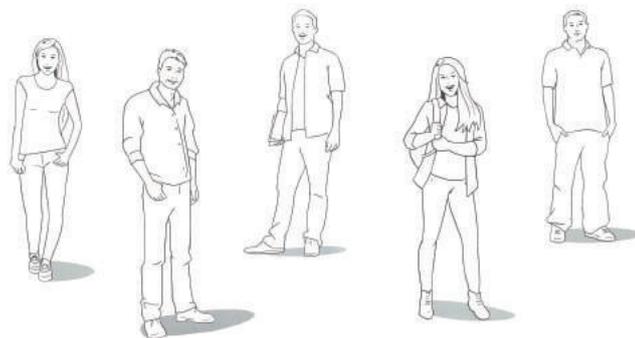


# EU DUALS

EUROPEAN DUAL SYSTEM



## CURRICULUM

Conceptual framework for the implementation of core elements for a  
“European Dual System” along the gathered results from the project EuDualS

## Partners



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Website: [ec.europa.eu/programmes/erasmus-plus/](http://ec.europa.eu/programmes/erasmus-plus/)



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## Foreword

# The importance of the Dual Training System for entrepreneurs and Europe's future

*In March 2015, European Entrepreneurs CEA-PME organised in Brussels the European Youth Summit, focusing on youth unemployment and lack of skilled workers. In that occasion the former President of the European Parliament, Mr. Martin Schulz, said that youth unemployment is "the guillotine on the future of Europe". I think he found a very good image to describe the catastrophic effects of high youth unemployment not only for the young people themselves, but for the future sustainability of our social systems, the economy and our democratic societies as a whole.*

*It is one of the greatest paradoxes of our current situation, that we have Member States with extremely high youth unemployment and at the same time countries and regions where small and medium-sized companies search desperately for skilled workers to be able to satisfy the demands of their clients. But we also know that much of these problems are linked to a mismatch between professional training and education on one side and the labour market needs on the other. It is mainly here where the importance of the Dual Training Systems becomes clear: in order to do an apprenticeship with parts of school training, an apprentice in Germany, Austria or Denmark must first find a contract with a company that decides to train her or him during 2.5-3 years. In signing the apprenticeship contract, the company says that they have a need for people to do this job. That makes the training match immediately with the market needs. And this is much faster than any other kind of economic or educational studies and public planning of VET.*

*Of course, there are other important aspects in the Dual Training System, e.g. the fact that the school "only" supports the training, but the responsibility of the training is that of the company, including the training and certification*

*of company tutors ready to teach a work, or the importance of paying the apprentices (either an adequate start-level salary or a scholarship) to make the relationship between efforts and benefits, the appreciation and the worthiness clear. Things that are free of charge don't have a value. If we pay, we put value on what we really need: motivated, skilled and loyal workers.*

*As SME Confederation, we are also aware that such reforms are not only a question of political will and action (though urgently needed), but requires first of all understanding by all actors involved: parents, entrepreneurs and schools. That means, we are talking about a cultural learning process. These kinds of processes can be enhanced via the construction and dissemination of best practices, which should be made feasible without changing first the whole legal and organisational system, but inside the existing framework conditions of professional training in other EU Member States. Together with the German SME association that I also preside, the Bundesverband Mittelständische Wirtschaft e.V. (BVMW), our partners CONFAPI in Italy and ADEGI in Basque County (E), and with the support of the professional training research institute f-bb from Nuremberg, we decided therefore to work together and create this best practice, in order to allow experiences and results to teach the best way forward. I think we did well and invite as many as possible other entrepreneurs, teachers, young people and Member States to follow.*



**Mario Ohoven**

President of European Entrepreneurs CEA-PME and BVMW e.V.

## Executive summary

Europe is facing different challenges, such as demographical and digital change, social inclusion and the lasting impacts caused by the economic and financial crisis from 2008 (e.g. youth unemployment). These challenges affect the European member states to a variable extent.

Apprenticeships within vocational education and training (VET) can play a very important role in tackling the most pressing ones. This is why they have received and still receive so much attention from policy makers. To enforce them to do so, it is crucial to increase their quality and attractiveness. The OECD points out to the necessity of high-quality standards to avoid that apprenticeships are geared towards low-skilled jobs. Their overall reputation can be damaged by even a small proportion of low-quality offers (OECD 2017).

The main outcome of this study is that a strong bonding of education and work is of undeniable importance for quality and attractiveness of apprenticeships.

Vocational learning paths are traditionally dominated by vocational schools. In Germany, the learning venue is divided into school- and company-based learning as standardized offer of the VET system. Obtaining high youth employment and high level skills despite the economic and financial crisis, the discussion emerged and still emerges in transferring the German dual system to other countries. Since the 90s, vocational and economic educators have expressed their doubts about the dual VET system being transferable at all (cf. Euler 2013). However, exports are coming to be a growing market, and Germany attains annual receipts of approx. € 9.4 billion (cf. iMove 2010). Political support manifests itself in the form of praise for the dual VET system as an "export hit". Against the backdrop of primarily economic interests, the question arises to what extent the "occupationalisation" of national education systems can succeed. Euler (2013) describes initiatives and programmes, failed to sustainably implement the dual VET system. Considering the lessons learned it is important, in a first step, to develop implementation models for an establishment of success core elements in the target countries and then support the specific implementation, taken national conditions as legal basis, VET systems and relevant stakeholders into account.

The project European Dual System (EU-DualS) was about identifying constitutive elements for drafting a European dual VET system and developing useful instruments and material for its implementation into two piloting EU-countries. The participating countries Germany, Italy and Spain investigated commonly hands-on solutions to apply the German dual VET system as good practice to Italy and Spain, adapted to their national and regional legal requirements. Taking the historical and conceptual framework of the German apprenticeship as a basis, this curriculum is an outline of how the export of VET was operated in EU-DualS.

Due to its name, this curriculum may intend to mislead. It is not about presenting a curriculum as educational framework for dual VET in Europe. To a greater degree, it is more about summing up the collected experiences among involved players within EU-DualS and highlighting identified success factors. The EU-DualS study does not give any recommendation for the actual design of the VET systems of the involved partners in Italy and Spain. Instead it detects relevant starting points for designing a dual VET system, country-independent.

# Objectives

# 01 Objectives

Before presenting the specific objectives of this project, it is important to bring it into line with the objectives of different initiatives and studies at European level. Especially in the last two years, the European Union has zealously pursued the goal in raising awareness of high-quality apprenticeship.

## 1.1 At the European level

Apprenticeships are a particularly effective form of work-based learning in VET that facilitates the transition from the world of education and training into the world of work. The provision of skills, needed from the employer's side lead to high competitiveness and productivity of companies and workplaces. Apprenticeships help to gain recognised qualifications for their learners and afford the possibility for career development. Due to their proven effectiveness in the facilitated access to the labour market, and improving career paths, apprenticeships are a policy priority, while youth unemployment (15.6% in March 2018, cf. Statista 2018) in the EU remains more than double the overall unemployment rate (7.3% in January 2018, cf. Statista 2018). At the European level, the last couple of years showed the effort taken by the amount of conducted studies and started initiatives.

The European Alliance for Apprenticeships (EAfA) was launched in 2013 to help tackle youth unemployment, in particular. The overall objective is to increase the employability and personal development of apprentices and to contribute to the development of a highly skilled and qualified workforce, responsive to labour market needs. Therefore, EAfA focuses on four aspects: supply (assuring training and first job opportunities), quality (pledges focus on quality, as well as the development of a European Quality Framework for Apprenticeships), image (improvement through annual repetition of European Vocational Skills Week and EAfA Awards) and mobility of apprenticeships (focus on cross-border (long duration) mobility) (EAfA 2017).

The EU-Member States made a pledge that described their actions to increase the supply, quality and attractiveness of apprenticeships, in cooperation with social partners and stakeholders. This was achieved by introducing an apprenticeship pathway or improving existing schemes, in line with the guiding principles. By March 2017, 35 EU, EFTA and candidate countries had joined the alliance. Meanwhile companies and stakeholders had made over 200 pledges. In that same year, the Commission further developed existing principles and theories and identified 14 key criteria that EU-Member States and stakeholders should take into account when it comes to develop quality and effective apprenticeships. They are about ensuring both the development of job-related skills and the personal development of apprentices. This proposal for a European Framework for Quality and Effective Apprenticeships contributes to the EU's priority on jobs, growth and investment. It is part of the 2016 New Skills Agenda for Europe and its ambition to improve the quality and relevance of skills formation.

In 2018, the Council adopted a recommendation on a framework for quality and effective apprenticeships which will help young people to enter the world of work. The recommendation encourages the development of a highly skilled and qualified workforce which is responsive to the needs of the labour market. By applying common criteria for the quality and effectiveness of apprenticeships, member states will be better able to develop and promote their national apprenticeship schemes (Council 2018). Due to their actual importance, the 23 criteria are worth quoting in full.

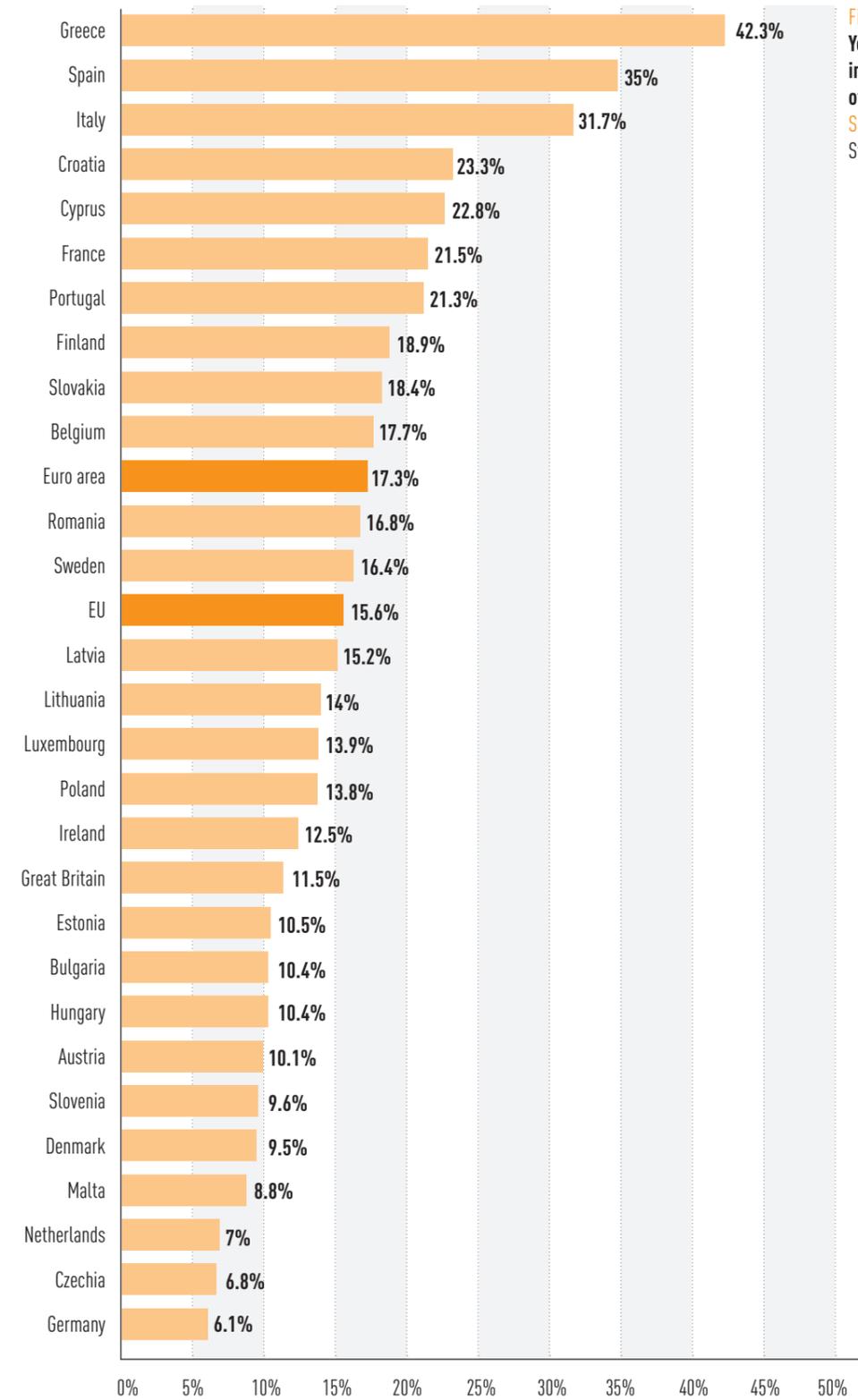


Figure 1:  
Youth unemployment rate  
in EU member states  
of March 2018  
Source:  
Statista 2018

**Table 1: Criteria for quality and effective apprenticeships**

Source: Council 2018, p. 8-12

**CRITERIA FOR LEARNING AND WORKING CONDITIONS****Written agreement**

1. Before the start of the apprenticeship a written agreement should be concluded to define the rights and obligations of the apprentice, the employer, and where appropriate the vocational education and training institution, related to learning and working conditions.

**Learning outcomes**

2. The delivery of a set of comprehensive learning outcomes defined in accordance with national legislation should be agreed by the employers and vocational education and training institutions and, where appropriate, trade unions. This should ensure a balance between job specific skills, knowledge and key competences for lifelong learning supporting both the personal development and lifelong career opportunities of the apprentices with a view to adapt to changing career patterns.

**Pedagogical support**

3. In-company trainers should be designated and tasked to cooperate closely with vocational education and training institutions and teachers to provide guidance to apprentices and to ensure mutual and regular feedback. Teachers, trainers and mentors, specially in micro, small and medium-sized companies, should be supported to update their skills, knowledge and competences in order to train apprentices according to the latest teaching and training methods and labour market needs.

**Workplace component**

4. A substantial part of the apprenticeship, meaning at least half of it, should be carried out in the workplace with, where possible, the opportunity to undertake a part of the workplace experience abroad. Taking into account the diversity of national schemes, the aim is to progress gradually towards that share of the apprenticeship being workplace learning.

**Pay and/or compensation**

5. Apprentices should be paid or otherwise compensated, in line with national or sectoral requirements or collective agreements where they exist, and taking into account arrangements on cost-sharing between employers and public authorities.

**Social protection**

6. Apprentices should be entitled to social protection, including necessary insurance in line with national legislation.

**Work, health and safety conditions**

7. The host workplace should comply with relevant rules and regulations on working conditions, in particular health and safety legislation.

**CRITERIA FOR FRAMEWORK CONDITIONS****Regulatory framework**

8. A clear and consistent regulatory framework should be in place based on a fair and equitable partnership approach, including a structured and transparent dialogue among all relevant stakeholders. This may include accreditation procedures for companies and workplaces that offer apprenticeships and/or other quality assurance measures.

**Involvement of social partners**

9. Social partners, including, where relevant, at sectoral level and/or intermediary bodies, should be involved in the design, governance and implementation of apprenticeship schemes, in line with national industrial relations systems and education and training practices.

**Support for companies**

10. Financial and/or non-financial support should be envisaged, particularly for micro, small and medium-sized companies, enabling cost-effective apprenticeships for companies, taking into account, when appropriate, cost-sharing arrangements between employers and public authorities.

**Flexible pathways and mobility**

11. To facilitate access, entry requirements for apprenticeships should take into account relevant informal and non-formal learning and/or, if relevant, the accomplishment of preparatory programs. Qualifications acquired through apprenticeships should be included in nationally recognised qualification frameworks referenced to the European Qualifications Framework. Apprenticeships should allow access to other learning opportunities, including at higher education and training levels, career path-ways and/or, where relevant, the accumulation of units of learning outcomes. Transnational mobility of apprentices, either at the workplace or education and training institutions, should be progressively promoted as a component of apprenticeship qualifications.

**Career guidance and awareness raising**

12. Career guidance, mentoring and learner support should be provided before and during the apprenticeship to ensure successful outcomes, to prevent and reduce drop-outs as well as support those learners to reengage into relevant education and training pathways. Apprenticeships should be promoted as an attractive learning pathway through widely targeted awareness-raising activities.

**Transparency**

13. The transparency of, and access to apprenticeship offers within and between Member States should be ensured, including with the support of public and private employment services as well as other relevant bodies, and, when appropriate, by using Union tools such as EURES as provided for in the EURES regulation.

**Quality assurance and tracking of apprentices**

14. Quality assurance approaches should be in place taking into account the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET), including a process allowing a valid and reliable assessment of the learning outcomes. The tracking of employment and career progression of the apprentices should be pursued, in accordance with national and European legislation on data protection.

**IMPLEMENTATION AT NATIONAL LEVEL****Member States should:**

15. Promote the active involvement of social partners in the design, governance and implementation of apprenticeship schemes, in line with national industrial relations systems and education and training practices;

16. Ensure equal access, promote gender balance and tackle discrimination in apprenticeship schemes;

17. Include the relevant implementing measures in the National Reform Programmes under the European Semester;

18. Take into account this framework when making use of European Union funds and instruments supporting apprenticeships.

**The Commission should provide:****Support services**

19. Developing a set of support services for knowledge sharing, networking and mutual learning to assist Member States and relevant stakeholders to implement apprenticeship schemes in line with this Framework. This should include the further training needs of VET teachers and trainers regarding digital innovations in apprenticeships.

**Awareness-raising**

20. Promoting the excellence and attractiveness of apprenticeships, as well as a positive image among young people, their families and employers, through awareness raising campaigns such as the European Vocational Skills Week;

**Funding**

21. Supporting the implementation of this Recommendation through relevant Union funding, in accordance with the relevant legal framework;

**Follow-up**

22. Monitoring the implementation of this Recommendation with the support of the tripartite Advisory Committee on Vocational Training, building on the existing monitoring instruments used in the framework of the European Semester;

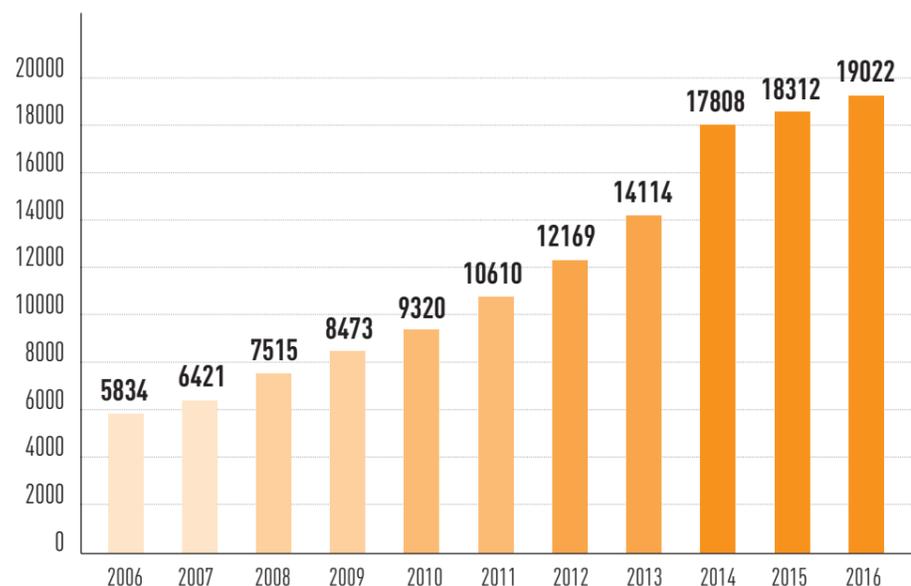
23. Reporting to the Council on the implementation of the Framework within three years from the date of its adoption.

International mobility encompasses different elements including work-based learning in companies abroad and exchange stays in VET-schools in other countries for both students and teachers. Within European programmes, mobility in VET is stimulated over the years. This was mainly done through the Leonardo da Vinci programme and the current Erasmus+ programme. These programmes included projects that improved infrastructures for mobility and individual mobility of learners and teachers/trainers. Concerning the individual mobility, the Erasmus+ programme offers the possibility of a VET traineeship abroad for up to four weeks. These exchange programmes play an increasingly important role in raising attractiveness to apprenticeships. The Commission also launched 'Erasmus Pro' (KA1) to support long-duration apprenticeship mobility. Here, participants from European countries have the opportunity to combine their knowledge acquired in VET schools with practical experience in the operational reality - across the EU.

The following figures demonstrate the number of financially supported learners, sent abroad within the ERASMUS+ mobility from 2006 until 2016.

**Figure 2: ERASMUS+ mobility in VET (2006-2016); number of sponsored learners**

Source: NA of BIBB 2017, S. 494



Erasmus+ supports mobility for apprentices, including the Erasmus Pro initiative aimed at supporting 50,000 placements of vocational learners in companies to spend at least 3 to 12 months abroad for the period 2018-2020.

Former developments show evidence that apprenticeship is politically conceived as a crucial learning path in tackling youth unemployment.

Although dual VET approaches in Europe increased and the potential has been detected a long time ago, past studies also had shown that the starting points are nationally too diverse for a standardised European VET landscape. It is not about a simple "policy borrowing".

These criteria are guiding principles that allow some sort of orientation and nationally adjustment, at the same time.

## 1.2 At the project level

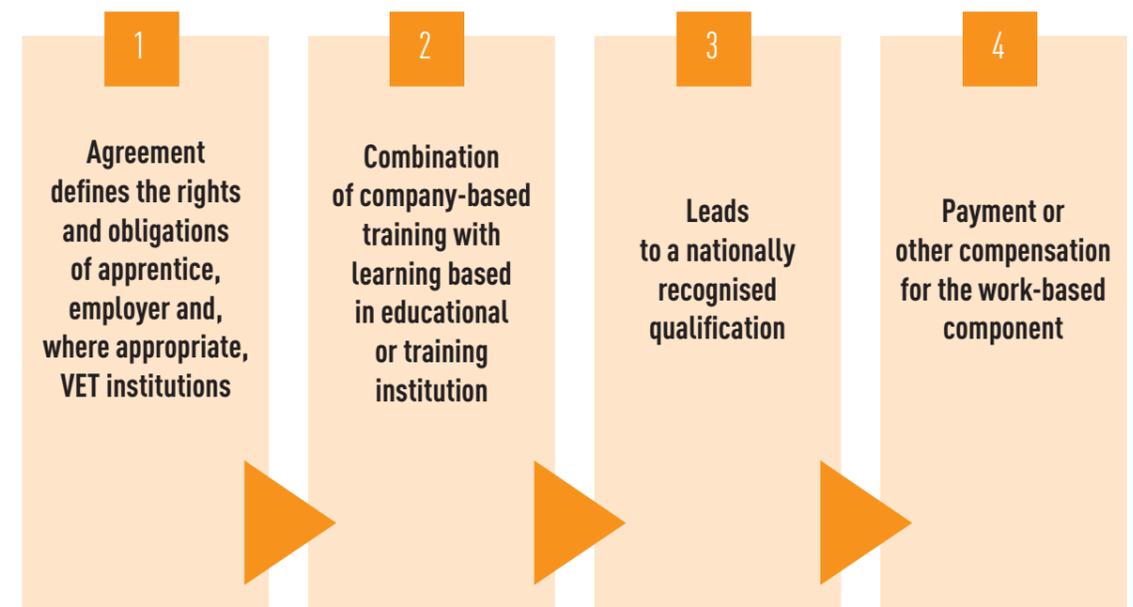
The ERASMUS+ project "European Dual System (EU-DualS)" tested an ad-hoc transfer of the most qualifying aspects of the German "Dual System" to other VET training systems in Europe. The EU-DualS partners (ADEGI, BVMW, European Entrepreneurs CEA-PME, CONFAPI and f-bb) brought VET schools and relevant regional players of the job market together, identified relevant transferable criteria for an ad-hoc transfer and supported and accompanied the mobility of 21 students.

To do so, the project had a preparatory phase, reviewing relevant literature.

EaFA underlines the variety along apprenticeship schemes in Europe. The Alliance provides a definition of apprenticeship that has been adjusted in 2018 by the Council of the European Union:

**Figure 3: Definition of apprenticeship for a common understanding**

Source: EaFA 2017, p. 19; Council 2018, p. 7



Apprenticeships are formally a combination of substantial work-based learning in companies and learning based in educational or training institutions that lead to nationally recognised qualifications. The majority is characterised by a contractual relationship between apprentice, employer and/or VET institution, with the apprentice being paid or compensated for her/his work. This definition is applied in this study for a common understanding.

The 'apprenticeship scheme' is a set of rules and regulations about how this type of training should be designed, delivered, assessed, certified as well as governed. Such schemes can be applicable to different apprenticeship training programmes (when it comes to the sector of the programme, its duration, etc.) and result in different types of qualification (when it comes to their level, name, etc.). The most well-known apprenticeship schemes are the Dual Systems in Germany and Austria. The apprenticeship system of a country may consist of several different apprenticeship schemes. For instance, the Italian system consists of three types<sup>1</sup> of apprenticeship scheme.

1. Apprendistato per la qualifica e il diploma professionale [hereafter Type 1]; Apprendistato professionalizzante [hereafter Type 2]; Apprendistato di alta formazione e ricerca [hereafter Type 3].

**Table 2: Apprenticeship schemes**

Source: ICF International based on country mapping fiches

Country	Apprenticeship scheme
Italy	Apprenticeship for vocational qualification and diploma (Type 1)
Italy	Occupation-oriented apprenticeship (Type 2)
Italy	Higher education and research apprenticeship (Type 3)
Spain	Apprenticeships in Dual VET

**In Italy...**

Type 1 is for those aged 15 to 25 and may be applied to VET programmes at upper- and post-secondary levels. The duration of the contract (and so the duration of "alternance") varies between a minimum six months and the maximum duration of the VET programme it applies to. The distribution of time between training in the education and training institution and the company is defined on one school-year basis. Besides in- and out-of-company training, Type 1 apprenticeship foresees a component of ordinary work experience. Generally, between 50% and 70% of the time is spent at school and the rest in the company;



Type 2 is a scheme outside the VET system, which leads to an occupational qualification recognised by the national sectoral collective agreement applied in the hiring company. It is for those aged 18 to 29. The minimum duration of the contract is six months and maximum three years (or five years for artisanal jobs), of which out-of company training for basic and transversal skills covers a maximum 120 hours in total;

Type 3 is for those aged 18 to 29 and includes two sub-types: (i) apprenticeship for higher education and training, which leads to university degrees, including doctorates, and higher technical institute diplomas. The mode and length of training alternation varies by the programme the scheme applies to; (ii) apprenticeship for research activities, which leads to a contractual qualification outside the education and training systems. There might be no alternation between learning venues in apprenticeships for research activities, as training outside of the company is not obligatory.

In Spain the term used is 'dual vocational education and training' (formación profesional dual)<sup>2</sup>. It is defined in legislation as 'the training actions and initiatives, combining employment and training, that aim at workers' professional qualification in a regime that alternates work activity in a company and vocational education and training delivered by the education system or labour administrations'. All training leading to a VET qualification in the education system includes a workplace training module offered typically in the second year of studies, within a company. Education institutions and authorities cooperate with companies to find placements for VET students to carry out the workplace training module (240 hours at basic level, 400 hours at the other two levels). Companies collaborate in different aspects, such as provision and monitoring of the student's education and training and, in some cases, applicant selection.



2. VET in the Spanish education system is organised on three levels: (a) basic, in lower-secondary education (international standard classification of education (ISCED) 351); (b) intermediate in upper-secondary education (ISCED 354); (c) higher in higher education (ISCED 554).

Due to its long-standing history, vocational education in schools and companies was developed into a specialized qualification system in Germany. Firm traditions and values of apprenticeship were results throughout the different historical periods: institutional and economic pattern of apprenticeship in the system of medieval crafts guilds was followed and transformed according to the needs and requirements of human resources of the emerging industrial economy, by establishing the institutional frameworks of cooperation, instruments of funding, organization of training etc. Apprenticeship served as one of the cornerstones in the development of the dual VET model. The German dual VET system is responsible for the lowest youth unemployment rate in Europe (6.1%) and high level skills in its country. About 50 percent of all school-leavers undergo vocational training offered by enterprises, considering the dual system the best way to form skilled staff (BMBF, 2015). And most probably, it is not exaggerated to say that the competitiveness of the German economy has one of its strongest assets with its Dual VET system.

The main characteristic of the German apprenticeship is the cooperation between mainly small and medium sized companies (80% of all apprenticeship contracts offered) and public vocational schools, regulated by law. Amended in 2005, the Vocational Training Act of 1969 introduced this strong cooperation between the Federal Government, federal states (Länder) and companies with the aim of providing young people training in such occupations that are recognized nation-wide and documented accordingly through certificates. These certifications are issued by a competent body, i.e. chamber of industry and commerce or chamber of crafts and trades respectively. In total, there are around 330 officially recognized training occupations. Drivers for updating and creating new training regulations and occupational profiles or modernizing further training regulations are employer organizations and trade unions. In the end, training, testing and certificates are standardized in all industries throughout the country. This assures that all apprentices receive the same training regardless of region or company they live and work in. Furthermore, employers trust in these certificates as they express what an individual knows and is able to do (BMBF, 2015). The Dual VET system in Germany is closely linked to business and society. This constitutes its strength as an education and qualification system, but at the same time requires continuous further development - often combined with the question of the right priorities to be set.

Based upon the analysis from Euler (2013), eleven core elements of the German dual VET system were presented to the partners. These core elements are:

**Table 3: Core elements of the German Dual VET system**

Source: Euler 2013

No.	Core element
1	Focusing broadly conceived objectives: vocational education targeting economics, social and individuals success
2	Objective of the vocational training: professional skills as profile of flexible and mobile skilled workers
3	Alternating learning in accordance with the dual principle
4	Vocational education as strong partnership between state and economy/business community
5	Joint funding
6	Complementary offer: school-based and "outside the company" sponsorships
7	Codification of quality standards
8	Qualification for trainers
9	Balance between standardization and flexibility
10	Development of monitoring instruments
11	Social acceptance

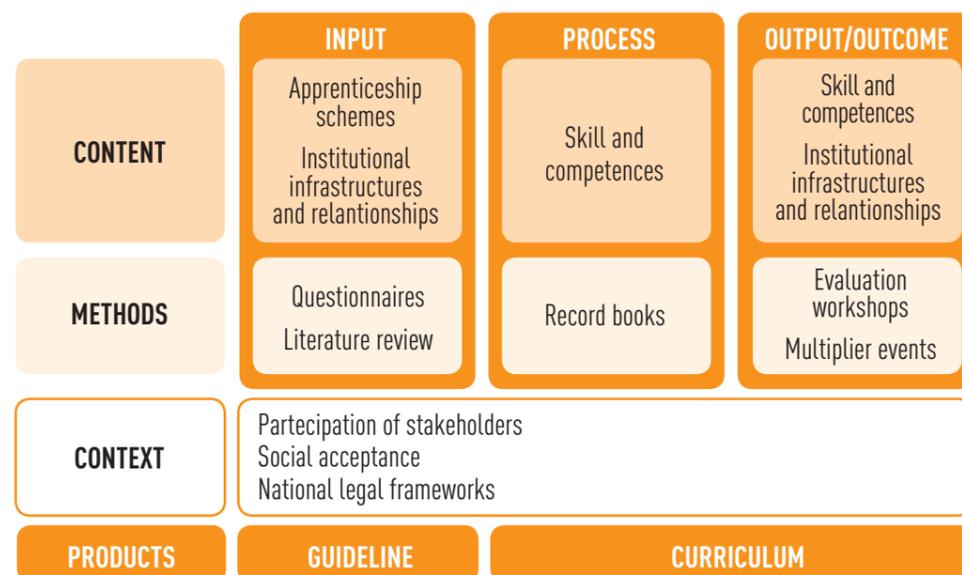
Following, the apprenticeship schemes of Italy and Spain were analysed and transferable elements from these eleven core elements were chosen, valid for both countries. Results were collected, hands-on solutions were developed and a guideline was written. The guideline was discussed in Berlin in April 2016 with representatives of ADEGI and CONFAPI, as well as the cooperating school in Italy, and representatives of BVMW.

During workshops with teachers, entrepreneurs and education professionals in the participating countries (Italy and Spain), the hands-on solutions of the guideline were tested and applied.

The project then ran a pilot scheme with selected classes in VET schools in Italy and Spain, aimed at engaging around 50 European students overall from the Technical High-school "Andrea Ponti" in Gallarate (Italy) and the CIFP USURBIL LHII – Usurbilgo Lanbide Eskola in San Sebastián (Spain). A part of these students then were sent abroad to Germany for a one-month traineeship in small and medium-sized enterprises (mainly in and around Berlin), in order to gain working experience. Afterwards two evaluation workshops for these students and teachers were conducted in Spain and Italy.

The project ended with multiplier events in Italy, Spain, Germany and Brussels/Belgium to publish and promote the outcomes and the final product – the curriculum – of EU-DualS. The following input – output graphic provides an overview of all necessary steps, from the analysis of national conditions in VET to the final result.

Figure 4: Input - Output in EU-DualS  
Source: Own graphic



This curriculum sums up the results of the different phases within EU-DualS:

- 1. Research:** pointing out the main difference of the already existing apprenticeship schemes in Italy and Spain by looking at the data gathered from literature review on the subject (cf. chapter 2).
- 2. Preparation:** presenting the preparation phase along the core elements mainly focused on within EU-DualS (cf. chapter 3).
- 3. Learning and mobility:** summarizing the collected experiences during the implementation (cf. chapter 4) and describing the experience collected from the students and em-pliers' perspectives (cf. chapter 5) by the piloting partners.

In addition, the selected and relevant factors for a successful implementation and transfer for a dual VET system will be presented (cf. chapter 6). This final product from EU-DualS lines up with recommendations (cf. chapter 6).

# Apprenticeship schemes in Italy and Spain

# 02 Apprenticeship schemes in Italy and Spain

As a rule, an apprenticeship includes qualifications at various levels, e.g. apprenticeships can include a qualification at EQF Level 2 or 3. However many countries have developed higher level apprenticeships which offer a qualification at EQF Level 5 through training in a VET college or polytechnic (so in IT and ES). Spain has in general school-based apprenticeships with different arrangements for the practical training. In Italy, there are both school and work-based programmes.

## 2.1 Italy

In Italy, the consolidated apprenticeship act has been implemented gradually. Moreover, a national catalogue of occupational profiles has been compiled on the basis of collective agreements and vocational standards at the sectoral and/or regional level. In 2015, the Jobs act introduced reforms to ensure a harmonised functioning of regional regulations and to encourage apprenticeship whilst reducing internal and external costs, and taking away age limits for accessing job-oriented apprenticeship by unemployed workers.

The legal framework of the “school-work alternation” is based on two different laws:

1. La Buona Scuola – July 2015
2. Jobs Act and legislative decree n.81 – June 2015

### 1. La buona scuola

In July 2015, the Italian Government adopted the reform of the national education and training system called La buona scuola. This reform foresees to improve the school-work relationship and digital skills.

All students in the last three years of upper secondary schools will participate in a compulsory alternating school-work programme. Within the work-based learning system, the students of general education (Lyceums) will have to attend “at work” 200 hours in three years, the students of technical and vocational schools 400 hours during three years. The work phase can be organized during the school year or during summer, and also abroad. The law foresees the creation of a number of tools and mechanisms, such as a statute defining rights and duties of students who engage in such schemes and a national repository of companies and organisations that offer places for school-work alternating programmes. The reform also aims at supporting post-secondary education at Technical Institutes (Istituti Tecnici Superiori) as alternative pathways to university. These are two-year programmes that offer technical specialised training and they are managed by public-private foundations at local level. Within the legal framework of “La buona scuola” schools can also create ‘local laboratories for employability’ in order to create and improve the connection between the education system and the labour market, with the support of multilateral organisations, involving public and private bodies, chambers of commerce, universities, employers’ associations and trade unions, VET providers and companies. The law also foresees the creation of school networks at a local level in order to allow a better use of resources and a common management of administrative functions and activities. The new law introduces provisions for teacher training and evaluation and foresees compulsory on-the-job training for teachers. The ministry will finance a three-year national teacher training plan with EUR 120 million. A further development is that information on evaluation of schools and teachers will be available on the web along with teachers’ curriculum vitae.<sup>3</sup>

3. For further information : [https://labuonascuola.gov.it/index\\_en/](https://labuonascuola.gov.it/index_en/)

## 2. Jobs Act and legislative decree n.81 – June 2015

In Italy, the term apprenticeship refers to a specific legal framework which had its last modifications with the so-called Jobs Act and the legislative decree n.81 of June 2015.

Vocational training is an essential element for a worker, because it allows you to update and broaden your skills. This can be inserted within a real work contract, the cause of which is the exchange between job performance and salary with the addition of compulsory training paid by the employer. After the adoption of the new apprenticeship law, the employer is not only responsible to guarantee the payment for work, but also to train the apprentice from the professional point of view. The main feature of apprenticeships is the fact that the employer is required to provide not only salary, but also the necessary training the acquisition of professional skills or requalification of a professional require.

These two bonds have equal dignity and are not alternatives to each other or ancillary. While the apprentice has the convenience of learning a profession, the employer has the opportunity to benefit from regulatory incentives, contributory and not expensive. The apprenticeship contract was subject to several legislative actions: the last, in chronological order, is represented by Legislative Decree 81/2015. This intervention was aimed at the creation of a dual system that integrates education, training and work, especially thanks to the two types of training aimed at obtaining a diploma of secondary or tertiary level.

The apprenticeship contract is by definition an employment contract of indefinite duration, aimed at young people aged between 15 and 29 years, even if the regions and autonomous provinces that have defined a school-work alternation system, collective bargaining may define specific ways to use this contract, including temporary, for seasonal activities. The apprenticeship contract has to be in written form, the evidence provided and an individual training plan (PFI) that can be prepared even in summary form within the same contract.

A PFI can also be defined on the basis of modules and forms established by collective bargaining or by bilateral agencies.

Within the “apprendistato professionalizzante” in the so-called “professionalising apprenticeships” the company with more than 50 employees has to continue the employment relationship at least with 20% of apprentices, otherwise the company won’t be allowed to ask for more apprentices in the future.

There are three types of apprenticeship contracts, for different purposes, recipients and regulatory profile:

- Apprenticeship for the qualification and professional degree, the upper secondary education and higher technical specialization certificate. It is addressed to young people in the age group between 15 and 25, the maximum duration is three years. It is aimed precisely at obtaining the completion of schooling;
- Professionalising apprenticeship which enables the achievement of a qualification through training carried out in the workplace, and that has to be learned from a technical and professional point of view. It aims at young people between 18 and 29 years, the contract period may not exceed three years;
- Apprenticeship advanced training and research. In this third case, the duration is defined by an agreement between social partners, regions and institutions. The aim of this type is the achievement of a secondary or university level qualifications. The connection between training and labour may be useful, not only for young people but also for those who want to acquire new skills to re-enter the job market.

The apprenticeship contract determines numerous facilitations for the entrepreneur. Apprenticeship contracts are supported by substantial financial incentives and guarantees to the apprentices:

- Insurance against accidents at work and occupational diseases
- Apprentices sick pay (for up to 180 days)
- Invalidity insurance and pension scheme
- Maternity



The salary is defined on the basis of collective bargaining. To determine the amount it refers to the normal remuneration of employees, and it is normally set from 60% of the salary of an employee at the same level up to 100%. The employer can insert the employee at a level of maximum of two levels lower than an employee with similar qualifications.

The difference between the two legal frameworks compared to the German dual VET system are mainly that within "la buona scuola" the student has not a job contract and he/she is not remunerated while with the Jobs Act the apprentice has a labour contract.

In this project the Italian partner organisation decided to work within the legal framework of "la buona scuola" in order to improve the cooperation between companies and school through the role of business associations and to facilitate the implementation of the reform which is a work in progress considering the law was approved in 2015. Furthermore, within the Erasmus+ project EU-DualS the objective is to increase the number of hours students spend in companies. Due to this choice to work within this legal framework, at the end of this project the Italian partner organisation was able to identify missing structures and other relevant lacks. Piloting this project is used to transfer good-practice and conclude political recommendations.

## 2.2 Spain

In Spain the term used is 'dual vocational education and training' (formación profesional dual). It is defined in legislation as 'the training actions and initiatives, combining employment and training, that aim at workers' professional qualification in a regime that alternates work activity in a company and vocational education and training delivered by the education system or labour administrations'. The Royal Decree (2012), which provided for two types of work-based learning – contracts for training and apprenticeship on the one hand, and dual vocational training in the education system on the other, has been gradually implemented on the basis of a regulation from the Ministry of Employment and Social Security (ESS/41/2015). The following table provides the main aspects of the Spanish VET system.

**Table 4: Apprenticeship schemes in Spain and Italy**

Source: UEAPME 2016, p. 13-50

Spain	
<b>School and work-based programmes</b>	<p>There is a school-based system.</p> <ul style="list-style-type: none"> <li>Initial VET is offered at the upper secondary and tertiary level. It is based on either intermediate level vocational training or advanced vocational training.</li> <li>'Dual vocational training' is used as an umbrella term to include different types of training which can be part of the 'training and learning contracts' or more general initiatives in initial VET. This training is for young people without qualifications who are aged between 16 and 25. An apprenticeship is considered as a way to gain a vocational qualification and provide support to young people wishing to enter the labour market.</li> </ul>
<b>Share of in-company training</b>	<p>in-company training is less than 50% of the apprenticeship</p> <p>On the two - to three-year programme, there are workplace training modules during the second year. These last for 400-600 hours (10-12 weeks).</p>
<b>Contractual situation</b>	<p>'Training and learning contracts' combine paid work and vocational training in a training centre. The contracts are organised by vocational training centres which establish cooperation agreements with enterprises.</p> <p>Compensation: Apprentices should be paid maximum 75% of the minimum wage in their first year and 85% in their second year i.e. €6,776 and €7,679 per year. Apprentices are not paid during their time in the classroom. Their wages during their time at work needs to cover their costs while in the training centre.</p> <p>In comparison to Austria and Germany, in Spain exists the possibility that the apprentice is not attached to the company through a contract, but through receiving a scholarship whose amount is variable and depends on the training company.</p> <p>The royal decree 1529/2012 regulates the fact that the apprentice is connected with the company through a collaboration agreement sponsored by the Educational Institution, but it does not state the obligation of the contractual relation between company and apprentice. This is up to the company, which can use many means in which the grant-subsidies are included.<sup>4</sup></p>
<b>Consultive role of social partners</b>	<p>Vocational schools play a key role in defining curricula and the educational profiles of apprenticeships.</p> <p>Employers, through the Chambers of Commerce, have declared their support for the development of a dual training system inspired by the experiences of Germany. However, there is limited interest from some Spanish employers - especially SMEs - to invest in this type of training.</p> <p>The social partners' role is limited under the current system. They have a consultative role in the initial design and updating of professional qualifications, vocational training degrees and issuing professional certificates. Business organisations and the Chambers of Commerce could play a greater role in the process, particularly in relation to:</p> <ul style="list-style-type: none"> <li>accrediting apprenticeships in companies;</li> <li>selecting trainees and external tutors;</li> <li>offering training to tutors and teachers; managing the bureaucracy that could be generated;</li> <li>monitoring the training processes;</li> <li>developing indicators to evaluate and review the system;</li> <li>campaigning and promoting apprenticeships through existing networks;</li> <li>organising events, conferences or workshops;</li> </ul> <p>The involvement of companies and business associations is highly variable and depends on the Autonomous Communities, the training centres and the nature of the projects. However, the number of companies that plan to participate or are participating in dual vocational training projects has increased by more than 300% from 513 companies in 2013 to 1,570 in 2014.</p> <p>Regional and municipal authorities have a role in establishing and/or reforming the existing standards. Representatives of the main Spanish employers' and workers' organisations collaborate with the public authorities in the General Council for Vocational Training (Consejo General de Formación Profesional). This is a consultative, tripartite body to improve VET policies in general and the new VET degrees and qualifications proposed by the Public Authorities. Spanish social partners also collaborate with the National Institute of Qualifications (Instituto Nacional de las Cualificaciones).</p>

4. See the following reference: <http://fp.educaragon.org>



For the Spanish partner organisation of the Basque country, the employers association ADEGI, there is a specific situation according to apprenticeships. Apprenticeships are an important key element of an ambitious strategy to increase the competitiveness and internationalisation of the regional industry in the Basque country. The Basque Government is strengthening the apprenticeship system in order to accelerate the VET students' skills development, connected to strategic professional sectors in the region. During 2015/16 475 Basque companies participated in dual VET programmes. 739 companies are taking part in 2016/17. By 2020, the Basque Government aims for 50 % of VET students to be in a dual VET programme and for over 5,000 companies to be in the apprenticeship system. The number rises steadily.

The Basque Government continues supporting cooperation between VET centres and companies, especially SMEs, to develop applied innovation projects that improve products and services. Currently VET centres in the Basque Country are working with 256 companies on applied innovation projects with a goal to increase this to 1.500 by 2020.

Active entrepreneurship is also a priority. During the last decade, VET students launched more than 600 start-ups (84 of which were established during 2015/16). Approximately 360 further such start-ups are foreseen by 2020. The aim is to promote companies with growth potential, especially in the industrial and technology sectors (recommendation by European Alliance of Apprenticeships, p. 52).

## Preparation of piloting and mobility

# 03 Preparation of piloting and mobility

Referring to the Italian and Spanish national frameworks, elements of the German Dual VET system (compare Table 3 (Euler 2013) and guideline in the attachment) were picked for an ad-hoc transfer, matching the national preconditions of Italy and Spain, taking the previously mentioned criteria from the EU-Council into account.

The following list provides the relevant, shortened core elements for the Italian and Spanish partner organisations:

I.	<b>Involvement of companies:</b> The companies were the Spanish and Italian students worked had to be involved into the pilot project's process from the beginning, in the selection of students for their companies and agreeing to support them practically: especially during the start-up and mobility phases, as well as during multiplier events, different company owners and employers were involved at different stages of this project. Students worked during their one month traineeship abroad in German companies. Italian and Spanish companies were invited for the preparation and evaluation workshops. Besides the events, the partner constellation of business associations for SMEs (AGEDI, CONFAPI, CEA-PME and BVMW) automatically led to the involvement of their business associates.
II.	<b>Payment of students:</b> All participating students of the pilot classes were agreed to be paid at least with a scholarship for the year 2016-17, if not – like in Spain – with a salary.
III.	<b>Increase of numbers of hours at work:</b> in the case of the Italian students the number of hours compared to what foreseen by the "buona scuola" law for school-work alternation have been increased by 20% and in agreement with the companies transformed into weekly at least 0.5-1 day of practical work, and not some modules with 2-3 weeks at work and then the rest at school. In addition, also extra working weeks in summer holidays had been agreed among companies and students.
IV.	<b>Qualifications of trainers:</b> In 2016 "train the trainer" workshops were conducted with company owners or tutors to inform the target group about the project content, mobility procedure and necessary skills for the training an apprentice.
V.	<b>Quality measuring instruments:</b> During the mobility phase record books were introduced to the Italian and Spanish students sent abroad. Also, the comparison of school marks at the end of the pilot school year 2016-2017 was relevant, either for being chosen for the mobility to Germany, as for the final evaluation.
VI.	<b>Social acceptance and general attractiveness:</b> The German Dual VET system and the project objectives were promoted through video tutorials. Furthermore, purpose of the mobility phase was to raise awareness for the advantages of the apprenticeship system in Germany.

By taking inspiration from the principles and objectives within the core elements, the guideline had the aim of offering new methodologies, instruments and good practices to the school community and to social and economic characters of the territory to train and guide the youth, teachers and trainers in order to support the ad-hoc transfer.

In particular, the guideline shared useful material that wanted to enhance the training value of the alternation apprenticeship experience, together with the planning and supply mode to support the employability with the intention of fostering the link between education and training in class rooms and practical experience in the company.

Along with the six elements mentioned previously, the guideline began with a theoretical or information part, before offering concrete hints, advices, suggestions and practical examples for the implementation.

Partners from EU-DualS then concentrated on tackling these six elements, to come to a quick transfer and results.

## "Train the trainer" - Workshop

In December 2016 in Italy and Spain two workshops for teachers and employers took place with the aim of getting to know the principles of the German dual VET system. CONFAPI and ADEGI, organised short introductory courses to their associates. Therefore, theoretical and methodical basis was the guideline. The workshop consisted of the following programme:

- Introduction to the project EU-DualS
- National legal framework
- The German dual VET system and its core elements
- Cooperation with schools
- Tasks and role of an in-company trainer in Germany
- Communication skills and conflict management
- EU-DualS Guideline and material (such as training plans, record books, evaluation sheets etc.)

A feedback questionnaire gave response to the questions if the participants were satisfied with the instructor, workshop content (instruments and theory), organisation and if the workshop fulfilled their expectations. Results were throughout positive: the total amount of 12 participants rated the workshop with a 4,28 (1=completely insufficient; 5=excellent).

## Social acceptance through video tutorials and mobility

The project EU-DualS provided five short video tutorials. The aim is to inform different target groups about:

- How the Dual VET system works out
- What kind of advantages can be expected
- What experiences and lessons learned can be shared.

The project EU-DualS provided five short video tutorials. The aim is to inform different target groups about:

1. Companies and company associations: this information is directed to companies that want to hire apprentices, would like to inform themselves about this system and simply need some advices or want to learn from best-practice.
2. Schools, municipal/regional school offices and education ministries, etc.: In Italy and Spain the dual VET system focuses more on the school's perspective and their strong relationship to students. These systems point out the school as linkage institution between pupil and company. So the information provided in the videos delivers ways to loosen this strong belt.
3. Students, apprentices and their parents: the dual VET system is a cooperation triad, encompassing companies, schools and students. In the end, this system is strongly dependent on future apprentices. The information from this video tutorials aims at increasing the attractiveness of this system for future apprentices and raising social acceptance for this learning path.

The videos point out the real added value for all actors and want to raise the attractiveness of a Dual VET system. The fifth video contains short cut sequences of the abroad-pilot project phase and finishes with lessons learned and conclusions from the involved students' point of view of the mobility phase.

This mobility phase was also prepared with the provision of relevant instruments and material from the guideline.

The project ran the piloting phase with selected classes in VET schools in Italy and Spain, aimed at engaging around 50 European students overall from the Technical High-school "Andrea Ponti" in Gallarate (Italy) and in Basque County the CIFP USURBIL LHII and the CIFP Instituto Máquina Herramienta IMH, both in San Sebastián (Spain). The students in all 3 schools were trained to become "technicians in mechatronics". 21 of these students, 11 from Italy and 10 from Spain, were sent abroad for a one-month traineeship in small and medium-sized enter-prises in Germany. Main objective was to gain working experience from a best-practice.

## Quality measuring instruments

To do so as realistic as possible, these students had to fill out a daily record book as control instrument, following this structure:

Figure 5: Example for record book

Source: Own graphic

Daily Reporting		
Nome of apprentice		
Year of apprenticeship		Department/Field in company
Week from	To	
	Operational tasks, operative instructions, classes, trainings, themes from vocational school classes, etc.	hours
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		

The following signature confirms validation and completion of this record page

_____	_____
Date, signature, apprentice	Date, signature, in-company trainer

The purpose of this record book was to keep record of the skills and knowledge/competencies achieved by the students in specific occupation during their stay in Germany and showing them, what kind of duties a German apprentice has usually to fulfil. The main function of written record books is the controlling function.

The record book provided the following information:

1. The status of the skills and knowledge/competencies achieved;
2. How, when and where this skills and knowledge/competencies has been achieved;
3. Who has been involved in providing and assessing the training.

These record books showed of evidence about:

- all students worked 6 to 8 hours per day during their one-month lasting mobility in a German company;
- they were responsible for different tasks, e.g.:
  - service and maintenance of transformers,
  - working in the marketing, assembling, sales, technical drawing, logistic and quality department,
  - prototyping,
  - CNC milling and drilling,
  - work on aluminium cutters (installation and bonding),
  - installation of shelves,
  - verifying the packaging,
  - usage of different machines during the production of metal pieces.

On their first day, the students were:

- Welcomed as trainees
- Got Information about the enterprise, company, grounds, buildings and rooms
- Got to know the Superiors, Management, and responsible instructor
- Got a security instruction

The country specific procedure of selecting schools, associates and students for the mobility phase and describing the lessons learned from their point of view will be part of the following.





# Results of the pilot training phase in Italy and Spain

04

## 04

## Results of the pilot training phase in Italy and Spain

### Italy (CONFAPI)

#### How was the existing training/teaching integrated and how did that work?

In relation to the experience implemented by ISIS of Gallarate and Confapi Varese, students have carried out 680 working hours in SMEs during 3 school years, instead of 400 hours requested by the Italian legal framework of "La buona scuola" for students in technical schools.

Confapi and ISIS Gallarate decided to invest in the pilot project to go further looking at the German model. In order not to change the school programme it was decided to plan the training hours in companies during summer holidays or one afternoon during the school year.

The pilot project was implemented from 9/2016 to 3/2018

- **2015-2016: 200 working hours.** Students spent 5 weeks in companies; in particular, they worked in companies in June and July
- **2016-2017: 320 working hours.** Students worked in companies in specific periods, while school activities were interrupted, for a total of 240 hours and during school period they worked one afternoon per week for a total of 80 hours
- **2017-2018: 160 working hours.** In October 2017, 11 students worked in a German company. The rest of the class carried out their alternation school-work period in Italy

#### Main impressions and reactions to this way of learning and teaching.

It is important to underline that in Italy the culture of training is changing. As a matter of fact, schools have to organize the training since 2015, therefore it is something new for students and teachers. It is important to underline that even if the school was very engaged in the project, school and companies' trainers had to plan the training hours during periods not very busy at school.

Students were involved and they were excited about learning by working. The idea of being selected for an internship abroad pushed them to work harder and to take advantage of German classes. Families also played an important role. The team of the project involved them and they took part to the project motivating the students. They supported the project also financing for the private insurance for the period pupils were in Germany.

### Spain (ADEGI)

#### How was the existing training/teaching integrated and how did that work?

Dual Vocational Training combines the learning process in the company and the educational center through the participation of both.

In-company training of students must be an intricate part of the professional profile of the course and of the programmed specialisations, so that, apart from the work performance, the experience gained in the company enables the learning process, and ultimately leads to acquiring the work skills, those of the specialisation itself and other horizontal skills useful for improving employability.

The main objective of the Dual Vocational Training model of the Basque Country is to learn through work and not to work by learning, and has the following objectives among others:

- The aim of the programme is to enable young people to obtain a vocational training qualification through a learning process that takes place in a shared way between the educational centre and the company.
- To develop complementary skills (teamwork, responsibility, etc.) in the educational centre, to discover the day-to-day running of a company and to acquire the knowledge, skills and abilities necessary to exercise a profession and respond to the specific needs of the company (possible specialisations).
- To minimise the mismatch between the skills acquired in the vocational training centre and those required in a work environment.
- To search solutions to integrate young people on the job market.
- To anticipate young people entering the labour market and as such enhance the employment rate and secure a streamlined transition from education to employment.
- To strive for a perfect balance between supply and demand on the job market which allows young people to have economic resources while obtaining professional qualifications and accredited work experience.
- To allow a fluid two-way communication between educational centres and companies, so as to enable a continuous renewal and updating of pedagogical material and methods.

It is an instrument designed to ensure that people who undergo vocational training fit the professional and personal profile required by industry, thus increasing their employability. This requires the implementation of a system that allows:

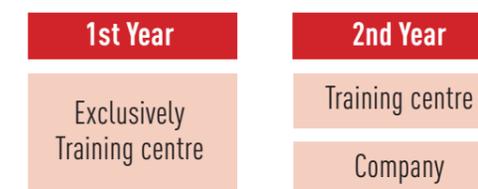
1. to improve the specific technical skills of the qualification by adapting them to the real needs of the industrial sector
2. to improve horizontal skills
3. to provide professional experience that guarantees employment

There are several models of Dual Vocational Training in the Basque Country, which are detailed below:

### Vocational Dual Training Models

#### 2-Years models

The objective of the 2-years models is to reinforce the skills that the student acquires during the course, with a total duration of between 2400 and 2800 hours.



#### 3-Years models

The objective of the 3-years models is to acquire a specialisation that meets the needs of companies they have for complex production processes, and the total number of hours is between 3400 and 4700.



Both schemes are covered by Decree 83/2015 and can be implemented as follows:

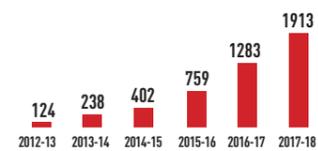
- **Training and Apprenticeship Contract:** Under this modality, students must be under 30 (25 when the unemployment rate drops below 15%), unemployed and registered at Lanbide (Basque Employment Service).
- **Grant:** There is no age limit under this modality. This covers specialisation programs. Salary brackets are the same and Social Security payments must be paid.

This type of Dual Vocational Training in the Basque Country was launched in 2012, and its progression in terms of the participation of students, companies and centres has seen a major increase, as shown below:

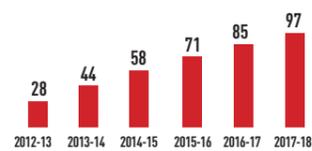
**Participation evolution**

COURSE	No. of CENTRES	No. of STUDENTS	No. of COMPANIES
2012-13	28	124	95
2013-14	44	238	176
2014-15	58	402	311
2015-16	71	759	475
2016-17	85	1,283	790
2017-18	97	1,913	1,122

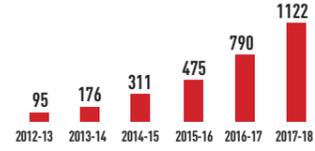
**Students**



**Centres**



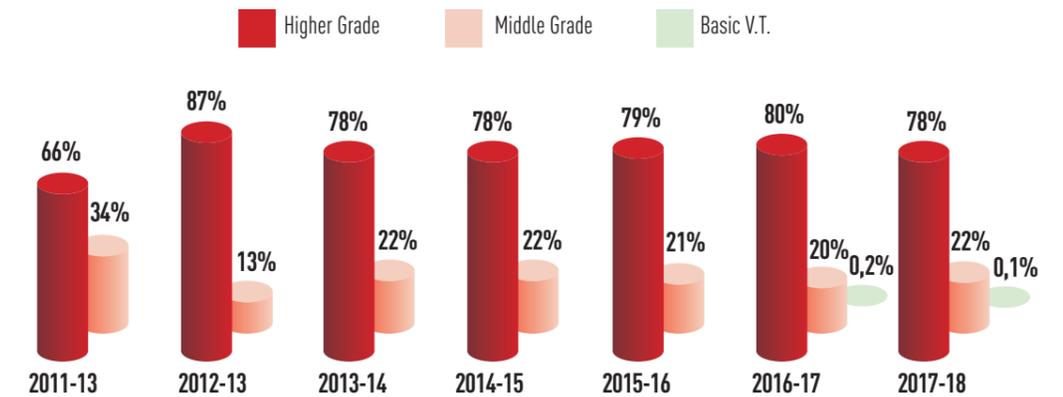
**Companies**



**Participation evolution by study levels**

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-2018
Higher Grade vocational training	66%	87%	78%	78%	79%	80%	78%
Middle Grade vocational training	34%	13%	22%	22%	21%	20%	22%
Basic vocational training						0.2%	0.10%

**Distribution by levels**



One of the fundamental pillars to secure successful Dual Training is the person in charge of accompanying and tutoring the student while in the company. This period in the company must be planned in collaboration with the Tutor of the vocational training centre.

For this reason, in December 2017, ADEGI organised the first training session aimed at Company Instructors, with the aim of helping them to make their work easier, offering them information to become familiar with the fundamental aspects of Dual Vocational Training in the Basque Country, as well as tools to facilitate planning and monitoring of the student's period in the company.

This first experience in which 20 business instructors participated was very satisfactory and for this reason, three more sessions were held in the first half of 2018 in which nearly 50 business instructors participated.

The training program was as follows:

- The importance of the Company Instructor.
- Dual Vocational Training in the Basque Country: What is it?
- Organisation and development of dual vocational training in the company.
- Role of the Instructor: case study of a company.
- Conclusions and aspects for improvement.
- Delivery of Certificates





In the pilot phase of the EU-DualS Project, two Integrated Vocational Training Centres have participated:

- **CIFP IMH Machine Tool Institute** - <http://www.imh.eus/es>
- **CIFP USURBIL** - <http://www.lhusurbil.com>

Both integrated centres offer training in Vocational Training Cycles (Middle and Higher Grade Training Courses) as well as in Continuing Vocational Training (workers and unemployed), with one common feature: all training has an industrial focus.

Two groups with the following characteristics participated in the pilot phase:

- **CIFP IMH Machine Tool Institute**

- **Level of Training:** Upper Grade Vocational Training
- **Professional family:** Installation and Maintenance
- **Qualification:** Higher technician in Industrial Mechatronics
- **N° hours:** 2,000 hours

- **General skill:**

This involves setting up and optimising industrial mechatronic systems, as well as planning, supervising and performing assembly and maintenance, following criteria for quality, safety, occupational risk prevention and environmental protection.

- **Modules:**

1. Hydraulic and pneumatic systems
2. Electrical and electronic systems
3. Machine components
4. Manufacturing processes
5. Graphic representation of mechatronic systems
6. System integration
7. Training and career guidance
8. Mechanical systems
9. Configuration of mechatronic systems
10. Maintenance and quality processes and management
11. Simulation of mechatronic systems
12. Industrial mechatronics project
13. Technical English
14. Enterprise and Entrepreneurship
15. Training in Work Centres (validated by the Dual system)

- **Specialisation**

The IMH group, completed a third year of specialisation with the following characteristics:

1. Qualification: Set up of advanced manufacturing machine tool projects
2. Duration 650 hours

- **CIFP USURBIL**

- **Level of Training:** Upper Grade Vocational Training
- **Professional family:** Mechanical manufacture
- **Qualification:** Higher technician in production programming in mechanical manufacturing
- **N° hours:** 2,000 hours

- **General skill:**

The general competence of this qualification consists of planning, programming and controlling the manufacture by machining and assembly of capital goods, based on the documentation of the process and the product specifications to be manufactured, ensuring the quality of management and products, as well as the supervision of occupational risk prevention and environmental protection systems.

- **Modules:**

1. Graphic interpretation.
2. Definition of machining, forming and assembly processes
3. Numerical control machining
4. Computer-aided manufacturing (CAM)
5. Programming numerical control machines for mechanical manufacturing
6. Production programming
7. Running of manufacturing processes
8. Quality management, occupational risk prevention and environmental protection
9. Product verification
10. Mechanical product manufacturing project
11. Technical English
12. Training and career guidance
13. Enterprise and Entrepreneurship
14. Training in work centres (validated by the Dual system)

#### Main impressions and reactions to this way of learning and teaching

On completion of the academic year, the Dual Vocational Training is assessed by all participating parties.

As can be seen from the attached information, the assessment score of all parties is very high. So for example we can highlight two excellent results: 95.5% of students feel integrated and valued in the company. Also, 95.2% of the companies participating in the programme would hire a student the following year under this Dual Training modality.

The scores of the last 4 editions are as follows:

COURSE	STUDENT	COMPANY	TUTOR
2013-14	7.48	8.42	7.68
2014-15	7.97	8.38	7.97
2015-16	8.35	8.66	8.08
2016-17	8.4	8.8	8.2

## 4.1 Results of the mobility of Italian and Spanish students to Germany

### Italy (CONFAPI)

#### How was the mobility implemented?

Students went to Germany for 4 weeks in September 2017. Confapi and BMW worked hard on organising everything, both training aspects and day by day life in order to facilitate them.

First of all, companies and students were matched based on the needs of the industries and on the cv of the students. This match making work was very important because during the internship no complaints were registered and students were satisfied and motivated.

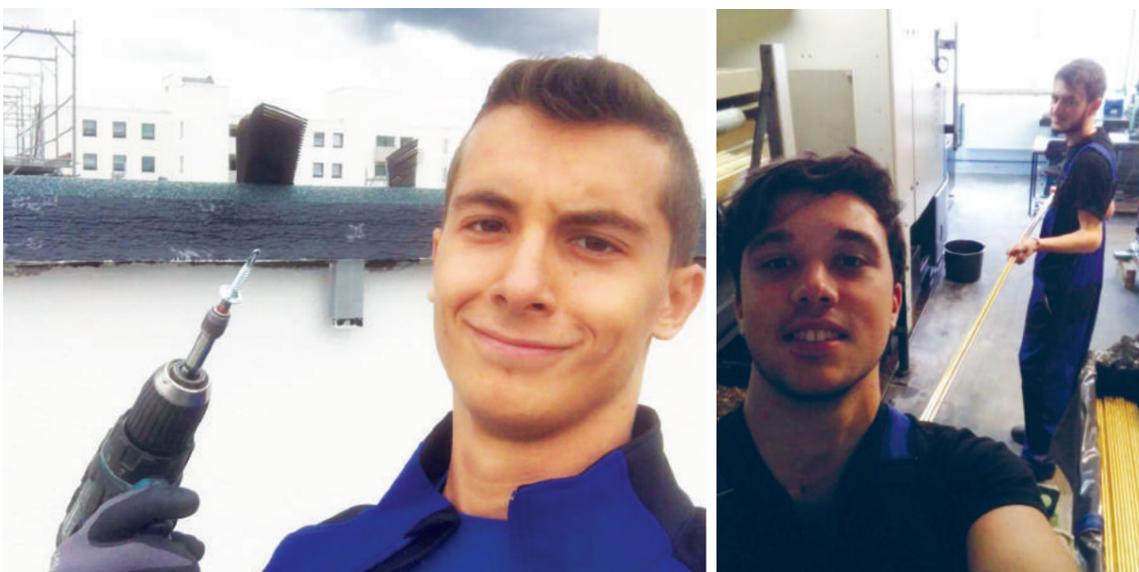
Confapi and BMW worked also to find a pleasant host solution. They stayed at a guest house all together, only one of them was hosted by a family. In order to facilitate the journey a teacher from the professional school "Andrea Ponti" in Gallarate travelled with the pupils and spent in Berlin a week at the beginning of the internship to check if the students well started the training experience. The teacher went to Berlin for the last week of the journey to collect feedback from companies, BMW and students. During the two weeks in between BMW staff supported the students for all the requests and any possible concern.

#### Which were the students' main impressions and reactions to this experience?

#### What do sending companies and schools think about it?

Students were extremely satisfied with the experience gathered in Germany. Italian hosting companies, at the return of the students in Italy, stated students' experience was also important for the company as they compared some activities they carry out with the ones of German Companies.

In general, all the involved parties were satisfied. Some of the Italian companies offered a job to their trainees, some students got an offer also from German companies. Italian companies payed also the trainees for their period of work offering them a scholarship whereas the Italian Law does not establish that students have to be paid during the period of school-work alternation.



### Spain (ADEGI)

At the end of the pilot phase, 10 students from the Usurbil and IMH Vocational Training Centres visited a company in Germany. The visit took place in May 2018.

STUDENT QUALIFICATION	COMPANY	TOWN
Higher Grade in production programming in mechanical manufacturing	Max Auer Inh. Lorenz Forster e.K.	Berlin
Higher Grade in production programming in mechanical manufacturing	Max Auer Inh. Lorenz Forster e.K.	Berlin
Higher Grade in production programming in mechanical manufacturing	boeba Montagen - und Aluminium - Bau GmbH	Berlin
Higher Grade in Industrial Mechatronics	boeba Montagen - und Aluminium - Bau GmbH	Berlin
Higher Grade in Industrial Mechatronics	boeba Montagen- und Aluminium - Bau GmbH	Berlin
Higher Grade in Industrial Mechatronics	Holzwerke BULLINGER GmbH&Co.KG	Neuruppin
Higher Grade in Industrial Mechatronics	Holzwerke BULLINGER GmbH&Co.KG	Neuruppin
Higher Grade in Industrial Mechatronics	Holzwerke BULLINGER GmbH&Co.KG	Neuruppin
Higher Grade in Industrial Mechatronics.	Overbeck GmbH	Herborn
Higher Grade in Industrial Mechatronics	Overbeck GmbH	Herborn

#### What was the overall perception of the students?

The experience of the visit to Germany was perceived as positive by the students.

The ten students who went on the visit are currently working in a company in our country undergoing dual training. For all of them it was their first experience in a company abroad.

#### Students highlighted the following positive aspects of this experience:

- The experience allowed them to become familiar with another culture.
- With regard to language, specifically English, they were able to improve their language skills.
- They found out and saw first-hand other ways of working and doing things.
- As they are now in their final stages of training, they have met other young people with degrees who are working in these German companies.
- They also became familiar with different ways of organising themselves.

#### Also bear in mind the following aspects when designing a visit and stay of students to a company abroad:

- The importance of the sector and the activity of the company must be in line with the training being followed and the profile of the students.
- They stress the need to define a plan of activities and tasks to be carried out during the placement in the company and to follow up on this placement.
- The company tutor plays an important role in accompanying the student in the company.
- The selection of companies and the content they can offer is key to capitalising on the placement.



# Conclusion and recommendations



# 05 Conclusion and recommendations

Apprenticeship schemes which initially appear similar, turn out to be quite different, once aspects of governance and financing are added.

Although there are many aspects to be considered, three key questions are particularly helpful for identifying relevant similarities and commonalities:

- What is the key purpose of the apprenticeship scheme?
- Who defines the content?
- How and by whom is it mainly organised and paid by?



In Italy, the consolidated apprenticeship act has been implemented gradually. Moreover, a national catalogue of occupational profiles has been compiled on the basis of collective agreements and vocational standards at the sectoral and/or regional level. In 2015, the Jobs act introduced reforms to ensure a harmonised functioning of regional regulations and to encourage apprenticeship whilst reducing internal and external costs, and doing away with age limits for accessing job-oriented apprenticeship by unemployed workers. CONFAPI concentrated its efforts on the switching between school and work-programme ("alternanza scuola e lavoro"). Italian students are not used to work on a regular basis in companies, as employees. Usually Italian schools pick out the company students should work for during their apprenticeships. As long as organisation, responsibility and charges are up to their schools, students will not have the chance to get to know the full dimension of an apprenticeship system at its best. They are too well protected by the schools' environment and too far away from the world of work. This is why students aspire

higher education, e.g. university. Within "la buona scuola" the students have no working contract and they are usually not remunerated for their work. Of the three schemes presented in chapter 1.2, Type 1 and the Jobs Act (in chapter 2.1) should have been the one to follow - now they seem to respond more closely to the criteria of an analytical framework for quality apprenticeships.

In Spain, the term used is 'dual vocational education and training' (formación profesional dual). It is defined in legislation as 'the training actions and initiatives, combining employment and training, that aim at workers' professional qualification in a regime that alternates work activity in a company and vocational education and training delivered by the education system or labour administrations'. The Basque region has a pioneer role within the Spanish VET system. Apprenticeships are on the regional politics agenda. Still some features should be added: in order to increase quality apprenticeships, working periods should be prolonged and training for in-company trainers should be implemented. In particular, the qualification of the (in-company) trainers has proven to be an influence factor of practical learning. The especially trained staff in Germany prove to be the key for sustainable apprenticeship quality in companies. After the analysis, the project EU-DualS identifies specific success factors:

**1. Full participation of business and their associations in the development and governance of the VET system.** The government should allow companies a certain degree of autonomy in designing the on-the job training program, encourage private-sector representation in regulatory bodies and may offer financial incentives. Their involvement is crucial because this is how companies understand the advantages of the dual VET system and this is how all players can customise their cooperation. Nevertheless, the involvement of intermediary bodies such as chambers of commerce, industry and crafts would ease SMEs participation. To do so, it is important to initiate round tables with regional or national stakeholders and companies and sectoral alliances between business and training providers, ensuring that all stakeholders are on the same track. Social dialogue at national level can strengthen their role in apprenticeships.

**2. Development of cooperation models between VET school/training centres and companies.** These cooperation models must renew the role of schools. E.g. recruitment of apprentices could be up to companies or at least their involvement should be foreseen. This is how companies could choose apprentices covering their needs and schools relieved from this pressure. Schools and training providers could lower administrative burden on business if they help put with support tools and expertise.

**3. Work on training plans for in-company trainers is crucial to secure quality in apprenticeships.** These training plans must be nationally implemented and should be a minimum condition to be allowed to make apprenticeship contracts or receive people for working periods from schools.

**4. The perception of the apprentice role must change on several levels.** Therefore, promotion of the advantages of apprenticeships is very important. Once all players realise the advantages, positive effects come along: higher employability, natural remuneration and payment for apprentices, earlier independence and unglue from parental home, decrease of youth unemployment etc.

**5. Increase of mobility initiatives and projects and prolong the one-month stay abroad to at least two months.**

All in all, there are tried-and-tested, good approaches and goals that are being pursued by political strategies. The existing programmes can be further optimized and the framework conditions for the envisaged increase in international mobility can be improved.

The transfer of VET system elements can only be done gradually, taking into account social, cultural and economic contexts. Once good practices are established and disseminated, they should be more and more promoted in order to act like a "virus" in the existing systems, until further changes happen.

Challenges, that also EU-DualS had to face, such as the varying levels of experience with apprenticeships and different interpretations of the concept must be considered. The distinction between apprenticeships, traineeships and other training activities is not always clear. Moreover, one of the continuing challenges is how to better monitor and evaluate outcomes to improve skills matching and ensure sustainability. A partially clearer distinction between the different roles of stakeholders is another challenge.

At EU level, it is crucial to foster partnerships and funding, including better access to Erasmus+/Erasmus Pro for setting-up apprenticeships or production and dissemination of information material and spreading expertise.

The transparency and visibility of apprenticeship reforms, good practices and EAFa networking would vitally have an impact on the attractiveness of apprenticeships.



Apprentices must receive at least a scholarship. This compensation should be between one-third and one-half of a regular employee's wage in that sector. Although such an arrangement can contradict existing minimum wage legislation, the government should take measures to exclude apprentices from minimum wage requirements.

Business associations and/or trade unions could ensure that companies do not exploit their apprentices, fail to train them, or substitute them for regular workers. This kind of involvement would assure a controlling measurement to secure quality in apprenticeship.

Apprenticeships are an effective way to create a better-skilled labour force and fight youth unemployment. But to reap the benefits, policy makers will have to learn from Germany's dual system. The key policy components are appropriate institutions, national certification, extensive public-private cooperation, appropriate wage levels, and the provision of a social safety net for apprentices. Despite cultural differences, apprenticeship systems can function well in many advanced economies; governments ought to actively promote them. Any advanced economy that wants to better match workers with jobs should consider an apprenticeship system.



## Draft Curriculum for in-company trainers

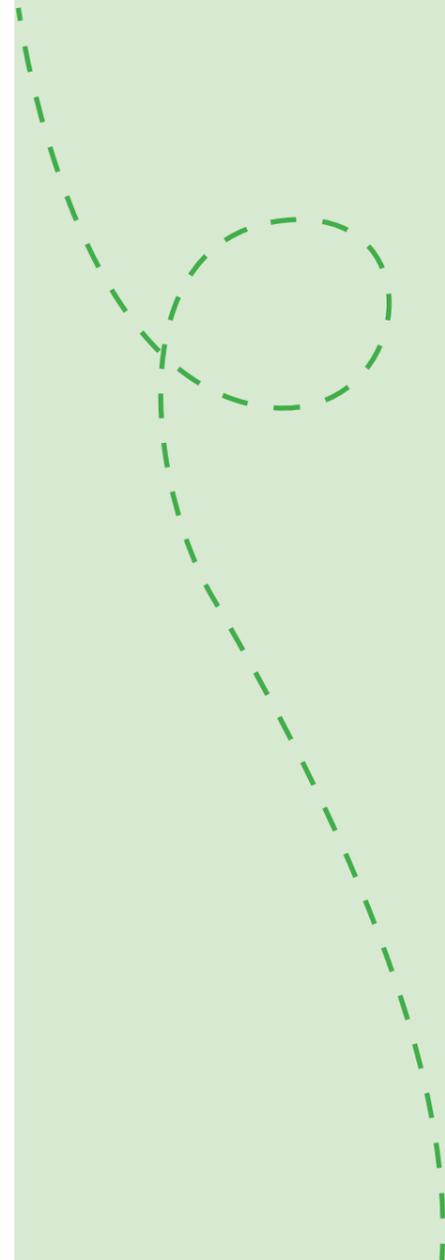
# 06

## Draft Curriculum for in-company trainers

This product from EU-DualS finally tops off with a proposition of a draft curriculum for in-company trainers.

Content	Knowledge level	Focus on...
<b>Apprenticeship basics – control and planning</b>		
The Dual VET system in Germany	Explaining	Cooperation and work sharing
Cooperation with other players	Perceiving	Continuous exchange of experience
Objectives and content of apprenticeship planning	Using	Instruments of company-based and individual apprenticeship training plan; duration, national frameworks/curricula
Cooperation between learning venues	Comparing, judging, knowing	Classifications, formats (working place, apprenticeship workshops etc.)
Functions of the company	Detecting	
Skills, competences according to functions of the company	Matching with company functions Evaluating with professional workers	
Adequate working places	Identifying	
Apprenticeship training plan	Developing	
Procedure of Apprenticeship training plan		e.g. conversation between apprentice and in-company trainer, control and discussion about record books, examination results etc.
<b>Apprenticeship</b>		
Cooperation between learning venues school and company	Explaining and assuring	Content of apprenticeship according to curriculum, duration
Objectives, content	Knowing	Relationship between learning goals: overall goals and company goals
Measuring learning success	Knowing	Instruments of evaluation Didactical principals Methodical concepts
Methods and combination of methods	Using	Presentations, doctrinal conversations, learning mission, business simulation game, role game, moderation, project method
<b>Social elements</b>		
Aspects of personal development	Knowing	Understanding of roles
Conflict strategies	Analysing	Difficult behaviour Strategies for conflict solutions (e.g. talks and learning goal agreements) Intercultural aspects
<b>Evaluation</b>		
Control of learning success	conducting	e.g. observation or work sample
Evaluation of apprentice	Knowing and using	Instruments of quantitative and qualitative results (evaluation sheets vs. talks), goals
Assurance of learning success	Developing and initiating	Round tables for apprentices, classes for preparation of examinations
Company –based evaluation for certificate	Developing	e.g. wording, layout etc.

# Literature



## Literature

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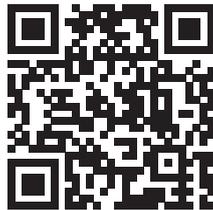
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