *ibid.*, P. 19f)

The following diagram (Figure 3-3) summarises the cost and financing structure of apprenticeships in Austria In **CHAPTER 3.3**, the topic of costs is taken up again under the aspect of effectiveness for companies.

**FIGURE 3-3: Financing structure of the dual apprenticeship in Austria**



Source: own research

**TRAINING FUNDS.** The "training funds" may contribute to the funding of company-based training. These function as a rule in line with the principle that all enterprises, for example of a branch or a region, deposit a particular percentage of their payroll into a training fund "pot". The training companies receive financial support from this pot, in line with certain criteria. The training funds follow the principle that always only some of the companies, which are basically authorised to train, actually perform training themselves.

Via the funds solutions, it is intended that the companies not training should also participate in the cost of the training.

A study by the CEDEFOP (European Centre for the Development of apprenticeship Training) has researched the "sectoral training fund" (SAF) in Europe, which - sometimes are in co-operation with the government - is administered by the social partners. The SAF are usually based on mandatory training fees from wages and salaries, which, depending upon the country, range from 0.1% to 2.5% of the wage and salary payroll. Mostly, companies pay the training fees regardless of their own training activities. The expenses incurred by the companies for wages and salaries are then returned to them back as subsidies in order to financially support the training measures. Most SAF supplement the funds for granting training through income from other sources such as voluntary contributions, interest and donations. The revenue from the training fees however constitutes the main revenue source with more than 75% of the total revenue.

Amongst the advantages of SAF is the fact that they favour a more equal distribution of training opportunities to disadvantaged groups (for example small and medium companies (SMEs), low-skilled and older workers, etc.). The SAF, however, also have weaknesses. Compulsory contributions for training are often considered by employers as an additional tax burden, which are added to the high labour costs. Despite the mandatory nature of training fees all companies do not always benefit from the funded training activities, which in turn applies particularly to employees in SMEs. The bureaucracy presents another problem: (training) funds as per the tax-subsidy principle are often considered as administratively costly due to their detailed provisions. (cf. CEDEFOP 2008b, P. 3)

In Austria there are no formal mandatory macro-economic training funds for financing training. However, training companies are supported de facto financially and administratively by a series of measures, which are fed by the funds and pre-funding mechanisms. Thus the means for the previously described basic and quality funds for training companies are raised through taxes of all employer companies (via insolvency compensation funds).

Further, the administration is funded by the apprenticeship through the apprenticeship offices of the economic chambers, from resources of the economic chambers, which are in turn composed of the mandatory chamber contributions from the company. Even the activities of the Public Employment Service, for example the apprenticeship exchange or the skilled workers intensive training sessions, are co-financed among other things through the funds of the economic chambers and thus through compulsory contributions from Austrian companies.

At the regional or sectoral level, some voluntary and company-supported funds have also been established (for example, in the Vorarlberg electrical and metal industry or nationwide in the construction industry<sup>18</sup>)

The Vorarlberg electrical and metal industry (VEM) introduced a training fund in 1978, which is based on the voluntariness of a trade or industry group. In a technical group meeting, it was decided at that time to levy 1.5 per thousand (now 2.4 per thousand) of the gross wages and salaries in favour of the training premium funds. From these funds - as per the performance of young people in annually-held apprenticeship skills competitions - support premiums are paid to the training companies. Another part of the funds is used for career choice information and the support of trainer training courses. Language courses for the apprentices and trainers are also supported using these funds. (cf. BLUM 2008, P. 5)

In CHAPTER 3.3, yet another possible funds model of financing of apprenticeships is explained in the context of the "poaching problem": the Danish system of collective financing participation.

A Swiss study (KÄGI et al. 2008) provides an impact analysis of the generally compulsory apprenticeship training funds: Since 2004, it has been possible to declare industry-related apprenticeship training funds in Switzerland compulsory - as per the apprenticeship Training Act - under certain conditions, which means that all the companies in one industry have to contribute to the funding of training. At the time of the study, there were 13 such compulsory training funds in the Confederation. The contribution model consists mostly of a fixed amount per company and year and a contribution per employee (or payroll).

The following advantages of compulsory apprenticeship training funds have been named in particular: the solidarity between members and non-members of the association and between training and non-training companies, the funding and promotion of apprenticeship education and an increase in the use of services and the level of the training. The disadvantages of the funds have been seen in administrative costs, the lack of acceptance, in demarcation problems with similar facilities and from the perspective of the companies additionally in the costs, the minimal benefit from the services, and in the fact that it is compulsory and the lack of transparency in administrative costs. The funds were evaluated rather negatively by small companies. (see KÄGI et al. 2008, P. 54)

The following can be quoted from a study from the ILO about the basic question of successful funding models of apprenticeship systems: "The financing of apprenticeship is both complex and vitally important for its viability. In the first place, apprenticeship is costly. Those who benefit from training - employers, apprentices and the wider society - should contribute correspondingly, for reasons of both fairness and efficiency. The case on efficiency grounds is a matter of incentives: when investment in apprenticeship leads to a commensurate reward, an incentive to undertake training is present. If cost sharing

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<sup>18</sup> In the construction industry, there is also a "triple training structure": teaching, vocational school and construction academies. The latter are financed by the supra-company training centres for apprentices in construction, financed by construction companies.

reflects benefit-sharing then the outcome will be a sufficient supply of places and a corresponding demand from young people.” (ILO 2012, P. 17)

Problems of financing can arise if the expected benefits for one of the parties involved seem rather small and insecure; the costs however are high and "secure". Young people will show no great interest in company-based training if the skilled labour brings little advantage over less skilled jobs. Similarly, when employers assume that the costs of the company-based training far exceed the expected benefits: "Getting cost-sharing right in apprenticeship is, therefore, fundamental to securing a good supply of apprentice places and sufficient demand from young people. The experience of countries with well-established apprenticeship shows that the ideal cost-sharing equilibrium is highly sensitive to changes in the wider economy. Flexibility of response from the social partners and vigilance from national authorities is needed to restore the desired equilibrium.” (ibid., P. 18)

Against the background that companies also undertake all essential educational, employment, social and socio-political tasks with their commitment to apprenticeship<sup>19</sup>, the support of the companies is justified by public benefits and a certain distribution of the cost burden. The representation of the promotion structure in Austrian apprenticeships gives an impression of the many possibilities for supporting company-based training through public funds and services. As is clear, the options are not limited to purely financial resources.

In particular, in the planning and implementation for monetary grants, it should be taken into consideration that sponsorships, depending on their format, could also bring unwanted control effects with them (keyword: "scatter gun principle") and must be financially viable. Therefore, extensive financial sponsorship of the company-based training is thoroughly and critically discussed with experts. The contribution of financial sponsorships to promote willingness to train is also not free of controversy. Funding models should therefore be well reflected in governance decisions in each case.

### **3.1.3 Aspects relevant for decisions for a dual training system**

The Austrian implementation of governance and financing of the apprenticeship training described in this chapter is intended to clarify that clear and transparent structures are needed for a dual system of apprenticeship, and that the inclusion of the economy is of great importance. With respect to a transfer system, it would also be very important to enable the connection to the existing institutional framework in each country. For this purpose, it is necessary to examine, if participatory structures are already present - and if so, which - in the respective transfer states at the national, regional and local levels, which can be used for setting up of apprenticeships. Specific tasks (e.g., administration of training, testing, and development of training regulations) can be connected flexibly to

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<sup>19</sup> In the training decision in the company, the corporate goal is to ensure skilled labour for the future for company's requirement; this should be supplemented with the goal of optimal development of qualifications.

synthesise existing infrastructure. Thus the final examination in Switzerland is - unlike that in Austria or Germany - not anchored institutionally in the chambers, but placed much more strongly under the responsibility of the learning locations. (cf. EULER 2013, P. 41) An approach that may provide examples for countries without specific chamber structures.

This access seems appropriate not only in regard to the feasibility of the required governance structures; it is also necessary to intercept possible institutional resistance to a further development of the prevailing training system through the integration of existing structures. Within this, it is important to think both about full-time apprenticeship schools as well as regional and local management and decision-making bodies, which need to be won over through participation in the system transformation for participation in the dual training system. What other incentive systems are required for winning over these influence groups requires precise, local analysis.

For the participation of the economy (companies, business associations) and also of workers representatives, it must also be examined whether there are options for integration into the development and decision-making processes other than institutionalized cooperation structures. Thus flexible participation could be possible through different forms of information, consultation, hearing or advice, without having to establish new institutional structures. (cf. *ibid.*, P. 40) Such accesses are also found, for example, in Austria or Germany, where on a local level companies have significant influence over the concrete design of the vocational teaching in schools through close cooperation with the part-time vocational schools for apprentices.

### **CRUCIAL DECISION-MAKING ASPECTS AND CHALLENGES FOR THE DEVELOPMENT OF A DUAL TRAINING SYSTEM**

- **Regulation of the responsibilities for participation in**
  - Developing a legal framework
  - Financing and funding structures
  - Developing and/or customizing the job profiles and training patterns
  - Developing and/or customizing the training schedules
  - Developing and/or customizing the exam regulations
  - Training and recognizing the trainers in the factories
  - Training the trainers
  - Setting up, equipping and maintaining of part-time vocational training schools
  - Conducting the final apprenticeship examination
  - Quality assurance and control
  - Recognition and accreditation
  - Supervision of implementation in schools and factories
- **Developing/adaptating the legal foundations**
  - A basic legal framework defines the rights and duties of all the concerned parties.
  - Checking whether other laws are affected by changes: for example in the area of

youth protection, youth employment, working hours, work safety, school organization and classroom lectures, etc.

- Development of **participation structures** for the different stakeholders involved in apprentice training: Consultation processes, listening, informing and/or advising
  - ➔ Defining the form and level at which participation should be possible: national, regional and/or local

- Establishing a **committee** that brings together the different stakeholders involved in apprentice training and that takes decisions ⇨ for example the "Berufsausbildungsbeirat" (A) or "Bundesinstitut für Berufsbildung" (G): Definition of the tasks, rights and duties of this committee The principle of unanimity.

**Tasks of the Committee:** Makes decisions about the creation of a new apprenticeship, defines the training profile of an apprenticeship, and the contents and forms (for example the training modules, etc.)

Systematic involvement of the "social partners" while working out a Vocational Training Act

- ➔ The **companies** form the backbone of the apprenticeship system: They have the responsibility for the contents of the apprenticeship as well training in companies; if possible, they are the primary (local) carriers of the administrative system.
  - ➔ Representation of employees: Ensuring a certain range in the job profile, i.e. that general as well as transferable skills are conveyed; ensuring compliance with regulations regarding work and youth protection (for example overtime, working night shifts) as well as protection of the apprentices against exploitation.
  - ➔ "**State**": Judiciary; role as agent and initiator: Defining the relevant ministry - question of uniformity in responsibility and distribution of competence to different ministries (such as the Ministry of Education and Ministry of Economics); regulation of the part-time vocational training schools (Ministry of Education)
- Uniform statutory regulations for co-operation between companies and schools
  - **Financing:** All stakeholders contribute towards covering the costs and are also those who enjoy the benefits.
    - ➔ **Firms offering training:** Expenses for the training of the apprentices in the factories (including Apprenticeship remuneration) are to be offset through income from the productive services of the apprentices.
    - ➔ **Government** will finance the part-time vocational schools for apprentices and will provide for financial incentives for the firms imparting training (allowances' model, fund solutions, exemptions, etc.).
      - ✓ Investments in the infrastructure of the part-time vocational schools for apprentices. Support from companies?
      - ✓ Participation of the State in the costs of schools and any other involvement in the costs of the companies : a) transparent b) uniform across the country

→ **The apprentice** also implicitly bears the costs because during the apprenticeship period, as he/she is paid remuneration that is below the collectively agreed minimum wages.

### 3.2 Vocational concept

#### **BRIEF DESCRIPTION:**

An apprentice training system needs a "vocational concept" as a base. A vocation or profession includes a set of activities for which qualification is effected within a framework of a broad-based training course. It is to be ensured that the capacity to act required for executing qualified professional activity has been acquired, and that the acquired competencies can be utilised on the job market. Thus, the vocational system combines working and learning, vocational qualification and aspects of personal development. This thus demarcates the vocational principle as a constituting element of an apprentice profession from other concepts that qualify an individual only for strictly demarcated work (a "job"). The dual principle of vocational training equips the trainee not only with the professional qualification in a relatively short period of time; it also gives him/her a professional identity and a professional confidence. This represents a value that cannot be underestimated for personal development and the social integration of young people.

The chief characteristics of a vocational concept are, among others, mainly the following:

- Specific activity fields and/or professional positions
- Access to an area of activity is effected on the specific basis of knowledge and competency.
- The authorization to practice a specific vocation takes place through a qualification during training that is publicly recognized and completed through a certificate/diploma.
- Mobility within and across organizations that can be promoted through advanced and further training.

An apprentice training system needs a "vocational concept" as a base. This includes not only qualitative aspects, but has also socio-cultural, social integrative and individually subjective meaning: There is "trust" created with a profession, and professional associations, chambers and trade unions "protect" the holder of a profession. (cf. BRÖTZ 2005, P. 1) International comparisons have also shown that countries with a comprehensive apprenticeship background and coordinated educational and organizational structures in stable employment fields are more efficient and do not require excessive labour, whilst countries without such structures react quickly and easily in the case of innovative events, but are not able to develop the required competence after merging into stable structures. (cf. DOSTAL 2002, P. 6) The dual training system has not only the potential to prepare trainees in a relatively short period for employability, but also at the same time to impart professional identity and professional self-confidence: This often represents a value that cannot be underestimated for personal development and the social integration of young people. (cf. RAUNER 2007, P. 22)

In Germany, the legal core of the German vocation concept arises from the system of recognized apprenticeship training. Its foundation is in the historically developed craft of the apprenticeship, which is anchored in the craft trades as well as in the industrial skilled and semi skilled vocations, which have been developed in the first half of the last century. (cf. FRANK et al. 2010, P. 119)

In concrete terms, the following features of the apprenticeship principle can be identified in Germany.

- A high degree institutionalisation due to the requirements of the apprenticeship training act (BBiG)<sup>20</sup> and due to the formal responsibility of the Federal Institute for Apprenticeship Training (BIBB) as the architect of the regulatory instruments.
- A strongly marked specialisation in the contents of the training regulations with a focus on technical skills and knowledge.
- A marked orientation towards the apprenticeship training as a calling.
- An exclusive orientation of the entire learning on formalised or institutionalised learning processes.
- A concentration on the learning locations specified in the BBiG: companies and schools; in the 1970s, however, there was an extension of the learning locations with the supra-company educational institutions (ÜBS).
- A country-wide-uniform institutionalization of vocations or certifications connected with social security in the collective agreements.
- The concept of "vocation", which is based on the assumption that with specific organisation of the dual training system - especially through the training in company-based work contexts - a very clear apprenticeship identity is developed. (cf. *ibid.*, P. 119ff)

A vocation concept therefore comprises a set of activities for which qualification is effected within a framework of a broad-based training course: It ensures that the ability to act required for executing qualified professional activity has been acquired, and that the acquired competencies can be utilised on the job market. Thus, it combines on the one hand working and learning and on the other professional qualification and personal development. This thus demarcates the vocational principle as a constituting element of an apprentice profession from other work concepts - in other countries - that qualify for strictly demarcated work: a "job". (FRANK et al. 2010, P. 120)

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<sup>20</sup> One historic achievement of the BBiG of 1969 was that in addition to a uniform federal regulation of the vocations, the principle of vocation was anchored legally. The core elements of the German BBiG include standards such as

- The mediation of the necessary professional knowledge and skills for the purpose of enabling one to carry out a qualified professional activity;
- the conducting of the training in a well-arranged training course;
- the acquisition of the required work experience;
- vocational advanced training, to enhance capacity to act;
- vocational retraining that is intended to enable other vocational activity." (BRÖTZ 2005, P. 1)

Other authors define the concept of the "vocation" as "institutionalised, individual specialised model of the composition and distinction of specialised work ability, usually addressed with its own name (e.g. "Engineer", "barber", "trainer", etc.) and which is based on training as a differentiating and structuring organisational picture". (quoted in accordance with HEIDENREICH 1999, P. 3)

The following features are therefore distinctive for vocations:

- Specific activity fields and/or professional positions
- Qualifications: Access to an area of activity is effected via a special basis of knowledge and competency that can more or less be systematized.
- Vocational training: The authorization to practice a specific vocation is effected through a qualification in independent training courses that are for the most part publicly recognized and completed through a certificate/diploma.
- Vocational prestige: Vocations are usually linked with a specific position in the social/company status and income hierarchies.
- Career opportunities: Almost all professions feature typical career patterns. Mobility within and between companies is of essential importance for structuring the progression of earnings, for the motivation of the employees and for the hierarchical organization of the company. It can be accompanied by continuing and advanced training programmes. (HEIDENREICH 1999; DOSTAL 2002)

Income, social recognition, certification, classification and - within companies - the use and gratification of professional qualifications is determined by numerous institutions such as schools and colleges, job profiles and examination regulations, collective agreements and classification of vocations, apprenticeship and trade associations. (HEIDENREICH 1999; DOSTAL 2002)

The "**consensus principle**" is closely linked with the apprenticeship concept: It means that the state-recognized training and continuing education vocations is developed with the participation of the social partners and in agreement with one another. Therefore, procedures that have been agreed upon by all parties concerned are necessary in the development of training and continuing education regulations. Within this, the social partners are involved in all development and drafting phases (in the preparation of regulations as well as in the concrete drafting and agreement); without the participation and voted agreement of the associations. no training courses and advanced training regulations can be adopted. Thus, in the development of training, the consensus principle ensures, with the joint responsibility of the State, employers and trade unions, closeness to the market and the board acceptance of training among companies and young people (cf. FRANK et al. 2010, P. 120ff)

As a counterpart to the more comprehensive vocation concept, the American term "Job" is read as an "activity to earn money", and is defined as a relatively low-requirement, quick-to-learn and a rather short-term, alternating subtask, without a stable identification with the task. In dynamic political economies, it is possible for this form of employment to quickly to take on new challenges. But there are problems, where satisfactory

performance is possible only with longer practice and individual identification with the tasks. (cf. DOSTAL 2002, P. 4)

Brötz defines the following content-related criteria for training vocation on the basis of the vocation concept:

- Sufficient demand for appropriate qualifications, which is independent of timing and individual enterprises.
- Training for qualified, independent activities for the widest possible range
- Application of long-term professional activity that is independent of age
- Broad-based foundation for professional basic
- The possibilities of an organized apprenticeship
- Sufficient distinction from other apprenticeships
- Operational feasibility of the training goals
- Training duration of two to three years
- Foundations for advanced training and career growth
- Acquisition of competencies for independent thinking and action in the application of the skills and knowledge. (cf. BRÖTZ 2005, P. 2)

### 3.2.1 Implementation of the vocational concept in apprenticeships

The vocation to be practiced is based on the vocational concept that is never purely aligned toward pure usefulness for a single company, but is instead always geared toward broad-based applicability and features personal identification. This vocation remains the focus of comprehensive competency development, in the form of a set of differing and complex requirements.

There are currently 199 commercial and 15 public and forestry-based **vocations** in Austria (as of June 2013). They are set up as individual, group, focus or modular apprenticeships and regulated by federal law.

All legally recognized commercial apprenticeships are specified in the list of apprenticeships. This list also specifies the period of the apprenticeship and the relationship to other apprenticeships, including the calculation of the period of the apprenticeship. The currently established apprenticeships are listed in **APPENDIX D**.

The legal basis for these are specified in the Vocational Training Act (BAG). For each of these apprenticeships, the minister of economic affairs issues an apprenticeship regulation. It is binding for the training in the training companies<sup>21</sup>.

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<sup>21</sup> The agricultural and forestry-related vocations have their own regulations: The corresponding principles for training are defined in the agricultural and forestry-related Vocational Training Act

In each **apprenticeship regulation**, the specific job profile of the apprenticeship is specified. The job profile is the "syllabus" for the training company. It contains - divided by the year of the apprenticeship - the apprenticeship competencies that need to be taught to the apprentice during the company-based training. In the case of newly regulated apprenticeships, additional aspects are added alongside the job profile. There is an enumerated list of the professional requirements, which the fully qualified apprentice can fulfil. The syllabus of the part-time vocational schools for apprentices corresponds with the training regulation. In vocations that are particularly relevant quantitatively, the job profile is supplemented with training manuals and materials. (cf. BMWFJ 2012a, P. 7)

The skills and knowledge of apprentices are also defined in the training regulation decrees, and are derived from the demands of the working world. Within this, the focus is on employability: The training is intended to enable the graduated apprentices to immediately practice a vocation at the end of an apprenticeship. The training regulation thus contains the minimum requirements for the training contents which have to be taught in the training company. At the same time it also ensures a uniform level of training in the respective apprenticeship. (ibid., P. 24)

In the training regulations, the teaching of key skills is high-priority: Independence, a sense of responsibility, ability to work in team etc. are significantly supported through training in the company. Environmentally friendly and quality-oriented work are integral parts of any modern training regulation. In the drafting of the training regulation, European integration is also taken more greatly into account. This is so that it should on the one hand increase the willingness of the skilled worker towards mobility and, on the other hand, increase companies' competitiveness.

The vocation and training regulations for metalworking apprenticeships is presented in **APPENDIX F** as an example for job profiles and training regulations and for elucidation.

### **3.2.2 Aspects relevant for decisions for a dual training system**

For the establishment of an apprenticeship in a dual training system, it appears to be relevant that the "vocations" do not have to be immediately developed over the entire spectrum of the apprenticeship and training, but instead can be started with some step-by-step pilot vocations. This should focus on areas, for which the commitment of the company cooperation partners is secured, who are involved in the development of the "vocations/training" and participate in the initial pilot training. Existing curricula of the

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(LFBAG). Vocational training in agriculture and forestry-related apprenticeships falls under the responsibility of the federal states.

tertiary schools can serve as connecting points for the development of in-company curricula and training regulations.

## CRUCIAL DECISION-MAKING ASPECTS AND CHALLENGES FOR THE DEVELOPMENT OF A DUAL TRAINING SYSTEM

- **Development of a job profile**

Job profiles must be strictly demarcated (i.e. they must be specific to the subject and relevant to the company) in order to provide a professional identity; at the same time, they should be broad enough to enable a board approach/change/reorientation/higher qualification or retraining outside of the training institution.

- ➔ Development of job profiles and training regulations based on the consensus principle and involving the representatives of the management and employees
- ➔ Linking the development of job profiles to the qualification requirements within the organization ⇒ Which professions are needed by the economy?
- ➔ Job profiles and training patterns are the basis for the development and/or adaptation of the VET syllabus ⇒ Coordination
- ➔ Defining uniform and recognized professional training standards and vocations across the country (incl. clarification of international recognition)
- ➔ Classification of training professions into the existing vocational classification

- Profession gained through apprenticeship is a **fully professional qualification**, i.e. the apprenticeship imparts all the relevant qualifications (skills, knowledge, competencies) needed to practice the profession ⇒ Demarcation/difference from schools that "qualify" a person for professional fields.

- Apprenticeship qualification is a **formal national completion of training** ⇒ Integration of the apprenticeship completion certificate/examination into the national Slovakian training hierarchy

- Development of **training and advanced training structures**, that on the one hand enable a person to gain qualification and on the other hand allow for higher qualification that goes beyond professional career.

### 3.3 Benefits for companies

#### **BRIEF DESCRIPTION:**

The commitment of companies, and training institutions in adequate numbers and quality, is an indispensable core dimension of a sustained and functioning apprentice system. However, this is only the case when companies are to expect benefits. Empirical studies sufficiently show that apprentice training will secure a talent pool of their own for companies for the future, and will thus promote operational continuity and innovation. The expenses for company-based training (time, resources, trainee workshops, trainers, remuneration to apprentices) are to be offset through the productive services of the trainees during the apprenticeship period. The expected cost-benefit ratio during the training is an important deciding factor for offering a training slot in the company whereby the benefit cannot be quantified only through the productive output.

The core dimension for a sustainable and viable apprenticeship system is a corresponding commitment on the part of the companies to provide apprenticeships in sufficient quantity and quality: "Without companies, which are ready to train young people, the German apprenticeship training system would not work." (SCHÖNFELD et al. 2010, P. 9)

Therein also ultimately lies one of the great challenges regarding the implementation of workplace-oriented training in general, and of an apprentice system in particular, as specified in a current study conducted by the European Commission: "Work-based learning can only exist in a country if companies buy into this concept and offer apprenticeship places, student placements or cooperate with schools. Stimulating the creation of apprenticeships and placements is a key challenge in many European countries that wish to upscale their WBL [Work Based Learning] practices within initial VET <sup>22</sup> ." (EUROPEAN COMMISSION 2013, P. 13)

Particularly in the qualification systems based on schools, there is also the challenge of recognizing the company setting/workplace as an environment conducive and relevant to learning, and also valuing it as such. It is necessary to build up the necessary trust in the companies so that these can and would want to provide high-quality training. It is an integral part of this that such companies must also be given the ability to choose the learning models and methods to be used in training. For the government institutions responsible for full-time school-based apprenticeship training systems (for example the Ministry of Education), the challenge therefore also results of delivering certain decision-making, design and control competencies.

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<sup>22</sup> VET = Vocational Education and Training

### 3.3.1 Costs-Benefit ratio

What then are the reasons that companies involve themselves in the field of apprenticeship training at all, and are ready to invest in the accompanying expenses and costs? What benefits do dual apprenticeships offer companies?

From empirical studies it is known that the dual apprenticeship secures the growth of the skilled young people and promotes both the continuity of the company as well as innovation (EUROPEAN COMMISSION 2012; BMWFJ 2012a; CEDEFOP 2012; DUSTMANN and SCHÖNBERG 2012). Here the following quote may be mentioned as an example: "Economic comparative studies, which have investigated the link between education and readiness to innovate and compete among companies and economies, have consistently come to the conclusion that countries with a dual apprenticeship training system and a training of engineers built on that or interwoven with it enjoy a competitive advantage when compared internationally." (RAUNER 2007, P. 5)

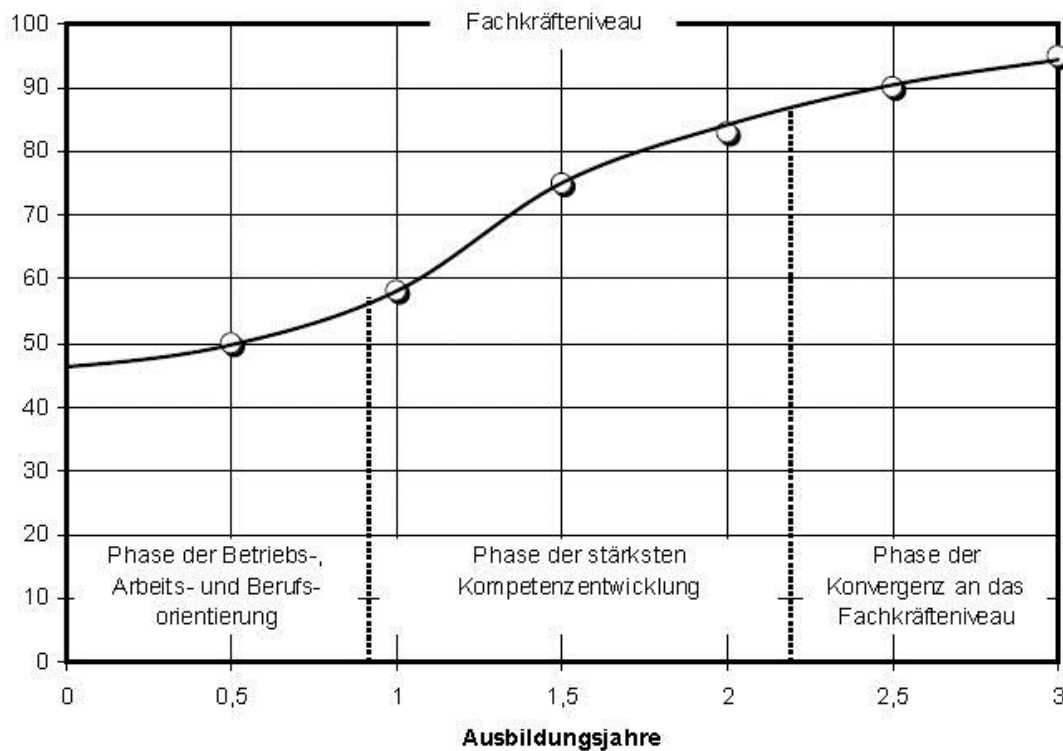
As the results of company surveys show, the in-house training programmes for companies are one of the most important instruments in covering companies' need for qualified skilled workers. However, companies make training positions available not only in their own interests, but also from a sense of social responsibility. (cf. EBBINGHAUS 2013)

The expenses for company-based training (trainee workshops, trainers, remuneration to apprentices) are to be offset through the productive services of the trainees during the apprenticeship period. Often, when calculated for the period of training, there is already a balance of costs and profits, or even a net profit. Taking into account at least the unnecessary recruitment costs and the productive services of the trainees after employment as skilled workers, a net benefit is expected to quickly set in, since the company is subject to economic constraints, which also applies to the training. These should at least in the medium and long term be economically viable, so that companies are ready to offer training positions (see the following figure 3-4).

Companies that provide training ensure their own in-house requirement of skilled workers, independent of the labour market, thereby increasing their competitiveness. Companies which train also enjoy a good reputation the company's image is enhanced.

Information on costs and benefits are of central importance in working against any potential decline in the attractiveness of the dual system for companies. The better this relationship appears to be from the point of view of the company, the more likely would they be prepared to invest in the apprenticeship training. (cf. BIBB 2010, P. 9) Such a net benefit for the companies has also been proved empirically: "The output of the learners verifiably exceeds the training costs for the company in most of the apprenticeship training." (BBT 2011, P. 3)

FIGURE 3-4: Development of the productive performance of the apprentices in the course of the training, in %



Source: RAUNER 2007, P 13

Finally - as the following quotes from recent research work on the subject show - both the participating parties must "benefit" from the training:

- "Both apprentices and employers will need to earn a return to their investment in training to compensate for the costs each party has to bear." (STEEDMAN 2007, p 3)
- "The combination of theoretical and practical skills acquired in enterprises is regarded as useful both for enterprises and for VET students, considering that training contents are closer to enterprises' needs, students get in direct contact with companies and many of them remain after the apprenticeship period. Also, apprenticeship-type schemes provide a very strong signal for detecting skills shortages identified by enterprises." (EUROPEAN COMMISSION 2012, P 12)
- "Firm-based apprenticeship training schemes have a number of advantages over vocational schools: craft techniques and customer interaction may be taught more effectively in a work environment than in the classroom, and firms may know better than schools which skills are needed at the workplace. Firmbased training may also allow for smoother transitions of firm-trained apprentices into employment." (DUSTMANN and SCHÖNBERG 2012, P. 1)
- "Employers gain an appropriately trained person at relatively low cost, whose competencies and productivity increase over time." (POTTER 2013, P. 4)

The subsequent absorption of the young people at the end of the training also plays a role with regard to the company's net benefits: "Where apprentices are recruited as full-time employees the return from apprenticeship on the firm's investment is substantial." (ILO 2012, P. 6)

**SWITZERLAND RESULTS.** Relevant inquiries in Switzerland could also prove the effectiveness of company-based training: young people obtain a net benefit for the training companies in Switzerland even during the training period. This amounted to CHF 474 million for all apprenticeship contracts in 2009, for a gross investment of CHF 5.35 billion on the part of the companies. The apprenticeship makes financial sense for Swiss companies even in difficult economic times.

This benefit aspect of in-house apprenticeships continues to gain in importance in many vocations in view of the emerging lack of skilled workers, which is due to the demographic trend. (cf. STRUPLER and WOLTER 2012, P. 1): "In recent years, several studies have been conducted on company cost benefits in three- and four-year apprenticeships with EFZ. [Swiss Certificate of Competence]. These studies showed that for approximately two-thirds of Swiss companies, the apprenticeship becomes profitable even during the apprenticeship, and that the productive use of the trainees is greater than the costs that are triggered by the training ("production-oriented training"). The other companies can cover their investment if they are able to keep the trainees in the company following an apprenticeship, and to thus save on recruitment and induction costs ("investment oriented training")." (FUHRER and SCHWERI 2010, P. 9)

Companies with more than one hundred employees, which are also likely to record net costs for the training, could save over CHF 16,000 - for recruitment and training of skilled workers - per trained student in the survey year 2009 (referred to as 'recruitment opportunity income').

The recently introduced two-year dual apprenticeship training was also evaluated as beneficial with regard to the cost-benefit ratio in Switzerland: The evaluation results show that the average training company can achieve a net income of CHF 418. (cf. *ibid.*, P. 4)

If the magnitude and time of the income from apprenticeships is taken into consideration, certain differences are seen across countries. The German training companies record per year average net costs of apprenticeships of around €7,500; the Swiss companies however are already generating an average net income of around €900 during the training itself. The net difference in costs are due to the fact that the income from the productive performance of trainees is considerably higher in Switzerland than in Germany or Austria. Differences in the relative wage levels of apprentices and skilled workers between the two countries, periods of absence from the company, and the amount of time the trainees performed productive tasks in the company, have been identified as relevant influencing factors in the specialist literature (for example, trainees are more frequently absent from companies in Germany and Austria). The most important effect is however is in the fact that: when the German or Austrian trainees are in the company, they are used for productive work to a lesser extent than in Switzerland. Instead they are often allotted exercise tasks. (see PFEIFER et al. 2009, P. 24) The time proportion in which the trainees

execute difficult productive activities were nearly twice as high in Swiss training companies than in the German or the Austrian training companies (reference year 2000, Austria 1995). (cf. SCHWERI 2010, P. 29)

For Germany, Euler uses a calculation of the Federal Institute for Apprenticeship Training (BIBB) from the year 2007, from which the average net costs of €3,596 are accrued per trainee per year, and notes that a much more differentiated picture emerges after consideration according to economic areas and individual apprenticeship training. "Based on these units of analysis there are higher net costs, for example for individual training vocations, while in other training vocations some considerable net income was calculated." (EULER 2013, P. 45)

It is self-evident to assume that the differing behaviour patterns have something to do with different orientations or motives for the training: In Switzerland it seems that the production motive for training is of comparatively greater importance, while in Germany and Austria the investment motives play a greater role for training. Empirical evidence for this may for instance be that in Switzerland the retention rates in the company after the completion of the training are significantly lower than in Germany or Austria. (cf. PFEIFER et al. 2009, P. 25)

In principle, it can be said that the cost-benefit ratio is dependent upon the respective apprenticeship, the industry and the size of the company. It can be seen that in the case of larger companies there is less frequently a positive cost-benefit ratio to be observed during the apprenticeship, because these more frequently train in workshops and the apprentices become productive only in later years of the apprenticeship, while in smaller companies there is early integration into daily productive work. Varying apprentice remuneration influences the cost-benefit ratio as well as the training duration and investment costs for company equipment or the equipment fitted in the apprentice training workshops. Whether or not the training personnel are available as full-time trainers (for example in Training Workshops) or whether the training activity is organised in addition to the productive activity of the employees also has a significant impact.

**PART-TIME VOCATIONAL SCHOOL FOR APPRENTICES - COST FACTOR.** The building out of the proportion of training at the Technical High Schools<sup>23</sup> must not necessarily lead to a rise in the cost of training as a consequence of additional absences of the trainees at the workplace, as shown by one study. If competencies are acquired at the technical school, which the training companies would otherwise have had to impart, the shift of the training to the Technical High Schools may be an even more efficient form of training, since the training company saves more costs on company training than it loses through the absence of the trainee in productive work. The conditions for such an interaction of the technical high school and company are above all - alongside the type of the imparted competencies - the timing of the conveyance of information: The company makes the greatest saving with a partial relocation of the training to the technical high school if this happens at the

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<sup>23</sup> Swiss equivalent of the Austrian part-time school for vocational training.

beginning of training, where the learners cannot yet be profitably utilised in the company. (cf. STRUPLER and WOLTER 2012, P. 2)

**PERSONNEL RECRUITMENT.** Benefits of training in the company also arise in employee recruitment. The training companies know the more successful apprentices and can then take on the best graduates in the company itself: "He/she [the apprentice] has absorbed the culture of the firm and an appreciation of its organization and operation." (ILO 2012, S. 6)

In the relevant literature, reference is made to the following cost advantages in the event of the employment of a fully trained apprentice:

- Recruitment costs: These are avoided when the trained apprentice is hired as an employee, since advertisement costs and job interviews can be avoided.
- Orientation time: These arise if external skilled workers have to be oriented to the company-specific tasks. Orientation is not needed for those trained in the company, since it is very often the case that where employment is proposed, orientation for the future workplace is included in the training.
- Turnover and incorrect choices: The risk of an incorrect choice by an externally trained skilled worker is largely omitted with the employment of company-trained workers.
- Downtime costs due to a lack of skilled workers: In case of relatively low training rates, there is a structural lack of skilled workers. This can be offset by the company only with overtime worked by the existing skilled workers. This may also have the negative impact of a reduction in the acceptance of orders. (cf. RAUNER 2007, P. 11)

In the figure below (Table 3-1) an overview of significant cost- and benefit-related aspects have been presented once again.

Table 3-2 provides a summarised overview of the motives of companies for their commitment to apprentice training.

TABLE 3-1: Schematic representation of company costs and benefits of the dual training system

Benefits	Costs
Tailored training of Skilled workers corresponding to company needs	Recruitment costs
Work performance of the apprentices	Personnel costs for the apprentices: (collectively agreed) remuneration as well as social contributions
Savings in staff recruitment and orientation costs through later taking on of the apprentices instead of employing external skilled workers	Personnel costs of the training/human resource personnel
Reduction in incorrect appointments	Equipment and material costs (material costs for procuring tools, equipment and material, in-company training if needed)
Reduction in turnover costs due to long-term personnel commitment	Chamber fees, administrative costs
Enhanced image through commitment to training	If required: Acquisition of trainer's licence (time required and fees)
Through a training alliance, cooperation in other business areas may arise	If required: Organisation of the Training alliance

Source BMWi 2012, P. 4

TABLE 3-2: Potential training motives for companies

Motive for training	Content-related aspects
<b>Production motive</b>	Puts the productive performance of the trainees in the forefront. Through their contribution to business success, the costs of the training are already covered during the training period. The later employment of the trainees is not in foreground for the training decision taken by the company, but is not excluded as a possibility. Due to the requirements of the training regulations, a minimum level of quality is ensured.
<b>Investment motive</b>	The objective of the training in this case is to train skilled workers to meet company requirements and to thus become independent from the external labour market. Training costs will be taken into account up to a certain degree, as income is generated for various reasons in the event of the taking on of the trainees.
<b>Screening motive</b>	The screening motive sees the training as an extended probation period. The companies can observe and test their new employees for a longer period and then select the ones that best fit the company requirement profile. Because long-term employment of trainees is sought, the screening motive can also be viewed as an investment motive.
<b>Reputation motive</b>	With the reputation motive, the company hopes to garner a higher opinion amongst customers, suppliers and other business partners through the training, as well as amongst high-performing skilled workers in the external labour market, and to achieve an improvement in its market situation on this basis. The enhanced image can thus reduce the costs of the training.
<b>Social responsibility</b>	In addition to the rather commercial economic motives, there are always also companies, who also see it as a social responsibility to give young people the opportunity of entering the labour market and at the same time to secure the requirement for skilled workers in the region and in the industry.

Source: BIBB 2010, P 14ff; own research

**SOCIAL BENEFIT.** If many companies are committed to the dual apprenticeship system, it denotes a relevant contribution to generally ensuring the increased numbers of young skilled workers on a meso/macro level and, at the same time, it is a contribution to reducing youth unemployment. The dual system also serves to integrate young people into the labour market, who have finished school and are not pursuing academic training. This is very successful: This can be seen, amongst other things, in the fact that countries which have the dual training system have a lower rate of youth unemployment in relation to the overall unemployment rate than is the case in countries with only school apprenticeship training (see CHAPTER 2.4). Thus in Germany in 2007, the youth unemployment rate for the under-25 bracket was only 3.1 percentage points above the figure of the over-25 bracket:

the lowest difference in the EU. In Italy (mainly school-based training), the difference was 15.4 percentage points; the EU-27 average was 9.2 percentage points. (cf. SCHÖNFELD ET AL.2010, P 11) The dual system therefore brings benefits not only to the individual companies but has a positive effect on the level of society as a whole: "But apprenticeships benefit society and the economy by much more than just improving employment prospects for young people, important though that is. Apprenticeships match the supply of skills with demand from employers much more efficiently than is possible with a system of school-based full-time vocational education. They develop high level skills identified by employers as necessary for growth and increased productivity. To the extent that skills developed in apprenticeship promote higher value-added economic activity they are good for growth and for general welfare. The higher earnings associated with higher productivity provide higher tax take which governments can use for health, education and other general welfare measures." (ILO 2012, P 9)

After the completion of the apprenticeship contract, a contract of employment need not necessarily be put in place between the qualified apprentice and the training company. Trained skilled workers can move to other companies; but workforce trained outside the company can also be taken on. This turnover is a characteristic of a free training system: Companies which invest in the apprenticeship therefore are acting not only in their own interest, but also contribute to the long-term benefit of all economic and occupation branches that have a requirement for qualified apprentices. (cf. BMWFJ 2012a, P. 6)

Faust provides the following summary of general reasons for the attractiveness of the dual training system in Germany:

- There are fewer and fewer qualified skilled workers in the labour market. Those who train their own skilled workers are making themselves independent of the labour market, remaining competitive and binding suitable staff to the company in the long term.
- The apprentices render productive work as early as during the training period.
- The regular taking on of apprentices protects against an over-aging of the staff and guarantees that there is always fresh input for the company.
- Training also serves individual's own qualification, since training companies always stay at the cutting edge of technology.
- The recruitment process for qualified skilled workers (advertisement, selection, administration of the placement of the new employee) is time- and cost-intensive.
- Qualified skilled workers often demand a higher salary as an incentive for changing companies, and must first be oriented and retrained.
- Anyone who trains knows his potential future employees and can employ them in line with their competencies, preventing losses due to friction. The new employee knows the company and also already knows what is required of him.
- Employees identifying strongly with the company results in lesser turnover and reduces the costs related to this fluctuation. (cf. FAUST 2011, P. 7)

**POACHING.** If the company costs and benefits of dual apprenticeship training are under discussion, then the topic of the "Poaching" - that is to say the possible head-hunting of trained skilled workers - is also to be mentioned: "Company-sponsored training investments in transferable skills indeed induce the possibility of positive externalities to other firms when freshly trained workers are poached from the training firm. The poaching firm can satisfy its skill demand without own training investments and the poached firm might lose (part of) its training investments. Poaching therefore can lead to an underinvestment in training because firms are hesitant to pay for the acquisition of skills for workers that leave before the training investments are paid-off." MOHRENWEISER et al. 2010, P. 2)

However, there are strategies that can prevent poaching. It can be seen that poaching behaviour of this type could occur less frequently or not at all if the training enterprises obtains a good reputation through its training and the fact that it incorporates the young people in the company in the long term: "Training investments may be considered as a commitment device which reduces turnover." (ibid., P. 4)

According to an ILO-publication (cf. ILO 2012) three possible ways out of this "Market failure" due to poaching can be identified: A first approach stipulates that the training companies determine the exact content of their training programmes and thereby offer training that is tailored to their respective company requirements and not easily transferable to other companies. However, this "solution" is - quite rightly - not considered attractive; it contradicts the underlying idea of a dual apprenticeship training qualification, which is generally recognised in the labour market and thus is also transferable to other company contexts.<sup>24</sup> The dual apprenticeship would be reduced to a kind of "Job Training", without realizing the broader educational and qualification potential of this training route. Even for the companies itself, this is not a very attractive solution, since in this case the successful development of highly qualified skilled workers for their own needs is less likely as an outcome.

A second approach to the poaching problem includes the models of collective financing participation: "All employers who stand to benefit from skills developed by apprentice firms contribute to a common fund from which the expenses of those who provide training are reimbursed, in whole or part, thereby re-balancing incentives from recruitment towards training." (cf. ILO 2012, S. 9) Thus in Denmark all private and public employers - no matter whether they are currently offering training or not - pay a certain amount into a fund (referred to as the "Employers' Reimbursement scheme"). In 2012, this annual contribution amounted to 393 EUR per full-time employee. These funds are then allocated to companies, who are training apprentices, so that they do not have to entirely bear these costs alone. (cf. ILO 2012, P. 9f) Models of collective financing participation are in particular training funds as described in **CHAPTER 3.1.2.**

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<sup>24</sup> "In dual training, it is assumed that primarily a general human capital is generated; it can at least be used in the same vocation in many companies other than the company imparting the training. The certificate of completion is measurable for all concerns in the market." (SCHÖNFELD ET AL. 2010, P. 13)

The third approach for the poaching dilemma on the part of the ILO takes into consideration collective organization potentials and "peer pressure". Different employers' organizations are authorized to influence individual employers to offer training positions in their concerns; however, this is a procedure tainted with certain problems: "If such policies are not to fall back on ineffective exhortation, employers' groups must be able to alter the incentives facing individual firms." (ILO 2012, P. 10)

Although there is a problem with poaching in countries with an established tradition of apprenticeships, the level of this appears to be actual quite low: The current study by Mohrenweiser et al. comes to the conclusion that perhaps only a small number of training enterprises actually become "victims" of poaching. (cf. MOHRENWEISER et al. 2013, P. 5)

### **3.3.2 Aspects relevant for decisions for a dual training system**

The motivation of businesses to participate in apprenticeships is also a challenge in systems with a longer-standing tradition in dual training. This is even more so in countries either without a training tradition, or with one that lags much further behind. In times of an increasing lack of skilled workers, it should however be possible to convince companies of the positive effects of dual training, through realistic and active communication. Which additional incentive systems should additionally be put in place is to be discussed in the context of reasonableness, but also financial possibilities.

Independent of this, it could be of help, as a first step, to cooperate with businesses - in a pilot phase -, which show interest in and readiness to work together on dual system, and to commit themselves to the training. These could be internationally active businesses, who bring in a close commitment to dual training from their home countries, and could act as pioneers and models for other businesses; but they could also be domestic companies, who due to problems for example in hiring skilled workers have already developed a corresponding sensitivity for the topic.

To sustainable implement apprenticeships, it becomes necessary in the medium-term to convince the bulk of business, especially the small and medium-sized companies, about the dual system.

## RELEVANT DECISION-MAKING ASPECTS AND CHALLENGES FOR THE DEVELOPMENT OF DUAL APPRENTICESHIP TRAINING

- Initiation and establishment of **corporate associations** that bring in the interests of the company (including development of job profiles, examinations, training associations, development of laws)
- Clear financial structure for company-based training: Complete **tax recognition** of the company costs as operational costs
- Apprenticeship market: Organization and access
  - ➔ Support/Organization through public offices such as a Public Employment Service, online apprenticeship exchanges
  - ➔ Direct access to schools
  - ➔ Companies themselves select their apprentices
- Transparent **funding structures and funding models**
  - ➔ Direct contributions
  - ➔ Tax concessions
  - ➔ Exemption from payment of premiums
  - ➔ Non-monetary funding and services supplied by the government (advisory boards)
- Private part-time vocational training schools for apprentices should be made possible legally and government recognition must be ensured ⇨ Taking over the costs of trainers
- Transparent **information about costs and benefit aspects** that enable a company to evaluate the scheme for the company
- Optional financing: funding options borne by the companies (voluntary or compulsory) at a regional or sectoral level
- Well-prepared information for companies that want to be involved in training of apprentices.
  - ➔ Info events
  - ➔ Setting up contact points and search services that inform and advise the companies (for example "company scouts") ⇨ especially to advise about legal framework, financing, support and organization of the training
- Transparent criteria for **suitability as a company where training can be imparted**⇨ Accompanying measures for gaining this suitability
  - ➔ Initiation of **training associations** and supra-company training institutions ⇨ especially for small and medium-sized companies
- Develop other **support services and training aids** etc.
  - ➔ Training the trainer and advanced training offers
  - ➔ Guidelines for starting the training, for recruiting apprentices, for company visits and open house events, etc.
  - ➔ Training guidelines, training materials, training documentation
  - ➔ Explanation about legal texts

- Materials for professional information and for marketing the professional training
- Help in selecting; conducting aptitude tests
- Organizing overseas internships
- Initiation and organization of competitions amongst apprentices

### 3.4 Mechanisms of quality assurance

#### **BRIEF DESCRIPTION:**

The fourth core dimension for functioning apprenticeship training systems deals with questions of quality development and assurance. The formal completion of training and thus that of the apprenticeship function as signs for the job market: It therefore must be ensured that a person who has completed the apprenticeship is fully equipped with the associated knowledge, skills and competencies. This is important from the point of view of the school-leaver for his/her job market options "outside" the company where the training has been completed. It needs to be ensured that, irrespective of the company where the training has been completed, the training quality has attained a guaranteed level; only then will each vocation also be in demand on the job market. The quality assurance dimension is thus important on all levels: From the learning institute itself (quality requirements to be fulfilled by the company imparting the training, security, support and development of training quality in the company), to quality of vocational training in the part-time school offering VET, to the final apprenticeship examination.

The fourth core dimension for functioning apprenticeship training systems concerns questions of quality development and in particular quality assurance. As with other formal educational qualifications, the apprenticeship qualification also functions as a signal for the employment market. It therefore must be ensured that a person who has completed the apprenticeship is fully equipped with the associated knowledge, skills and competencies, i.e., the job profile of the respective apprenticeship is also actually fulfilled. This is also of great significance for the training companies - because the trained young people are subsequently to be used as skilled employees - for other companies which require qualified personnel, as they can rely on a certain level of competence in qualified personnel, and for the trainees, because it safeguards their employment market opportunities "outside" the company where they received their training. Therefore, quality assurance is also relevant from the point of view of the demand from young people's perspective: it must be ensured that, irrespective of which company the training has been given in, there are guaranteed levels of the quality of training. Only then will this profession be in demand or the apprenticeship will generally be an attractive training programme.

Euler, in an analysis of the dual system and its transferability, establishes that the quality of the vocational training does not correlate with the form of education. "Thus there is a wide spectrum of good and bad conversions of vocational training in dual as well as in school-based forms of education. The gradient in quality within one form of education is probably greater than that between different forms of education." (EULER 2013, P. 17)

The quality assurance dimension must therefore be applied at different levels: Starting with the development of job profiles and training regulations via companies' access to the training, the qualification of the trainers up to continuous assurance of the training quality

of the company, the quality of training in the vocational school and the final apprenticeship examinations, but also the prevalent management system.

Quality assurance measures are also taken at a legislative level: The German Vocational Training Act (BBiG) somewhat guarantees vocational training for which a training period of at least two years is necessary, depending upon the content, scope, quality and requirement level for the average ability of a trainee. Accordingly, a training programme, which can be normally finished in less than two years depending upon its content, and independent of the formally specified period, would not correspond with the quality standards of the BBiG. In this regard, the BBiG is primarily a “Quality Assurance Act”. A vocational training programme conforming to the BBiG should offer the greatest possible guarantee for later professional adaptability, open ways for professional ascent and thus also guarantee the best possible social security (ideas of quality assurance and conservation). (cf. KREMER 2005, P. 4)

The Vocational Training Act (BBG) in Switzerland explicitly requires in article 8 the assurance of quality development from the providers of the vocational training, which also particularly includes the teaching companies. (cf. <http://www.berufsbildung.ch/dyn/4695.aspx>, 06.08.2013)

An important aspect of quality assurance pertains to the clear definition of “Learning Outcomes” and learning objectives: “All on-the-job learning periods, even short ones, should have a clear pedagogical purpose, defined learning outcomes and specified objectives that both the learner and the employer are aware of.” (EUROPEAN COMMISSION 2013, P. 16)

In 2008, the Federal Institute for Vocational Training (BIBB) conducted a nationwide survey of training enterprises in Germany, in order to learn how companies plan, design and conduct the training programme, which quality standards they lay special emphasis on during the same, how far they can meet their own quality requirements, and under which framework conditions they operate.

The results of this survey showed that almost every second company provides its employees guidelines for instructing young people. Check-lists which facilitate the trainers in keeping an overview of which training contents have already been imparted and which are still outstanding, were similarly used in almost half of all of the companies. Self-evaluation processes for the trainees were used in almost 60% of the companies. While these instruments are found as frequently in smaller as in larger companies, the standardised evaluations of the trainees as well as regular trainer discussion rounds or conferences clearly increase with increasing company size. (cf. EBBINGHAUS 2009, P. 34)

In an earlier, similarly conducted survey of companies, concrete quality assurance measures were researched using an open question. The answers unfolded a wide spectrum of corporate activities, methods and instruments for quality assurance of training, starting from rather specific measures (for example, acquiring new learning media and software) to comprehensive quality assurance and quality management systems (for example the model of the “European Foundation for Quality Management”).

The following concrete regulations/approaches are relevant here from the Austrian perspective.

### 3.4.1 Quality assurance instruments in the Austrian example

**THE ASSESSMENT PROCEDURE.** Companies that want to train apprentices must submit an application for ascertaining the aptitude for the apprenticeship training (application for assessment) at the locally competent apprenticeship office of the economic chamber, before their admittance. The competent authority for this is the apprenticeship office of the federal state in which the training company is located. The apprenticeship office is bound by the Vocational Training Act to check whether the company meets the conditions for the apprenticeship training. For this it gets the support of the Chamber of Labour of the federal state. If the conditions are fulfilled, the company received what is referred to as an assessment notice, which authorises it for the admittance of apprentices.

The pre-condition for a positive notice of assessment is that the company is authorised as per the Trade, Commerce and Industry Regulation Act to carry out the activities in which the apprentice has to be trained. Furthermore, the company must be equipped and managed in such a way that the apprentice can be given all of the knowledge and skills included in the job profile. Companies which do not entirely meet this requirement have the option of having such training contents being imparted by another company or training institution in the framework of a **training alliance**. The size of the company is not a deciding criterion for the apprenticeship training. Even one-person undertakings can train apprentices, as long as it is guaranteed that the apprentices are well-supported, i.e. professionally and pedagogically qualified trainers are available in appropriate numbers in the company (see below “The Trainer”).

However, apprentices can be trained not only by commercial enterprises, but also by independent, practising professionals (for example pharmacists, architects, tax consultants, lawyers, dentists etc.) as well as by associations, public institutions (authorities, ministries and other administrative bodies) and other legal entities. (cf. BMWFJ 2012a, P. 10)

**THE TRAINER.** The authorised apprenticeship trainers (for example proprietors) can either train the apprentices themselves or entrust the training to appropriate employees of the company. The success of the in-company training is determined by the professional competence as well as the educational qualifications of the trainer. For the job of a trainer, one requires preparatory technical/professional training corresponding to the respective apprenticeship on the one hand and on the other hand one has to produce the proof of knowledge and skills related to vocational pedagogy and law. These skills are assessed by the **trainer examination**. An alternative to the exam can be the completion of the forty-hour IVET trainer course. A series of training courses or examinations (for example a master craftsman examination, or an industrial master college qualification) are regarded as equivalent to the trainer examination.

Most trainers, particularly in small and medium-sized companies, train in the framework of their operative professional activity. In larger companies, however, there are also principal

professional trainers and training supervisors, some of whom work in apprentice training workshops. (cf. *ibid.*, P. 11)

The qualification of trainers is administered in **Germany** in the framework of the Instructor Aptitude Ordinance (AEVO) re-introduced in 2009 as a revised version. According to this, trainers must be personally and professionally suitable for their job as a trainer. Professional suitability comprises firstly the skills, knowledge and competencies required for the respective profession (usually certified through a qualification examination in a specialised field corresponding to the training profession). Secondly, it includes vocational and teaching skills, knowledge and competencies. (cf. ULMER and GUTSCHOW 2009, P. 48)

Likewise, all over Germany the teacher training qualification in vocational education has been redefined since 2009. Today the AEVO is the first step of a “qualification ladder”. The second step comprises the qualification “Certified initial and continuing vocational education and further training teacher”. This qualification is suitable for full-time and part-time initial and continuing vocational education and further training teachers. The third step is the “Certified vocational training teacher” and is suitable for full-time initial and continuing vocational education and further training trainers, who want to attain in-depth educational and methodical knowledge. Thus, two new qualification stages are available to the initial and continuing vocational education and training teachers, conforming to uniform specifications throughout Germany. (cf. <http://www.ausbilder-weiterbildung.de>, 07.08.2013 )

In **Switzerland** the requirements on vocational trainers in training companies are administered in the Vocational Education and Training Ordinance (BBV) and in the Vocational Training Act (BBG): The requirements include a professional qualification of the level “Swiss Certificate of Competence” (EFZ) or higher, at least two years of professional teaching practice and a vocational education and training teacher’s qualification equivalent to 100 learning hours or as a minimum requirement a training course for professional teaching of 40 lessons (Certificate of training course for professional teaching). Apart from the nationwide recognised diploma “Professional trainer in training companies”, there is also a special option of advanced or upgraded qualification for trainees. This diploma course can be compiled by individuals themselves on the basis of personal interests. The pre-requisites for admittance are the completion of the 5-day basic course and the course certificate for a vocational trainer. Apart from this, numerous educational institutions offer various advanced training seminars for trainers in Switzerland. (cf. <http://berufsbildner.ch/>, 07.08.1013)

#### ***Excursus: Trainers’ Academy***

One regional example for the development of advanced training offered for trainers is the “Trainers’ Academy” founded in 2003, a joint initiative of the Vorarlberg State Government and the economic chamber as well as the Vorarlberg Chamber of Labour. The “Academy” has the aim of promoting the advanced training of the trainers in all the fields with its certifications and awards. The “Academy” by itself is not an advanced training facility, but an initiative, which structures, promotes and recognises the advanced training of the trainers. Trainers can get an advanced training pass on request, in which

they themselves enter the training credit points achieved in courses, seminars and in-company training and educational programmes. All the advanced training events, which have been attended in the last 5 years, are taken into account. On achieving the required credit points, the application for a pass is examined by an independent commission and thereafter, the corresponding certificate is conferred. (cf. <http://www.akademie-ausbilder.eu/vorarlberg/home/>, 10.08.2013)

**CONTINUOUS ASSURANCE OF THE COMPANY'S TRAINING QUALITY.**As with the Austrian example, here too the "Checklist for apprenticeship quality", developed and published by the Institut für Bildungsforschung der Wirtschaft (ibw) [Institute for Research on Qualifications and Training of the Austrian Economy] can be mentioned as an instrument for quality assurance of training enterprises.. The checklist contains the following ten quality factors, which have been derived from numerous submissions for the national award "Fit for Future - Best training companies" as well as interviews with trainers from all fields:

- Apprentice marketing
- Selection of apprentices
- Optimum start in training
- Correct handling of the apprentice
- Designing the training programme
- Training beyond the job profile
- Trainer
- Training partner in the vocational school
- Co-operation provides strength
- Performance measurement - a view from outside.

The publication also contains useful links and documents along with a list containing contact persons. (cf. IBW 2012)

Naturally, in-company measures play a great part in the assurance of the training quality in the companies themselves. This also includes a marked feedback culture, on-site interviews and the systematic utilisation of training plans, standardised performance appraisals, self-evaluation procedures etc.

Training companies are supported in their in-company quality assurance in apprenticeships that have a particularly great quantitative significance, by means of training guidelines developed by the Institut für Bildungsforschung der Wirtschaft (ibw). ([www.ausbilder.at/qualitaet](http://www.ausbilder.at/qualitaet), 11.10.2013)

**ASSURANCE OF TRAINING QUALITY IN THE VOCATIONAL SCHOOLS.**Since the establishment of the Universities of Education (Pädagogische Hochschulen - PH) in 2007, subject-specific didactic training of vocational school teachers is conducted at a PH as a three-year Bachelor's Degree programme. The first and the third years of the course are completed alongside vocational training, while the second year is a full-time study programme. The training concludes with the academic degree of "Bachelor of Education" (BEEd).

To put it very simply, three different groups of vocational school teachers can be differentiated:

- Teachers of general education and business management subjects (Group I)
- Teachers of occupation-related theory subjects (Group II)
- Teachers of occupation-related practical subjects (Group III)

The pre-requisite for access to the teacher training course at the vocational schools for Groups I and II is the secondary school-leaving examination and diploma examination of an appropriate VET college or a relevant education and the Berufsreifeprüfung (examination providing access to higher education for skilled workers and graduates). Group III individuals require a relevant master craftsperson examination or an equivalent relevant qualification as well as the general HE entrance exam (for example the secondary school-leaving exam, Berufsreifeprüfung or HE entrance examination). Other pre-requisites for the access to the course are personal aptitude and at least three years of relevant professional experience. (cf. BMWFJ 2012a, P. 14)

Apart from the quality assurance of the teaching staff through corresponding education and advanced training, the endeavours of quality improvements are based on the education and the organisation of the schools themselves. The “Quality Initiative of Vocational Education and Training” (QIBB) is the strategy of the General Directorate for Technical and Vocational Education and Training of the Federal Ministry of Education, Arts and Culture (BMUKK) for introducing a comprehensive quality management system in the Austrian VET schools and colleges. At the centre of all this are the systematic assurance and further development of the quality of both education and the quality of management services. The model encompasses all three institutional levels of the schooling system: The schools and the school supervision (state level) and the General Directorate for Technical and Vocational Education and Training in the BMUKK (national level) must carry out the activities of a regular evaluation and continuous improvement required for the fulfilment of their central tasks. QIBB covers all the school types of the VET schools and colleges and thus also the part-time vocational schools for apprentices. The use of quality management instruments controls, supports and structures the process. (cf. <https://www.qibb.at/de/home.html>, 02.08.2013)

**OBJECTIVITY AND VALIDITY OF THE FINAL APPRENTICESHIP EXAM (LAP).** The final apprenticeship exam (LAP) facilitates the determination of whether the candidate has acquired the necessary skills and knowledge in the respective apprenticeship and is in a position to independently and appropriately carry out the activities required for this profession. The LAP is divided into a practical and a theoretical exam, which again comprises written and oral exams or practical evaluation. There is no theoretical examination for candidates who have positively completed the vocational school for apprentices.

The final apprenticeship examination can be attempted by:

- Apprentices (in the learned or related apprenticeship trades)

- People who have finished the stipulated period of apprenticeship taking the school education into account, or do not have to cover an apprenticeship period due to the school education. (cf. BMWFJ 2012a, P. 15)

The organisation of the LAP is the responsibility of the apprenticeship offices of the economic chambers. It is set up by the Examination Committee, which consists of a chairperson and two more members, who must have specific and relevant qualifications and are themselves involved in the apprenticeship. (see BMWFJ 2012c, Section 22 BAG)). The Examination Committee also regularly includes representatives of the employers' and employees' side.

The IBW develops assignments for the practical and theoretical apprenticeship examination on behalf of the Federal Ministry for Economy, Family and Youth (BWFJ) and the Austrian Federal Economic Chamber (WKO). These are provided to the apprenticeship offices for the respective Examination Committee. The emphasis is laid on commercial professions, retail professions and new apprenticeships. Furthermore, the IBW checks examples of tests for their contents' and didactic relevance on behalf of the LAP clearing office; these are otherwise provided to the apprenticeship offices of Examination Committees and experts.

An important instrument of quality assurance has been created with the set up of this "LAP clearing office". The project includes the labelling of appropriate test examples with a seal of quality, the training of LAP-examiners and the further development of examination procedures. This should facilitate a guaranteed, uniform and valid standard of the LAP-examinations throughout Austria. (see BMWFJ 2012a, P. 44)

Since 2013 LAP examiners have had the option of acquiring the certificate "Certified examiner for final apprenticeship examinations". Candidates must also attend certified LAP-examination training on the basis of the curriculum of the LAP clearing office of the Ministry of Economy . With these certified LAP-trainings for examiners, it is intended that new LAP examiners should be optimally prepared for their examination-related activity. Experienced examiners can reflect on their role in examinations and their own demeanour as examiners, further develop their examination competencies and exchange their experiences gained from examination practice. Previous knowledge is not necessary; the training consists of at least eight training units. The training contents comprise legal bases, and examination and teaching-related psychological contents.

(See [http://lehrequali.m-services.at/images/qualilehre/infoblatt/Info\\_Zertifizierung.pdf](http://lehrequali.m-services.at/images/qualilehre/infoblatt/Info_Zertifizierung.pdf), 18.08.2013)

The manual prepared by the IBW on behalf of the Federal Ministry for Economy, Family and Youth "Successful examination: Manual for certified LAP training for examiners" also aids the LAP examiners in designing the LAP optimally.

(See [http://www.ibw.at/components/com\\_redshop/assets/document/product/1364286944\\_handbuch\\_erfolgreich\\_pruefen.pdf](http://www.ibw.at/components/com_redshop/assets/document/product/1364286944_handbuch_erfolgreich_pruefen.pdf), 18.08.2013)

**EXAM ORGANISATION.** Examinations in the framework of apprenticeship training can basically be designed in different ways. Besides the summative final exam commonly held in Austria, Germany and Switzerland, formal continuous performance evaluations are also

conceivable. While in Austria there is only a final apprenticeship exam held at the end of the apprenticeship, in Switzerland performance grades and sometimes even partial exams are included in the assessment of the final examination.

(See <http://www.lex.berufsbildung.ch/dyn/11014.aspx?lang=DE&action=detail&value=398&lex=0>, 14.10.2013)

In Germany, there is an intermediate examination (such as in the middle of the course), in which the trainees have to show, what learning level they have reached and which learning outcomes they have already achieved. However, the intermediate examination is characteristically not an examination in the narrower sense, i.e., it should not be used to prove capacity, specified by certain rules, and its omission would also not have any consequences. It has more to do with assessing the skills of the trainees somewhere in the “half-time” of the course; the result of this intermediate examination does not bear any consequences. The main purpose of the intermediate exam is to show companies and trainees the shortfalls, if any, regarding which efforts need to be stepped up in order they should be overcome. (cf. <http://www.berufsinformation.org/duale-ausbildung-pruefungswesen-im-dualen-system/>, 23.08.2013). At the end of the training, there is the final apprenticeship examination or even the skilled crafts examination (in manual skills) in Germany.

Besides this, there has been the option of an “extended” final apprenticeship exam in Germany for the last few years. This means that the final exam can be completed in two parts that are in separate time frames. There is no intermediate exam in such cases. Whether an “extended final apprenticeship examination” is used and when the first part of the exam is conducted, is specified in the training regulation for the respective apprenticeship. Unlike the intermediate exam, the result of the first Part of the exam influences the overall assessment of the final apprenticeship exam. (cf. <http://www.ihk-niederrhein.de/Abschlusspruefung-in-zwei-zeitlich-auseinander-fallenden-Teilen>)

Furthermore, the period of training covered in the vocational school is also taken into consideration in the final apprenticeship exam. While in Austria a positive qualification in the vocational school leads to the omission of or exemption from the theoretical final apprenticeship exam, in Germany the final apprenticeship exam of the company-based training and the qualification of the vocational school are entirely separate issues. In contrast, in Switzerland, school education is a part of the final apprenticeship exam.

There are also different approaches seen in the responsibility regarding the final exam. In Austria (apprenticeship offices of the Economic Chambers) and in Germany (Chambers of Trade or Chambers of Commerce and Industry), the examinations are organised and conducted by the institutions of the chambers. In contrast to this, in Switzerland the exam is taken up by the vocational training offices of the cantons, within which the practical examination takes place in the training company.

**INCREASING THE VISIBILITY OF GOOD PRACTICE.** In addition to the instruments shown, there are initiatives taken by the public authorities, which particularly aim at a wide public display of high-quality teaching:

Thus the Austrian Ministry of Economy awards training companies that render special services in apprenticeship training as “Training enterprises of national distinction”. The criteria for conferring the national award include successes in final apprenticeship examinations and state and national competitions, commitment in the field of vocational guidance, the cooperation of the training company, and the in-company and supra-company continuing vocational education offered for apprentices and trainers.

Every two years the Ministry of Economy also confers the state award “Best training enterprises - Fit for Future”, developed by the IBW, in the categories of small, medium-sized and large companies. The objective of the state award is the strengthening of quality, innovation and sustainability in apprenticeship training.

“The state award is particularly intended to

- present a strong signal for the quality in training,
- distinguish the Austrian economy for its outstanding work in the field of youth education,
- contribute towards gaining new companies for apprenticeship training,
- and make parents and young people aware of the good training in Austrian companies and the wide spectrum of apprenticeships.” (BMWFJ 2012a, P. 40)

Table 3-3 re-summarises some quality-related factors.

**TABLE 3-3 Schematic representation of the aspects of quality assurance in a dual apprenticeship training system**

Input	Company	Part-time vocational school for apprentices	Output
Assessment procedure	In-company quality assurance, final apprenticeship exams, retention rates	QIBB	Final apprenticeship exam
Trainers’ qualification	Incentives regarding quality advancement  Awards	Grades, evaluation systems  School inspectors	Examination clearing  Employment market data indicator

Source: own research

**3.4.2 Examples of quality assurance in Germany and Switzerland**

**EXAMPLES FROM GERMANY.**In a research project from the institute of “Technology and Education” of the University of Bremen, that studied the interrelationship between costs, benefits and quality of vocational training, a self-evaluation instrument was developed for training enterprises; this instrument makes it possible not only to estimate the training

costs and output, but also to determine the quality of training: a concept referred to as the quality-output-costs-concept (QEK concept). The method also makes it possible to analyse and illustrate the correlation between quality and profitability of the education as a whole and for each of the education years. The users can see at a glance how the quality and profitability of their training interact with each other. The companies can also compare their results with the average values from within their industry, their region etc. (cf. RAUNER 2007, P. 28)

In the commercial education programme of Wieland-Werke AG, Ulm, a trainee feedback system (ARSY) has been developed: It does not emphasise the “evaluation” of past performances, but rather focuses on the discussion regarding developments experienced and opportunities for improvement. Such a systematic, practicable and transparent feedback system is achieved through the participation of all those involved in the development process.

Every training official has a sample catalogue as the basis for the feedback with the performance dimensions typical to his/her department and the expected behaviour assigned to them, i.e., the content of every catalogue varies depending upon whether it is used in for example the sales, purchasing or human resources department. The observed pattern of behaviour is reported back in the feedback interview. It should always be held at the end of a period in a given department. It is then finally and jointly considered, how the trainee may be able to further improve himself/herself in the next section of his/her training. In the middle of the training period the training head compiles the essential feedback reports from the various departments in a list and presents this composite overview of the behaviour in combination with his/her own observations from the common lectures, seminars and workshops in a mid-term dialogue. (cf. BRESS 2003, P. 4)

**SWITZERLAND EXAMPLE.** In Switzerland, the QualiCarte, introduced in 2006, has so far proven itself as an instrument developed by the cantons and trade associations for the self-evaluation of company-based basic education. Since 2009 such an instrument has also been available for supra-company courses (QualüK). With the QualiCarte, the training company can

- recognise the improvement potential of its own training performance
- sustainably improve training quality
- increase the attractiveness of its own company as a training enterprise
- optimise the selection of trainees
- minimise the risk of discontinued training
- evaluate itself
- get support in acquiring an education licence

(Panorama 2/2010; <http://www.berufsbildung.ch/dyn/4695.aspx>)

### **3.4.3 Aspects relevant for decisions for a dual training system**

The standardisation of certain courses and structures, such as some procedures for the specification of the training authorisation or formalised competence specification procedure in the course of or at the end of the apprenticeship, seems to be logical in the development of quality assurance instruments. As the analysis shows, there is still scope for a modification to the state-specific boundary conditions for the concrete design and for the definition of responsibilities.

For the corporate sector, especially in terms of small and medium-sized companies, it could be sensible to develop appropriate support materials and if required consultancy services for setting up an in-company quality assurance in training.

The decision-makers in public institutions develop and organise the legal framework for the training, the contents of the job profiles and the necessary management structures etc. in collaboration with the social partners. Apart from this, however, a functional apprenticeship system also requires the involvement of a range of other public and private stakeholders, who support the company in all the stages of training. This begins with the education of the trainers and recruitment of the apprentices, and goes through the development of support material for training and quality assurance (for example, training guidelines) or the organisation of temporary jobs abroad, to support during the final apprenticeship examinations through, for example, examiner training courses or learning materials. ANNEX G shows a figure depicting the varied tasks involved in promotion and quality assurance in the course of training, and the parties involved in the Austrian example.

## RELEVANT DECISION-MAKING ASPECTS AND CHALLENGES FOR THE DEVELOPMENT OF A DUAL APPRENTICESHIP TRAINING

- **Assessment procedure:** Basic pre-requisites to be fulfilled by a firm imparting training: complete compliance with the training profile; existence of a training manager, compliance with work safety/general safety regulations, etc.
  - Enabling the formation of training alliances for ensuring that a company that cannot train in all the aspects of the job profile can still impart the training ⇒ Definition of additional permitted learning institutions of any type
- Promoting the quality of company-based training by the government through practical support such as manuals, training guidelines, explanations about training patterns and job profiles, access to companies' good practices, examples, check-lists for trainers and training institutions

Another option for supporting the training quality would be public awards for excellent training institutions.
- **Trainers**
  - Definition of the person responsible for imparting training in the company to the apprentices
  - Competencies of this person: Professional, vocational training-based, legal?
  - How does the trainer achieve these competencies (for example, trainer training)?
    - ⇒ Create mechanisms for further training
  - A challenge: Ensuring the required competencies as simultaneously as possible with minimal training expense and less regulatory depth (the trainer is NOT a teacher)
- Who is responsible for reviewing the training quality / standards?
- Define trainer-trainee ratio: How many trainees under one trainer?
- **Vocational schools:**
  - Designing the classes at VET: the same profession or job profile in one class
  - Qualification of the trainers
    - ✓ training and technical know-how
    - ✓ What levels of training and practical experience are expected
    - ✓ Qualification and training options for the practitioners
  - Ensuring relevance to practice - including in school
  - Feedback structures between the school and company
  - Quality assurance of examinations in the schools offering VET
  - Equipment and facilities in a part-time vocational training school
- **Final apprenticeship examination:** How is the achievement of competency in vocation and training ascertained?

Defining what is tested, who will test, how, when and where

- ➔ Under what area of responsibility does the final examination fall?
- ➔ Composition of the examination committee ⇨ Involvement of employers and employees
- ➔ Designing the final examination ⇨ How will school-based training be integrated into the final examination
  - ✓ Common examination for company- and school-based training
  - ✓ Separate definition of competence for company-based and school-based part ⇨ With or without credit
- ➔ Process of defining competence
  - ✓ Options: Interim tests, external evaluation of the final examination
  - ✓ Possible integration of ongoing observation of performance
  - ✓ Ensuring practical alignment

### 3.5 Adaptation and innovation mechanisms

#### **BRIEF DESCRIPTION:**

As part of the dual training, it is necessary to adjust the vocations and their concepts to economic developments and trends, and the resulting changes in qualification requirements. Only then would it be possible to ensure that the apprenticeship will impart all the relevant professional skills that are required by the economy and are therefore in demand in the job market.

Therefore, the individual items in the job profile are not static; they should be formulated in such a way that they can be quickly and simply customized to suit new developments. The initiative for reorganization can generally come from the respective industries or also from the social partners and concerned ministries; however, it is normally from the companies themselves because they are more directly aware of change as it occurs. In any case, the requirements of professional life and the practical requirements of the industry are at the forefront. They should be supported through studies and evaluations.

There is the need to adapt apprenticeships and their contents to ongoing changes, particularly in terms of sustainability. Only then would it be possible to ensure that the apprenticeship will impart all the relevant professional skills that are required by the economy and are therefore in demand in the job market. Thus there are issues of the necessary flexibility of professional qualification in terms of the (re-)customisations of the contents of activity sets for the purpose of the vocational concept, as well as aspects of innovative teaching and learning didactics, or, more concretely, their structured embedding into company-based and vocational school-based training (keyword: competence-based training programmes/training regulations).

There is a semi-automatism of the apprenticeship: old/outdated apprenticeships fade out, as the companies no longer offer any corresponding open apprenticeship posts. The challenge here is to update apprenticeships on one hand or even to create and establish new apprenticeships. How then can it be systematically ensured that the required adaptation and innovation outputs are guaranteed?

#### **3.5.1 Adaptation and innovation mechanisms in the Austrian example**

**CONTINUOUS MODERNISATION OF JOB PROFILES.** In order to be able to address the constant change in the qualification requirements during the formulation of the concrete training contents in the training regulations, the individual job profile items are not statically fixed. They are formulated in such a way company-based training can be easily adapted to new developments. (cf. BMWFJ 2012a, P. 24)

The changes in the employment and professional world make it imperative that the training schemes themselves be modernised continually, in order to meet the requirements of modern job profiles. The impetus for reorganisations and further advancements of existing apprenticeships or for the development of new apprenticeships normally comes from the concerned industries, social partners or the relevant ministry. However, international developments and training programmes also contribute to this.

But the requirements and practical demands of the respective industry always stay in the forefront. The contents of the training regulations are prepared by the Federal Advisory Board on Apprenticeship and the Ministry of Economy, and prescribed by the Ministry of Economy. The process is supported through the studies, evaluations and expertise of the IBW. (cf. *ibid.*, P. 25)

**CHAPTER 4** gives an overview of the development in apprenticeships in Austria.

**MODULARISATION OF APPRENTICESHIPS.** The apprenticeship spectrum in Austria is largely exhausted with the 199 apprenticeships (correct as of June 2013), such that it leads more to variations or specialisations of existing apprenticeships through new technologies or the opening of new areas of activity. This thought also underlies the modularisation concept. The possibility of the **modularisation of apprenticeships** was created in Austria with the amendment to the Vocational Training Act (BAG) of January 2006. The training is divided into three modules in a modular apprenticeship: The base, main and special module, where every modular apprenticeship must comprise at least one basic, one main and one special module.

Since the training in the base module and in at least one main module is obligatory, broad basic training is guaranteed. At the same time, different modules can be combined with one another in a modular apprenticeship, which gives the companies and apprentices the advantage of designing the training programme flexibly. Here the requirements and possibilities for the company, as well as the individual pre-requisites and interests of the apprentice, can be taken into consideration.

Modularisation also, however, facilitates greater flexibility while introducing new training contents and modernising that which is already in place. At the time of introduction of new contents into the apprenticeship programme, the "module system" offers greater scope, since an entire apprenticeship does not need to be upgraded or re-created, but individual modules can also be exchanged, added or modified. In this way, it is possible to react quickly to the changed needs of the industry. (cf. *ibid.*, P. 28)

"However, modularisation does not offer advantages in the introduction or modernisation of apprenticeships alone. Even existing individual apprenticeships can be compiled to form a "module system" if the contents are overlapping. This can lead to a sensible reduction in the number of apprenticeships (while maintaining the diversity in vocational education), in order to increase clarity." (*ibid.*, P 28)

### 3.5.2 Competence-based training programmes / regulations

The term competence is currently not only one of the most commonly discussed but also the most controversial terms in the European educational landscape. More and more initiatives, concepts and approaches are basing themselves on the concept of competence as a guiding principle, as can be seen in the discussions about the European and respective national framework of qualifications.

While it is often argued that the apprenticeship training is carried out on the basis of its immediate and strong practical relevance and the orientation towards the operational reality per se as an orientation towards competence, and the practice-oriented definition of competence is broadly defined towards the end of the apprenticeship, the challenge remains of accordingly harnessing this competence orientation, highly advanced in training practice as it is, in the formal bases (such as the training and examination regulations) in order to be able to make them operable and monitor them. This is particularly the case in the context of the endeavours for increased transparency and the national and international comparability of the qualifications.

A comprehensive study conducted by the German Federal Institute for Vocational Education and Training (BIBB) on this issue identifies three basic pre-requisites or “guiding principles” for the successful development of competence-based training regulations:

Firstly, the competencies, which the trainees should acquire, **absolutely must** be specified in the training regulations **as the minimum standard**. The competence-based description should be given with regard to the professional, methodical, social and personal dimensions.

Secondly, the competencies must be described in a **learning-outcome-oriented** manner in the training regulations. This learning-outcome orientation represents an important instrument for making the training regulations more flexible, as this also helps in laying the focus on the goal of the training, which allows the companies greater freedom. With the learning-outcome orientation, the change in focus at the curricular level is consistently steered from being input-driven to output-driven.

Thirdly, professional competences should ultimately always be regarded against the background of **commercial processes**. The starting point for structuring and bundling of training contents or the competencies to be achieved must, therefore, be work and business processes. The BIBB study contains a comprehensive and practice-oriented “proposal for a concept for designing competence-based training regulations” as a result of the previous analyses.

In the opinion of the authors, the orientation of designing on competencies has the following content-related and formal consequences on the shaping of the training regulations to date:

- Areas of action substitute the job profile items.
- The competence descriptions in the areas of action substitute the learning goals.

- The objective and timed structure in the outline plan of the training is integrated and the areas of actions are listed in its place.
- The integrative skills, knowledge and abilities determining the job profile in the job description of the training are shown in as being integrated.
- The examination areas are substituted by examination fields. (cf. HENSGE et al. 2009, P. 21ff)

**COMPETENCIES WITH THE SYSTEM (KmS).** Recently, there has in Austria been the model referred to as “Competence with the system” (KmS), which places technical training courses provided the employment market service (AMS) more greatly than before in the context of formal final apprenticeship exams. KmS is intended to enable job-seekers to acquire those competencies - in the framework of multiple training modules - that are required in order to acquire a formal qualification in the course of the **extraordinary apprenticeship examination**. KmS is an example of how the model of competence orientation can gain an entry into the formal structure of dual training and at the same time how the system of the apprenticeship training can be used flexibly for the qualification of more target groups in the scope of the employment market and employment policy measures.

The AMS first selected four apprenticeships, for which a KmS•model was developed (retail sales person, EDP salesperson, information technology, hotel and hospitality industry assistant).<sup>25</sup> First, a competence matrix was prepared for every apprenticeship, which illustrated all the contents of the legally prescribed apprenticeship profile. It was compiled by the IBW in cooperation with the Austrian Institute for Research in Vocational Education and Training (öibf). The matrix contained those competence areas, which arose from the job profile, which is described in the training regulation. For each of these competence areas there are three stages of competence development, in which the respective preceding level is implicitly included in the next level up. Level 3 in the competence matrix corresponds to the level of an apprenticeship qualification. In this way, it should be ensured that the KmS•model is relatively easily arranged in the future National Qualifications Framework (NQR).

The next step involves developing logical training modules, which represent a subset of the competence matrix and at the same time form a qualification for a job for themselves. Not only should the competence acquired so far be reflected on with the participants during the entire training period, but at the end of every training module it should also be checked with a “competence check” - in which representatives of the economy are also involved - as to whether the participants have the target competences described in the matrix for the respective training module. If so, the graduate is conferred a certificate. Positive experiences were gained with KmS in the framework of the practical test on behalf of the AMS Upper Austria. (cf. WEBER et al. 2011, P. 8)

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<sup>25</sup> In the meantime the project has been expanded to eight apprenticeships.

### 3.5.3 Innovative models of the apprenticeship for various target groups

**SUPRA-COMPANY APPRENTICESHIP TRAINING (ÜBA)** In order to counter youth unemployment, a training guarantee for young people was assured at the suggestion of the social partners of the Austrian Federal Government. **Supra-company training centres** offer young people, who were not able to be engaged in a company-based apprenticeship, the option of an apprenticeship with a recognised final apprenticeship examination. Supra-company apprenticeship training is directed towards young people who have completed compulsory school education, who are earmarked at the AMS and have found no suitable apprenticeship despite intensive efforts, or have discontinued a company-based apprenticeship. The apprenticeship training is taken over by a training establishment, which must be organised and equipped in such a manner that all the knowledge and skills included in the job profile can be imparted. The AMS can commission training establishments with supra-company apprenticeship training. In this case no approval is required from the Federal Ministry of Economy, Family and Youth. In the training year 2010/11, there were 10,384 people in a supra-company apprenticeship training programme commissioned by the AMS. (cf. DORNMAYR et al. 2012, P. 29)

“Training in a supra-company training establishment is equal to an apprenticeship in the company, and the trainees are accordingly regarded as apprentices. Instead of an apprenticeship contract, a training contract is completed. The training contract can be concluded for one year, with the objective of subsequently placing the trainee in a company-based apprenticeship training programme.” (BMWFJ2012a, P 31). If there is no appropriate location for company-based apprenticeship, it is also possible to complete the entire training in a supra-company apprenticeship programme.

If a trainee is transferred from the training establishment to a company, the training period already completed is taken into account, as long as the change takes place within the same profession. The same is applicable for a change from company-based training into a supra-company training establishment. As with company-based apprenticeship training, supra-company training also concludes with the final apprenticeship examination. (cf. *ibid.*, P. 31)

This instance of supra-company training in training establishments must not be confused with supra-company apprenticeships, which are practised for example in Austria in the form of the Building Academies, in Germany in the training centres of the Chambers of Trade and in Switzerland in the form of the supra-company courses, in order to support and supplement company-based training primarily in small and medium-sized companies.

**INTERIM SOLUTIONS IN SWITZERLAND.** In Switzerland there is a broad spectrum of interim solutions for young people who have not found any connection solution following compulsory schooling (basic vocational education or general educational school). These include bridging options such as the 10th School year, the preliminary course and preparatory schools. (cf. SBFI 2013, P. 13)

**INCLUSIVE VOCATIONAL TRAINING (IBA).** With **inclusive vocational training (IBA)** the Austrian legislative body has created a model with which people disadvantaged in the employment market get the flexible option of completing an apprenticeship training, thus securing integration into professional life.

The IBA is open to the following people:

- People who had special educational needs at the end of compulsory education and were taught at least partly as per the syllabus of a special needs school
- People without or with a negative qualification from secondary education
- People with a handicap in the sense of the Act on the Employment of People with Disabilities or of the respective national Disability Act
- People for whom it must be accepted in the framework of a vocational guidance measure or on the basis of an unsuccessful placement in an apprenticeship contract, that no apprenticeship vacancy can be found for them for reasons exclusively related to the individual in the foreseeable future.

There are two possibilities for inclusive vocational training:

- **Partial qualification:** Only a part of an apprenticeship (a job profile) is learned. Apprenticeship period (1 to 3 years) as well as the partial qualifications to be acquired are defined in an apprenticeship contract.
- **Extension of apprenticeship:** The apprenticeship can be extended by one, and in exceptional cases by two, years. The complete job profile is imparted and the training is concluded with the final apprenticeship exam.

As with the “regular apprenticeship” the IBA too can be completed in a supra-company training establishment (ÜBA).

The support in the inclusive vocational training is taken over by the 'vocational training assistance'. Their tasks include defining the goals of the IBA for the respective trainees and preparing a training scheme in collaboration with the person responsible for training, assisting and supporting the trainees during the entire training in carrying out crisis interventions and conflict management/mediation. They are also involved in taking the apprenticeship exam at the end of the training for partial qualification.

Since the introduction of the IBA, a continuous rise in the number of young people has been recorded in this version of training. A total of around 5,500 apprentices were within an inclusive vocational training programme at the end of December 2011. (cf. DORNMAYR et al. 2012, P. 35f)

### 3.5.4 Aspects relevant for decisions for a dual training system

The development of adaptation and innovation mechanisms in its first step involves creating structures, which enable a quick reaction to changes in the employment and professional world. Involving the crucial stakeholders within the employment world, the companies, is expedient for this. In which form this involvement takes place, whether through research-based approaches such as analyses of qualification requirements, company surveys etc. or through the participation in work groups and advisory boards, depends upon the presence of a corresponding infrastructure (advisory/consultation mechanisms, research facilities etc.) or the possibilities of setting up such structures.

#### RELEVANT DECISION-MAKING ASPECTS AND CHALLENGES FOR THE DEVELOPMENT OF A DUAL APPRENTICESHIP TRAINING

- How are new apprenticeships developed? ⇒ Definition of who, on what informational basis, and how decisions can be made about a new vocation, or existing ones can be adapted.
  - ➔ Committee of apprentice training; the right of all stakeholders to initiate ⇒ Consensus principle
  - ➔ Support through approaches of analysis of qualification requirements, company surveys, feasibility studies in individual job profiles.<sup>26</sup>
- Learning outcome-oriented structure of the regulations (vocational education and examination regulations)
- Thoughts and approaches for the integration of less-fortunate target groups into the dual training system,
- Strategic planning for setting up professional higher qualification facilities such as master/ supervisor training, dual studies, universities of applied sciences, professional academies, etc.

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<sup>26</sup> Company-based training is primarily demand-driven, whereas school-based training primarily depends on the offer.

### 3.6 Demand on the part of young people - access to training

#### **BRIEF DESCRIPTION:**

Young people find dual training attractive because it offers a wide range of options that are also diverse. An apprenticeship equips a person with all the important skills and competencies that are necessary for practising a certain vocation. It also imparts general and supra-company, transferable competencies that are useful not only in the training institution but also in the industry and generally on the job market.

Thus, the dual system covers a very wide spectrum of different pre-requisites. Within this, “on-the-job learning” is a key, attractive feature from the viewpoint of many young people. Other important attractive aspects include stable professional and job prospects, good opportunities on the job market, regulated working conditions and channels for advanced training, as well as an improvement in income opportunities. One important advantage of the dual training as compared to full-time school systems lies in the possibility of being directly taken on in a professional role immediately after completing the training. Earning money even during the training period is an important plus point of the dual training system for many young people.

Not only should the companies be able to draw benefits from the apprenticeship training (cf. CHAPTER 3.3), but there should also be a correspondingly great interest and therefore demand generated among young people. What makes an apprenticeship attractive for young people?

Employment market data shows that apprenticeship graduates have considerably better opportunities in the employment market than people who only have a compulsory school qualification (for this, refer also to CHAPTER 2 of the report): “When apprenticeship is managed by the social partners within a legislative framework democratically determined, benefits to young people are considerable. A number of recent studies confirm that a completed apprenticeship greatly increases a young person’s chance of being employed.” (ILO 2012, P. 7)

The Federal Institute for Vocational Training (BIBB) in Germany conducted a survey of school leavers in 2010, according to which the youth is still greatly interested in dual apprenticeship training. Therefore, this is very attractive at the very first instance from the viewpoint of potential trainees, as it offers a wide range of very diverse possibilities. The spectrum of training professions ranges from professions with a comparatively narrow or low qualification profile to professions which place very high demands and practically require a school-leaver’s exam or Fachhochschule entrance exam qualifications. There is also an increasing number of dual courses for school leavers, within which company-based vocational training can be combined with a study course. The dual system thus meets a very wide range of different requirements. Within this, “on-the-job learning” is a key, attractive feature from the viewpoint of many young people. Other BIBB-studies have

shown that young people who have completed their school education want to “flourish” and absolutely want to show what they are really made of, in professional practice and under the professional guidance of the training staff. (cf. FAUST 2011, P. 4). This is a finding that has been confirmed/reconfirmed even in informal conversations with trainees: Young people who have received poor grades in compulsory education develop themselves in work-based training into talented specialists and in this context often improve even their learning capacity in vocational school for apprentices.

“To the students, work-based training is authentic, it is for real. What you do have consequences, not only to yourself but to others. The students in vocational education and training prefer work over school. At work they are treated as adults and they develop not only skills but an identity through their work. The student is part of the company and carries out “real” tasks - not simulation or case studies. They get to know the demands on a person within their trade: what kind of qualifications should he have? What are the working conditions? What is the work culture?” (cf. CORT 2008, P. 6)

This can be proven with the example of the following two statements of apprentices, who were interviewed: “When I started as an apprentice, I was not as self-confident as I am now. Now I know that I am able to master some things. You find something, which ... and then suddenly you know that, hey, this is something that I can do. And there is nobody to tell me that I cannot”.

“That is why you become a car mechanic - it is not to sit and read books all the time, it is to get out there and work with cars and do stuff”.

“You jump into your work trousers, and then, then you’re a landscape gardener, or you feel like one, and then you start working... and then you know, that you really are one” (quoted from CORT 2008, P. 8)

Besides, the more attractive the job, the training leads to, the more attractive the training is for trainees. The important features for this include a stable professional and employment perspective, controlled working conditions and options of continuing vocational training and an enhancement of income opportunities. Completed vocational training always increases the chances of gaining an attractive position later on. One advantage of company-based or dually organised apprenticeships versus full-time school systems also lies in the possibility of their graduates of being taken on into an employment contract immediately after completing the apprenticeship. (cf. FAUST 2011, P. 5) “One of the principal reasons for relatively smooth school to work transitions in dual system countries is the superior matching of training to labour market demand that results from apprenticeship training being contingent on the offer of a place from employers. In 2010, nearly two thirds (61 per cent) of German apprentices were taken on as full-time employees in their apprentice firm.” (ILO 2012, P. 7) A finding that has also been shared in a current ETF publication: “Apprenticeships in particular are often related to positive early employment outcomes: a relatively large proportion of apprentices are taken on by the company where they have been trained.” (BARTELL 2008, QUINTINIT et al. 2007, cited as per ETF 2013, P. 21)

Dornmayr was able to prove, in a survey of graduate apprentices from Salzburg, that 90% of the people interviewed were independently employed or self-employed three years after the completion of the apprenticeship<sup>27</sup>; 96% were in an occupation appropriate to their training, i.e. at least at the specialisation level, and furthermore 69% of them still worked in the trained profession, and 18% were in a profession/occupation related to the learned profession. Only 13% of the gainfully employed graduate apprentices are working in an entirely different profession or occupation three years after completing the apprenticeship. (DORNMAYR and SCHÖNHERR 2012b, P. 42f)

Earning money even during the training period is an important plus point of the dual training system for many young people. Almost three quarters of the trainees consider it “very important” or “important” to earn “a lot of money” during the training itself. There are rather great differences regarding the amount of training allowances; however, the fact is that dual training is remunerated is to be seen as an advantage against the other modes of vocational education, which are not remunerated or are even subject to fees. (cf. FAUST 2011, P. 5)

The dual apprenticeship training allows extensive opportunities to thus promote one’s own professional career via the acquisition of additional qualifications during the training itself (right up to professional development training). Accordingly, in Germany and Austria there are many professionally qualified people holding managerial posts, which, in countries with a different training structure, have to be held by graduates of tertiary educational courses. (cf. *ibid.*, P. 5). Thus, in 2012 around 29% of all the gainfully employed people in a managerial role (as per ISCO main professional groups) in Austria had an apprenticeship as their highest qualification. This number was 32% among the technicians and equivalent non-technical professions. (DORNMAYR and NOWAK 2013, P. 106)

### **3.6.1 Admittance into apprenticeship training in the Austrian example**

The Austrian education system provides for the following structural access to apprenticeship training:

In Austria, early professional qualification and particularly apprenticeship training is a long-established option that is anchored in the initial vocational education system. It is basically open to all the young people who have completed the nine years of compulsory school education. Admittance into training is not bound to any specific school qualification. Generally, vocational training in Austria carries great weight. Around 40% of young people learn in a legally accredited apprenticeship course after completing compulsory schooling. Another 40% opt for vocational secondary or vocational higher schools. In total around 80% of Austrian students opt for vocational training course at the upper secondary level (cf. **CHAPTER 2.2**).

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<sup>27</sup> 3% are still or again in training, another 3% are on maternity, and only 1% of the interviewees is unemployed or seeking employment; 3% fall into the group of “others” (military service, au-pair, seasonal work etc.)

**APPRENTICESHIP PERIOD AND REDUCTION.** Depending on the apprenticeship, the period of training lasts between two and four years. If vocationally specific qualifications in related professions or technically relevant school education have already been acquired, the period of training may be shortened by one year if the training company agrees to it<sup>28</sup>. Subject-related vocational education acquired abroad can also be taken into account. With this option of shortening of the training period the apprenticeship training may also become more attractive for young people who have already completed secondary school-based training, but have not gained entry into a career or have developed an interest in another professional field in the meantime.

**DOUBLE APPRENTICESHIP TRAINING.** The possibility of double apprenticeship training means another option for making the vocational training attractive for young people and training companies. Through this, young people can work through two apprenticeships simultaneously and therefore expand their qualification spectrum. The duration of training results from the aggregated training period of both the professions divided by two, plus one year; however, it must not exceed four years. The condition is that the training enterprise is set up in such a way that it can train in both the professions.

**APPRENTICESHIP FOLLOWING MATURA (UPPER SECONDARY SCHOOL-LEAVING CERTIFICATE)** The apprenticeship training is also an option for graduates of general education upper secondary school. In this case too, the training period can be shortened by one year with the consent of the training enterprise. This primarily simplifies the entry of graduates of general education upper secondary schools (AHS) into a career. (cf. BMWFJ 2012a, P. 30)

However, unlike Germany (see below), this variant continues to be less widespread in Austria. One reason for this could be that in Austria there is a school-based alternative for general education upper secondary school available with the vocational education upper secondary schools, which imparts vocational training separately from the upper secondary school education (and therefore the general university entrance certificate). An indication for this is the significantly smaller share of students in the general education upper secondary school as compared to Germany (cf. Figure 2-2 in CHAPTER 2-2).

The “Technical Experts” project was initiated in the federal state of Styria by the economic chamber in order to interest more upper secondary school graduates in an apprenticeship in technical professions in future. Separate vocational training classes were set up in the apprenticeships of mechatronics and metal technology for young people with upper secondary school education in order to make the dual apprenticeship training more attractive for this target group. So far around 35 companies from the fields of mechatronics, electrical engineering and electronics, automobile and mechanical

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<sup>28</sup> “Educational courses, which allow a shortened training period, are

- completed higher general education school (AHS)
- completed higher vocational education school (BHS)
- completed at least three years of vocational secondary school (BMS)
- other apprentices with final apprenticeship examination.” (BMWFJ 2012a, P. 8)

engineering and metal technology have participated in this project. (cf. [www.technicalexperts.at](http://www.technicalexperts.at), 16.10.2013)

The option of a shortened apprenticeship after the upper secondary school certificate is also available in Switzerland, where there are no specifically selected apprenticeship courses or special legal regulations for a shortened apprenticeship. The following practice is, however, common: After the 'gymnasium qualification', graduates are able to complete basic professional training (an apprenticeship). They are generally dispensed through general education tuition in the vocational school. The training period can be shortened by a year with the consent of the training company and the responsible cantonal offices. (cf. <http://www.berufsberatung.ch/dyn/51895.aspx>, 15.09.2013)

The programme “way-up” offers a special possibility of controlled, shortened basic vocational training in Switzerland. Graduates of upper secondary school are able to complete a two-year practice-oriented training course, qualify for the Swiss Certificate of Competence and thus gain entry into the university of applied sciences. The “way-up” programme is offered in the following five professions: automation engineering, electronics, information technology, design engineering and polymechanics. First there is a practical basic training (1st year) in learning centres and in the company. This basic training is completed with a partial examination. That is followed by a company practice (2nd year), where the basic concepts learnt are further developed in concrete projects in the company. This concludes with an individual production project in the company. (cf. <http://www.tecmania.ch/de/way-up>, 15.09.2013)

Some companies, mainly operating in the service sector in banking and insurance, offer training programmes that are specially directed towards graduates specialising in economics and law and who have good knowledge of foreign languages and computer applications. The training lasts from one to two years. (cf. <http://www.berufsberatung.ch/dyn/51895.aspx>, 15. 09. 2013)

As noted above, the access to apprenticeships in Germany via the conclusion of a general education secondary school exam is comparatively strongly represented; this situation is therefore different from that in Austria and Switzerland. In 2010 the portion of apprentices in Germany with a newly acquired training contract and a university entrance qualification exam was 21%, wherein there are in part obvious differences, depending on the professional group. (cf. BIBB 2012, P. 155). As per the Vocational Training Act, a shortening of the apprenticeship period by one year is possible for apprentices, if the training company agrees to it.

### 3.6.2 Vocational guidance

**AUSTRIA.** It is not always easy for young people to select the appropriate vocation from the 199 apprenticeships (correct as of June 2013) and find the correct apprenticeship post. In this respect, they are guided by various services and initiatives that support them:

- Principally, the career guidance service of the Arbeitsmarktservice Österreich (AMS) [Public Employment Service] acts as an agency for trainee positions. However, not all companies notify the AMS about their available trainee positions.
- General information on the training process and assistance in searching for available apprenticeship posts is also offered by apprenticeship offices of the economic chambers of the individual federal states, which also function as vocational training authorities in the first instance.
- Together with the Wirtschaftskammer Österreich (WKÖ) [Austrian Federal Economic Chamber], the AMS has set up an online exchange for apprenticeship posts ([www.ams.at/lehrstellen](http://www.ams.at/lehrstellen)), which enables young people to efficiently search for potential training companies.

The educational and career guidance authorities of the economic chambers support young people by giving them a variety of options. With the Berufsinformationscomputer BIC (Job Information Computer) at ([www.bic.at](http://www.bic.at)), the economic chambers have also set up an advanced communication forum, which offers them important aids for decision-making and extensive information for the selection of a profession.

Moreover, a wide range of other advice services, online information about apprenticeships, platforms for apprenticeship posts etc. are available, which are in part offered by public institutions, but also by social partners and vocational associations, and in part by training companies and private initiators and advisory institutions. Many of these offers are region-specific or focus on specific industries.

Because of the large number of apprenticeships (as well as forms of training for vocational and general training), a great deal of importance is given to educational and training advice. If we compare this system with the heterogeneous system in Austria, in which a number of stakeholders are involved (compulsory schools, the Public Employment Service, training and career guidance institutions of the social partners, private career advisers, online information media, education fairs etc.), that system in Austria offers a diversified offer on the one hand, but on the other hand creates a lack of transparency. The Swiss system of educational, vocational and career guidance is often referred to as a system that follows “good practice” in the area of training, professional and career guidance.

**SWITZERLAND.** Switzerland has a dense network of vocational information and career guidance centres, which assist the students at several transition points in planning the further course of their training and vocational career: For 95% of learners, career guidance is an inherent part of their compulsory schooling period during the initial vocational education. In the recent years, the offer of such centres has been further expanded.

It is compulsory for upper secondary students to attend career guidance events. In the 7th, 8th and 9th Grade, students are informed in the schools about career choice options; because of their special training, the teaching staff is familiar with the employment market. As a second step, the students in these grades are able to visit the Berufsinformationszentren (BIZ) [career guidance centres]. These institutions are independent and provide information and advice on all issues pertaining to vocational

education. Since they are not affiliated to individual institutions (for example vocational schools, higher vocational schools or universities of applied sciences), the students gain a comprehensive and unbiased overview of the available vocational options. The career centres are run by vocational counsellors who have extensive knowledge of vocational education. The students are provided with specific knowledge about individual vocational areas, by advisers who specialist in particular areas.

Students who are not well-versed in handling internet-based information material, or do not have access to such information material online, are able to access the brochures and printed information material.

Advice sessions are also conducted directly in the schools after collaborating with them accordingly.

Further information regarding the various options for vocational training is provided by the trade associations and the individual training companies, such as during vocational training and trade fairs. However, advisers from training companies do not have any specific training, in contrast with the advisers from the BIZ. (cf. HÖCKEL et al. 2009, P. 24)

The Swiss system therefore fulfils the core recommendations of the OECD for the most efficient career guidance system possible; these recommendations are compiled in the following overview.

TABLE 3-4: **Aspects defined by the OECD for designing successful educational and career guidance models**

Aspect	Contents
<b>Coherent job profile</b>	A separate job profile should be developed for the vocational advisor, in which the key competencies are presented (for example, knowledge about the employment markets, professions and learning opportunities; identification of applicable information sources; ability to record the interests, abilities and goals of the students)
<b>Appropriate resources and proactive advice</b>	Educational and career guidance services must be appropriately financed, and the core elements of educational and career guidance proactively put forward for all of the learners (for example, compulsory individual discussion with a counselling expert if the students opt for a particular branch or select a specific school or vocational training programme)
<b>Independence of the career guidance experts</b>	The career guidance experts should maintain their independence from the school (for example in the form of a vocational educational and career guidance service in the management of non-school based activities, which however assumes the function of a “mobile service” in the schools)
<b>Good sources of information</b>	The sources of information must be updated regularly in order to identify newly developed professions and areas in which there is a shortage of experts, as well as current and potential areas in which there is a surplus of experts and unemployment
<b>Extensive framework</b>	Personal counselling should be a part of an extensive framework for career guidance, whereby the learners are provided information on the world of work and career options. Schools must impart knowledge on the world of employment right from the initial school years (for example by organising visits to companies and through industrial placements, partnerships between schools and companies and companies located in the vicinity)
<b>Better evidence of what is effective</b>	Advisory initiatives must be evaluated carefully in order to justify effective resource management and to enable the optimum use of these resources (such as through follow-up surveys of those who have received advice)

Source: OECD 2010, P. 82ff ; own diagram

### 3.6.3 Vertical progression

One attractive feature of apprenticeship training is also that it does not reach a dead end with respect to **vertical progression**; this means that formal higher qualification is also possible after the conclusion of the apprenticeship.

**AUSTRIA.** In order to guarantee vertical progression in the education system for all forms of training, and to thereby contribute to making the training process more attractive, all the apprentices have had the option of completing the Berufsmatura [school leaving examination] free of charge and parallel with an apprenticeship since autumn 2008 in Austria.<sup>29</sup> With the Berufsmatura (official name: “Berufsreifeprüfung” [examination providing general access to higher education for skilled workers and graduates of three- to four-year full-time VET schools]), students are authorised to gain higher education in Austria. This means that they are authorised to participate in training courses that require a higher school certificate, such as for studying at universities, universities of applied sciences, teacher training colleges or for attending a non-university VET course. Coordinating bodies have been set up in the federal states, which are responsible for providing information, registration and organisation of the preparatory courses. In all the apprenticeships, it is possible to start with the preparatory courses right from the first year of the apprenticeship. These courses can be attended outside the working hours, if the training firm agrees to this, but also during working hours. The training period can be extended by maximum 18 months if the training firm and the apprentice agree to this. Such an extension of the training period is not compulsory. (cf. BMWFJ 2012a, P. 29)

**GERMANY.** In Germany, a course of study can be attended without the upper secondary school-leaving certificate. Professionals can study without the school leaving examination if they have successfully completed a vocational training and advanced training course. Craftsmen and graduates with equivalent vocational training are placed on a par with the high school graduates of grammar schools imparting general education, and are authorised for general access to higher education. Other working people, who have undergone vocational training of a minimum two years and generally have three years of professional experience, can gain access to corresponding vocational study after passing a qualifying examination conducted by the respective college. (cf. <http://www.praktisch-unschlagbar.de/content/535.php>, 08.10.2013)

There is a career progression in Germany too; this is administered by the Bundesministerium für Bildung und Forschung (BMBF) [Federal Ministry of Education and Research]. The Aufstiegsförderungsfortbildungsgesetz (AFBG) [Law for Career Progression Training], which is recognised under the name “Meister-BAföG”, is not only applicable to tradesmen. Other skilled personnel such as office administrators, employees in healthcare

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<sup>29</sup> The option of taking the Berufsreifeprüfung has been open to apprentices since as early as 1997. With the 2008 amendment, however, this option has been fundamentally reformed. Since then, it has mainly been possible to complete a major part of the Berufsreifeprüfung during the apprenticeship period itself; the preparatory work and the test itself are free of charge for the apprentices.

and nursing professions or media designers can strive for vocational progression by means of this initiative. The method is an advanced training method with progression potential, i.e. the person must have undergone qualified vocational training. Advanced training courses - which go beyond the qualification of a skilled worker, assistant, helper and technical college diploma, but which do not go beyond the qualification of craftsman - that have a definite number of hours and prepare one for a public law examination are supported.

The Meister-BAföG includes a subsidy, which does not need to be repaid, as well as a low-interest loan. The successful completion of the progression training as well as the path to independence (with the creation of at least one job) is also rewarded with partial remittance of the loan. (cf. <http://www.praktisch-unschlagbar.de/content/114.php>, 08.10.2013)

Professional newcomers, who have successfully completed the vocational training, have access to the advanced training fellowship: financial support for various advanced training courses. Advanced training courses such as courses for craftsmen or technicians, EDP courses, medical training courses or, in certain cases, even a part-time course (alongside studies), are promoted. The advanced training fellowship is aligned towards young professionals who show outstanding performance, and supports students under the age of 25 into their first years of work. The funding amounts to an allowance of up to €6,000 over a period of maximum three years. (cf. <http://www.praktisch-unschlagbar.de/content/115.php>, 08.10.2013)

**SWITZERLAND.** The model in Switzerland also incorporates a basic vocational training followed by an advanced general training after getting the higher vocational school leaving certificate. This certificate allows the student to take admission in the university of applied sciences without taking additional examinations. By taking an additional examination (after visiting a one-year passerelle training course), the student can get admission to a university or to a Swiss technical university. The higher vocational school can be completed simultaneously with the apprenticeship course or school: It then ends at the same time as the apprenticeship and after achieving the Swiss Federal Certificate of Competence (three to four years). However, it can also be gained after completing an apprenticeship in a higher vocational school. Here, the student has two options: A part-time higher vocational school (duration: four semesters), in which the lectures are conducted on a part-time basis, i.e. on two days per week, and a full-time higher vocational school (duration: two semesters), in which the student attends a one-year full-time course in the higher vocation school, whereby the lectures are conducted for four to five days per week. (cf. [http://www.berufsmaturbb.ch/fileadmin/media/pdf/GVBS\\_BM\\_Broschuere\\_23\\_01\\_12.pdf](http://www.berufsmaturbb.ch/fileadmin/media/pdf/GVBS_BM_Broschuere_23_01_12.pdf), 08.10.2013)

#### **3.6.4 Aspects relevant for decisions for a dual training system**

Alongside companies, young people form the second central target group in apprenticeship training. The question that therefore arises while developing and establishing a dual

system is how to interest young people in the training programme, which, until now, they have been oblivious to because of other educational traditions.

Experience with countries with an established dual training system shows that there are different elements in the apprenticeship training that young people find attractive. For some, it is the opportunity of earning money during the training period; for others, it is that they can forego the theoretical learning process in school and instead do practical training, and others expect an easier entry route into the job market. This opens up several avenues for reaching and addressing potential apprentices. However, experience also shows that even in systems that put a great deal of emphasis on the apprenticeship training, ongoing efforts are required to make the benefits and potentials of the dual training system attractive to the target group, i.e. young people.

Along with young people, their parents form yet another target group that needs to be convinced, since they have significant influence over their children's choice of education.

#### RELEVANT DECISION-MAKING ASPECTS AND CHALLENGES FOR THE DEVELOPMENT OF A DUAL APPRENTICESHIP TRAINING

- Access to training - **entry criteria** (pre-qualification, age)
- **Progression:**
  - Entry for upper secondary school-leaving certificate holders ⇒ Reduction in the apprenticeship period
  - Progression for apprentices to tertiary education (Berufsreifeprüfung model)
- **Transition, school ⇔ vocational training**
  - Bridging offers for young people who are not yet ready for training
- **Orientation offers:** early start to enhance the image of professions and vocation ⇒ The motivating factor of students being able to respond to this
  - Image-based and information campaigns
- **Career guidance offers** - generation and expansion
  - Regulation of responsibilities
  - The role of the school in career guidance
  - Integration of the parents into the decision process
- Promote the **mobility** of young people
  - Vocations with a relatively small number of apprentices may need to be trained only at one part-time school offering VET
  - Regional variations in the apprenticeships on offer
  - Support services: Travel allowances, housing allowances
- **Remuneration to apprentices** (students during the practical training) - Inspection and adaptation of the legal framework
  - Regulation of remuneration at a national level, basically on the basis of collective

contracts (allow excess payment?) ⇒ Health / accident insurance as provided to employees

→ Also, basic cover for the remuneration of skilled workers (the extent of this cover is relevant for determining the cost “burden” on training companies, which is thus an incentive for making apprenticeships available; the extent of cover is also relevant for the students ⇒ How attractive the training is)

→ Concretisation: Extent depending upon the apprenticeship, year of training given by the board or wage setting by a social partner.

- **Offers for slower learners** - Individual extension of the training period; if required, limiting the job description to partial qualifications

→ Generation of simple job descriptions

- Offer for people with a low level of qualifications in the form of an “extraordinary” final apprenticeship exam for acquiring a formal vocational qualification by recognising non-formal and informally acquired competencies.

### 3.7 Administration and implementation

#### **BRIEF DESCRIPTION:**

Streamlined, transparent administrative structures and processes are another fundamental element of effective apprentice training systems. In this respect, the basic element in Austria is the apprenticeship contract between the instructor and the apprentice, which must be signed in writing. The apprenticeship office checks the data in the apprenticeship contract and the suitability of the training firm, and acknowledges chargeable vocational training periods. Logging the apprenticeship contract is a prerequisite for subsequent qualification for taking the final apprenticeship examination. The apprenticeship contract must mainly include the following details: The name of the profession in which the training is provided, the duration of the training period, the beginning and end of training, possible training within the framework of a training alliance with other companies or educational institutions, the level of apprentice remuneration.

The **companies** form the backbone of the apprenticeship system: They determine the contents of the apprenticeship training and the actual training in the company. In Austria, companies are also the primary (local) carriers of the administrative system ("apprenticeship offices") rather than purely representing their interests.

The type of administration and implementation of a dual training system is thus an additional essential aspect, which can be decisive for success or failure: "Our hypothesis is that apprenticeship training schemes are more successful – as evidenced by higher enrolment rates and lower drop-out rates – in countries such as Germany than they are in Anglo-Saxon countries such as the United Kingdom, because commitment to training provision is more widespread. We further hypothesize that this may be due to a well-structured regulatory framework and monitoring institutions that exist in Germany but are absent in Anglo-Saxon countries." (DUSTMANN und SCHÖNBERG 2012, P. 12)

A recent survey shows similar inferences: "The administrative burden imposed on companies through the regulatory framework is not too heavy. Otherwise it may be seen as a disincentive. In some countries, apprenticeships suffer from a bad reputation among employers due to the perception of high levels of paperwork involved. This negatively affects the supply of apprentice ship placements." (EUROPEAN COMMISSION 2013, P. 12) It may also prove useful to offer incentives and support to companies within the scope of administrative procedures: "The regulatory framework typically clarifies the incentives for employers to engage learners in alternance programmes. These can be financial incentives such as tax reductions, subsidies or other, but also non-financial, such as access to certain support services, for example to help companies with the paperwork related to hosting apprentices." (ibid., P. 13)

Streamlined, transparent administrative structures and processes are another fundamental element of sustainable apprenticeship systems. In Austria, the basic element in this respect is the apprenticeship contract.

**APPRENTICESHIP CONTRACT.** The apprenticeship contract forms the basis of the vocational training programme in the dual system. The instructor and apprentice agree upon the important key points of the training programme in writing (see below). As regards apprentices who are minors, the legal representative must (as a rule) also sign the apprenticeship contract. The apprenticeship offices of the economic chambers, as vocational training authorities of the first instance, make available standardised formulae to simplify the process of creation of apprenticeship contracts as far as possible and to provide optimum legal security for all the involved parties.

The apprenticeship contract must be submitted to the apprenticeship office for logging as soon as possible, but within a maximum of three weeks after the commencement of the training programme. The apprenticeship office checks the data in the apprenticeship contract (see below) as well as the suitability of the training firm and acknowledges any creditable vocational training periods. Logging the apprenticeship contract is a prerequisite for obtaining the authorisation for taking the final apprenticeship examination at the end of the training period.

The apprenticeship contract must include the following details:

- Name of the profession, for which the training will be conducted
- Duration of the training period
- Beginning and end of training
- Data pertaining to the instructor and if required, the trainer
- Data pertaining to the apprentice
- Reference to mandatory vocational education
- Possible trainings within the framework of a training alliance with other companies or educational institutions
- Level of apprenticeship wages
- Day of the conclusion of the apprenticeship contract. (cf. BMWFJ 2012a, P. 17)

As already detailed at various points in this report, the apprenticeship offices act as direct contact points for almost all the key issues pertaining to apprenticeship training - for companies as well as the apprentices: These issues range from the granting of training authorisation during first apprenticeship training, to the registration of the apprenticeship contracts, to the organisation of final apprenticeship examinations, to handling funding for training companies.

Along with the German and Swiss model, the Austrian model for administration is also mentioned as exemplary in current international comparative studies: "In many countries WBL [Work Based Learning] exists within a well-structured regulatory framework. Apprenticeship models in Germany, Austria and Switzerland for example are highly

institutionalised with certain regulatory requirements contributing to the overall quality of the apprenticeship training." (EUROPEAN COMMISSION 2013, P. 12)

Dustmann and Schönberg put forth suggestions with respect to the administrative framework conditions for countries that are considering an extension of dual vocational training programmes: "We believe that countries that would like to expand firm-based apprenticeship training should pay careful attention that apprenticeship contracts are enforceable and that companies are able to commit to training provision, possibly through stricter regulation of the apprenticeship system, such as the monitoring of training companies, and examination of training achievements by external institutions. Subsidizing apprenticeship programs, in contrast, may not be the most effective way of expanding apprenticeship training, as it does not address the commitment problem." (DUSTMANN and SCHÖNBERG 2012, P. 21)

In its recent study, the ILO (International Labour Organisation) also emphasises that the successful implementation of dual apprenticeship training programmes is "a clear and enforceable formulation of rights and responsibilities of the apprenticeship partners. ... While legislation is necessary for high quality apprenticeship provision, the most effective legislation safeguards rights and responsibilities of the main partners while leaving questions of apprenticeship content, assessment and certification to be agreed between employer and employee representatives. Legislation should:

- recognize the unique status of the apprentice as learner and secure the right to high-quality training with strong transferable elements;
- set out the right of apprentices to a training allowance commensurate with their productive contribution net of training costs;
- set a minimum duration for the apprenticeship and secure provision for career progression;
- exempt young apprentices from minimum wage legislation and set a separate minimum wage for young apprentices.

Legislation should be coherent and aim for a simple but effective framework." (ILO 2012, P. 11)

During the administration and implementation of dual apprenticeship training, special attention should also be paid to the specific requirements of small- and medium-scale companies: "SMEs face particular challenges in engaging with WBL [Work Based Learning], given their smaller workforces, limited resources and lack of familiarity with the WBL regulatory and administrative framework. Their engagement can be encouraged by intermediary organisations that offer expertise, information and help to support and motivate employers participating in WBL. Intermediary bodies can relieve employers from the administrative burdens that are often associated with different forms of WBL provision and assist them in locating information, for example advice on tax incentives to train young people. Intermediary organisations can, for example, provide advice to SMEs on curricula or on how to organise different forms of WBL." (EUROPEAN COMMISSION 2013, P. 14)

### 3.7.1 Special forms

**TRAINING ALLIANCE.** If a company is not able to provide the skills and know-how required for a particular apprenticeship in full, the Austrian Vocational Training Act (BAG) has a provision for training the apprentices by forming a **training alliance**. Accordingly, supplementary training measures are provided by another appropriate company or suitable training establishment (for example, adult education establishments). The contents of the training, which are provided by a facility outside the actual training company, must also be agreed upon in the apprenticeship contract, as should the "alliance partner".

If a company is not able to fulfil the stipulated contents of the training on its own, the formation of a training alliance is **mandatory**. Training alliances can also be made **voluntarily** in order to provide the apprentices with additional qualifications, which may go beyond the job profile. This may for example be the case in areas of e-skills (special computer programmes), foreign languages, generic qualifications (soft skills) or even automation and robotics, new materials and connection techniques.

In some federal states, institutionalised training alliances are formed (for example, the Upper Austria Company Training Alliance - FAV OÖ - or the Tirol Training Alliance). These offer the companies information and consultation on potential partner companies and educational institutions and take over the task of coordinating measures for the training alliance. (cf. BMWFJ 2012a, P. 12)

**EXTRAORDINARY FINAL APPRENTICESHIP EXAMINATION.** According to the Austrian Vocational Training Act (BAG), the final apprenticeship examination can also be taken by persons, who have not completed any apprenticeship or schooling equivalent to the apprenticeship. These are persons, who

- Have turned 19 and
- who can prove that they have acquired the required skills and know-how for the corresponding apprenticeship by other means (for example through the appropriate training period, practical activities or courses),
- or have at least attended half of the training of an apprenticeship and have no way of entering into an apprenticeship contract for the residual period.

Following an amendment to the BAG in 2011, access to LAP was extended to the effect that apprenticeship offices are now able to determine the passing of the practical LAP in two parts. In the first part, the qualifications already acquired by the test candidate are determined, whereas the qualifications that are still lacking are proven in the second part.

This regulation shall apply if the test candidates

- Have reached 23 years of age and
- completed training measures - which are classified by the Regional Advisory Board on Apprenticeship as appropriate - within the scope of projects for obtaining higher qualification. (ibid. 2012, P. 15)

These regulations are intended to make it easier for people who have acquired significant competencies in a apprenticeship without undergoing formal apprenticeship training, to obtain a formal vocational qualification.

### 3.7.2 Aspects relevant for decisions for a dual training system

Flat and transparent management hierarchies, simple and standardised processes, local regional focal points, clear and comprehensible laws and regulations without over-regulation, and the prevention of bureaucratic hurdles are key pre-requisites for involvement in a dual training programme (cf. SCHNEEBERGER and NOWAK, 2007, P. 8).

If these criteria are fulfilled and if the companies can be provided with an aid of some kind (for example standardised contract forms), then the foundations for the efficient administration of apprenticeship training are in place.

#### RELEVANT DECISION-MAKING ASPECTS AND CHALLENGES FOR THE DEVELOPMENT OF DUAL APPRENTICESHIP TRAINING

- Regulation of the responsibility for direct administration: Who is responsible for what?
- **Apprenticeship contract:**
  - ➔ Regulates the basic relationship between the training firm and the apprentice
  - ➔ Determination of the apprenticeship, training period, apprenticeship remuneration, trial period etc.
- **Apprenticeship remuneration:** uniform regulation for Germany ⇒ on the basis of collective contracts (see also success factor 6)
- **One-shop principle:** Clearly defined, institutionalised focal points for companies locally
  - ➔ Regional or
  - ➔ industry-specific

## 4 Development of new apprenticeships

As described in CHAPTER 3.5, the attractiveness and sustainability of an apprenticeship system is determined by its flexibility and, in particular, adaptability in the sense of a response that is as timely as possible, or even anticipation of upcoming future qualification requirements and qualification demand trends. A study of the anticipation mechanisms and quality assurance in the Austrian vocational training conducted in 2005 showed that the dual apprenticeship training reacts more flexibly to new qualification and employment market challenges than is the case for full-time school-based vocational training programmes. Institutionalised communication centres for all the involved persons, as well as the high degree of networking and incorporation of all relevant stakeholders in the reform processes, are highlighted as being positive. (cf. LASSNIG/MARKOWITSCH 2005, P. 70)

The requirements of professional life and the practical requirements of an industry are key in developing new professions and/or reform. The content of the training regulations is prepared by the Regional Advisory Board on Apprenticeship and the Ministry of Economic Affairs. In this process, the Institut für Bildungsforschung der Wirtschaft (ibw) [Institute for Research on Qualification and Training of the Austrian Economy] assists these bodies by conducting expert surveys, studies, evaluations, etc. (BMWfJ 2012a, P. 25) The Regional Advisory Board on Apprenticeship is a social partnership-level committee, which gives advice to the Ministry for Economic Affairs regarding apprenticeship training, makes suggestions or prepares expert opinions on reform proposals.

Because of the constantly changing economic conditions in modern national economies, it is necessary to continuously update these training guidelines. Often, such reform requests are made by the social partners in Austria; however, international developments and educational programmes may contribute to this. (cf. TRITSCHER-ARCHAN et al. 2012, P. 62)

For nearly 15 years, the ibw has been developing vocational profiles, job profiles and examination regulations for new apprenticeships, and has special competence in this field throughout Austria. The institute is also responsible for the upgrading of existing training regulations as well as the development of modular training regulations.

(See <http://www.ibw.at/de/entwicklung/lehrlingsausbildung/berufsentwicklung>, 21.08.2013)

The training regulation lays down the following parameters for a apprenticeship:

- The **apprenticeship title**
- The **duration of training**: the training lasts for 2, 2 ½, 3, 3 ½ or 4 years, depending upon the apprenticeship
- The **competence profile**: a short summary of the vocational requirements, which the trained apprentice must fulfil
- The **job profile**: the "syllabus" for the training firm; the job profile sets out the vocational competencies (know-how and skills) to be provided to the apprentice during the training in the firm, according to the years of training. (cf. BMWfJ 2012a, P. 7)

Furthermore, the test regulation is also released together with the training regulation, which governs the components and contents of the final apprenticeship examination up to the end of the training period.

Apart from the training regulations, a syllabus framework - that corresponds with the training regulation - is prepared for the vocational schools by a group of experts, under the management of the Federal Ministry for Education, Arts and Culture (BMUKK). The corresponding drafts are then prepared for an Austria-wide assessment. (ibid., P. 25f)

**ANNEX F** sets out the example of the training regulation for the 3-year apprenticeship for metal processing.

In the next stage of the reform process, all the involved circles are incorporated into this process of assessment and their statements evaluated. Subsequently, the training regulations are implemented by the Ministry for Economic Affairs and the syllabus framework is implemented by the Ministry of Education. (ibid., P. 26)

In the next step, the following follow-up measures that are essential for successful implementation are initiated. This includes the creation of additional guidelines for assisting the training companies; this is effected by the vocational organisation of companies. This is partially effected with the support of the employees' representation or through the educational institutes. Moreover, the training companies are informed by apprenticeship offices about the new jobs that require training, and job-specific training is conducted for the trainers in the companies and the teachers in the vocational schools, as well as for the examiners, for the new final apprenticeship exams. All of this is accompanied by research and evaluation processes. (ibid., P. 26)

Moreover, the syllabus framework prepared by the BMUKK must be implemented at national level by the respective Landesschulrat (regional education authority in the Austrian state) into syllabi for the vocational schools.

The following table (Table 4-1) is a schematic presentation of the setting up a new apprenticeship or amending an existing one.

**ANNEX C** provides a summary of the development of apprenticeships in Germany and Switzerland.

TABLE 4-1: Establishing a new apprenticeship

I. Preparation				
The Ministry for Economic Affairs, the social partners or the companies set the initiatives for the creation or upgrading of an apprenticeship		Clarification of the framework conditions by the Ministry for Economic Affairs and social partners	Consideration of developments in Europe and internationally, and solution in other nations	
II. Creation of the training regulation and syllabus framework				
Preparation of drafts for training regulations by educational research institutes	Advising experts in the Regional Advisory Board on Apprenticeship	Expert assessment of the Regional Advisory Board on Apprenticeship for the Ministry for Economic Affairs	Development of a syllabus framework that corresponds to the training regulation, effected by a group of experts under the management of the Ministry of Education	Preparation of the drafts for an Austria-wide assessment
III. Issuance of the regulations				
Dealing with all involved parties in an assessment procedure		Evaluation of the statements	Implementation of the training regulations by the Ministry for Economic Affairs and of the syllabus frameworks by the Ministry of Education	
IV. Follow-up actions				
Creation of additional guidelines by the vocational organisation of the companies, partly with support from the workers' representation, or by vocational training institutes for supporting the training companies	Provision of information to training companies by apprenticeship offices	Training of trainers in the companies and teaching staff in the vocational schools	Training the examiners for the final apprenticeship exams	Simultaneous evaluation

Source: BMWFJ 2012a, P. 25f, own research

# A N N E X E S

## **ANNEX A: Practical experience**

### **A.1 German-Portuguese collaboration**

The following example shows how a project initiated by a small group in German companies for the implementation of a dual training system can become a training model, in which more and more domestic companies participate in course of time.

Upon a request from large German companies, the Deutsch-Portugiesische Industrie- und Handelskammer (DPIHK) [German-Portuguese Chamber of Industry and Commerce] has been offering its service in the area of dual vocational training since 1983. The Chamber is a pioneer in Portugal and one of the largest training suppliers in the network of international economic chambers in the area of implementation and application of the dual training system: the inclusion of the companies in the process of designing the training programme and a strong practical orientation in all qualification concepts.

The vocational training system in Portugal is predominantly aligned toward school-based vocational education: Jobs that require training are conveyed in schools; only at the end of every school year do the students have to undergo an internship in a company for two to three months. There is no direct training relationship between the companies and students to be trained.

The training system is almost entirely designed for a career in academia. There is no alternative vocational training system, which offers career opportunities and structured training for promotion - compared to the dual vocational training systems in Germany, Austria or Switzerland. In the recent years, however, a few things were reconsidered, and vocational qualification gained significance in Portugal.

Particularly due to the demand for qualified experts from German companies in Portugal, such as AEG, Robert Bosch, Hoechst, Miele and Siemens, the need for a dual vocational training system was put before the DPIHK in 1983, with the aim of adapting the vocational qualification of young people to be more in line with the requirements of the companies, and above all of designing the training programme to be more practically-oriented. After almost 25 years of experience in the service field of "vocational qualification", the "DUAL" brand was registered as the training brand of the DPIHK in Portugal in 2007.

As a full-service provider, DUAL offers practically-oriented jobs that require training, in line with the German model. Roadshows bring out attractive offers at professional career fairs and in schools. Students must overcome the initial hurdles in assessments conducted by their own schools. After this, the theory tests are completed in the three vocational schools of DUAL in Porto, Lisbon and Portimão; practical training is acquired in the companies. The special feature of this model is that the contractual training relationship is concluded with the vocational training centres of DUAL. DUAL then gives the trainees entry into the respective companies.

It has been possible to convince many Portuguese companies of this vocational qualification system, and they are today opting for a practically-oriented vocational

qualification. The success of this method is emphasised by the high number of trainees, which goes well above 90% on a regular basis. Today, nearly 80% of the active training companies are Portuguese, whereas only 20% are German. Because of the success rate and high level of interest, DUAL has consistently expanded its offer further. This is reflected in the fact that the course offer has been increasing continuously since 2002, as well as the increasing number of trainees and participating companies: In 2002, the number of companies involved was 144; in 2006, the number of companies involved in the process of implementation had already reached 302. The huge success of the project is not only attributed to the application of the German dual principle, but also the implementation of the project in the national language. The training is conducted in Portuguese, meaning that the product is opened up to a broader target group. More training courses are also offered in German.

The practically-oriented vocational qualification (Qualificação Inicial Dual) continues to be the most important product. However, further vocational qualifications are increasingly being offered for the working population (advanced training) and high school graduates (Estudo Dual). The corresponding vocational training offers are allotted up to 60 credit points by partner universities (ECTS). It has been possible to establish a link between university education and vocational training at this stage. (cf. HEINRICH 2007, P. 43)

## **A.2 Implementation of apprenticeships in the "Electrical / IT" department - a comparison**

An example is given below of a transnational analysis of apprenticeship training in Germany, Austria and Switzerland, which, on the basis of certain important criteria, shows scope for the concrete design of apprenticeship training.

In March 2013, a one-day workshop was conducted at the Hoahrhein-Bodensee Industrie- und Handelskammer (IHK) [Chamber of Industry and Commerce], which was aimed at comparing the implementation of dual training programmes in electrical and IT professions in Switzerland, Austria and Germany. The participants were four company representatives from Austria and Germany, one employee from the Bundesinstitut für Berufsbildung (BIBB) [Federal Institute for Vocational Education and Training] and one representative from each of the corresponding offices in the Bodensee region, i.e. the Austrian Federal Economic Chamber, Vorarlberg/Austria, the Hoahrhein-Bodensee IHK and the office for vocational training and career guidance of the Thurgau canton/Switzerland.

An attempt was made to take stock of current professions and to work out the similarities and differences, in order to promote understanding of the other corresponding system regionally, i.e. in the Bodensee region, and also at the level of the three countries. The basis of the discussion was a working paper prepared by the BIBB and IHK, which was further added to within the scope of the workshop. In the first part of this paper, the jobs requiring qualification are compared with one another, whereas the second part describes the criteria-based differences and similarities (see table A-1).

Despite far-reaching similarities, certain differences stand out. Initially, in Austria and Switzerland, the responsibilities between trade and industry, and therefore the jobs requiring qualification, are not separated. In Austria, several professions are structured as modular professions, whereby there is an option of extending the programme during the training from three and half years to four using additional special modules. In Switzerland, training sections are divided into basic, specialised and advanced training; the training period ranges from 3 to 4 years. The total number of jobs in the electro-technical and IT sectors in Switzerland and Austria is therefore lower than in Germany; however, this is once again at least partially balanced out by the number of specialisation options within the professions.

In Switzerland, the time spent in the vocational school is much higher (2,480 hours) than in Germany (1,020 hours) and Austria (1,620 hours). The teaching in Switzerland also includes general education and sports. In Austria and Switzerland, the services provided by the vocational school are charged upon the completion of the skilled worker training.

TABLE A-1: Framework conditions and design features of apprenticeships in the "Electrical, IT" specialist area in Austria, Germany and Switzerland, 2013

Features	Austria**	Germany*	Switzerland
<b>Pre-requisites for entry</b>	Not formally based on a qualification	Not formally based on a qualification; however, the decisive factor is whether the company considers the applicant suitable and enters into a training contract with him	Not formally based on a qualification
<b>Underlying legal principles</b>	Vocational Training Act, last modified 2012	Vocational Training Act 2005	Vocational Training Act 2002
<b>Training duration</b>	3.5 to 4 years	2 to 3.5 years	3 to 4 years
<b>Time share of the vocational school education in the overall training programme</b>	1,620 hours	1-2 days per week, 1,020 hours for vocational contents	2,480 lessons including sport and general teaching
<b>Time share of supra-company training</b>	-	Exists only for trade	36-64 days in the first two years of training, basic and advanced courses (voluntary), basic courses are organised so that they are subject-specific
<b>Organisational time apportionment of company-based training</b>	Module structure: Base, main and special modules along with Part-time vocational school for apprentices	Division into time frames, parallel arrangement of specialised and core qualifications, no basic education in the former sense	Basic training, advanced training, topic-based training
<b>Organisational time apportionment of the vocational school lesson</b>	Module structure: Base, main and special modules	Block teaching or one day of classes per week, structuring the contents in learning fields, which are based on the areas of activity; the implementation of the learning field concept differs from country to country	Knowledge of vocational issues (subject-oriented classification, 1,680 h), general education (480h), sports (320h), further implementation in a school syllabus

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<b>Responsible authority</b>	Economic chamber (no separation between trade and industry)	Industrie- und Handelskammer (IHK)	Training supervision at the office for vocational training and education
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TABLE A-1: Continuation

Features	Austria**	Germany*	Switzerland
<b>Examination structure</b>	The final apprenticeship examination is subdivided into a theoretical and practical examination	Extended final apprenticeship examination	Partial exam + final examination (in 3 parts: practical, written (vocational know-how) and general partial exam and an additional grade for practical experience are included in the result
<b>Appraisal instruments</b>	Written tasks (subject-specific), practical examination assignment, vocationally-specific interview	Written tasks (specific to the operating processes of the company: System design, functional and system analysis) (practical) variant model: Practical task or company order, both with vocationally-specific interview	Practical work with vocationally-specific interview (at the company workplace, 36-120h), vocational assessment test (written)
<b>Preparation of exam questions</b>	Exam preparation committees at the level of the federal provinces by voluntary working groups, central clearing office	Centrally by PAL Stuttgart, Exception of company job	Theory exams at the national level, practical exams within the framework of alliances
<b>Recognition of school achievements in the qualification</b>	Recognition, if a "positive decision" from the vocational school, then exemption from theory exam	No Separate certificates: FA certificate, Vocational school certificate, company certificate	Semester certificate, school education is allotted 35% in the assessment, 15% knowledge of vocational issues (vocational know-how assessment), 20% general education (grade for experience)
<b>Securing progression</b>	Apprenticeship with Matura (upper secondary school-leaving certificate)	-	Higher vocational school leaving certificate (additional qualification, integrated or after BA)

\* Only industrial occupations

Source: BIBB 2013

\*\* Details for Austria updated by the authors

## ANNEX B:      **Modularisation of apprenticeships in Austria**

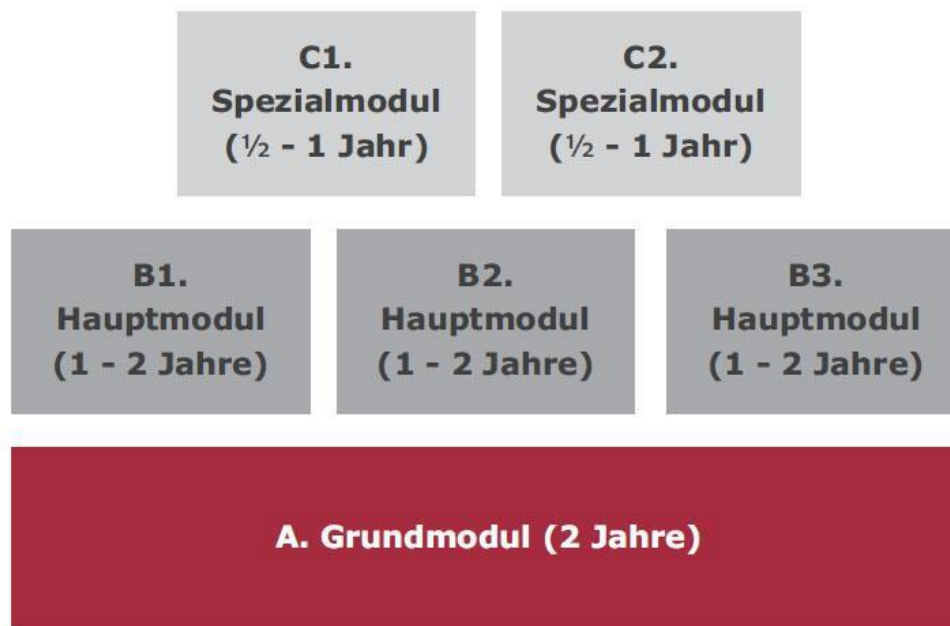
The spectrum of apprenticeships in Austria is largely exhausted by the existing 199 apprenticeships (correct as of June 2013); new technologies or new areas of activity will therefore be differentiations or specialisations of the existing apprenticeships. This thought also underlies the modularisation concept. Other considerations behind this concept can be described as follows:

- Because of the high degree of specialisation of the companies, they are increasingly unable to convey the complete job profile of an apprenticeship, which in turn reduces the number of potential training companies. Because of the option of setting of priorities and detailing, the training offer can be designed more flexibly; as a result, it is possible to react more quickly to changes.
- In certain vocational fields, there is a range of apprenticeships with contents that significantly overlap; this restricts the transparency and clarity of the apprenticeship offer. By reducing the number of apprenticeships from 254 currently (*remark: as of 2005*) to 150 basic professions, it is intended that clarity will be improved and career guidance will therefore be made more straightforward.
- It is difficult to establish an apprenticeship training programme in professions or professional areas that do not offer sufficient basic skills and know-how specific to their area. By forming apprenticeship clusters, which have common training contents, new apprenticeship options can be created - particularly in the growing service areas such as health and wellness.
- The recognition of acquired qualifications - particularly with regard to additional examinations or final apprenticeship examinations - in the second educational path, continues to be extremely restrictive in today's context. For establishing the necessary life-long learning, and for increasing professional mobility, a better recognition of the skills, know-how and capabilities already acquired is necessary through more flexible regulations as well as easier access to gaining additional qualifications. (cf. ARCHAN 2005, P. 10)

The modularisation concept was brought into effect in Austria in January 2006 by amending the Vocational Training Act (BAG). The training is divided into three modules in a modular apprenticeship: Base, main and special module (see Figure C-1 on the next page).

**BASE MODULE.** The base module generally lasts for two years and includes all the know-how and skills essential for the basic activities involved in one or more apprenticeships in a particular vocational field. In justified exceptional cases, this module may also last for just one year.

FIGURE B-1: The structure of a modular apprenticeship in Austria



Source: BMWFJ 2012a, P. 28

**MAIN MODULE.** A main module lasts for at least one year. It contains all the know-how and skills that go beyond the foundations and which form the typical qualifications of one or more apprenticeships of a particular vocational field (for example machining technology in the metal technology modular apprenticeship). Building on a base module, there can be several main modules. The base module and main module together must together constitute an apprenticeship period of at least three years. If the base module lasts for only one year, the main module must last for at least two years.

**SPECIAL MODULE.** A special module lasts for six months or one year and provides further know-how and skills, which correspond to special modes of production and services.

Every modular apprenticeship must include one base module, at least one main module and one special module. Every apprentice is trained in the base module and must select a main module. Apart from this, the apprentice can be trained in another main or special module. However, there is no obligation for training in a special module. The decision for the main and special modules is always taken by the training company and the apprentice in consultation with each other.

The training regulations state precisely how the modules can be combined; not every main module can be automatically combined with every special module. Depending upon the combination of the modules, the modular apprenticeships give an apprenticeship period of a minimum of three years and a maximum of four years.

Since the training in the base module and in at least one main module is obligatory, broad basic training is guaranteed. At the same time, different modules can be combined with one another in a modular apprenticeship, which gives the companies and apprentices the

advantage of designing the training programme flexibly. In this process, the requirements of and options for the company can be taken into account along with the individual prerequisites and interests of the apprentice. The selected module combination must be basically agreed upon at the beginning of the apprenticeship period, at the time of conclusion of the apprenticeship contract. The modules can be changed by amending the apprenticeship contract, if for example the requirements of the company or apprentice change.

Modularisation also, however, facilitates greater flexibility while introducing new training contents and modernising that which is already in place. At the time of introduction of new contents into the apprenticeship programme, the "module system" offers greater scope, since an entire apprenticeship does not need to be upgraded or re-created, but individual modules can also be exchanged, added or modified. In this way, it is possible to react quickly to the changed needs of the industry. (cf. BMWFJ 2012a, P. 27f.) Thus, for example, an additional special module - "High-voltage drives" - was added to the automobile technology modular apprenticeship in June 2013, in order to do justice to the increasing importance of vehicles with electromotors and hybrid engines.

“However, modularisation does not offer advantages in the introduction or modernisation of apprenticeships alone. Even existing individual apprenticeships can be compiled to form a "module system" if the contents are overlapping. This can lead to a significant reduction in the number of apprenticeships (without affecting the versatility of the apprenticeship programme), in order to increase clarity." (ibid., P. 28) For example, in June 2011, the regulation of the Federal Ministry for Economy, Family and Youth (BMWFJ) summarised 16 metal fabrication apprenticeships for the metal technology modular apprenticeship, and six electro-technical apprenticeships for the electrical engineering modular apprenticeship in July 2010. (cf. <http://www.bic.at/berufsinformation.php?beruf=metalltechnik-lehrberuf&brfid=2285> und <http://www.bic.at/berufsinformation.php?beruf=elektrotechnik-lehrberuf&brfid=2236>, 17.10.2013)

ANNEX E shows the module structure with the examples of metal technology and electrical engineering. The currently prevailing modular apprenticeships are marked in the list of apprenticeships in ANNEX D with the addition "modular apprenticeship".

## **ANNEX C:      Development of new apprenticeships**

The attractiveness and sustainability of an apprenticeship training system lies mainly in its flexibility and adaptability in the sense of an almost immediate reaction to changes that emanate in the qualification requirements and thus the trends in qualification demands. In short, how is the "development of new apprenticeships" effected? This question is discussed in detail by comparing the perspectives of different countries. The example of Austria is dealt with in **CHAPTER 4**.

### **C.1 Germany**

As is the case in Austria, in Germany new apprenticeship regulations are compiled, or the existing ones are upgraded and coordinated, using the framework syllabus of the countries. This is effected in a regulated, multi-stage procedure, in which all the relevant stakeholders of vocational education are incorporated such that they play an important role:

- the employers (companies and chambers)
- the employees (trade unions)
- the countries and
- the federation.

Only by weighing out the different interests and wishes of all stakeholders can the process yield an acceptable result; this is because a training regulation can be accepted by the companies only if it has been created with the consensus of all the stakeholders. (cf. BIBB 2011, P. 35)

The trade unions have far-reaching participation rights in the execution of vocational education by means of the Works Constitution Act and Personnel Representation Act. The alliances of employers are the stakeholders of the mostly private-sector companies that impart vocational training. (cf. *ibid.*, P. 6)

Through acts and regulations, the federation defines the legal scope of the vocational training. Apprenticeship regulations are guidelines that determine the objectives, contents and examination requirements for training in companies. These are issued through legal ordinances from the responsible Federal Ministries, in coordination with the Bundesministerium für Bildung und Forschung (BMBF). These are applicable nationwide and are legislative acts. (cf. *ibid.*, P. 7)

The Bundesinstitut für Berufsbildung (BIBB), founded in 1970, prepares the contents of the apprenticeship regulations. It compiles drafts, together with the experts from professional practice, which are sent by employers and trade unions. Many guidelines defined in the Vocational Training Act for organising the vocational training are based on regulations that were first developed in practical training and proven here. (cf. *ibid.*, P. 7)

A reorganisation of jobs in Germany requiring qualification is based on a corresponding economic qualification requirement. The development of new training acts is divided into three phases.

**THE PREPARATORY PHASE.**In an initial discussion with the responsible Federal Ministry (generally, the Bundesministerium für Wirtschaft und Technologie [Federal Ministry for Economy and Technology]), the benchmarks of educational policy are defined in agreement with the Bundesministerium für Bildung und Forschung as well as with the consensus of the leading employers' and employees' associations. (<http://www.bibb.de/de/4963.htm>, 28.08.2013.) Based on a project decision in the Federal-State Coordination Committee, an instruction is issued by the Minister to the Bundesinstitut für Berufsbildung (BIBB) to compile a draft for the training regulation.

**DEVELOPMENT AND COORDINATION PHASE.**The draft of the training regulation for the operational part of the training is basically prepared under the guidance of the BIBB in collaboration with the experts nominated by the leading employers' and employees' associations. The draft of the syllabus framework for the school-based part of the training is prepared by the in-country experts, nominated by the respective Ministries of Culture. (<http://www.bibb.de/de/4963.htm>, 28.08.2013)

In a joint meeting held at the end of the preparatory phase, the experts from the federation and countries give advice on both drafts and align the temporal parallels and contents. The coordinated draft of the training regulation is submitted to the main committee of the BIBB for its opinion. If this committee approves the regulation, this is a recommendation to the Federal Government to issue the training regulation in the submitted form. (cf. BIBB 2011, P. 31)

**THE ISSUE PHASE.**Finally, the training regulation is issued, whereby the "Federal-State Coordination Committee for Training Regulations / Framework Syllabi" approves the new training regulation and the discussed and agreed framework syllabus. The responsible Ministry then issues the training regulation in agreement with the BMBF and publishes it in the Federal Law Gazette. The framework syllabus is usually immediately accepted by the federal states or converted to country-specific syllabi for the vocational schools. (cf. *ibid.*, P. 34)

A total of 49 completely new qualified jobs were created during the period from 1996 to 2007, and 211 existing qualified jobs were upgraded. (cf. BMBF 2007, P. 16)

A training regulation defines the following parameters of a dual vocational training programme:

- The qualified job title
- The duration of training: The duration should not be more than 3 years and less than 2 years
- The job profile for the job requiring qualification: the typical "skills, know-how and capabilities" required for the job in a summarised form
- The training schedule framework: Instructions regarding the classification of the skills, know-how and capabilities, objectively and in terms of timing, and
- the examination regulations. (cf. BIBB 2011, P. 11)

These regulations describe the minimum requirements for up-to-date training and define the standards, i.e. the currently indispensable skills, know-how and capabilities of a qualified employee, as well as the scope for practice, with the objective of being able to integrate more qualifications that go beyond these standards as well as future unforeseeable developments into the training programme. The openness of the training in the dual system for new developments and different training options is an important prerequisite for the companies' willingness to train young talent and simultaneously for the professional flexibility of the employees. (cf. *ibid.*, P. 12)

The "test" of the flexibility and innovative capacity of the apprenticeship was conducted as early as in the 1990s in Germany:

"In 1997, the decision was taken in Germany to establish four new ICT apprenticeship occupations. This was widely perceived as a test of the 'innovative potential' of the dual system. Could the concept of Beruf be redefined as a dynamic process-oriented qualification that would allow employees to adapt to the rapid pace of change and highly competitive environment of ICT activity?" ... The new qualifications were developed in about a year, in contrast to the accepted wisdom that the development of apprentice qualifications was an inevitably lengthy and cumbersome procedure." (STEDMAN et al. 2006, P. 13)

The following chart (TABLE C-1) compiles the process of development of new training regulations for professions in the dual training programme in Germany.

**TABLE C-1: Process of development of new training regulations for professions in the dual training programme in Germany**

Preliminary phase	
Proposal of key data for the reform	
Initial (project) discussion with the minister: Determination of benchmark figures in the education policy	
Project solution in the Federal-State Coordination Committee for "Training Regulations / Framework Syllabi"	
Issuance of instructions (by the minister in agreement with BMBF) to the BIBB	
Development and coordination phase	
Nomination of experts of the federation upon a proposal from the social parties, appointment of a committee for deciding the framework syllabus by the Kultusministerkonferenz (KMK) [Conference of Ministers for Education and Arts]	
Constituent assembly of the experts of the federation	
Meetings of the experts of the federation: Compiling the training regulation	Meetings of the experts of the countries: Compiling the framework syllabus
Compiling the correspondence list	
Joint meeting for coordinating the framework training schedule and syllabus (Management: BMBF)	
Main committee	
Decision-making in the Federal-State Coordination Committee	
BMJ checks the legal technicality, BMBF gives its approval	Framework syllabus: Decision of the KMK
The issue phase	
Issuance of the training regulation by declaring the training regulation in the Federal Law Gazette	
Common publication of the training regulation, framework syllabus and training profile in the Federal Gazette	Common publication of the training regulation and framework syllabus in the Digest of Decisions of the KMK

Source: BIBB ([http://www.bibb.de/dokumente/pdf/a41\\_neuordnungsverfahren.pdf](http://www.bibb.de/dokumente/pdf/a41_neuordnungsverfahren.pdf), 14.08.2013)

## C.2 Switzerland

The development of new training regulations in Switzerland belongs to the scope of responsibilities of three parties: the federation, the cantons and the organisations of the world of work<sup>30</sup>. The following overview shows the allocation of tasks in the process of developing new regulations regarding basic vocational education. (cf. BBT 2007, P. 6)

TABLE C-2: Roles and tasks of the subscribed stakeholders in the process of developing new regulations regarding basic vocational education in Switzerland

Federation*	Cantons	Organisations of the World of work
Issues the regulation on basic vocational education	Responsible for the implementation of the basic vocational education	Put forth the application for issuance of a regulation regarding basic vocational education as qualified professionals
Offers support in the entire reform process (strategic project management and statutory tasks)	Offer assistance and support during the entire reform process	Mainly, operative project management and definition of the contents of training

\* Represented by the Bundesamt für Berufsbildung und Technologie - BBT

Source: BBT 2007

In the literature, the development process itself is subdivided into five phases, whereby the preparation of such a regulation regarding basic vocational education requires three and half years on average, from the project planning stage up to the time the new basic vocational education starts.

Phase 1 comprises analyses and the conception of the new regulation; in phase 2, the Reform Commission takes up its responsibilities and works out the regulation and the corresponding curriculum. Phase 3 is known as the "ticket decision" phase and indicates the green light for continuing with the tasks; at the same time, this indicates that it is mandatory for the organisations of the world of work as well as the cantons to begin with the preparations for the implementation of the new regulation on basic vocational education. Phase 4 concerns the issuance of the regulation, which is finally followed by phase 5, i.e. the implementation of the new regulation.

<sup>30</sup> ""Organisations of the world of work" is a collective term. Trustees may be social partners, vocational associations and industrial organisations as well as other organisations and providers of vocational education and training."  
<http://www.berufsbildung.ch/dyn/11014.aspx?lang=DE&action=detail&value=510&lex=1>,  
 26.08.2013)

**ANALYSIS AND CONCEPTION.** An organisation in the world of employment contacts the BBT in the first stage of phase 1. It then organises the first planning meeting with the aim of creating an initial interpretation and clarifying organisational queries. This is a case of the positioning of the planned education offer, seeking synergies with other professions, and finding to find the answers to the following questions:

- How does the profession develop?
- What type of skilled personnel is required in the employment market now, and how about in the future?
- What level should the training be at?
- How does the planned basic vocational education compare to other offers in the industry (for example tertiary vocational education and training)?

If the results of the analyses are available, these should be evaluated by professional experts in the organising institution.

All the vocational activities are systematically analysed and organised. This yields the activity profile that is a compilation of all the vocational activities. Then, the current and future professional environment is taken into account. In this process, the possible developments and positionings of the profession in the economic, technological, socio-cultural, job-specific and educational environment are assessed. A cost-benefit analysis may also be a part of the vocational development profile. (cf. *ibid.*, P. 8)

In the fourth stage of the first phase, a reform concept is created as a summary of the previous steps. It contains the results of the analysis and defines the objectives, the process strategy and measures. Project organisation and scheduling are also important parts of this stage. The reform concept forms the basis for the application for a preliminary ticket. This confirms that the preliminary tasks have progressed to the extent that the Reform Commission is able to start the process of compiling the VET ordinances. (cf. *ibid.*, P. 10)

**REFORM COMMISSION.** In the subsequent kick-off event, the Reform Commission meets for the first time. During this meeting, all the involved parties are informed of the process of reform for the first time, are clear about and understand the objective and purpose, and the conditions that are linked with the preliminary ticket are accepted and adhered to. Critical points are discussed and any discrepancies are cleared; work groups are formed and decision-making processes are clarified, and the participation of external experts is also determined according to the actual requirements and resources. (cf. *ibid.*, P. 11)

The profile of qualifications is then drafted. This draft defines the level of requirements of the profession and vocational competencies that a qualified professional must be equipped with in order to execute the profession at the specified level in a competent manner.

This is followed by the drafting of the curriculum, which forms the concept of the vocational teacher training in basic vocational education. With the drafting of the

curriculum, the regulation on basic vocational education is concretised. It is composed of the following parts:

- Vocational competencies: The educational goals that must be achieved at the end of the learning process and the manner in which the training is divided amongst the learning locations.
- Assignment of lessons: Proportion of time allotted to the individual areas in the vocational school.
- Supra-company courses: Their organisation and division as well as duration.
- Process of qualification: Which process of qualification will be used for verifying the achievement of goals.

The BBT then prepares the draft of the regulation in collaboration with the Reform Commission. (BBT 2007)

The next step is the information and training concept for the persons in charge of vocational training: For a new basic vocational training, the persons in charge of vocational training must be informed and promptly trained with respect to innovations. In the course of the reform, the organisations of the world of employment must, in collaboration with the cantons, develop and implement the information and training concept in time for the persons in charge of the vocational education. The regulation on basic vocational education, the curriculum and the profile of qualifications are the end products of the phase. Before continuing with the process of reforms, these must be once again critically reviewed by the organisations of the world of work represented in the Reform Commission, and adapted if necessary. (cf. *ibid.*, P. 13)

**TICKET DECISION.** Phase 3 is known as the "ticket decision" phase and indicates the green light for continuing with the tasks; at the same time, this indicates that it is mandatory for the organisations of the world of work as well as the cantons to begin with the preparations for the implementation of the new regulation on basic vocational education. (cf. *ibid.*, P. 13)

As soon as the previous steps have been concluded, the ticket application can be submitted to the BBT in writing. The application must at least include the following details:

- Regulation on basic vocational education
- Curriculum
- Profile of qualifications
- Informations and training concept for the persons responsible for vocational education

This is followed by the consistency check: Firstly, the individual parts must be in a logical sequence; secondly, the process of qualification must be oriented on the vocational competencies. The BBT arranges the consistency check and determines which educational dept must conduct the check.

The changes resulting from the consistency check are made after the check is complete. If a cost-benefit analysis was assigned in phase 1, the effects of the planned basic vocational education on the companies will now be examined and compared with the expenses incurred to date. (cf. *ibid.*, P. 14)

Once the regulation on basic vocational education, the curriculum and the profile of qualification have been developed within the organisation of the world of work, they are now put before other interested parties for their opinion. Addressees are: the Federal Offices, the cantonal departments responsible for vocational education, organisations of the world of work and other interested parties. The BBT summarises all the opinions. The individual applications are discussed during a clarification session of the Reform Commission and taken into consideration where possible.

**ISSUANCE OF THE REGULATION.** The BBT then makes available updated drafts of the regulation, the curriculum and the profile of qualification to the parties involved in the process of reform and invites them to the closing session. This is the final hearing. The BBT then issues the regulation regarding basic vocational education and approves the curriculum and profile of qualification compiled by the organisations of the world of work. (cf. *ibid.*, P.15)

**IMPLEMENTATION.** The last phase is the implementation phase. The period from issuance up to the beginning of the training takes around 12 months. The implementation of the new regulation regarding basic vocational education is the responsibility of the organisations of the world of work and the cantons. (cf. *ibid.*, P.15)

## ANNEX D: List of apprenticeships in Austria as of 1 June 2013

Notes:

- incl. apprenticeships in agriculture and forestry (marked with \*)
- Special-focus apprenticeships are listed as an apprenticeship

Apprenticeship	Apprenticesh
Archiving, library and information assistant	3
Ophthalmic optics	3½
Baker	3
Bank clerk	3
Construction machinery technology	3½
Structural engineering illustrator	3
Apparel finisher	24
Apparel designing (modular apprenticeship)	3 to 3½
Professional photographer	3½
Professional driver	3
Concrete production technology	3
Corporate service provision	3
Dealer in operational logistics	3
Skilled worker in the bee-keeping sector (specialised bee-keeper)*	3
Sculpture	3
Inland navigation	3
Brass instrument production	3
Flower arranger and seller (florist)	3
Floor-layer	3
Candy and confectionery producer	24
Boat builder	3
Brewing and beverage technology	3
Well-boring and foundation engineering	3
Book and media trade - book and music trade	3
Book and media trade - book and press wholesaler	3
Book and media trade - Publication	3
Book binder	3
Gunsmith	3
Office administrator	3
Chemical laboratory technician	3½
Chemical engineering	3½
Manufacturer of surgical instruments	3½
Roofer / tiler	3

Monument, façade and building cleaner	2½
Distiller	3
Wood turner	3
Chemist	3
Printing technology	3½
Pre-press technology	3½
EDP dealer	3
EDP system technology	3½
Purchaser	3
Retail business	3
Electric machine technology	3½
Electronics (modular apprenticeship)	3½ to 4
Electrical engineering (modular apprenticeship)	3½ to 4
Disposal and recycling specialist - Waste management	3
Disposal and recycling specialist - Drain water management	3
Skilled worker in agricultural stock-keeping*	3
Skilled worker in the area of rural business and household management*	3
Skilled worker for biomass and bio-energy*	3
Barrel maker	3
Precision optics	3½
Skilled worker in the area of open field vegetable production*	3
Production of pre-fabricated houses	3
Assistant in financial and accounting system	3
Dealer in financial services	3
Skilled worker in the area of fisheries*	3
Fitness coaching	3
Meat processing	3
Sale of meat	3
Skilled forestry worker*	3
Skilled worker for forest management and development of forest gardens*	3
Photos and multimedia dealer	3
Cemetery gardener and landscaping gardener	3
Hair stylist and wig maker (stylist)	3
Pedicurist	24
Landscape gardening and designing of green areas	3
Skilled worker in the area of gardening*	3
Food expert	4
Skilled worker in the poultry sector*	3
Tannery	3
Foundry technology	4
Glass manufacturing technology (modular apprenticeship)	3 to 4

Glass blower and glass instruments manufacturer	3
Glass-making	3
Track construction technology	3
Gold and silver work and bead work	3
Goldsmith, silversmith and jeweller	3½
Wholesale salesman	3
Potter	3
Glove-maker	3
Accordion manufacturer	3
Hearing aid acoustician	3
Hollow glass refiner - glass painting / stain glass	3
Hollow glass refiner - engraving	3
Hollow glass refiner - balls	3
Manufacture of woodwind instruments	3
Wood technology (modular apprenticeship)	3 to 4
Assistant in the hotel and hospitality industry	3
Blacksmith	3
Smelter locksmith	3
Real estate agent	3
Industrial sales representative	3
Information technology - Informatics	3½
Information technology - Technology	3½
Installation and construction technology (modular apprenticeship)	3 to 4
Insulation fitter	3
Refrigeration technology	3½
Car body construction technology	3½
Cartographer	3
Manufacturer of cardboard packaging goods	3
Ceramist	3
Ceramic painter	24
Piano making	3½
Cook	3
Pastry maker (confectioner)	3
Design engineer	4
Beautician	24
Automobile technology (modular apprenticeship)	3½ to 4
Crystal grinding technology	3
Plastic moulding	3
Plastics technology	4
Coppersmith	3
Coating technology	3

Agricultural machines technicians	3½
Agricultural specialists*	3
Food technology	3½
Gingerbread baker and chandler	24
Manufacturer of light aircrafts	3
Aviation technology	3½
Painter and coating technician	3
Machine embroidering personnel	24
Massuese/masseur	24
Mason	3
Mechatronics	3½
Media expert - Market communication and advertisement	3½
Media expert - Media designing	3½
Media expert - Media technology	3½
Metal processing	3
Metal design	3
Metal caster	3
Metal technology (modular apprenticeship)	3½ to 4
Camisole manufacturer	3
Mobility services	3
Model maker	3
Skilled worker in dairy and cheese dairy*	3
Skilled worker in the dairy	3
Surface engineering	3½
Personnel who manufacture upper parts	24
Skilled worker in the fruit-growing area*	3
Fruits and vegetables preserver	24
Organ making	3½
Orthopaedic shoemaker	3½
Orthopaedics	3½
Paper-making technology	3½
Personnel services (recruitment)	3
Skilled worker in the horse farming industry*	3
Plasterer	3
Pharmaceutical technology	3½
Commercial assistant in the pharmaceutical area	3
Physics laboratory technician	3½
Paver and tiler	3
Upholsterer	3
Loop maker	3
Taxidermist	3

Production technician	3½
Chimney sweep	3
Raised fabric finisher	24
Assistant in a law firm	3
Assistant in a travel agency	3
Reprography	3
Restaurateur	3
Saddlery	3
Pest controller	3
Formwork construction	3
Ship-builder	3
Signmaking	3
Shoe manufacturing	3
Shoemaker	3
Ropeway technology	3½
Ski manufacturer	3
Sun protection technology	3
Logistics manager	3
Forwarding logistics	3
Plumber	3
Sports administration	3
Stone mason	3
Stamp manufacturer and flexographer	24
Tax assistant	3
Road maintenance expert	3
Manufacture of string and strumming instruments	3
Knitware manufacturer	3
Plasterer and drywall construction person	3
System gastronomy expert	3
Wallpaper-hanger and decorator	3
Technical illustrator	3½
Textile chemistry	3½
Textile cleaner	3
Textile technology	3½
Civil contractor	3
Zookeeper	3
Joinery	3
Joinery technology	4
Ready-mix concrete technology	3
Watchmaker - Time measurement technology	3½
Event technology	3½

Process technology for grain-growing	3
Gilder and adorer	3
Surveying technician	3½
Packaging technology	3½
Insurance broker	3
Administrative assistant	3
Vulcanisation	3
Scale manufacturer	3
Weapons and ammunition dealer	3
Armourer	3
Wagon-maker	3
Weaver	3
Skilled worker in the wine-growing industry and winery*	3
Materials engineering (modular apprenticeship)	3 to 3½
Expert dental assistance	3
Dental technician	4
Carpentry	3

Source: Online list of apprenticeships <http://lehrberufsliste.m-services.at/>, 22.09.2013, with apprenticeships in the agricultural and forestry area

## ANNEX E: The structure of a modular apprenticeship with examples

### Example 1: Modules and module combinations in apprenticeships in the field of metal technology

#### Apprenticeship in metal technology

**Section 1.** (1) An apprenticeship in the area of metal technology is designed as a modular apprenticeship.

(2) Apart from the base module, which is required for all apprentices, training must be provided in one of the following main modules :

1. Mechanical engineering technology (H1)
2. Vehicle manufacturing technology (H2)
3. Metal construction and sheet metal technology (H3)
4. Steel construction technology (H4)
5. Forging technology (H5)
6. Tool manufacturing technology (H6)
7. Welding technology (H7)
8. Machining technology (H8)

(3) For deeper and more specialised training, another main module or one of the following special modules can be selected in accordance with Section 1 Para 4:

1. Automation technology (S1)
2. Design technology (S2)
3. Construction technology (S3)
4. Process and production technology (S4)

(4) The following combinations of main and special modules are possible:

Main modules	can be combined with											
	H1	H2	H3	H4	H5	H6	H7	H8	S1	S2	S3	S4
H1									x		x	x
Duration									4		4	4
H2									x		x	x
Duration									4		4	4
H3										x	x	
Duration										4	4	
H4							x			x	x	
Duration							4			4	4	
H5										x		
Duration										4		
H6								x	x		x	x
Duration								4	4		4	4
H7				x								x
Duration				4								4
H8					x				x		x	x
Duration					4				4		4	4

Source: BMWFJ 2011

The apprenticeship period for the base module and a main module is 3 and 1/2 years. If the apprentice receives training in another main module or in a special module, the

apprenticeship period extends to 4 years. The combinations marked with x are possible. The digit below the x indicates the apprenticeship period for the combination.

## Example 2: Modules and module combinations in an apprenticeship in the field of electrical engineering

### Apprenticeship in the field of electrical engineering

**Section 1.** (1) The apprenticeship in the area of electrical engineering is designed as a modular apprenticeship.

(2) Apart from the base module, which is required for all apprentices, training must be provided in one of the following main modules:

1. Electrical and building services engineering (H1)
2. Power engineering (H2)
3. Systems and operational technology (H3)
4. Automation and process control technology (H4)

(3) For deeper and more specialised training, another main module or one of the following special modules can be selected in accordance with Section 1 Para 4:

1. Building management system (S1)
2. Building technology service (S2)
3. Security systems technology (S3)
4. Renewable energies (S4)
4. Network and communication technology (S5)
6. Rail electrical engineering (S6)
7. Rail safety technology (S7)
8. Railway vehicle technology (S8)
9. Railway transport technology (S9)
10. Railway vehicle maintenance technology (S10)
11. Rail operational technology (S11)

(4) The following combinations of main and special modules are possible:

Main modules	can be combined with														
	H1	H2	H3	H4	S 1	S 24	S 3	S 4	S 5	S 6	S 7	S 8	S 9	S 10	S 11
H1					x	x	x	x	x	x	x	x	x	x	x
Duratio					4	4	4	4	4	4	4	4	4	4	4
H2			x		x	x		x		x					
Duratio			4		4	4		4		4					
H3			x		x	x		x		x	x	x	x	x	x
Duratio			4		4	4		4		4	4	4	4	4	4
H4	x	x			x	x		x							
Duratio	4	4			4	4		4							

Source: BMWFJ 2010

The apprenticeship period for the base module and a main module is 3 and 1/2 years. If the apprentice receives training in another main module or in a special module, the apprenticeship period extends to 4 years. The combinations marked with x are possible. The digit below the x indicates the apprenticeship period for the combination.

ANNEX F: Job profile and training regulation with the example of an apprenticeship in the area of "metal processing"

# FEDERAL LAW GAZETTE

## FOR THE REPUBLIC OF AUSTRIA

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Year 2012

Issued on 30 May 2012

Part II

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182nd Regulation: Metal processing training regulation

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### 182nd Regulation of the Bundesminister für Wirtschaft, Familie und Jugend regarding vocational training for an apprenticeship in the area of metal processing (metal processing training regulation)

Based on Sections 8 and 24 of the Vocational Training Act (BAG), BGBl. No. 142/1969, most recently amended with the Bundesgesetz BGBl. I no. 35/2012, the following is prescribed:

#### Apprenticeship in metal processing

**Section 1.** (1) The apprenticeship in the area of metal processing is designed for a period of three years.

(2) The terms selected in this regulation are applicable to men as well as women. In the apprenticeship contracts, apprenticeship certificates, final apprenticeship examination certificates and indentures, the apprenticeship must be marked in the form corresponding to the gender of the apprentice (Metallbearbeiter or Metallbearbeiterin [metal processing person - he/she]).

#### Job profile

**Section 2.** After the vocational training in the training company and the vocational school, the trained apprentice will be able to carry out the following activities in a professional manner, independently and independently:

1. Manufacturing appropriate workpieces and components taking into account the prescribed applicable standards,
2. Making sketches and simple technical drawings in keeping with the standards,
3. Manufacturing, assembling, fixing and mounting of components, machines, devices, equipment and structures in conformance with instructions and plans, including in connection with mechanical and pneumatic systems,
4. Dismantling, repairing and maintaining components, machines, devices, equipment and structures, including in connection with mechanical and pneumatic systems,
5. Recording and documenting technical data on the progress of work and work results,
6. Executing tasks in conformance with the applicable safety guidelines, norms, environmental and quality standards.

### Job profile

**Section 3.** (1) The following job profile is defined for apprenticeship training in the area of metal processing. The described skills and know-how must be imparted latest at the beginning of the corresponding year of apprenticeship in such a way that the apprentice is able to execute qualified activities according to the job profile, which specifically includes independent planning, execution, control and optimisation.

Item	1st Apprenticeship year	2nd Apprenticeship year	3rd Apprenticeship year
1.	Knowledge about the form of operation and legal form of the training company	-	-
2.	Knowledge of the organisational structure and tasks and responsibilities of the individual operating areas		-
3.	Introduction to the tasks, the competitive position and offer of the training company	Knowledge of the market position and the clientèle of the training company	
4.	Knowledge of the work planning and preparation	Execution of work planning; determination of operating steps, operating materials and operating methods	
5.	Ergonomic designing of the workplace		
6.	Knowledge of the standards, guidelines and other technical documents that are specific to the profession		
7.	Handling and maintaining the equipment, tools, measurement and testing devices and working equipment		
8.	Knowledge of the materials and auxiliary material, their properties, machining options, processing options and usage options		
9.	Reading and use of technical documents such as sketches, drawings, operating instructions etc.		
10.	Creating sketches and simple technical drawings in keeping with the standards,		
11.	Selection, creation and inspection of the required materials		
12.	The manual processing of materials such as Sawing, drilling, grinding, filing, thread cutting, rubbing etc.		-
13.	The mechanical processing of materials such as rotating, milling, grinding, sawing and mechanical thread cutting		
14.	Knowledge of the structure and function of machine elements such as feather keys, pins, bearings, couplings, screws, sealings etc. and their assembly and removal		-
15.	Assembly and dismantling of machine elements such as feather keys, pins, bearings, couplings, screws, sealings etc.		
16.	Creation of removable joints (for example screw joints) and non-removable joints (for example rivets)		
17.	Knowledge of coolants and lubricants, their areas of application and their properties		
18.	Manufacture of appropriate workpieces and components taking into account the prescribed applicable standards,		
19.	-	Basic knowledge of the terms in statics and strength of materials	-
20.	-	Manufacture, assembly, fixing and mounting of components, machines, devices, equipment and structures in conformance with the instructions and plans, also in connection with mechanical and pneumatic systems	
21.	-	Dismantling, repair and maintenance of components, machines, devices, equipment and structures, also in connection with mechanical and pneumatic systems	
22.	-	Knowledge of the most important types of surface protection for preventing corrosion	Checking the surfaces and executing preparatory tasks for surface protection

Item	1st Apprenticeship year	2nd Apprenticeship year	3rd Apprenticeship year
23.	Basic knowledge on welding metallurgy as well as knowledge of the behaviour of materials under the effect of heat due to the welding processes		-
24.	-	Knowledge of simple heat treatment and its influence on material properties	
25.	Basic knowledge of the material and hardness test procedure		-
26.	-	Creation of welded joints with the process of gas welding, electric welding and gas-shielded welding	
27.	Basic knowledge of electrical engineering, pneumatics and hydraulics		-
28.	Knowledge regarding working with electric current in conformance with the safety guidelines		
29.	-	Logging and evaluation of work results and their documentation	
30.	Knowledge and application of applicable specialist English terminology		
31.	Conducting discussions with superiors, colleagues, customers, suppliers and representatives of authority in keeping with the appropriate mode of expression		
32.	Basic knowledge of the operating costs, their influence and effects		-
33.	Knowledge and application of the operating hardware and software		
34.	Basic knowledge of quality assurance and quality control	Knowledge and application of the company-specific quality management including documentation	
35.	Knowledge of the obligations arising out of the apprenticeship contract (Sections 9 and 10 BAG)		
36.	Knowledge of the contents and the objective of the training as well as knowledge of important and relevant advanced training options		
37.	Measures and guidelines applicable for the apprenticeship training for environmental protection: Basic know-how regarding the operating measures for the beneficial use of energy in the working area relevant to the profession; basic knowledge of the waste materials generated in the working area relevant to the profession, and their separation, recycling and waste disposal		
38.	Knowledge of the applicable safety guidelines and standards as well as applicable guidelines for the protection of life and health		
39.	First-aid knowledge in the event of company-specific accidents at work		
40.	Basic knowledge of the industrial law guidelines that need posting		

(2) While imparting training with respect to the technical know-how and skills, – it is necessary to focus on the personal development of the apprentice, particularly keeping in mind the operational requirements and guidelines–, in order to provide him/her with the key qualifications required of an expert regarding social competence (openness, ability to work in a team, ability to deal with conflict), self-competence (such as self-assessment, self-confidence, independence, capacity to deal with pressure), methodical competence (presentation skill, rhetoric in the German language, ability to communicate using the basics of English language) and competence in self-managed learning (such as willingness, knowledge of methods, ability to select appropriate media and materials).

## Final apprenticeship examination

### Classification

**Section 4.** (1) The final apprenticeship examination is divided into a theoretical and practical test.

(2) The theoretical test includes subjects such as Applied Mathematics, Mechanical Technology and Technical Drawing.

(3) The candidate need not take the theoretical test if he proves that he has achieved the objective of the final class in the technical vocational school or that he has successfully completed the middle and higher classes in the vocational school in place of the apprenticeship.

(4) The practical exam includes subjects such as an examination assignment and a vocationally-specific interview.

## **Theoretical test**

### **General specifications**

**Section 5.** (1) The theoretical test must be conducted in writing. It can be conducted for a large number of examinees at the same time, if this is possible without hampering the examination process.

(2) Generally, the theoretical test must be conducted before the practical examination.

(3) Depending upon the scope and level, the tasks must conform to the objective of the final apprenticeship examination and the requirements of professional practice.

(4) The written tasks of the exam candidates must be marked accordingly.

### **Applied Mathematics**

**Section 6.** (1) The exam must comprise tasks from all the following areas:

1. Length and area calculation,
2. Volume and weight calculation,
3. Work, service and efficiency calculation,
4. Physical calculations (strength, pull, pressure, shear).

(2) The use of calculation tools, formulae and tables is permitted.

(3) The tasks must be allotted in such a way that they can usually be carried out in 90 minutes.

(4) The test must be ended after 105 minutes.

### **Technology**

**Section 7.** (1) The test must include keyword answers to tasks from all of the following areas:

1. Materials science,
2. Production technology,
3. Measurement and test procedure,
4. Machine elements,
5. Safety and environmental protection.

(2) The test can also be conducted in a programmed form with questionnaires. In that case, four questions must be asked from every area.

(3) The tasks must be allotted in such a way that they can usually be carried out in 60 minutes.

(4) The test must be ended after 80 minutes.

### **Technical Drawing**

**Section 8.** (1) The test must include the preparation of a production drawing of a mechanical workpiece.

(2) The task must be allotted in such a way that it can usually be carried out in 90 minutes.

(4) The test must be ended after 120 minutes.

## **Practical examination**

### **Examination assignment**

**Section 9.** (1) The exam must be conducted according to the specifications of the board of examiners in the form of processing of an operational work order.

(2) The task extends to work samples in the area of metal processing, including work planning, safety measures and measures for health protection at work, environment protection measures if required, and quality check measures. The individual steps taken at the time of executing the task must be documented manually or on a computer. At the time of task definition, the board of examiners may provide the corresponding documents to the examination candidate. The following activities must be verified during the examination assignment:

1. A mechanical work sample (material processing skills, manual as well as mechanical) as per the specifications, incl. turning, milling and welding,
2. Assembly of the manufactured mechanical parts mentioned under lit. a.

(3) The board of examiners must prepare an examination assignment on the basis of the objective of the final apprenticeship examination, the requirements of professional practice and the area of activities of the training company, which may generally be completed within 7 hours.

(4) The test must be ended after 9 hours.

(5) The following criteria are decisive for the evaluation of the examination assignment:

1. Dimensional accuracy,
2. Angularity,
3. Evenness,
4. Material processing as per the specifications,
5. Appropriate assembly and functionally correct assembly.

#### **Vocationally-specific interview**

**Section 10.** (1) The vocationally-specific interview must be put before the entire board of examiners.

(2) The vocationally-specific interview should develop from practical activity. Within this, the practical knowledge of the examination candidate must be determined by using specific terminology. The examination candidate must put forth subject-related problems and solutions, point out the technical backgrounds relevant for the order and justify the procedure at the time of executing the order. The exam must be conducted in the form of an interactive discussion with demonstration of situations and problems.

(3) The topics must conform to the objective of the final apprenticeship examination and the requirements of professional practice. Test specimens, material specimens, demonstration objects, apparatus, devices, tools or wall charts must be included in this. Questions on applicable safety guidelines, safety measures and accident prevention measures as well as applicable environmental protection measures and disposal measures must be incorporated.

(4) For every candidate, the vocationally-specific interview must last for 15 minutes. In individual situations, an extension of maximum ten minutes is allowed if the board of examiners feels that, without this, an unambiguous evaluation of the performance of the examination candidate is not possible.

#### **Retest**

**Section 11.** (1) The final apprenticeship examination can be repeated.

(2) During the repeat test, only those test subjects that are assessed as "Not satisfactory" will be re-evaluated.

#### **Coming into effect and final clauses**

**Section 12.** (1) This regulation comes into effect on 1 June 2012.

(2) The training regulation for apprenticeships in the area of metal processing, BGBl. II no. 267/2005, in the version of the BGBL regulation. II no. 227/2008, is rendered ineffective as of 31 October 2012, notwithstanding Para 5.

(3) The training regulations for apprenticeships for becoming a lathe operator, BGBl. No. 171/1972, in the version of the BGBL regulation II no. 177/2005, and tool operator, BGBl. No. 386/1980, in the version of the BGBL regulation II no. 177/2005, is rendered ineffective as of 31 October 2012 notwithstanding section 5.

(4) The training regulations for apprenticeships for becoming a lathe operator, BGBl. No. 215/1974, in the version of the BGBL regulation No. 345/1992, and tool operator, BGBl. No. 232/1981, in the version of the BGBL regulation No. 367/1992, is rendered ineffective as of 31 October 2012 notwithstanding section 5.

(5) Apprentices who are trained in the area of metal processing, as lathe operators or tool operators on 31 October 2012, can be trained further in the metal processing area in conformance with the training regulation in section 2 or in apprenticeships as lathe operators or tool operators as per the training guidelines in section 3 up to the end of the agreed apprenticeship period, and can report for the final apprenticeship exam up to one year after the expiry of the agreed apprenticeship period - in the metal processing area as per the test guidelines included in the training regulation, Para 2 or for apprenticeships as lathe operators or tool operators as per the test regulations in Para 4.

(6) The apprenticeship periods that are allotted for the apprenticeship in the area of metal processing as per the training regulation in Para 2 or for the apprenticeships as lathe operators or tool operators as per the training guidelines in Para 3, must be completely counted against the apprenticeship period for apprenticeship in the metal processing area in accordance with this regulation.

**Mitterlehner**

Source: BMWFJ 2012d (<http://ris.bka.gv.at>)

## ANNEX G: Tasks and involved parties in the promotion of the apprenticeship training programme and quality assurance

### Qualität in der Lehre Förderung der Lehrlingsausbildung in KMUs



- Entwicklung neuer Lehrberufe/  
Aktualisierung bestehender Lehrberufe
- Akkreditierung zum Lehrbetrieb
- Ausbildung der Ausbilder
- Berufsorientierung
  - bic.at
  - Infomaterialien
  - Lehrlingskampagnen
  - Orientierungstests
  - Schnupperlehre, Betriebsbesuche
  - Schulvorträge
  - Berufsinformessen usw.
- Lehrstellenförderungen
- Ausbildungshilfen:
  - Webplattform „Qualität in der Lehre“
  - Ausbildungsleitfäden & Checklisten
  - Fit for Future: Lehrbetriebe schaffen Zukunft
- Ausbildungsverbünde
- Lehre mit Matura
- Auslandspraktika
- Lehrlings- und Lehrbetriebscoaching
- Weiterbildung der Ausbilder/Ausbilderrakademien
- Vernetzung der Ausbilder (Lehrlingswarte, Ausbilderstammtische)
- Lehrlingswettbewerbe
- Staatspreis „Beste Lehrbetriebe – Fit for Future“
- Wettbewerbe: worldskills, euroskills
- Fachliche Weiterbildung (z.B. Meisterprüfung)
- Allgemeine Weiterbildung (z. B. Berufsfreiprüfung)



- Lehrstellenbörse
- Lehrlingstests/Auswahlhilfen
- Rekrutierungshilfe
- Erstellung von Prüfungsbeispielen
- Organisation der Lehrabschlussprüfungen
- Prüfungsunterlagen für Prüfer und Lehrlinge
- Vorbereitungskurse auf die Lehrabschlussprüfung
- Prüferschulung

Quelle: ibw – Institut für Bildungsforschung der Wirtschaft, 2013

## Qualität in der Lehre- Förderung der Lehrlingsausbildung in KMUs: Akteure



Quelle: ibw -Institut für Bildungsforschung der Wirtschaft, 2013  
 • Die Ausbildungsbetriebe sind als Akteure nicht extra angeführt.

## Glossary

Unless specified otherwise, the definitions have been taken from the dictionary "Bildung & Beruf von A bis Z" from the Job Information Computer of the Austrian Federal Economic Chamber ([www.bic.at](http://www.bic.at)).

Term	Definition
Trainer	<p>The trainer represents the instructors (instructors) and is responsible for imparting appropriate training. He/she decides the goals and the duration of the training, instructs the " apprentices" from the technical point of view, monitors the training process and maintains contact with the parents of the apprentices and the vocational school.</p> <p>The number of trainers in a company depends upon the number of apprentices. The "Vocational Training Act (BAG)" states that there must be one trainer for every five apprentices, and that the trainers must not purely execute the task of imparting training. There must be at least one trainer for every 15 apprentices, who devotes his/her time exclusively for the purpose of training.</p>
Training the trainer	<p>A special training offer for the apprentice trainer, which replaces the IVET trainer examination in Austria.</p>
IVET trainer examination	<p>The IVET trainer examination authorises the trainer to train apprentices in the company. The IVET trainer examination is accepted by the master craftsperson examination authorities of the economic chambers. Many other trainings and examinations replace the trainer examination or are equivalent to this exam: for example the Entrepreneurs' examination, industrial master college or a completed trainer's training with a final vocationally-specific interview.</p> <p>The trainer examination includes pedagogical, psychological and legal contents. Being of full legal age is a pre-requisite for obtaining approval.</p>
Training regulation	<p>The training regulation (AO) is a term from trainer's training. The AO prescribes the specific job profile of an apprenticeship with the basic vocational knowledge, know-how and skills , which must be imparted as a minimum during the apprenticeship period. The AO also includes a job profile , in which the vocational requirements for the trained experts are listed in brief.</p> <p>The training regulation can be compared with the school syllabus.</p>
Training alliance	<p>Training companies are obliged to train the apprentices with respect to all skills and know-how detailed inthe job profile. However, due to the high degree of specialisation, some companies are unable to provide all the aspects of a job profile. In such cases, these contents can be imparted by entering into training alliances with other training institutions (for example in another company).</p>
Extraordinary final	<p>In exceptional cases, the final apprenticeship examination can also be</p>

apprenticeship examination	<p>taken by persons, who have not completed any apprenticeship or school-based training that is equivalent to an apprenticeship. These are</p> <ul style="list-style-type: none"> <li>• People who have turned 19 and who can prove that they have acquired the required skills and know-how for the corresponding apprenticeship by other means (for example through an appropriate training period, practical activities or courses),</li> <li>• People, who have at least attended half of the training of an apprenticeship and have no way of entering into an apprenticeship contract for the residual period.</li> </ul>
Retention period	<p>After the expiry of the apprenticeship period agreed in the apprenticeship contract or after passing the final apprenticeship exam, the training company shall retain an apprentice for three months in the professions for which he/she has undergone training. (Source: BAG Section 18)</p>
Vocational Training Act (BAG)	<p>The BAG (= Vocational Training Act) governs the operational apprenticeship training in Austria. It determines, who is authorised to train apprentices, what the trainer qualifications must be, what the obligations of apprentices, trainers and parents are, how apprenticeship contracts should be designed, the duration of the apprenticeship period, how to design training guidelines etc.</p>
Job profile	<p>Generally, the term 'job profile' indicates the common presentation of a group (or generality) of a professional activity. Here, three main aspects are often taken into account:</p> <ol style="list-style-type: none"> <li>1) the legal norms and standards applicable to the profession,</li> <li>2) the activities and tasks as well as scope of competencies and/or professional authorisations,</li> <li>3) the essential formal trainings and informal qualifications.</li> </ol> <p>In the apprenticeship training, the job profile is a catalogue of the basic vocational know-how, knowledge and skills that must be provided as a minimum during company-based training. The job profile is a component of the training regulation (AO).</p>
Job profile	<p>'Job profile' is a term used in apprenticeship training and indicates a short list of the vocational requirements that a trained apprentice is subject to. The job profile is generally a component of the training regulation (AO).</p>
Part-time vocational school for apprentices	<p>Alongside the training company, the vocational school is the second learning facility in the framework of apprenticeship training. In the vocational school, the apprentices acquire the theoretical background required for their profession and increase their general knowledge. Additional practical knowledge and skills are also acquired in the vocational school.</p>

Federal Advisory Board on Apprenticeship	<p>The Federal Advisory Board on Apprenticeship is a committee that includes social partners; this board is appointed by the Ministry for</p>
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	Economic Affairs and it guides the Ministry in matters pertaining to apprenticeship training and puts forth its opinions and concepts in the event of legislative amendments and reforms. (Source: BMWFJ 2012a, P. 21)
Double apprenticeship	<p>In apprenticeship training, one has the option of undergoing apprenticeship for two professions simultaneously (=double apprenticeship). A pre-requisite for this is that the training company must have a set-up such that training in both professions is possible. The two professions must also not be entirely related to one another.</p> <p>The duration of a double apprenticeship is a maximum of 4 years. For double apprenticeships, the duration in the vocational school (BS) is governed differently. However, it is compulsory to complete one year of apprenticeship in the vocational school for each of the two professions.</p>
Dual training	Vocational training within the scope of the apprenticeship takes place at two learning facilities: in the company and in the vocational school. Therefore, the term used is "dual" (= two-track) apprenticeship.
Assessment procedure	Procedure for assessing whether a company fulfils the pre-requisites for training apprentices in a particular vocation. The proceedings are executed upon a corresponding application sent by the (training) company of the locally responsible apprenticeship office in collaboration with the official representatives of the employee. If all the pre-requisites are fulfilled, the company receives a notice of assessment, which certifies that the company may take up and train apprenticeships.
Inclusive vocational training	Inclusive vocational training is a training model which enables those involved in the employment market to demand a (partial) vocational qualification. Within the scope of inclusive vocational training, certain persons (for example persons without, or only with a negative, main school result, disabled persons as defined by the Disability Employment Act) may acquire apprenticeship training (an apprenticeship) with a duration extended by one year (exceptional cases: two years) , or they may acquire partial qualifications in one or more apprenticeships, which can be used in business.
Final apprenticeship examination (LAP)	<p>The apprenticeship concludes with the LAP. This includes one practical and one theoretical examination. Apprentices who receive grades above "Unsatisfactory" in the vocational school do not have to sit the theoretical exam.</p> <p>During the LAP, it is determined whether the apprentices have acquired the know-how required for carrying out their profession. They take their exam in the presence of experts.</p>
Authorised trainer	The authorised trainer is the person responsible for the apprenticeship training in the company.

Apprenticeships	<p>Apprenticeships are professions, for which apprenticeship training is conducted by means of the dual system (Dual training) . The legislators define the contents of the training in the training and examination regulations and specify the know-how and abilities to be assessed in the final apprenticeship examination (LAP) .</p> <p>One pre-requisite for an apprenticeship is the fulfilment of general compulsory schooling and the conclusion of an apprenticeship contract with a training company.</p> <p>In Austria, there are 199 commercial apprenticeships and 15 apprenticeships in the agricultural and forestry sector (as of June 2013).</p>
List of apprenticeships	<p>The list of apprenticeships is an alphabetical list of all commercial, industrial and service-oriented apprenticeships, which is published by the Federal Ministry of Economy, Family and Youth and the Austrian Federal Economic Chamber. The list contains the duration of the apprenticeship, alliance regulations and a reference to the applicable training and examination regulations of the individual apprenticeships. The 15 apprenticeships in the agricultural and forestry sector are not included.</p>
Apprentice remuneration	<p>Even during their training, apprentices perform productive work. They therefore receive 'apprenticeship remuneration' from the training company. This is also paid for the time when the apprentices are attending the part-time vocational school.</p>
Apprenticeship office	<p>The apprenticeship office is the first contact point for all questions pertaining to apprenticeship training. In every province, there is one apprenticeship office of the economic chamber (for all commercial apprenticeships) and one apprenticeship office and technical training institute for the agricultural and forestry sector (for apprenticeships in agricultural and forestry sector). The apprenticeship offices maintains a record of the apprenticeship contract and this is also where the registration for the final apprenticeship exam (LAP) is effected.</p>
Apprenticeship contract	<p>The apprenticeship contract is a written contract between the apprentice and authorised trainer with contents that are accurately governed by law. The apprenticeship contract forms the basis of the training to be imparted to the apprentice. The signature of the legal guardian (parent) is also necessary if the apprentice is below 18 years of age.</p>
Modularisation	<p>In the development of apprenticeships, modularisation is a modular structure of apprenticeship training with several combination and specialisation options. Due to mandatory training in a "base module", a wider basic training is also guaranteed.</p> <p>A modular apprenticeship is made up of three "modules":</p>
Logging of the apprenticeship contract	<p>Logging of the apprenticeship contract is the approval of the apprenticeship training relationship by the apprenticeship office. Here, the apprenticeship office checks the data of the apprenticeship contract and the suitability of the training company. Logging is the pre-requisite for the apprentice's subsequent authorisation to complete the final</p>

	apprenticeship examination. (Source: BMWFJ 2012a, P. 17)
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Examination regulation	In the apprenticeship training, the general examination regulation prescribes the clauses for the execution of final apprenticeship examinations, additional examinations, repeat tests as well as partial exams and intermediate tests in conformance with the Vocational Training Act (BAG). For conducting the exams in the individual apprenticeships, the special clauses for that particular apprenticeship must also be applied.
Partial qualification	An apprentice has achieved partial qualification when particular apprenticeship training is restricted to a part of a job profile, rather than the job profile overall. Partial qualification is permitted only when the trainee, due to specific reasons, is not able to take training for the entire job profile, and <u>not</u> if the company is unable to impart training for the complete job profile.
Ratios	Ratios indicate the staff-student ratio between the trainer and apprentices, i.e. how many apprentices are permitted to train under one trainer.
Supra-company training (ÜBA)	<p>Supra-company training (also: supra-company apprenticeship training) means the training of persons in an apprenticeship in a training centre rather than in a company. The pre-requisite is that the training centre must be equipped such that the practical skills and know-how for the respective apprenticeship can be provided.</p> <p>Supra-company training is particularly intended for young people who do not find a company-based apprenticeship.</p> <p>Apprentices who undergo supra-company training are equal with apprentices undergoing company training with respect to mandatory vocational education as well as social security law. (cf. Berufsausbildungsgesetz Section 30 and Section 30b)</p>

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