



Comparative Report of the Portuguese, Spanish and German VET Systems and Profiles in the Shoe Industry



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0 Context / Aims of the project

The OECD economies are progressively based on knowledge and information. Knowledge is now recognized as the driver of productivity and economic growth, leading to a new focus on the role of information, technology and learning in economic performance. “To stay ahead, the EU needs to be quick in seizing opportunities and in anticipating and adapting to future trends.” (“EU 2020” Strategy)

Considering the serious situation of youth unemployment in European countries, national governments are evaluating a portfolio of structural policies that change the way of integrating young people into the labour market and ensure their permanence in the medium term. These policies are intended to improve the match between supply and demand for labour in order to reduce youth exclusion from the market and to meet the needs of businesses in terms of job profiles simultaneously. Being concerned by youth unemployment is not confined to national governments. The European Commission intends to allocate approximately € 6,000 million in the next programming period 2014-2020, to combat unemployment among young people.

At this stage, some foreign and national authorities, policy makers, as well as industrial associations and highly qualified experts, have pointed out the need to invest in dual training models where training on the job coexists with training provided in traditional VET centres. Among these dual models, the German one emerges as one of the most successful alternatives; which is why several governments on several continents are integrating it, with minor or major adjustments, to their systems of training and education. The success of this system delivers benefits in terms of employability and manifests itself in low unemployment rates of younger age groups.

The German Dual Training System aims to provide workers with skills, knowledge and sufficient expertise to develop a skilled job position; and not the specific skills to train a skilled worker for a specific job at a specific company (Tremblay and Le Bot, 2003). Beside professional skills, practical training allows acquiring of other skills such as responsibility, the ability to work in a team and learning to learn.

The benefits of the dual vocational training system are distributed among the various parties involved (Dybowski, 2005):

- For companies: They can influence the content and organization of education; reduces the cost of recruitment; ensures that the next generation of workers will be properly trained.
- For apprentices: Obtain specialized and relevant training for the job market; acquire a range of technical and social skills, which positively influence their personality; play a highly motivating role because they come in contact with reality and are reciprocated.
- For the Government: A business contribution to the financing of the system reduces the impact of training on public budgets; provides career opportunities to students from the general education system; helps maintain a comparatively low rate of youth unemployment; promotes collaboration with different actors and stakeholders in the development of standards for competitive training.

It's important to highlight that the Dual Training System is already a successful reality in some European countries (namely in Germany, Austria, Switzerland, and Liechtenstein) and the main goal of the project dualTRAIN - Building a Sustainable Approach to the Dual Vocational Training System in Portugal and Spain is to create a first approach to the implementation of the dual system in the shoe sector of Portugal and Spain and to develop and improve the cooperation of the actors of the different learning venues in Germany.

Other objectives of the project are to characterize the German dual vocational training system; to identify the factors of failure and/or success of the dual system in other contexts than the original one; to assess the feasibility of incorporating a dual VET system in Portugal and Spain in the footwear industry; to learn about the opinion of a set of economic and social actors with responsibility and interest in VET, about this incorporation; and to make policy recommendations aimed at Portuguese, Spanish and German policy makers concerning the potential adoption resp. adaptation of the German dual system to Portuguese and Spanish reality, considering the focus in the footwear industry.

The project dualTRAIN refers to policy learning; through apparent good practice of apprenticeship. In the context of this project we mean examples of policies, measures, instruments and approaches for the development of models of apprenticeship in Germany that can serve as objects for policy learning and be used for the development of original solutions for developing apprenticeship in the shoe sector of Portugal and Spain. It means that these descriptions can include not only positive examples of effective practice, but also the 'lessons' from the failures and mistakes in the field of apprenticeship; including a SWOT analysis of the practice in the shoe sector in Germany.

The scope for learning from apparent good practice concerning apprenticeship can be defined and delimited by two main factors:

1. Comparability of the context of practices of apprenticeship in Germany to the corresponding context and conditions in Spain and Portugal. It's necessary to estimate the extent to which the success or failure of concrete practices of the apprenticeship model depends upon the different conditions and features of local contexts. With this approach it is possible to outline resp. estimate potential changes of context that could be favourable for the development of apprenticeships in the shoe sector of Spain and Portugal and to define how the know-how from the analysis can be effectively applied in the existing context.
2. Potential of the measures to provide know-how and ideas on how to facilitate effective implementation and development of apprenticeship in the VET system of Spain and Portugal.

To fulfil both conditions, an analysis of the "state of the art" of the different VET systems in the shoe sector is mandatory, both from the perspective of the content and the structure of the respective VET regimes and profiles. To describe the latter, we adopted the 11 "constitutional elements" of the German VET regime described by Euler (2013) to estimate potentials of exporting apprenticeship. Beside minor modifications of the categories we do prefer not to talk about German "constitutional elements" but about central questions that must be answered by any VET regime – and the German answers on some of these

questions differ from the Spanish or Portuguese answers and open the field for policy learning.

The 1st chapter of this comparative report contrasts the facts on the Portuguese, Spanish and German VET systems; divided into 13 sub-chapters.

A comparison of the state of the art in VET between the 3 countries might open a field for policy learning, but for any games on this field the beliefs and interests of stakeholders like teachers, employers, trade unions, chambers etc. must be considered as well. So a row of interviews with relevant stakeholders in the shoe industry has been performed, pursuing two aims: To assure a smooth testing of the unit developed and to develop recommendations resp. guidelines for the implementation of (real) dual structures in the Spanish and Portuguese shoe industry.

A common unit, applicable in all three countries to implement resp. improve work-based learning (WBL) was developed by experts from the shoe sector. It is sketched in chapter 3 and will be tested within the project.

A summary of the main findings completes this report in chapter 4.

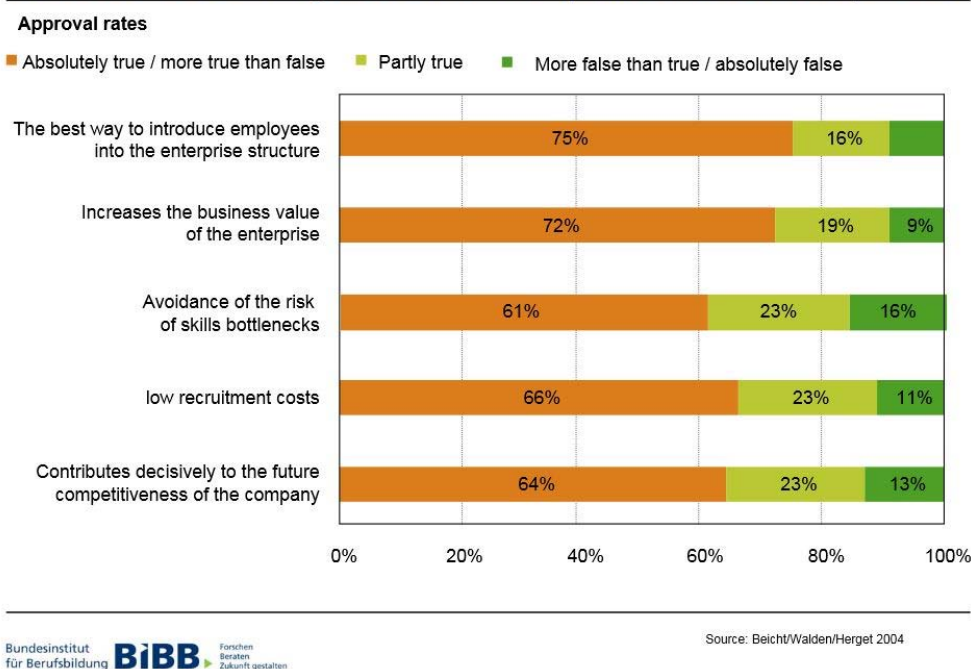
In general, this comparative report is rather descriptive resp. pragmatic; focussing on the facilitating of piloting; any conclusions or analytic elements will be integrated in the recommendations; those will also consider the outcomes of the piloting and will be published in a separate report.

1 National VET systems

The first chapter compares main features of the 3 VET systems to allow an insight; details can be found in the sources quoted.

One of the main barriers in the development of apprenticeship schemes in countries with school-based VET systems is the disinterest of enterprises; so this chapter starts with Picture 1: Why are German enterprises engaged in the dual system? (Dybowski, 2005):

Benefits of Training from the Viewpoint of the Enterprises



Picture 1: Why are German enterprises engaged in the dual system? (Dybowski, 2005)

As there is no or only low engagement of Portuguese and Spanish companies in WBL comparable data for Portugal and Spain is not available.

1.1. Aims and main structures of the national VET systems

In **Portugal** the National Catalogue of Qualifications includes school-based VET programs (although with a work-based learning component), which are dependent on the Ministry of Education and Science, and work-based VET programs which are financed by the IEF – Employment and Vocational Training Institute, dependent on the Ministry of Labour. The first type of programs belongs to the Vocational Education System and the second one to the so-called Learning System.

1. VET programmes in the educational system (Vocational Education System)

The following programs fall into this category:

Vocational training of double certification (Education and Training Courses – CEF) for young people who have completed the 2nd cycle of basic education (5th and 6th grades) or who

are attending the second (last) year of that cycle. These courses provide a level 2 qualification according to the NQF.

Vocational training of double certification (Education and Training Courses – CEF) and Vocational Courses for young people (13 year old) as part of the 3rd cycle of basic education: these courses have a modular structure and a duration of between one and two years. They provide level 2 qualifications according to the NQF and give access to general secondary education and to vocational programs of secondary level.

Vocational training of double certification (Education and Training Courses – CEF) and Vocational Courses for young people (from 15 years) as part of higher secondary education: these courses are devoted to students who have completed the 3rd cycle of basic education. They are three years long and provide level 4 qualifications according to the NQF and a diploma of secondary education.

Professional Training Courses: these programs are intended for students who have completed the 3rd cycle of basic education and did not conclude their secondary education. The maximum workload is 3,100 hours and the technical training workload is 1,600 hours. 420 hours out of those 1,600 hours should be at least devoted to work-based learning. These courses last three years and provide level 4 qualification according to the NQF and a diploma of secondary education.

Completion of Education and Training Courses, Vocational Courses and Professional Training Courses of secondary level give access to post-secondary non-tertiary vocational education (Technological Specialization Courses – CET) and to higher education, but in these cases students should meet the conditions set out in the Access Regulation.

Post-secondary non-tertiary vocational education for young people with 18-19 years and for young adults until 23 years: these courses have a duration of one year and provide level 5 qualification, according to the NQF. The candidates to these courses are youngsters with diplomas of secondary education or equivalent, students with 10th and 11th grades and frequency of the 12th year, holders of level 3 qualifications and holders of technological specialization diplomas or degrees of higher education. Technological Specialization Courses are mainly provided by Polytechnic Institutions (higher education) and other certified institutions.

2. VET programmes in the employment system (Learning System)

These programs belong to the so-called learning system, which was launched in 1984 as an alternative to the traditional training system. Initially, it was intended to support the qualification and certification of young people who, for various reasons, prematurely abandoned the education system. It is a double certification system, where there is strong interaction between theoretical and practical training components. Practical training is mainly in company/in sectoral training centres work-based learning.

The learning system depends exclusively upon the Employment and Vocational Training Institute (IEFP). In this work-based learning system companies are recognized as privileged spaces for training, since they allow students' learning in a real work environment. In these courses, learning processes are divided into four components: socio-cultural, scientific, technological and practical. The workload of these programmes varies between 2,800 and

3,700 hours, depending on the specificities and the degree of complexity of the learning process. The workload of in-company training cannot be lower than 40% of total workload, varying though between 1,100 and 1,400 hours.

In **Spain** the catalogue of VET diplomas, produced by the Ministry of Education as well as the national repertoire of professional certificates produced by the Ministry of Employment, are the two VET options associated with the National Catalogue of Professional Qualifications (Catálogo Nacional de Cualificaciones Profesionales, CNCP).

1. VET programmes in the education system

Vocational training that is offered in the education system is mainly VET for young people, and the main objectives are listed below:

- Developing the general competence corresponding to the qualification(s) to be obtained.
- Understanding the organisation and characteristics of the productive sector, knowing the labour market mechanisms, the labour legislation as well as the related rights and obligations.
- Learning to work in teams and on their own, and being trained on conflict prevention and resolution in all areas of daily life (personal life, family and society environments).
- Complying with health and safety regulations, avoiding any possible work-related risks.
- Developing a motivating professional identity for future apprenticeship and adaptations to the progress and evolution of the productive sector and social changes.
- Boosting entrepreneurship for the development and execution of professional activities and initiatives.
- Achieving core competences defined in the priority areas of Organic Law 5/2002 of 19th June on Qualifications and Vocational Training.
- Making lifelong learning a reality taking advantage of learning opportunities to keep updated on the different areas: personal, social, cultural, professional... in accordance with their own expectations, needs and interests.
- Promoting the enforcement of equality between women and men to have access to training allowing for any kind of career choices and professional practice.

2. VET programmes in the employment subsystem

They are an alternative to the formal certification of professional skills for those people who require professional retraining or who left school early and did not have the opportunity to obtain a recognised qualification. On 20th March 2015, the Council of Ministers approved a Royal Decree-Law for the urgent amendment of the Vocational Training System to foster employment, of which the main strategic objectives are:

- Promoting the creation of stable, high-quality employment;
- Contributing to business competitiveness;
- Guaranteeing the right to labour training, especially aimed at the most vulnerable.
- Guaranteeing employability and professional promotion of workers.
- Strengthening the training culture in the productive sector.

With dual training adaptation of the above subsystems the Spanish government tries to respond to the high youth unemployment and early school leaving. The application of this successful learning system will enable the student-apprentice immediate access to the

labour market as during the training period he/she obtains simultaneously knowledge and experience.

Formally the Royal Decree-Law 1529/2012 defines dual VET as: “the set of training actions and initiatives whose objective is the professional qualification of persons, combining the teaching and learning processes at the firm and education centre”. It will be developed through two models defined by the legislation:

1. Dual VET from the education system. Its objective is to enable the education centre pupil to complete its theoretical training with practical training within the firm, regulated via collaboration agreements with the centre.
2. Dual VET from the employment system. It is organized through the Training and Educational contract as a mechanism for youngsters to combine their employment activity in a firm with the related training in education centres.

In **Germany** 2011 344 vocational profiles existed (BiBB 2012a); this number is relatively stable, varying between 2002 and 2011 only between 342 and 351. The overwhelming amount (250) of profiles last 3 years (36 months), 54 profiles last 42 months, 38 profiles last 24 months and two (both relicts from national-socialistic era) last 18 months. All profiles lasting 36 or 42 months are on level 4 of European Qualification Framework (EQF); shorter profiles on level 3.

Profiles are dual, in fact trial, with different curricula for in-company part and school part. Many companies are specialised, their work-processes do not cover the whole curriculum so additional training must be provided in a workshop. These workshops are mostly run by companies (large ones) or company-independent; the 3rd learning venue.

In 2013 497,427 school-leavers started a vocational training within German VET system; among those 212,241 within (full-time) school-based VET (in Germany due to historic reasons predominant in nursing, public administration, and health sectors) – compared to 510,672 first-year students at universities (incl. universities of applied sciences) (AG Bildungsbericht 2014).

Ratio of successful apprentices, who become member of workforce of the training company afterwards, is around 2/3 (statista 2013), but strongly depending on the size of company (the larger the higher) and the sector (high in industry, low in handicraft).

One of main features of German educational system is its deep rootedness on two main pillars: Middle-school (Realschule, Hauptschule) degrees, followed by Initial Education and Training (IVET) and with future career paths within a strong and nation-wide recognised Continuous Education and Training (CVET) system; on the other hand the classical university career with university entrance diploma (Abitur), followed by higher education (HE). Differing from countries like France, where vocational (university of applied sciences) diplomas (baccalauréat professionnel) are standard for VET-students, in Germany an apprenticeship usually is not combined with an university entrance diploma. But career paths offered by CVET (Handicraft- or Industrial-Meister, technicians) are in terms of wages, EQF-level (both cases: 6), and image on the same level as Bachelor degrees.

Comparison reveals that structures in Spain and Portugal are quite similar; provision of VET is divided into 2 subsystems (education vs. employment) and there different programmes with different, partly competing providers. In Germany the approach is more coherent; involved parties (schools, companies, independent workshops) are encouraged to collaborate by legal preconditions.

1.2. Aims and main structures of VET-profiles in shoe sector

Although in **Portugal** there exist VET programs in the education system and in the employment system, the first ones have a reduced component of in-company training, therefore in reality they are not work-based learning programs. In fact, in the case of the footwear sector, the work-based learning programs belong all to the learning system, controlled by the Employment and Vocational Training Institute (IEFP). According to the National Catalogue of Qualifications the main VET profiles (which correspond to specific programs) in the footwear sector are the following:

1. Footwear Manufacturing Technician – Level 4 (NQF)
2. Technician of Footwear and Leather Goods Production Management – Level 4 (NQF)
3. Technician of Footwear and Leather Goods Machines Maintenance – Level 4 (NQF)
4. Footwear Pattern Making Technician – Level 4 (NQF)
5. Footwear Manufacturing Operator – Level 2 (NQF)
6. Footwear Designer – Level 5 (NQF)

Taking into account the goals of the project, the most relevant programs are: Footwear Manufacturing Technician, Footwear Pattern Making Technician and Footwear Designer. The first two are mid-level (secondary education) programs and the last one is a high-level (post-secondary non-tertiary) program. In addition, it should be underlined that the Footwear Manufacturing Technician level 4 corresponds to a profile where the production is entirely manual, close to craftsmanship and not adequate to the nowadays footwear industry. Nevertheless do we sketch the content of the “Footwear Manufacturing Technician in this comparative report; details regarding the other profiles can be found in the Portuguese report.

1. Footwear Manufacturing Technician

Recognized and certified by ANQEP (National Agency for Qualification and Employment) after the approval of the sectoral counselling group for fashion industries, involving all technical experts and social partners; published in the Employment and Labour Gazette n.º 30 in 15th August 2009; 1st update published in the Employment and Labour Gazette n.º 48 in 29th December 2012, entered into force in 29th March 2013; this profile was developed having in mind the craftsmanship character of some segments of the footwear sector in Portugal.

General Description: Manually run all modelling, cutting, closing, assembling and finishing footwear, as well as mechanical sewing operations thereof in accordance with the quality standards, environment, health and safety. In addition, is able to run his/her own business, handling the product promotion in various channels namely on-line and leading with management aspects of a micro company.

Programme encompasses the following technological components:

Modules /Training Units	Duration (Hours)
Footwear models and applied materials	25
Footwear Structural/basic technical elements	25
Footwear manual cutting	50
Footwear pre-stitching manual operations	50
Footwear models and stitching techniques	50
Stitching operations: flat machines of 1 and 2 needles	50
Stitching operations: column machines of 1 and 2 needles	25
Stitching operations: zigzag machines	25
Stitching operations: other machines	50
Manufacturing of insoles and footwear reinforces	50
Footwear Manual assembling - cemented	50
Manufacturing of the soles directly on the last – cemented	50
Footwear Manual assembling – Goodyear	50
Manufacturing of the soles directly on the last – Goodyear	50
Footwear Manual assembling - moccasin	25
Manufacturing of the soles directly on the last – moccasin	50
Footwear manual finishing operations	50
Footwear Basic modelling /pattern making – foot anatomy	25
Footwear Basic modelling /pattern making – men shoes	50
Footwear Basic modelling /pattern making – ladies shoes	50
Footwear Basic modelling /pattern making – child shoes	50
Footwear Basic modelling /pattern making – Goodyear and moccasin	50
Quality Notions and standards	25
Environment, Security Hygiene and Health at work – basic concepts	25
Organization and management of small businesses	50
Assistance techniques	50
TOTAL	1100

At present, vocational training programmes related to footwear in **Spain** are provided by:

1. The Ministry of Education: initial professional qualification programmes as well as mid-level (intermediate) and higher level training cycles.
2. The Ministry of Employment and Social Security.

This comparative report focuses on the educational system and there on the mid-term level; as this programme was considered to be the closest to the ones from the other countries.

1. VET programmes in the education system

Initial professional qualification programmes

These training programmes allow for obtaining a professional qualification and the Secondary Education Certificate. After completing this two-year course, the following qualification is obtained:

Basic Professional Qualification on mending and alteration of textile and leather products (2,000h).

Mid-level (intermediate) cycles

In order to access this training, students must hold the Secondary Education Certificate. This involves the completion of two training cycles, each one of them with a duration of 2 years (2,000h).

- Mid-level (intermediate) cycle: Technician in Footwear and Fashion Accessories.

Mid-level

MODULE No.	TITLE	Total Hours: 2000	YEAR 1	YEAR 2
1	Footwear and Trends		90	
2	Electromechanical maintenance principles		90	
3	Cutting of materials		220	
4	Textile materials and leather		190	
5	Industrial garment manufacturing		280	
6	Professional training and guidance		90	
7	Assembling and finishing leather goods			90
8	Footwear assembling and finishing			155
9	Custom-made footwear manufacturing processes			60
10	Custom-made and orthopaedic footwear manufacturing techniques			165
11	Transforming footwear for the stage			110
12	Business and Entrepreneurial initiative			60
13	Training on the work place			400
	TOTAL	2000	960	1040

In **Germany** “Industrial shoe maker and finisher” is a typical apprenticeship profile; it possesses no special structural elements. Duration of apprenticeship programme is 3 years and certificate is on level 4 of EQF. In terms of numbers this profile is not very relevant; the competent body (Federal Institute for Vocational Education and Training, BiBB) counted only

45 new contracts in 2014 (BiBB 2014) - it might be some more; not all companies report their new contracts to BiBB.

As for all profiles in-company curriculum is formulated in so-called “vocational positions” with approximate numbers of weeks of training (details can be found in the German report).

1. Vocational training, labour law, and collective bargaining (integrated),
 2. Structure and organization of the training company (integrated),
 3. Health and safety at work (integrated),
 4. Environmental protection (integrated),
 5. Planning and preparation of operational procedures (10 weeks),
 6. Assessment and use of raw materials and auxiliary products (10 weeks),
 7. Pattern development (8 weeks),
 8. Cutting and clicking (26 weeks),
 9. Preparing for stitching (6 weeks),
 10. Stitching (36 weeks),
 11. Preparing the bottom parts (3 weeks),
 12. Shoe assembly (34 weeks),
 13. Quality assurance (10 weeks).
- (juris 1998, own translation)

The “europass” certificate supplement states that apprenticeship delivers the following skills and competencies:

- Manufacture footwear of all types using industrial production techniques
- Select leather and other materials and auxiliary materials in accordance with their intended purpose and cost-effectiveness
- Prepare technical documentation and specify work processes
- Cut and press parts for shoe upper and base
- Prepare parts of the shoe upper, particularly by splitting, skiving and folding
- Stitch shoe uppers and lining parts together and apply decorative stitching
- Prepare the parts for the bottom
- Join shoe uppers and bottom parts using a range of techniques
- Prepare shoes for sale and dispatch, in particular by applying a range of finishing techniques
- Assess quality and initiate quality assurance measures.

(BiBB 2013)

Comparison shows, not very surprisingly, that the contents of the programmes in the three countries are quite similar; keywords like “materials”, “cutting”, or “assembling” are part of all programmes. As in Germany training is undertaken in company no content-related obstacle for WBL in the other 2 countries is to await; dualTRAIN-partners agreed to test a common unit for cutting; curriculum is drafted in chapter 2 of this report.

1.3. Learning venues, alternation, and cooperation

The **Portuguese** centres where these programmes can be taught are:

1. Public secondary schools which perceive authorization (Professional Training Courses).
2. Private vocational schools with license (Professional Training Courses).
3. Vocational Training Centres overseen by the IEFP (Learning Courses).
4. Companies with professional training centres, authorized by the IEFP and certified by ANQEP (Learning Courses).

In the case of public secondary schools and private vocational schools, they must establish agreements with companies in order to students carry out the compulsory work-based learning period.

Spanish VET programmes in the education system may be provided in the following training centres:

- **Public and private establishments** authorised by the competent educational administration.
- **Centres of national reference**, in accordance with the Organic Law 2/2002 of 19th June, article 11, regarding Qualifications and Vocational Training and the conditions set out in the standard related to the requirements of these training centres.
- **Integrated vocational training centres**, in accordance with the above-mentioned article 11 of Organic Law and Royal Decree 1558/2005 of 23rd December, establishing the basic requirements of comprehensive vocational training centres.

At present, vocational training on footwear is provided in the following establishments:

- IES Sixto Marco (Elche)
- IES La Torreta (Elda)
- IES Virgen de Vico (Arnedo).

Furthermore, dual vocational training aims at considering also **the company as a place for learning**. At present, apprenticeship (on-the-job training) accounts for 20% of learning time. However, with dual vocational training, the apprenticeship accounts for at least 33%, which is closer to the ideal rate of 50%. This would mean 500 additional of on-the-job training hours. As a consequence the total duration can be increased up to three years.

Usually **German** apprentices are two days a week in school and 3 days in company in their 1st year, in the 2nd and 3rd year one day in school and four days in company. Alternatively block-schooling is provided; alternating for example between one month in school and three months in the company. Which of the alternatives is chosen depends on the amount of apprentices with this profile in the region; if the nearest VET school offering this profile is too far away to commute on a daily basis, usually block-schooling is provided; this is the case for apprentices in the vocation shoe maker and finisher. Mentors (real work-processes), trainers (workshop) and teachers (school) are asked to co-operate; cooperation between mentors and trainers is mandatory, in terms of training skills, not acquirable in the company due to specialisation, in the workshop – because both parties have to cover the same curriculum and it might cause troubles if an apprentice fails in the examination and can prove evidence that certain training units were in fact not trained. Cooperation with teachers is recommended; whether it is successful often strongly depends on the personal engagement of all parties.

In this aspect a huge difference between Germany and the other 2 countries must be considered; whether the engagement of companies is regulated (if so & time spend in company) by law or on a voluntary basis with very flexible time-spans. It must be considered as one of the main obstacles when recommending the development of “real” dual structures; but for the dualTRAIN project, where WBL will be piloted by a voluntary internship of one month, both approaches are sufficient.

1.4. Stakeholders involved and their main tasks

In **Portugal** the division of tasks can be sketched as follows:

1. The Ministry of Education and Science is responsible for developing the legal and educational framework of school-based VET programs and for ensuring the resources and conditions for the proper functioning of the programs and the system as a whole.
2. The Ministry of Economy (Secretary of State for Employment and IEFP) is responsible for developing the legal and educational framework for company-based VET programs (learning system) and ensuring the conditions for the proper functioning of the programs and the system as a whole.
3. The National Agency for Qualifications and Employment (ANQEP), apart from other assignments, has the responsibility to coordinate, streamline and manage the supply of vocational education and training to young people and adults, as well as the network of enforcers of the corresponding information and guidance devices, ensuring the complementarity of the education and vocational training systems and the quality of such supply.
4. Companies and business associations have an important role in providing internships and ways to carry out the work-based learning component. One of their most important tasks is to allocate experienced and well trained workers to act as tutors.
5. Social partners have an important role in the system, given their influence on the supply of vocational training according to their knowledge of the market and of different sectors of activity.
6. Teachers and trainers have the responsibility to teach general and specific contents, as well as to transfer their knowledge to the students enrolled in VET programs.
7. Students, as final users of the system, become the final output. Thanks to these programs they acquire a more oriented-to-the-labour-market-needs knowledge and therefore it is expected a better level of employability.

In **Spain** the division of tasks can be sketched as follows:

1. The **Ministry of Education, Culture and Sport** is responsible for developing and implementing government policy in VET programmes in the education system.
2. The **Ministry of Employment and Social Security** is mainly concerned with VET programmes in the National Employment System and continuous vocational education and training (CVET).

3. The **autonomous communities** have responsibilities for VET, consisting of developing and applying basic regulations and in regulating non-essential aspects of the VET system. Likewise they have executive and administrative powers to manage the education system in their own territory.

4. The **students** are the users of the training system aiming at achieving the objectives of vocational training.

In dual VET from the education system students have the right to adequate information and orientation about the projects in which they participate. They are committed to satisfying the project and firm conditions established in the agreement.

In dual VET from the employment system the pupil/apprentice at the same time as he/she works he/she completes his/her theoretical training obtaining a degree related to the work he/she is developing at the firm.

5. The **trainers/teachers** are those actors having a specific professional profile, who will pass on their knowledge to students and teach them to obtain the diploma.

In the dual system the education centre designates a training tutor responsible for the programming, the training follow-up and the assessment coordination of the trainers/teachers. He/she is also the contact person with the firm for the development of the training and employment activity established in the agreement/contract. The firm and education centre activity will be coordinated in monthly control meetings.

6. **Enterprises** should be responsive and willing to host students for their apprenticeship. In this sense, they must ensure the learning progress of students, making the necessary adaptations to the specific job position, which requires a pedagogical and professional effort. Also, the company shall appoint an **apprenticeship adviser/tutor** for the student during the on-the-job training period. He/she is in charge of the programming and follow-up of the apprentice/pupil within the firm and the interface with the education centre tutors.

In the dual system the **instructor** is technically qualified worker directly in charge of the practical training of the students.

7. **Social stakeholders** play a significant role nowadays. In the previous model, social stakeholders set out the priorities and contributed to the assessment and awarding of training programmes. Nevertheless, in accordance with the **Royal Decree-Law for the urgent reform of the system of vocational training for employment in the work sphere (20-03-2015)**, social stakeholders play a leading role in prospecting, planning and programming. In **dual training Chambers of Commerce** expect to develop an important mediation role for the firms, offering the necessary information, training their tutors and offering the adequate resources for the process assessment.

In **Germany** the division of tasks can be sketched as follows:

- State: Sets only the frame of apprenticeships, like
 - youth-protection (e.g. no night-shifts for youth under 18),
 - mandatory amount of school-lessons,

- possible structures of curricula (mono-vocation, different core areas (partly different curricula but common examination), special fields (partly different curricula and different examination)),
- possible duration of apprenticeships, law states “either 24 or 36 months”; the relatively high amount of profiles (54) that last 42 months (besides others all important profiles in metal and electrical industry) refers to an exemption clause; but this exemption became the rule; social partners argue that modern vocations need longer learning times,
- internal flexibility, e. g. weeks to be spent on a vocational position are only recommendations; minor deviations are allowed or the possibility to “spend up to 1/3 of apprenticeship in a suited learning environment in a foreign country”.
- Employers: Responsible for contracting, supervising, and training; each company which is interested in participating in the apprenticeship programme must employ at least one person with a “trainer aptitude” (Ausbildereignung, AeVO) certificate (i.e. a qualified trainer holding an AeVO trainer licence). This certificate is an integral part of master craftsmen degrees in all sectors; so usually this is no obstacle in industry; but partly in small enterprises. Aim of worked based learning (WBL) is not only to train practical skills, but also to help to develop responsibility, a concept of co-operation with experienced colleagues, and to become member of the “community of practice”.
- Employers’ organisations resp. trade unions: Are responsible for curriculum design of in-company part of apprenticeship, moderated by a BiBB representative. Name assessors for final examination board (par/par + 1 teacher). Additionally they negotiate the wages of apprentices.
- Trade unions resp. workers’ council: Control fair balance between learning and working of apprentices. Large companies (with more than 5 employees < 18 years or apprentices) have to establish own “youth and apprenticeship councils” (JAV) within their workers’ councils.
- Apprentices: Have to apply for vacant placements (supported by parents, teachers, and employment agency) and to use their best endeavours to reach the aims of apprenticeship. Good apprentices have the opportunity to shorten apprenticeship by 6 months.
- VET schools: Are responsible for teaching knowledge related to vocational and general education, for the development of school-part of curriculum, and the examinations on Learning Outcomes (LO) from schools.
- Chambers (Chamber of Industry and Commerce / Chamber of Crafts): Verify whether a company is allowed to take part in apprenticeship or not. Administrative apprenticeship in the region and organise and supervise final examinations.

Although some serious differences (e. g. role of trade unions or chambers) with rather low relevance for piloting but huge structural impact exist, a common challenge must be considered: To find workplaces **and** tutors that are suited for WBL. This aspect is crucial for

smooth integration of different learning venues and will be treated in a separate manual within dualTRAIN project.

1.5. Funding

VET programs in **Portugal** are fully funded by public resources. In the case of school-based programs, resources come mainly from the Ministry of Education and Science.¹ Although there are also resources coming from EU funds, in particular from the Human Capital Operational Program. Company-based programs of the learning system are funded by the Ministry of Economy (Secretary of State for Employment and IEFP). In this case, students receive daily allowances and a small subsidy per month while they are enrolled in the programs.

In VET programs in Portugal, the government assumes all operating costs such as school maintenance, training and the salaries of teachers and trainers, as well as part of in company training costs. In Portugal, apprentices/trainees do not receive any allowance or salary, except those enrolled in the apprenticeship system, although the monthly amount it is absolutely symbolic (under 50 euros).

In **Spain, vocational training is publicly funded** with funds especially allocated by the Ministry of Education in the general state budget every year. In addition, the European Union also contributes with EU funds to the development, application and reinforcement of the vocational training system through the Youth Guarantee Plan. Said EU funds are transferred by the central government to the autonomous communities, which are responsible for education and training.

1. VET programmes in the education system

Unemployed workers may participate in training programmes offered by the Ministry of Employment and they may request, if necessary, reimbursement for travel, accommodation and meals expenses if the training is out of their region. Priority groups for these plans are women, people with disabilities, people over 45, people with low qualifications, people under 30 and long-term unemployed.

2. VET programmes in the employment subsystem

Continuing VET regulated by the Ministry of Employment can be **free for workers** regardless of their employment status, employed or unemployed and its cost is supported by on demand and supply training initiatives. Employed workers are entitled also individual training leaves (PIFs) from their companies, to improve their skills at no cost to the company. These PIFs are intended to provide workers who want to improve their personal and professional skills, the opportunity to attend officially recognised or formal training courses.

Resources allocated to finance the training for employment subsystem come from Social Security fees in addition to the contribution of the ESF and the Public Employment Service. Every year, the Ministry of Employment allocates resources and determines the distribution of the budget among the various management and training initiative levels. The

¹ The government also funds private vocational schools.

funding distribution of the training initiatives at a regional level is carried out by the Sector Commission for Labour Affairs, where the central and regional governments are represented. This distribution is published in the Official State Gazette.

Companies providing training for their workers can receive discounts on their social security contributions. The percentage deducted will be greater the smaller the size of the company. Each year the training credit available for each company is calculated by applying a fixed percentage to the amount paid for training quota in the previous year, according to the number of employees.

All **training providers in the National Subsystem of Vocational Training for Employment** can apply for funding (by means of financial incentives or subsidies depending on the type of initiative) to carry out continuous vocational education and training actions.

In **Germany** in-company training and workshops are funded by companies resp. employers organisations; company-independent workshops (competence centres) are partly supported by state / region (depending on negotiation skills of heads of competence centre). Many competence centres offer continuous vocation and education (CVET, e. g. master craftsmen seminars); those have to be paid by participants. Wages / training allowances of apprentices (in shoe sector 640€ 1st year, 670€ 2nd year, 760€ 3rd year; approx. 1/3 of starting salary of a skilled worker of ~ 1700€) are borne by the companies.

VET schools – as all schools in Germany – are financed by the Federal Countries / Bundeslaender.

Chambers are financed by companies (mandatory membership).

Funding plays a minor role with regard to piloting within dualTRAIN project due to the short testing phase (1 month); but financial engagement by companies can be seen as important descriptor of their commitment: Whether they esteem apprentices (students) or not; whether they accept that training is (also) their business and, last but not least, funding means that the apprentice (student) is partly working value-creating, so that there is a return of investment.

1.6. Juridical issues

In VET programs in **Portugal** there is no employment contract between the student/trainee and the entity in which the in company training is carried out. Students/trainees are covered by a school insurance paid by schools (school-based system) or the labour administration (learning system). In the case of learning system there is a learning contract between the company and the student/trainee (there is no employment contract; students/trainees are not employees of the company). There is no financial compensation in the form of salary.

Spanish students enrolled in traditional vocational training programmes are covered by a **student insurance scheme** paid by the training Administration. Furthermore, there is **no contract** applicable during the work placement in traditional vocational training programmes. Consequently, there is **no contractual relationship** between the students and the enterprises.

With the dual VET from the education system, any enterprise interested in receiving a student for on-the-job training should sign a **paid apprenticeship contract** with the corresponding vocational training establishment and cover the cost of the grant for that student. Said grant will amount around 400 to 500 euros/month. **Other formulas that do not imply a cost to firms are being used to boost firms' uptake of the model.**

The education centre and the firm sign a collaboration agreement regulated by the regional authorities that should include, at least:

- Training programme.
- Number of participating students.
- Scholarship regime. Pupils who decide to enrol in Dual Vocational Training can have access to scholarships from any type of source in the way that is determined in the project.
- Working day and schedule at the centre and firm.
- Conditions to be satisfied by firms, students, teachers and tutors.
- Compulsory insurances for students and teachers to cover training.

In **dual VET from the employment system** there is a **contract for training and learning**. This type of contract makes it possible to train workers in accordance with the needs of the enterprise, within the framework of an incentive contract (involving lower social charges and salary costs). This aims at supporting enterprises that are ready to invest on present and future human resources, thus improving their competitiveness and ensuring the generational renewal of their staff.

The contract's minimum duration will be of a year and a maximum of three. Nevertheless the collective bargaining agreement can establish a shorter or longer duration but not less than six months or longer than three years.

In **Germany** apprenticeship contracts fall under private law; many aspects (e.g. insurance, amount of leave days, daily working time, general behaviour, etc.) are similar to normal working contracts. Some particularities with respect to special situation of apprentices are necessary:

- Contracts are temporary, usually for the period of apprenticeship (3 years), some sectors (e. g. metal) with strong trade unions foresee another half year with a regular contract afterwards (higher dole, if apprentice doesn't receive a permanent contract).
- Attending VET school is mandatory.
- Obligation of apprentice to write a report portfolio (daily).
- Obligation of company to issue a certificate at the end of apprenticeship.
- Probationary period (where cancellation of contract is easier) is shorter; 1 to 4 months instead of 6 months as in regular employment contracts.

As funding, contracting can be considered as being an indicator for commitment and whether companies estimate the apprentice (student) as “one of us” (or one of the educational system where VET-school is responsible) and consequently contracting is one of the crucial elements when talking about “real” dual structures but for piloting a WBL-unit insurance is of bigger relevance; and for this aspect all 3 countries will establish appropriate solutions.

1. 7. Quality standards

In **Portugal**, the tracking, monitoring, evaluation and regulation of the double certification VET programs are carried out by ANQEP. Its main tasks in these fields are to:

- i) Ensure the tracking, monitoring, evaluation and regulation of VET programs for young people and adults;
- ii) Promote the integrated assessment of the qualification modalities under its coordination.

Both the education and labour administrations in **Spain** have evaluation systems and institutions for the evaluation and control of VET Programmes.

The **Evaluation Institute of the Ministry of Education (CNIIE)** has established procedures and statistical indicators, in collaboration with the Autonomous Regions that will enable annual assessments which serve as a basis for policy decision-making and for improving the quality of the Spanish education system, including vocational training, in line with different recommendations and EU directives.

With the cooperation of the Autonomous Communities Employment Services and the Tripartite Foundation for Training for employment (FTFE), National Public Employment Service (SEPE), as coordinator of the National Employment System, annually evaluates training initiatives. Some of the evaluation indicators are referenced to the European Quality Assurance in Vocational Education and Training (EQAVET) Reference Framework guidelines.

As a result of the **Royal Decree-Law for the urgent reform of the system of vocational training for employment in the work sphere** (20-03-15) the following will be developed: an integrated information system to guarantee traceability of actions, a zero-tolerance anti-fraud policy through a special labour and social security inspectorate, a new regime for sanctions and regular audit controls with public results for the continuous assessment of training quality and real impact.

In the special case of the **footwear sector**, training establishments must have available the facilities and equipment needed for the development of the specific training modules, guaranteeing training quality and allowing students to acquire the learning outcomes.

In **Germany** quality standards are set by the community of practice and supervised (or administrated) by chambers and BiBB. A panel of representatives from the social partners (footwear companies and employees), sometimes of 3rd learning venues, as well as VET school teachers, is responsible for the curriculum design, moderated by BiBB (details can be found in sub-chapter 1.9.). The examinations are organised by the chamber of industry (IHK Pfalz who is the “Leitkammer”, the leading chamber of industry in Germany for the final

examination of shoe makers and finishers). On demand of the chamber of commerce, the exam questions are designed by a panel of experts (i.e. again representatives from the social partners and VET school teachers). The chamber of commerce (IHK Pfalz) will give the final approval for the exam questions. The exam aims at assessing not only the learning outcomes but the holistic vocational and professional competence (core subject to be proofed: is the candidate one of us, i.e. of the community of industrial shoe-makers and finishers). Skilled workers are responsible for the in-company training, not only by imparting knowledge, skills and competencies but also by supporting apprentices to learn how to apply what had been learned in real work processes, and they are frequently part of the expert panels. In fact, quality standards set by curricula and examination standards are quite high; but whether they are met in all work-based learning stations cannot be controlled; a central element is mutual trust; that mentors see successful training as part of their professional skills and self estimation.

In general, the chambers are in charge to supervise whether enterprises meet VET standards or not. In practice it is impossible to survey all enterprises; additionally some chambers were very generous in allowing enterprises to train apprentices due to a shortage of placements.

Individual or concrete control of quality standards is performed by trade unions and workers' councils; if an apprentice has the impression that he is misused as unskilled workforce his local officer might help.

All three countries established quality assurance on a high but abstract level; the relevant element, especially when different learning venues co-operate, is whether those are met in daily working and learning. Potential reasons for missing these standards are not only disqualification or disinterest of the teaching staff but also, for example, uncertainties of tutors (mentors) on what he can await from a student (apprentice) or which work-tasks can already be mastered by a student. Again, a prudent choice of work place and tutors and an established communication procedure between persons involved (student / tutor / trainer / teacher) assure high quality standards; how this will be implemented within dualTRAIN-project will be subject of a separate report.

1.8. Pedagogical qualification of trainers / teachers / workers

In **Portugal** the two tracks act differently:

1. School-based system programmes

Teachers of these programs must have a university degree and the corresponding qualifications to practice as teachers of secondary education. These teachers belong mostly to the staff of the Ministry of Education and Science or have a labour contract with Private Vocational Schools. To provide training in specific areas, public schools have some (limited) resources to hire trainers who are professionally engaged in the area of the program. While there is no specific regulation, tutors in the work-based learning component of the programmes must be experienced workers who master the tasks of the specific training modules.

2. Learning system programmes

Teachers of these programs are in general contracted and paid by the IEFP. This entity has also the responsibility of assessing teachers' quality. Some teachers also teach in general and VET programs in secondary education. Specific training is provided by the IEFP own teachers or by teachers contracted by companies. Tutors in companies are generally experienced workers with teaching ability and certain interpersonal skills. Companies are responsible for choosing tutors from its staff of workers.

In **Spain** it is worth mentioning the role of the **trainer/teacher** and the **apprenticeship adviser**. Trainers/teachers will be those responsible for teaching a specific subject within a particular training module in the training institution. Meanwhile, the apprenticeship adviser is the person responsible for supervising the tasks that are carried out by the student within an enterprise during the work placement.

1. VET programmes in the education system

For **Trainers/teachers** working in vocational training the following qualification is required:

- Bachelor's degree, degree in engineering or architecture or an equivalent degree for teaching purposes.
- University Diploma, technical engineering or technical architecture or an equivalent degree.

Teachers giving the different modules of the vocational training course on Technician in Footwear and Fashion Accessories (mid-level) are secondary school teachers and vocational training technical teachers.

Advisers must have work and professional experience - at least three years - linked to the professional family of the related profile. In addition, they must use and master advanced IT tools and new technologies. These requirements must be met by any adviser participating in a vocational training course (including Technician in Footwear and Fashion Accessories).

2. VET programmes in the employment subsystem

The procedures that must be applied when offering vocational training regulate, among others, the recruitment of teachers and trainers. Every Royal Decree that establishes a training programme ensures its quality.

All **German** teachers for secondary schools, whether general schools or VET schools, have to study five years (bachelor and master); followed by a two-year internship at a school. Main subjects of study are 2 disciplines (e.g. metalworking and politics) and didactics resp. pedagogic sciences.

Trainers (who are responsible for the in-company training) have to pass the "trainer aptitude" examination (AEVO, part of master craftsmen qualification) and often (voluntarily) attend other seminars like "vocational pedagogy". Most of them started their professional career with an apprenticeship in the sector that they are training now.

Mentors (skilled workers) at workplace are not skilled for training; some companies offer support if mentors are interested in attending pedagogical seminars; other companies don't. Mentors are the crucial link in the chain providing apprenticeship training; most of them are

very engaged and proud to pass on their skills to the next generation – but not all of them; so selection and support remain an important task within German VET.

In all three countries the crucial role is the one of the tutor (apprenticeship adviser). Choosing and training them is often unregulated or not systematic. Additional communication structures must be established, as it might happen that – due to business-process reasons – some LO cannot be achieved in the planned manner (for example: some work-processes are always during night shift). Examples of apparent good practice for a feedback culture will be given in the already mentioned separate report.

1.9. Curriculum design and examination

The **Portuguese** diplomas with legislative impact on vocational training in general and on VET programs in particular are:

Learning Courses (Learning System)

- Decree-Law No. 102/1984 of 29 March, which establishes the legal regime of initial vocational training for young people in the apprenticeship system, by setting contract design, rules, provision, organization, control and operation of that learning;
- Decree-Law No. 205/1996 of 25 October, which completely reformulates the learning system;
- Decree-Law No. 396/2007 of December 31, regulated by Decree No. 782/2009 of 23 July, which creates the National Qualifications Framework (NQF) and defines the descriptors of the national qualification levels.

Professional Training Courses

- Decree-Law No. 26/1989 of January 21, which defines the subsystem of vocational schools created as an alternative path of secondary education;
- Decree-Law No. 4/1998 of 8 January, which institutionalises and strengthens the vocational system within the Portuguese education system;
- Decree-Law No. 74/2004 of March 26, which reform vocational education, adding flexibility to students' training paths, allowing them to organise their own training path in each course.

Vocational Training and Dual Training

- Ordinance No. 276/2013 of 23 August, which creates vocational courses of secondary level, lasting two years for students who have completed the 9th grade and students who have completed 16 years of age who have attended secondary school and they want to reorient their school career;
- Decree-Law No. 139/2012 of July 5, amended by Decree-Law No. 91/2013 of 10 July, which defines the legal framework of dual education and training.

These legal diplomas define the general design of vocational programs, their main components and the workloads. Specific contents in each program are defined by ANQEP with the support of sectoral counselling groups and social partners.

VET programmes in the *Spanish* education system

Training curricula are established by the training Administrations in accordance with Royal Decree 1538/2006 of 15th December, section IV, article 17, and the rules governing the respective diplomas.

With regard to vocational training, the curriculum is designed in accordance with the National Qualifications and Vocational Training system and the Organic Law on Education 2/2006 of 3rd May, article 6.3.

Furthermore, in accordance with the Organic Law 5/2002 (19th June) on Qualifications and Vocational Training, training Administrations – within the scope of their competences - may expand the training programmes of vocational training diplomas. Modification and contextualisation of the contents shall be made in accordance with qualifications and units of competence in the National Catalogue of Professional Qualifications, in accordance with the professional profile.

Assessment

In vocational training, learning assessment is carried out in accordance with **Professional (occupational) training modules**, considering the objectives and assessment criteria established in the respective modules as well as the overall objectives of the training cycle.

In the specific case of the **on-the-job training module** (apprenticeship), learning will be assessed by the tutor of the training centre together with the apprenticeship adviser (the person responsible for the student within the enterprise). As a result of the assessment, the outcome of this training module will be *pass/fail*.

Nevertheless, the rest of training modules will be given a **mark**, from 1 to 10 (with no decimal point). Students must pass every single training module in order to complete the training cycle in full.

The **evaluation reports** and **academic certificates** are the basic documents ensuring students mobility. Those students who did not complete the training cycle in full will get a certificate covering only the professional modules passed. In addition to its academic purposes, this certificate will be considered as cumulative partial accreditation of professional competences acquired in accordance with the National Catalogue of Professional Qualifications.

In the **dual VET from the education system** the education administration is responsible for the monitoring and assessment via the teachers at the centre who will take into consideration contributions by tutors and trainers at the firm.

Curriculum design and examination in **Germany** are divided for the two learning venues; teachers are responsible for school-based part, trainers for in-company (incl. workshop) part. Employers' organisation or trade unions (usually both, but trade unions sometimes boycott designing of two-year vocations) apply for a reorganisation of an existing profile or the development of a new one (due to new materials, methods or technologies). Ministry usually accepts such requests, and opens the procedure. The social partners name an equal number of experts (skilled workers or trainers). The experts meet and argue on the new profile for weeks or sometimes even years, aiming at a consensus. The procedure is

moderated by a BiBB representative. Usually consensus on the content of new profile is found quite soon, structural elements (duration, core areas or special fields, kind of examination) can cause serious conflicts between the social partners – then reorganisation of a profile can take years; but the old profile stays applicable for new apprentices. Content is formulated in 10-20 vocational positions resp. “time frames”. In parallel teachers from VET school meet and formulate the VET school curricula; structured in 10-20 “learning fields” (units), details for both learning venues in shoe sector can be found in chapter 2. Although both curricula refer to the same vocation; time frames and learning fields are only similar; due to traditional share of responsibility is there no need to adapt them to each other; even headings might be different. Shoe-maker and finisher is a mono-vocation; no core areas or specific fields are allowed. The important part of curriculum design is to define the practical examination procedures; whether mid-term (after 1.5 years) exams count for the final grade or not (as in shoe sector); and if they count, to what percentage they count (usually between 20 to 40%); and the kind of examination, whether it’s a (individual) journeyman’s piece (as in the shoe-sector), a standardised practical examination or a company-specific order (possible choices depending on the particular sector). Additionally written examinations are foreseen. The assessment committee is build by two (or four) skilled workers or trainers, named on basis of parity by social partners, and one teacher. Details on the structural elements of reorganising VET profiles can be found at BiBB 2003; on “shoe maker and finisher” in chapter 2.

Examinations at VET school are independent of the procedure sketched above; they follow traditional school procedures and a separate certificate is issued.

Successful apprentices receive three certificates at the end of apprenticeship:

- journeyman’s certificate
- school certificate
- job reference certificate

Although holistic examinations at the end of programme are one of the constitutional elements of German VET and will be tackled in the recommendations; for piloting of a WBL-unit a transcript of records seems more suitable; whether it will be only “pass” or “fail” as in Spain or supplemented by qualitative-performance oriented marks (support/under instruction/under surveillance/autonomous) will be negotiated with the companies when preparing the pilot.

1.10. Standards / modules / Flexible approaches

In Europe three main approaches of structuring VET exist:

1. Standardised curricula; all VET students in a country learn the same with holistic examinations at the end. This approach is pre-dominant in central-European countries with school-based VET systems like France or Poland.
2. Modularised approaches: Content of all sectors is formulated in modules resp. units; each training provider is free to design his training plan by choosing from these modules (must be reasonable; is controlled by national authorities). Units are

assessed separately. This approach is pre-dominant in the Anglo-Saxon countries, unfortunately adopted by European Commission when recommending ECVET.

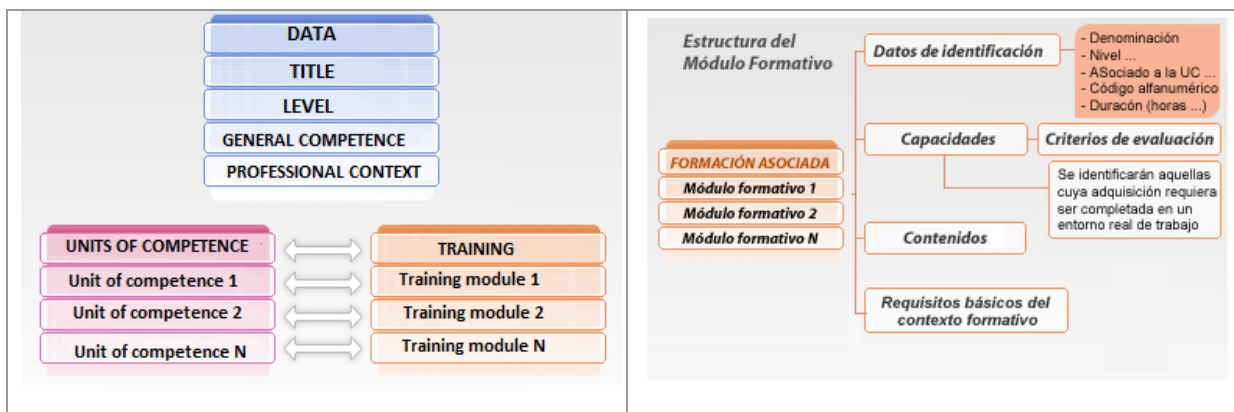
- Internal flexibility: Curricula are standardised in terms of content, but not in terms of time spent (i. e. level of competence reached) on them. This approach is pre-dominant in apprenticeship-based VET systems like in Germany to assure participation of companies (standardised curricula would overburden specialised companies); it respects vocational principle.

Portugal pursuits the first approach with a certain internal flexibility, especially for WBL-units, if a training/education provider once decided the type of course to deliver, he is obliged to follow a specific path. There is some kind of arbitrary level what concerns, for instance, to the foreign language to teach in socio-cultural component (English or Spanish or French.) and this kind of things, number of in-company training in the case of vocational system, etc. The technologic component is more rigid and should be similar for all the systems, for each considered profile. This is for “Footwear manufacturing technician” and the other profiles. All the components are built upon modules with a specific duration. In the case of Footwear Manufacturing Technician, the technological components are composed by 26 modules with 25 or 50 hours each. The “adaptation” to the real working life is provided during the in-company training. There’s also the possibility, for adults, to make the technological part module by module, enrolling in some modules and doing all modules at their particular rhythm. In this case, at the end, they can require the certification in a recognition and certification centre.

Spain traditionally followed the first approach, but due to modularisation, external flexibility (2 tracks and different levels) and the possibility of regional programmes it’s tending to the second.

VET programmes in the Spanish education system have a **modular structure**, professional modules will be comprised of areas of theoretical and practical knowledge, with respect to the professional competences including those defined in the units of competence. Depending on their nature, they will be linked (or not) to units of competence of the National Catalogue of Professional Qualifications.

Training Administrations will be able to organise said modules in **training units** of shorter duration, able to be validated. Certification will be valid within the scope of the corresponding training unit. Passing all the training units will allow students to get the certification of the professional module.



Picture 2: **Left figure: Professional qualification structure; Right figure: Training module structure**

Source: National Institute of Qualifications (INCUAL)

It is worth mentioning the flexibility of vocational training, both regarding access to training and the relationships between the different subsystems. And in addition, it fosters lifelong learning.

Offer, access, admission and registration are more flexible, with the aim that teaching leading to the obtaining of the Technician and Higher Technician Diplomas allow for setting up training paths that are adapted to the needs and particular interests of the students. Furthermore, moving from training to labour and vice versa is also easier.

Vocational training related to footwear is structured in modules and organised as follows:

On the one hand, a mid-level training cycle with a total duration of two years (and 2,000 hours): 6 modules on the first year (960h) and 6 modules and apprenticeship (on-the-job training) in an enterprise (1,040h) on the second year.

VET programmes in the Spanish employment subsystem have a **modular structure** with learning outcomes, assessment criteria and contents and guidelines for providers that are 100% employment oriented. Moreover, each professional certificate includes a **compulsory work based learning module** and the learning outcomes must be assessed in the workplace. The total duration the CdP programmes vary according to the structure of the competences and learning outcomes to be acquired: between 200 and 1 110 hours without reference to a specific academic year. Training time in the company depends on the profile and occupations included and varies between 5% and 52% of the total workload of the training programme.

To adapt training programmes to the target audience, employed or unemployed, the workload of the training modules lasting 90 hours or more is split into **training units**. These training units are to have sufficient internal coherence and articulation for the student to be able to acquire certain learning outcomes with a minimum of 30 hours. The criteria that split the professional certificate training modules into training units are based on an analysis of the competencies that they are associated to and the competency standards of the initiatives defined therein.

Germany pursues the approach of internal flexibility: Curricula are standardised in terms of content, but not in terms of time spent (i. e. level of competence reached) on them. This assures participation of companies (standardised curricula would overburden specialised companies); it respects vocational principle.

The structuring of VET is one of the key features of any VET-system; finding a proper approach between standards, nation-wide recognised vocations, especially the “vocational principle” (Berufsprinzip) and (legitimate) interests of training providers, especially companies, isn’t an easy task at all – but not inflecting the development and piloting a single WBL-unit.

1.11. Involvement of research in development of the system

In **Portugal** some initiatives to produce research on the vocational system exist. To our knowledge, there are no benchmarking studies to support reforms and policies in the field of dual vocational training.

The **Spanish** Ministry of Education provides grants for the development of innovative projects with the aim of promoting quality and excellence of VET in the education system, enhancing collaboration between VET centres and among centres and companies. These projects help to improve students' academic results and support the integration of VET students into the labour market.

In this sense, for example, the Ministry of education offers grants to carry out training and research on different subjects related to the education sector within the Ministry.

Although share of responsibilities in **Germany** is strictly divided between social partners, chambers, and public bodies (ministry, VET schools, and BiBB) dependent (e. g. BiBB research department, being subordinated agency of ministry) and independent (institutes from various universities, e. g. ITB Bremen) institutions are involved in research on development of German VET system. Main tasks are:

- To detect and adopt future needs of labour market, e. g. due to new technologies or materials;
- to develop new structural options for profiles, e. g. core-vocations; respecting vocational principle;
- to work on European recommendations (e. g. ECVET; EQF) and to help adapting them to German VET regime;
- to figure out appropriateness of new training methods or new media within VET;
- and to analyse independently different aspects of current structures of German VET, for example the quality of applied examination methods.

To cover these tasks a broad methodological toolbox for vocational sciences has been developed; beside other methods “expert-workers workshops” (adam 2015), “learning station analysis” (apprentsod 2014) – and semi-structured questionnaires resp. interview guidelines as adapted for dual train project.

This aspect isn't of great relevance for dualTRAIN project; but public funded research to improve VET-systems might also be considered as an indicator for the esteem of VET.

1.12. Numbers of learners in VET / related to university students / jobless youth / substitute measures

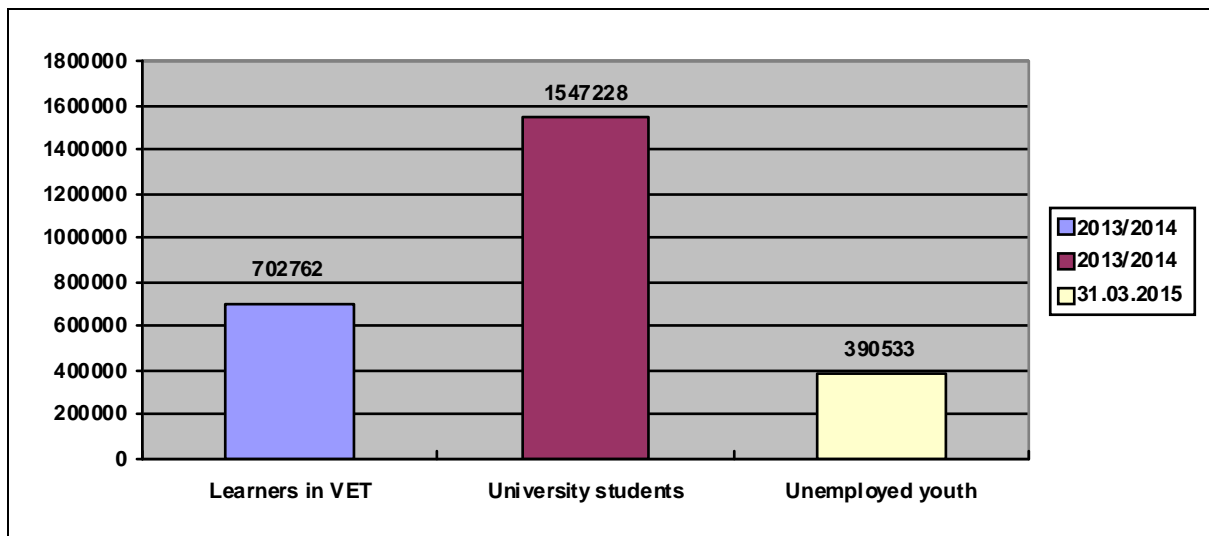
In **Portugal** in the academic year 2012/2013, the number of students enrolled in general secondary education slightly exceeded 201,000. In the same year, more than 115,000 students were enrolled in professional training courses. The weight of the students in professional training programs in the total number of students in secondary education

programs increased from 9% in 2003/2004 to 29.1% in 2012/2013. In absolute terms, the number of students in professional courses increased from 35,000 to 115,000 in that period. In 2012/2013 the number students enrolled in courses of secondary level within the learning system approached 33,500. In five years, between 2008/2009 and 2012/2013, the number of students registered in those courses increased by around 20,000, from 13,500 to 33,500.

Youth unemployment in Portugal is among the highest in the EU (38.1% among youngsters between 15 and 24 years old, 2013). Unemployment affects especially young people with lower skills levels. Young people with qualification levels between 0 and 4 have very high unemployment rates, as in absolute terms as when compared to European countries like Germany, Austria or Denmark. In particular, among young people aged between 15 and 19 years, unemployment reaches 53.2% of active workers. Among those aged between 20 and 24 years, it affects to 34.9% of them.

In Spain, the number of VET learners during the academic year 2013/2014 accounted for 702,762, contrary to the high number of University students (1,547,228). In the light of these data, it can be concluded that in Spain there are more than two university students per one learner in VET.

With regard to the unemployed, it is worth mentioning that the overall unemployment rate was 19.97% of active population on 31/03/2015. In absolute terms, this accounts for 4,451,939 people, of which 8.8% corresponds to unemployed under 25 (390,533 people). The unemployment rate for those under 25 is 51,4% (data from the first quarter 2015).



Picture 3: Number of youngsters enrolled in Vocational and Educational Training, university studies and unemployed

Source: Ministry of Education, Culture and Sports (2013). Basic data on Spanish university system. Year 2013/2014. Ministry of Education, Culture and Sports (2014). Data and figures. Academic Year 2014-2015. Ministry of Employment and Social Security (2015). State Employment Service.

In the last decade amount of new entries into **German** VET regime decreased slightly, from ~ 520,000 in 2005 to ~ 500,000 in 2013 (AG Bildungsbericht 2014, p. 278). Although there were higher numbers in between (~570,000 in 2007), the situation is quite stable, even if some lobbyists proclaim serious threats to the dual system. According to OECD statistics the

amount of higher education (HE) students in Germany is quite low; in the last years barriers were lowered and HE education was strongly promoted; reflected in numbers: In 2005 universities (and universities of applied sciences) registered ~ 370,000 new students, in 2013 ~ 510,000 (AG Bildungsbericht 2014, p. 278); 2013 was the first year ever with more new students than apprentices. These two mighty pillars of German secondary resp. tertiary education are accompanied by a badly brought-up little brother: The substitute system. It's the main reason for low youth-unemployment rate in Germany: School-leavers, who fail in finding an apprenticeship or a placement at university, usually are not jobless, but forced to take part in such measures, mainly VET propaedeutic. Incredible high number of new entries in this sub-system of ~ 420,000 in 2005 decreased till 2013 to ~ 260,000; mainly due to the increase of university students and demographic development.

In Portugal, the young population aged between 15 and 24 years who do not study or work (NEET) reaches 14.1%, in Spain 18.6% and in Germany 6.3%. These numbers indicate that innovative approaches of offering education to the young population in Portugal and Spain are really a burning issue; although it shouldn't be concealed that the relatively low percentage in Germany is reached by substitute measures.

1.13. Image of VET

For many years, young people and their families in **Portugal** have considered vocational training as a way less prestigious and with lower return than mainstream secondary education. The learning system emerged as a vocational track for young people with learning difficulties and with poor academic performance. Except in specific cases, over the three decades, the learning system was unable to clean the stigma of being an alternative to accommodate students excluded from the general path and give them some vocational training. In recent years, the social image of this system has gradually changed due to the difficulties of integration into the labour market of graduates from universities and to the good examples of some training centres in enterprises and training academies which provide programs quite similar to those supplied in the German dual system, such as ATEC or DUAL.

Professional training in secondary schools has worked as a professionalising alternative for students seeking training profiles closer to the ones required by the labour market. The flexibility of this approach, its high permeability and the possibility of continuing studies after the conclusion of the programme make them very attractive for students. However, the system has fallen well short the expectations for various reasons, such as the bias in programme supply driven by teachers' school profiles, the reduced need of resources, trends or short-term preferences, the shortage of human resources and material and technical resources and the poor collaboration/partnership with the business community.

The recently introduced vocational programs show all the problems of professional courses in Portugal (and some specific), which have contributed to tarnish its image in society. Among these, arises the fact that failure is a precondition for accessing them.

Overall, in Portuguese society there is a perception that the professional education pathway is a minor alternative and that recent reforms in the system have generated entropy and do not contribute to improve the image of the system as a whole. Despite the general negative image of the professional training system, there is a growing consensus on the need to

promote high-quality professional training with a strong component of work-based training. Successful experiences, such as ATEC and DUAL, both associated with the Portuguese-German Chamber of Industry and Commerce, are contributing to improving the image of this type of education and to power a pro-dual system social perception.

A loss of prestige has characterised the image of vocational training education in **Spain** for years. Most students decided to take high school studies as they thought that it would pave the way to the labour market. However, the economic crisis demonstrated that having a university degree does not itself give a guarantee of employment.

Vocational training is leading non-university employment, and at present it represents the most demanded non university studies. Furthermore, it is expected that VET will mobilise more students than University in the future, students being well prepared with more comprehensive learning.

Also, the financial support received from the Administration has contributed to the enhanced image of vocational training schemes. A significant amount of the European Youth Guarantee Funds (the total budget of which is 94 million euros) were allocated to VET.

In accordance with press releases, vocational training on footwear is ranked as one of the most demanded and most valued studies in Alicante and La Rioja regions. This is due to the fact that this is considered to provide high quality theoretical and practical training. Moreover, training establishments where these studies are taught are well known nationally thanks to their know-how and perseverance in providing enhanced prestige to the footwear related training and careers.

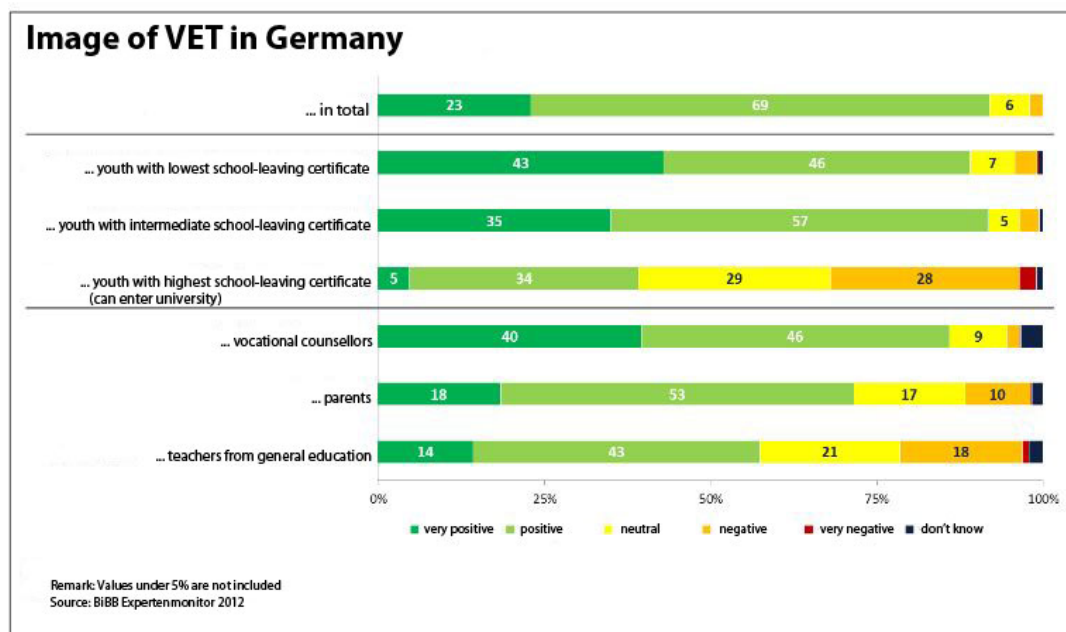
It is worth mentioning that considering the high rates of labour market insertion of Dual VET learners in recent years, some regions registered an increase in enrolment of around 66%, compared to the previous year. In addition, 70 to 80% of VET learners are usually contracted by the enterprises where they did their apprenticeship (on-the-job training), and the rest find a job within the next 6 months.

Beyond objective data, traditional and dual VET has received a lot of **recent attention from the press**. What follows are **ideas extracted from these articles** referring to the difficulties in implementing this model:

- there are no qualitative indicators to measure job placement.
- there are no qualitative indicators to measure whether the combination of education and training has improved students' grades.
- there are no qualitative indicators to measure if the firm tutor is qualified enough to carry out the training.
- SMEs cannot have someone dedicated exclusively to training. Therefore, as in other countries someone has to finance this.
- there are two approaches to system: those firms that use it to satisfy their personnel needs and those whose major concern is to offer quality training with independence of whether apprentices will remain in their company or not.
- lack of knowledge about the dual system.
- students receive the same qualification after traditional VET or dual VET.

- there is a normative dispersion in the collaboration agreements between regional governments and education centres.
- few firms are willing to pay for apprentices when with the traditional model they didn't have to. Without the scholarship apprentices are also not willing to be at the firm for longer than they were in the traditional system under the same conditions.
- bureaucracy with administration is very time consuming for education centres.
- firms must satisfy certain requirements when signing the agreement with the regional authority: no Social Security debts, during the agreement no dismissals, no administrative sanctions and no bonus for hiring.
- an agreement must be reached to establish quality standards for education centres and firms.

The image of VET was traditionally very good in **Germany**, as VET used to be the standard way of getting qualified. In 1959 only ~ 50.000 new students started at German HE (wiwo. 2015). Establishing of universities of applied sciences and “educational expansion” (Bildungsexpansion) in the 70ies lead to an increase of new students per year up to ~ 230,000 in 1983 (wiwo. 2015); these early developments had rather low influences on the image of VET as VET stayed the most popular educational track, with up to 1,800,000 apprentices (in all years) in 1985. Afterwards image of VET was challenged by two factors: OECD reports, claiming that ratio of university students is below European average; but ignoring that many job positions that are filled by academics in other countries are filled by CVET-qualified technicians in Germany, and economic crisis around 2004, when Germany was considered to be the sick old man of Europe; beside other reasons due to its industrial basics. These challenges led to serious debates on the question, whether an apprenticeship-system is still “up to date” within a post-industrial society. But on the one hand these debates were rather on the political or academic level, not really involving stakeholders from practice and on the other hand economic development in Europe in the last years reflects that an industrial basis of economy isn't the worst idea. So Picture 4: Image of VET (own translation), source: BIBB 2012b documents that image is still quite good in 2012.



Picture 4: Image of VET (own translation), source: BIBB 2012b

Increasing or maintaining image of VET stays a permanent challenge in all countries. A better image can't be implemented or commanded – it must grow via grass-root projects like dualTRAIN.

2 Drivers and barriers towards WBL – facilitating piloting

As indicated in the introduction a row of interviews (5 in Germany, 6 in Portugal, 8 in Spain) were executed; aiming at aspects: To develop recommendations for implementing resp. developing dual structures in Spain and Portugal and to facilitate piloting. This report focuses on the latter; only statements regarding an internship are quoted; one per country. Answers reveal that there is broad support of increasing WBL.

2.1. Aims and main structures of national VET systems

No relevance for piloting.

2.2. Aims and main structures of WBL in the shoe sector

“Regarding transversal competences, I consider important to pay more attention to the detail, the develop sense of initiative, capacity of working in teams and on the planning both the work and individual life. These are the most outstanding skills for my company and for the footwear sector. To train for the detail.” (PT)

“The “ideal” VET system would correspond to a situation that existed in Spain far back in the 60s:

- apprentices trained exclusively or mainly in the firm.
- at a minor or no cost since the firm is doing the training.
- “Firms want more practice and less theory”.
- no need to buy expensive machines for learning centres.
- flexible organization:
 - for certain tasks a module structure is not adequate because they require more training hours. Basic competences are still to be taught but what are most relevant are the technical competences.
 - contents should be as close as possible to a specific factory need (“There’s more than one way to skin a cat”).
 - the training periods should be adapted to the firm’s production periods, timetables, etc. and not the other way around.
 - public funds, for example, for tutors or for equipment, must be strictly supervised but with the aforementioned flexibility.” (ES)

“Especially the European footwear industry, which manufactures high-end products, needs highly qualified and highly competent staff to ensure the efficiency of the process and the quality of the products. The dual system is a great opportunity for a company to recruit qualified staff.” (DE)

2.3. Learning venue company

“Hopefully the majority of the time load is performed inside the company, in practice environment, with our footwear models and materials. Only that way a real integration in our culture is made.” (PT)

“Inserting apprentices in the production line eases the learning process because when inserted between two persons that do have experience the one that doesn’t will be supervised by the other two that are directly affected by what he does. In other occupations such as manual cutters the process until you have enough experience to cut correctly takes 3 years in which you will be doing minor tasks besides the “main” cutter.” (ES)

“The main reason for companies to participate in the VET system is to shape future generations of competent workers, technicians, and managers for their own staffing needs. Thanks to WBL apprenticeships companies can be sure to always be able to recruit qualified production workers. Nearly all former apprentices will be offered a permanent position.” (DE)

2.4. Stakeholders involved and their main tasks

No relevance for piloting.

2.5. Funding

No relevance for piloting; national mechanisms will be kept.

2.6. Juridical issues (contract, insurance etc.)

No relevance for piloting; national mechanisms will be kept.

2.7. Quality standards

“4 actors should be involved in Dual training and to be assigned to the quality responsibility of the training: i) The Company – responsible for the know-how; ii) The VET centre – responsible for the broad technical training; iii) The school, responsible for the transversal skills development of the students and to give them social skills as well; iv) The students themselves from the first moment.” (PT)

INDUSTRY ASSOCIATION is not involved in any quality standard commission. Perhaps they could participate with a person or committee with training experience in the sector or a retired businessman (similar figure to the external tutor in the production process). (ES)

“Another strength of the system is that the exams are centrally drawn-up by IHK Pfalz (Chamber of Industry and Commerce of Rhineland-Palatine) as the leading Chamber for the nation-wide «Industrial Shoe Maker and Finisher» exam. This ensures the comparability of the exam no matter where in Germany it takes place. When recruiting a person holding the «Industrial Shoe Maker and Finisher» qualification, a company can be sure that the skills and knowledge of this person will meet a unified standard. In addition, the marks issued by the Vocational Schools do also represent a reliable standard.” (DE)

2.8. Pedagogical qualification of the mentors (tutors)

“Companies can contribute with monitoring and tutoring expertise in some practice areas (...). In this point a strengthening of the pedagogical skills would be important. A good model should envisage also the preparation of the trainers/tutors.” (PT)

The firm tutor has to be someone from the firm and has to have the knowledge of what has to be taught (eg. the person in charge of the section). The firm tutor is given a programme by the employment tutor. Despite this they do not always know how to teach but this is not a generalized problem. (ES)

“Some companies CANNOT offer apprenticeships because they fail to meet the requirements, for example because they cannot show the entire shoe production process or because they have no authorised trainer. The Chamber of Industry and Commerce can help and arrange an exchange with other (non-competing) companies so that the apprentices will be able to see the complete process. Or it can help employees to acquire training accreditation (the course comprises 100-120 hours), which is possible in a 6-day crash course or via e-learning. You see: The system is very flexible, and this is a big advantage.” (DE)

2.9. Curriculum design and examination

Curriculum for piloting: cp. chapter 2.

“In the design of the curriculum and correspondent final examination, and external entity should be involved with the role of coordination, working jointly with schools and companies.” (PT)

Assessment is made jointly between the firm tutor and the employment centre tutor although the latter takes the lead role because of his methodological knowledge in assessment. (ES)

“It does not take the same techniques to produce a safety shoe than to manufacture an elegant ladies’ pump, and how you make a pump is different from sports shoe production. This is why the final exams always refer to skills and knowledge the apprentice has been able to acquire in his/her company. Therefore, in preparation of the final exam, each company is asked to submit five models of different degrees of complexity. The apprentice of a safety shoe manufacturer will be asked to make a safety shoe. The apprentice of a pumps producer will be asked to make a pump.” (DE)

2.10. Standards / modules / flexible approaches

No relevance for piloting.

2.11. Involvement of research in development of the system

No relevance for piloting.

2.12. Numbers of learners in VET / related to university students / jobless youth / substitute measures

No relevance for piloting.

2.13. Image of VET

“One of the most important barrier to implement successful VET is the bad image of the system itself, as well as, still, the image of the sector itself, especially among youngsters and their families who doesn’t encourage them to pursue a career in Footwear, as manufacturer or technician. Thus (...) the sector loose the best students. Only the “bad” students go for a job in the sector, which of course represents a constraint itself to the evolution of qualifications and skills in the sector.” (PT)

There’s a need to attract persons to the sector. There’s a “lost generation” where no one recommended working in footwear. Nowadays it is changing. In order to accomplish this the Industry Association has to fight against stereotypes. (ES)

“The footwear industry has an image problem: the decline of the industry in Germany and the closures of many production sites (particularly in the 1980s) led to a bad reputation. Many brands disappeared or were bought by trade companies, and shoe production was relocated to low-wage countries. What most people ignore: the brands that survived are strong and successful today and offer interesting career opportunities. I think that the German Footwear Industry Association should launch an image campaign in order to improve the reputation of footwear companies as employers, to show the career opportunities connected to the shoe as a fascinating product that requires technical skills as well as a sense of fashion and innovation.” (DE)

3. Common unit for testing

Draft Curriculum / Ideas for Content Creation / Pilot Training Material

* drafted unit based on comparison of national curricula, might be slightly modified after LSA (O2).

Learning Field	Contents of the Learning Field	Who teaches the learning field (VET school / WBL)
Health and Safety at Work (§ 3 No. 3)	a) identify health and safety risks at work; b) apply job-specific occupational safety and accident prevention regulations c) know which initial measures to take in the case of a work accident d) take fire prevention measures; know what to do in case of a fire / fire-fighting measures	VET school
Environmental Protection (§ 3 No. 4)	Prevent damage to the environment (from the own workplace), in particular a) explain the potential environmental impact of the training company or workshop and exemplify its contribution to environmental protection b) apply the specific regulations for environmental protection applicable to the training company or workshop c) use energy and raw materials in an economically and environmentally friendly manner d) avoid waste; recycle or dispose substances and materials in an environmentally friendly manner	VET school
Planning and Preparation of Work Flows * (§ 3 No. 5)	a) prepare workplace; chose and prepare equipment and tools with respect to the assigned task b) make sketches and to interpret technical drawings and documentation c) use information and communication technology d) define work steps based on the task-related technical documents e) calculate the production cost, in particular material and labour cost f.) Footwear sizing concepts and systems.	VET school & WBL

<p>Shoe Construction and Intended Use of Footwear</p> <p>Contents:</p> <p>a) historical evolution of footwear</p> <p>b) requirements which footwear and upper materials must meet</p> <p>c) correlation foot-last-shoe</p> <p>d) shoe parts</p> <p>e) different upper cuts</p>	<p>a) identify different shoe types for different usage and describe them</p> <p>b) differentiate model-specific shoe parts and components</p> <p>c) depict and name upper parts</p> <p>d) identify the correlations between feet, lasts and footwear</p> <p>e) map out the key criteria for shoe construction, shoe shape, and material selection</p>	<p>VET school (&WBL)</p>
<p>Selection of Upper Materials</p> <p>Contents:</p> <p>Leather</p> <p>a) Which leather from which animal?</p> <p>b) structure of the skin</p> <p>c) influence of tanning and finishing of hides on the characteristic properties of leather</p> <p>Textile materials</p> <p>a) raw materials and properties</p> <p>b) fabric construction types (woven fabrics, nonwovens, composite fibres)</p> <p>c) textile coatings and finishes</p> <p>d) textile lamination, roughing</p>	<p>a) identify different upper materials</p> <p>b) select the appropriate material for each shoe type</p> <p>c) distinguish different quality levels and spot defects</p> <p>d) calculate material consumption and material cost of different shoe models</p>	<p>VET school</p>
<p>Assess and Use Raw and Auxiliary Materials (§ 3 No. 6)</p>	<p>a) distinguish raw and auxiliary materials; know their properties and characteristics</p> <p>b) relate raw and auxiliary materials to their potential use, esp. leather, lining, and bottoming materials</p> <p>c) assess the effects of coating and finishing procedures on look and durability</p> <p>d) relate raw and auxiliary materials to a range and store them accordingly</p> <p>e) assess raw and auxiliary according to the technical and health-related requirements; evaluate their economic efficiency; use them for the intended purpose</p>	<p>WBL</p>

Quality assessment Area and cost calculation		VET school
Hand and Machine Cutting (§ 3 No. 8)	a) distinguish and name different quality zones of a hide b) work with cutting machines, dies, matrices etc.; master cutting and clicking techniques c) define the quality zones of a hide, apply the cutting rules d) cut raw and auxiliary materials respecting the cutting rules and efficiently avoiding waste e) check cut-out parts	WBL
Cutting of Upper Materials (Knife / Cutting Dies / Cutting Table) Contents: Cutting rules a) quality rule b) pair matching rule c) stretch direction rule Workplace design Occupational safety Construction and mode of functioning of machines, equipment, and tools a) machines for cutting and clicking b) cutting dies and accessories Workplace design Occupational safety Cutting technologies Calculation of material consumption One-pair calculation Parallelogram method Drawing upper parts Three upper cuts: a) Derby b) Oxford c) Pump	a) explain the cutting rules depending on pattern and material b) apply the cutting rules when cutting c) select appropriate tools and machines for cutting and explain their use d) organize a cutting workplace (respecting work safety rules e) calculate material consumption and depict upper parts f) Cutting by hand several geometric shapes, straight lines, curved and broken lines, using patterns. g) Cutting by hand leather, textiles, coated fabrics and other materials using patterns	VET school

4. Summary and Outlook

Comparative analyses revealed enormous structural differences between the VET-systems of the participating countries in dualTRAIN-project. Those must be taken into account when recommending the development of “real” dual structures in Portugal and Spain. For the next step of the project, the preparing and piloting of a chosen WBL-unit (cp. chapter 3) mainly 3 aspects must be considered:

- What can or should be learnt is not based only on decisions of a teacher or trainer but determined by work-processes;
- the absence of pedagogically skilled persons;
- and a high amount of mentors who contribute to the competence development of an apprentice resp. VET-student.

These specifics require elaborated preparation and guidance procedures to assure a smooth learning pathway; both within each learning station and the whole apprenticeship scheme as well. For the purpose of dualTRAIN-project we do recommend an iterative approach; adapting existing and approved methods; each step focussing on one of the specifics listed above; in detail:

- 1 Learning Station Analysis (LSA). This research based method was developed to figure out what can and should be learnt at a chosen work-place; taking into account not only technical aspects but also the surroundings like supply chains, the organisation of work or what an apprentice should already know to use the learning potential best. Chapter 1 of upcoming 2nd report will sketch the milestones of LSA; supplemented by a template and a comprehensive example of a former project.
- 2 The choice and preparation of skilled workers for their role as mentors/advisers is crucial for the success of WBL; they act not only as guides but are also responsible for the achievement of learning outcomes (LO) acquirable in the respective department. Chapter 2 of upcoming 2nd dualTRAIN report proposes approaches of recruiting and preparing mentors.
- 3 In each department / at each learning station a different mentor is responsible for the apprentice/VET-student; proper communication between mentors on one side, the student on the second side and teachers resp. trainers on the third side must be assured by easy to handle documents. Many German companies developed already templates that document the LO of the learner and the quality of the learning station; chapter 3 of upcoming 2nd dualTRAIN report will start with some basic pedagogical thoughts and proposes templates (transcript of records, feedback sheet) to be used when piloting WBL.

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