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Development of Master School Model through Regional VET-Business Partnerships

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WP 3 Analysis and Recommendations

Educational baseline

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Introduction

This project's overall objective is to support the development and visibility of higher VET opportunities through regional partnerships between learning providers, business and social partners with a particular focus on needs for higher level VET skills at sectoral level.

The specific objective is to design and implement new training framework based on WBL for higher level VET provision in craftsmanship in order to provide skills needs on the regional labour market and thus following the New Skills Agenda. Master School Model (MSM) will be developed as a educational offer on the NQF level 5 to fill the existing gap with a complete educational offer. The accent will be however on a strong WBL-basis in form of on-the-job trainings.

The goal of the Summary of Analysis of educational background is to get this education baseline (EB), as a point of reference for a joint part of the Master School Model with strong WBL-part and a curriculum for a master exam.

Knowing the EB and knowing the requirements standards as the target line, allows determining if and in which area similarities are appearing or how far or close the EB is already to the joint Master School Model.

The Education Baseline will in line with European instruments help to foster transparency, comparability, transferability and recognition of qualifications between different three countries, regions and at different levels.

The major impact on both learners and business will be increased attractiveness and recognition of master vocations as providing access to employment and career advancement, as well as enabling further learning and progression to higher education based on strong WBL-basis. By connecting VET providers and SMEs the project outcomes will be relevant and entail an impact on the VET and crafts' sector.

- improved access to employment and career advancement - persons with finished VET school on level 3 or 4 can continue their VET education on higher levels or persons who want to engage in lifelong learning through master craftsman exams. New skills can lead to (self)employment and/or better position within businesses.

- providing framework for formal education for master occupations – by developing of the MSM framework, first steps are made for institutionalisation of Master School Model and thus provision of formal education.

- recognition of prior formal, informal and non-formally gained skills and competences - by engaging European instruments of transparency the learners will gain recognition of their prior formal, informal and non-formally gained skills and competences what is so far not possible, in cases relevant laws and bylaws are passed.

- relevant skills and competences - learners competences will be based on SME needs and thus their employment opportunities will be raised. By taking part in education with strong WBL (on-the-job training) the learner will acquire occupation related practical skills as key competences in VET.

- enhanced mobility of workers - because of the outcome-based curricula and the possibility of recognition of competences, mobility of worker will be encouraged, with support of relevant interested parties, between the three project regions.

- increased number of master craftsman and thus future on-the-job training mentors.

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1. EDUCATIONAL BACKGROUND-TRANSPARENCY, COMPARABILITY, TRANSFERABILITY AND RECOGNITION OF QUALIFICATIONS BETWEEN DIFFERENT THREE COUNTRIES, REGIONS AND AT DIFFERENT LEVELS.

1.1 Educational Systems VET and HVET

In Croatia VET and HVET Vocational education and training (VET) plays a major role. The responsibility for VET lies with the Ministry of Science, Education and Sports supported by the Agency for VET and Adult Education (ASOO) and Ministry of Trades and Crafts for trade and craft professions. The agency is responsible for developing VET curricula, continuous professional development of VET teachers, skills competitions and quality assurance. The 2009 VET Act strengthened cooperation through increased involvement of line ministries, social partners, chambers of trades and crafts, the employment service, professional associations and other stakeholders. It also established multipartite VET sector skills councils that informed VET on the needs of the labour market and higher education. Ministry of Trades and Crafts is responsible for developing master craftsman examination programmes.

Since the 2013 Act on the Croatian qualifications framework (CROQF), 25 sector skills councils cover general, vocational and higher education. The Human Resource Development Council assesses, validates and coordinates education, employment, and lifelong professional guidance policies, regional policy and CROQF development, aiming to encourage human potential development, stimulate competitiveness and achieve Croatia's strategic goals. All VET programmes combine professional and general competences, to varying degrees; most include mandatory work-based learning (WBL), though duration and type varies. Learners from lower-level programmes can progress to higher levels at the discretion of their schools. Initial VET is publicly financed and free of charge. Learners start VET on completion of compulsory education (ISCED-P 244) at the age of 14/15. A high proportion (71.3%) of learners at upper secondary level participated in IVET at the beginning of the 2015/16 school year. Around two thirds of VET learners were in four-year school-based programmes, one third in three-year programmes. Some learners participated in shorter, one- to two-year VET programmes (ISCED-P 351). Four-year, mostly school-based VET programmes (ISCED-P 354) with a WBL component lead to qualifications at CROQF level 4.2/EQF level 4. These 'technician' programmes allow progression to tertiary education, after completing external matura exams, administered by the National Centre for External Evaluation of Education (NCVVO). Most students in four-year VET programmes use this opportunity.

Three-year VET programmes (ISCED-P 353) give access to the labour market and lead to qualifications at CROQF level 4.1/EQF level 4; they are mostly run as apprenticeships, with significant work-based learning at companies. Since 2014, graduates from these programmes can enter an optional one- to two-year bridge programme and, if successful, take matura exams to qualify for higher education access. This programme corresponds to the fourth year of the school-based programme. At higher education level, VET is provided at polytechnics in the form of short-cycle programmes (ISCED-P 554) and professional studies (ISCED-P 655) with a focus on applied sciences. Learning in these programmes typically involves extensive practical work experience and leads to a qualification at CROQF and EQF levels 5 and 6. Shorter programmes also exist. Adult education and training (for those over 16) covers a broad range of options, mainly in the form of short (re)training programmes, which range from basic or technical skills courses to complete formal secondary education and training. Entry requirements for post-secondary adult VET programmes include relevant IVET training and/or a number of years of professional experience. If adult education providers want to issue formal certificates at secondary education level, the Ministry of Education has to approve their programmes.

Intellectual Output 1 – National surveys Croatia, Developed by: OUZG – Obrtničko Učilište - ustanova za obrazovanje odraslih Zagreb, retrieved from, June 2018, <http://www.projectshine.eu/wp-content/uploads/2016/09/P7-Croatia.pdf>

In Slovenia VET programmes at upper secondary level fall entirely under the remit of the Ministry of Education, Science and Sport with some exceptions. In accordance with the Vocational Education Act (2006), IVET providers are schools working in partnership with companies. IVET programmes are provided by the public school network, which is founded by the state and publicly financed. All the VET programmes are modular. Each vocational module (i.e. professional programme unit) or several modules together enable the acquisition of a vocational qualification.

The modules are competence-based and include vocational theory and practical training. Besides vocational modules, VET programmes also comprise general education subjects and work-based learning (WBL), meaning practical training in schools and in-companies. In-company training is a part of the educational programme and takes place in a real working environment, in companies or partly at intercompany training centres. In order to implement a WBL in companies, a learning contract must be signed. A learning contract contains the competences the learner should acquire and develop, the duration of the in-company training as well as the other responsibilities and obligations of both parties, and contains no elements of employment.

It is usually concluded between the school, an employer and student or his/her legal guardians (a collective learning agreement). In SPI programmes, there is also an individual contract between the employer and the student, which also allows the WBL in companies to be extended to up to 53 weeks (in this case, practical training in school is reduced). Students with individual contracts are required to pass a mid-term test of practical skills in the second year, which is provided by the relevant chamber. Higher vocational education (Višje strokovno izobraževanje, VSI, ISCED 554) is regulated by the Post-Secondary Vocational Education Act (2004) and is publicly financed. It is a part of tertiary education and CVET. Anyone who has passed the matura exam (general or vocational) or master craftsman, foreman or shop manager exam, and passed the mother tongue exam and mathematics exam or a foreign language exam to the level of vocational matura can enrol in higher vocational programmes. In some professions, it is possible to pass master craftsman, foreman and shop manager exams (mojstorski, delovodski, ali poslovodni izpiti), which are provided by chambers. The exams are intended for people with vocational upper secondary education (ISCED 353) and at least three years of relevant work experience. Candidates who pass their exams gain a technical upper secondary education level (ISCED 354) and, by passing the general exams of the vocational matura, can enrol in higher vocational education programmes. VOCATIONAL EDUCATION AND TRAINING IN EUROPE SLOVENIA, retrieved from, June 2018, https://cumulus.cedefop.europa.eu/files/vetelib/2016/2016_CR_SI.pdf

In Serbia Educational system includes preschool, primary, secondary and higher education. The total duration of compulsory education in Serbia is 9 years. Children enter compulsory education at the age of 5½, when they start the pre-school preparatory programme, followed by 8 years of primary education. The leaving age in full-time compulsory education is 14½. **Secondary education** consists of the following: four years of general education; two to four years of vocational education. Vocational school students can proceed to tertiary education at faculties and colleges fitting their specialisation. Students enrolled in three-year vocational education and training (VET) programmes can take additional exams to qualify for taking university entrance exams. **Adult education** can be formal or non-formal.

Secondary VET covers education for profiles lasting four, three and two years. Apprenticeship is processed for a certain number of profiles previously approved (by the MoES and the VET Centre) according to the needs and demands of the labour market and of individuals. Education in apprenticeship profiles depends on the work technology and kind of activities, and it lasts two or three years... Secondary VET of adults lasts up to three years. Secondary VET of students with special needs lasts two, three or four years according to the curricula of schools for students with special

needs. Programmes of vocational training and qualifications are special programmes for gaining knowledge, skills and abilities for processing certain jobs and last up to one year. Programmes of training are mainly oriented on gaining skills and abilities for certain operations or jobs; programmes of vocational qualification cover the acquisition of knowledge and skills for occupations. Programmes of training and qualifications must be previously accredited. Programmes of training and qualification can be organised also in special centres outside secondary VET schools that are previously accredited or licensed (also in case of realising international licensed programs). Post-secondary education covers specialists and masters' education lasting from one to two years after a completed secondary vocational education.

Regular primary or secondary schools or schools specialised in adult education provide formal adult education, while non-formal adult education is not in the school system. It is realised through different forms of professional development training.

Primary adult education takes from three to five years. It is organised by grades, with two grades in 1 school year. When they turn 15, students can be admitted to adult education. There are 14 schools for adult education in Serbia. Regular primary schools can also implement programmes for primary adult education.

Schools for secondary adult education can offer: a special curriculum for adult education; vocational training programmes, training.

Serbia Overview, retrieved from, June 2018. https://eacea.ec.europa.eu/national-policies/eurydice/content/serbia_en

The vocational education of adults is an integral part of the vocational education system and is closely related to the labour market, economy and other social systems. On the secondary education level it encompasses:

- short-term training programmes,
- regular vocational education programmes,
- post-secondary education programmes and
- continuous vocational education and knowledge refreshment programmes.

According to the Act on Foundation of Education System in Serbia in the field of secondary VET the following institutions are established: vocational school, mixed school, school for adult education and secondary school for children with special needs. These schools may organise curricula for secondary vocational education, apprenticeship, adjusted curricula for children with special needs, curricula for

adult education, programmes of specialisations and masters' education as well as the accredited curricula of VET.

Exams have different structures and contents depending on the level of qualification e.g. final exam, VET matura, specialist exam, etc. Having in mind that the exam is based on a national Qualification Standard, its structure and content are identical regardless of whether the qualification is acquired through formal or non-formal education or through the RPL. The exam after completing the process of formal or non-formal education as well as the recognition of prior learning process is based on a process of summative assessment. The most important function of assessment is awarding formal qualifications in relation to national standards. Assessment means to generate and collect proof of the knowledge, skills and competencies that have been achieved by learners as well as to evaluate the evidence in relation to defined standards. Credit based qualifications systems are developed in accordance with the European Credit System for Vocational Education and Training (ECVET) established on the basis of the Copenhagen. NQF Serbia, Declaration retrieved from, June 2018 <http://www.zuov.gov.rs/wp-content/uploads/2014/02/NQFS.pdf>

1.2 Qualification level-description

Knowledge In the context of EQF, knowledge is described as theoretical and/or factual.

Skills. In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).

Responsibility and autonomy. In the context of the EQF responsibility and autonomy is described as the ability of the learner to apply knowledge and skills autonomously and with responsibility.

The learning outcomes relevant to Level 5, in view of mastercraftsman qualifications discussion, are (Learning Opportunities and Qualifications in Europe, Retrieved from June 2018 <https://ec.europa.eu>):

Knowledge: Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge.

Skills: A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.

Responsibility and autonomy: Exercise management and supervision in the context of work or study activities where there is unpredictable change; review and develop performance of self and others.

In comparison to EQF, in Slovenia qualification level for mastercraftsman is SQF level 6: National vocational qualification certificate, Certificate of completed study programme for further training (Retrieved from, June 2018, www.nok.si)

Following are descriptors for this level:

Knowledge - Technical and theoretical knowledge in a specific field and practical knowledge for the resolution of concrete tasks. Knowledge enables the resolution of more complex tasks in specific fields of the discipline.

Skills - Ability to carry out more complex operational/technical tasks linked to the preparation of works and control and management of work processes. Ability to carry out complex and usually specialised tasks in relation to the area of operation, including abstract thought and the use of appropriate tools, methods, different technological procedures, materials and theories.

Competences - Ability to operate in different and specific settings with elements of creativity. Autonomous activity characterised by taking responsibility for the work of individuals and groups, material sources and information. Ability to make basic connections and place issues in a general social context is also important. Identification of own learning needs and attention to knowledge transfer in a work setting.

In comparison to EQF, in Serbia qualification level for mastercraftsman and specialists is level 5 with following descriptors: knowledge - has specialised vocational knowledge necessary for work; skills - applies skills necessary for performing complex, diverse, mostly non-standardised jobs, which require participation in creating new solutions. Handles specialised equipment, machines and facilities, using diverse materials and Responsibility and autonomy - performs activities with great independence in decision making. Organises, controls and evaluates his/her own work and/or work of others, and provides training for others regarding work performance. He/she takes responsibility for establishing his/her own method of work, as well as for the operational work of others. Demonstrates entrepreneurship for improving the work process and solving problems in unforeseen situations. Level five, Completion of master, specialist education – two years, or one year and non formal adult education minimum 6 months. Preconditions for this level is completed level 3, or level 4 NQF, and for non formal adult education level 4 of NQF (Retrieved from, June 2018, noks.mpn.gov.rs).

In comparison to EQF, in Croatia qualification level for mastercraftsman is level 5: Professional higher education diploma (short cycle) kratki stručni studiji, VET post-secondary development and training certificate strukovno specijalističko usavršavanje i osposobljavanje Master craftsman diploma. A total workload for acquiring a qualification is a minimum of 120 ECVET or ECTS credits, with at least 60

ECVET or ECTS credits of the level 6 or higher level of units of learning outcomes, respectively. Level 5 descriptors: Knowledge - Analyzing, synthesizing and evaluating specialised facts, concepts, procedures, principles and theories in a field of work and/or learning, giving rise to an awareness of the frontier of knowledge; Cognitive skills - Interpreting, estimating, selecting and creatively applying different relevant facts, concepts and procedures required to generate solutions and for solving complex tasks or problems within a specific field of work and/or learning in partially unpredictable situations, as well as ability to transfer knowledge to other areas and problems; Practical skills - Performing complex actions and applying complex methods, instruments, tools and materials in partially unpredictable situations, developing instruments, tools and materials and adjusting simple methods; Social skills - Partial management of complex communication in interactions with others and establishing cooperation in a group in partially unpredictable social contexts, Autonomy - Taking part in the management of activities in partially unpredictable situations, Responsibility - Taking responsibility for managing evaluation and for improving activities in partially unpredictable situations, (Retrieved from, June 2018, <http://www.kvalifikacije.hr/sites/default/files/documents-publications/2018-02/Referencing%20and%20Self-certification%20report%20of%20the%20CROQF%20to%20the%20EQF%20and%20to%20the%20QF-EHEA.pdf>)

1.3 Assessment of starting point for MSM curriculum development

At European level, VET curricula represent an inventory of activities implemented to design, organise and plan an education or training action, including definition of learning objectives, contents, methods (including assessment) and materials, as well as arrangements for training teachers and trainers. It is therefore crucial that the workplace offers diverse and rich learning opportunities enabling learners to develop the skills, knowledge and competences effectively matching labour market needs. If such learning opportunities are too narrow and too much focused on one company-specific training limits are understandable and opportunities for transferability as well as career progression.

The diversified monitoring activities enabled the identification of specific needs and challenges characterising existing VET systems in relation to the development of curricula including work based learning, in particular:

- *the necessity to enhance work-based learning by supporting teachers to move beyond traditional teaching;*
- *the need to develop tools including different methodologies for teaching, tutoring and learning which can be adapted to different national contexts;*
- *the necessity to link needs of the identified target groups to labor market needs as well as to existing educational offer to develop flexible, modular and motivating curricula;*
- *the need for strengthen cooperation between schools and world of work in curriculum design;*
- *the necessity to develop attractive and motivating curricula, ensuring learners early access to the world of work.*

(Net WBL Needs and gaps report, retrieved from, June 2018, http://www.net-wbl.eu/wp-content/uploads/2015/03/NetWBL_NEEDS_GAPS-report_final.pdf).

A curriculum is the ordered selection of learning content and experiences which are developed for all learners to meet agreed national values and aspirations. The curriculum sets out the objectives of the education system. In simple terms it prescribes what is to be achieved. Characteristics of curriculum: a list of possible items included in a curriculum (learning objectives, contents, teaching and assessment methods, materials and arrangements for training teachers and trainers); differentiation between the general level, at which curricula address all training and teaching processes, and the specific level at which curricula are 'broken down' to define learning programmes addressing the needs of a definite group of learners at pre-determined place in a given period of time. The syllabus sets out the specific details and programme of what is to be taught and assessed at defined stages of

schooling. The syllabus sets out how the curriculum is to be delivered. It is what teachers/instructors use to plan and deliver lessons. It provides the operational details of the curriculum. A competency based curriculum is one that is focussed on learners acquiring competencies to apply knowledge, rather than knowledge itself. The outcomes are what students can do. Outcome based curriculum specifies what we expect of pupil or student to know or be able to do after a period of study. Outcomes may include competencies, or they may just relate to knowledge.

COMPETENCE BASED CURRICULUM:

Is learner centered, promotes skills and competencies as well as knowledge

Promotes motivation to learn

Enhances creativity and initiative

Aims independence and self confidence

The curriculum defines:

- objectives, outcomes and contents of education and training,
- processes and activities necessary for their achievement and implementation (organisational forms, strategies, models and methods of teaching and learning),
- ways of assessment and criteria for the assessment of achievement.

(retrieved from, June 2018,
<http://www.vetserbia.edu.rs/Zbirka%20dok%202/English/02/2/Methodologies%20for%20the%20development%20of%20curriculum%20in%20VET.pdf>)

In the curriculum development process is important to provide:

- Satisfactory balance among general and vocational education, vocational theoretical education and professional practice and practical teaching;
- Vertical and horizontal mobility within a curriculum and within the one or more fields of work;
- Introduction of modular learning principle;
- Links with higher education and mobility towards high education.

Modules are specific, separate segments or learning packages that lead to achievement of defined learning outcomes. Modules may be independent or parts of broader curricular, i.e. organisational units. They are designed on the basis of complementary principles, diverse educational demands and defined thematic tasks. The structure of modules also enables gaining knowledge, skills and attitudes (competences) interdisciplinary, i.e. it enables cross-subject linking. Modularisation offers multiple benefits for the improvement and development of vocational education and training, especially for the modernization of curricula. These benefits are: ☒ Greater flexibility in planning and organizing educational process; ☒ Greater efficiency and cost-effectiveness of educational process; ☒ Better response to the labour market needs; ☒ Improved vertical and horizontal mobility, ☒ More efficient response to individual needs and capacities of students and adult students, Possibilities for students and adult students to choose their own learning path, their own way of obtaining work competencies and qualifications; ☒ Easier re-entry to vocational education for the purpose of finishing school or obtaining additional qualifications. Outcomes are clearly and unambiguously defined knowledge, skills and attitudes (competences) acquired upon completion of a specific programme, i.e. upon completion of educational and learning process. As such they are the basis for the planning, organisation and implementation of vocational education and the evaluation of achievement throughout the education and learning process. The outcomes are defined before the start of educational process and are known to teachers and students.

The learning outcomes approach requires a gathering together of knowledge and experience that resides with employers, teachers and others. It is also served by the participation of individuals or teams who have already gathered together knowledge, accumulated experience and mastered rules and have an understanding of what various stakeholders want. The outcome-oriented approach recognises that there is likely to be a conflict of interest between stakeholders; however, processes can be developed to negotiate or reconcile any differences – at least to some degree. Getting the sectoral/occupational scope right is a difficult area for decision making. Employers sometimes expressed the view that they want students to acquire the competences which are useful for their business or industry. Stakeholders sometimes disagreed with respect to issues of image presented by qualifications, with respect to social and occupational mobility and with respect to how qualifications might influence entry standards and collective agreements on salaries. Employers raise the question as to whether skill levels should be set for average requirements across the industry or to match the needs of more advanced employers. Where there is a persisting craft identity, trainers express the view that trainees must acquire certain skill levels, even if they are unlikely to be required in many jobs, because these are constitutive of what it means to claim that vocational identity. While, in

general, there is agreement that transverse skills are important for all students in all vocational programmes, there are disagreements about how much influence they should be given. The conflict of interest is heightened when the functions of qualifications or curricula are multiple and more diverse stakeholders are involved, for example if qualifications or curricula are intended both to signal competences to the labour market and to determine the competition for places in higher education (Curriculum reform in Europe The impact of learning outcomes, The European Centre for the Development of Vocational Training (Cedefop), 2012).

Master craftsman Exam is the highest level of education in craft professions that acquires vocational qualification and master's degree. By taking a Master's Exam, people acquire the 5th level of education according to the Croatian qualification framework that is linked to the same level of education in the European Qualifications Framework and enables competitiveness and mobility in the European labor market. Master's Exam is a state-recognized exam, and Master's Degree is a valuable document that is a proof of your expertise and quality and gives opportunities for further career advancement, job placement, business-to-business openness, practical tuition and apprenticeship training and increased competitiveness in the presentation and business. Retrieved from, June 2018, <http://www.obrtnicko-uciliste.hr/majstorski>

The Chamber of Craft and Small Business of Slovenia has been performing master craftsman exams since 2000 for 52 titles of a master craftsman. Master craftsman exams are performed for the majority of occupations in short supply for which no regular secondary education programme is on offer. The obtained title of a master craftsman is an excellent opportunity for getting a job in any respective profession and a competitive edge for enterprises because the brand of a Master emphasises mastery and quality of products or services. Retrieved from, June 2018, <http://www.ozs.si/ozseng/Mastercraftsmanexams.aspx>

ACTION PLAN FOR IMPLEMENTATION OF THE STRATEGY FOR DEVELOPMENT OF EDUCATION IN THE REPUBLIC OF SERBIA BY THE YEAR 2020 in section PU-SV02 defines action Introduction of craft education with following instruments: Establishing the crafts education system (actors, institutions, legal framework, funding); Development of individual curricula of crafts education and master craftsman exam; Certification and accreditation of master craftsman - instructor; and outcomes System of vocational / crafts education aligned with the market needs established; Master craftsman accreditation system established by 2020. Retrieved from, June 2018, <https://erasmusplus.rs/wp-content/uploads/2015/05/Action-plan.doc>

2. WORK BASED LEARNING

As a policy objective, adult learning in the workplace is not strictly linked with one particular policy field. It can have different objectives and purposes and can therefore be supported by - or mainstreamed as an element of support in - different policy frameworks (e.g. smart specialisation strategies, or economic growth or industrial strategies that embed an upskilling and reskilling element). As adult learning in the workplace is covered by different policy fields, a certain degree of coordination is needed for effective implementation. Adult learning in the workplace is coordinated to different extents in different countries. When considering adult learning in the workplace in the context of the labour market and society in Europe, some (past and prospective) major trends need to be taken into account. These so-called 'mega-trends' affect society at large, future labour markets as well as the role that learning plays in the labour market and society.

Experience suggests that this form of education can meet the twin goals of improving individuals' employability and increasing economic competitiveness. Member States and social partners committed themselves in the Bruges Communiqué, the European agenda for cooperation in vocational education and training (VET), to the objective of including work-based learning in all initial VET courses. As mentioned in the Rethinking Education Communication and the Youth Employment Package, the value of VET – and notably of dual training systems - in facilitating youth employment is clearly acknowledged. Creating opportunities for high-quality work-based learning thus lies at the heart of current European education and training policies. In February 2013, the European Council confirmed that the highest priority should be given to promoting youth employment and invited the Commission to establish a "European Alliance for Apprenticeships". It also announced the creation of a dedicated Youth Employment Initiative, open to regions with high youth unemployment rates, with a financial support of EUR 6 billion. Despite these commitments, the supply of apprenticeship and traineeship places in the EU continues to be under-developed. The picture varies greatly by country. Those enrolled in apprenticeships in the strict sense; represent 33% of secondary VET students. 24 EU countries have schemes in place where learners spend more than 50% of their time learning in the workplace, but the scope of the schemes varies widely. In Austria, Denmark and Germany, work-based learning (typically apprenticeships) predominates, reaching more than 30% of students. In countries such as Spain and Portugal these programmes are less common. Efforts are needed to invest in expanding the offer of apprenticeships and traineeships in countries where opportunities for this type of learning remain very limited. A lack of workplace experience and the related skills and competences is one of the factors contributing to the "skills gap" in the EU today. While 5.6 million young people in the EU suffer the consequences of unemployment, 36% of employers' report that

they struggle to find new recruits with the skills they need. Something is clearly wrong. The need to identify, adapt and adopt practices which can tackle this skills gap is urgent. Part of the solution can be found in high quality vocational education and training (VET) systems, in which the active participation of employers and a strong element of work-based learning facilitate young people's transition to work by providing the knowledge, skills and competences which they need for a successful first step into the labour market. Countries with strong and attractive VET systems, and notably those with well-established apprenticeship systems, tend overall to perform better in terms of youth employment.

Work-based learning (WBL) is a fundamental aspect of vocational training – it is directly linked to the mission of VET to help learners acquire knowledge, skills and competences which are essential in working life. In line with the Rethinking Education Communication this document identifies three main models of WBL:

1. Alternance schemes or apprenticeships are typically known in Austria and Germany as the "dual system". These are fundamentally based on the integration of companies as training providers together with VET schools or other education/training institutes. In these programmes, learners spend a significant time on training in companies. In parallel, or in "alternating" periods, they acquire general and occupation-related knowledge and often complementary practical skills and key competences in VET schools or other education/training institutes. One in twenty staff is an apprentice in Germany and Austria, but the numbers are far lower in most other European countries, with less than one in every hundred staff being an apprentice in 10 of the 17 countries for which data are available. Across EU countries, the terms alternance and apprenticeship are often used interchangeably. These models are characterised by a high intensity or frequency of work integration or real-life work situations. Cedefop defines alternance training as 'education or training combining periods in an educational institution or training centre and in the workplace. The alternance scheme can take place on a weekly, monthly or yearly basis. Depending on the country and applicable status, participants may be contractually linked to the employer and/or receive a remuneration. Furthermore, apprenticeships, as specific forms of alternance training, are defined as 'systematic, long-term training alternating periods at the workplace and in an educational institution or training centre'. Apprenticeships differ in several key aspects from other alternance models. For example, they typically include a long-term training period and higher amount of training in the workplace in comparison to other forms of alternance training. A contract links the apprentice to the employer; the apprentice receives a wage or allowance. In addition, the employer must offer apprentice training leading to a specific occupation; social partners take responsibility for the quality of the

company-based training of the apprentice. Countries with strong apprenticeship systems report very good results in terms of young people's transition to employment. Learners acquire the skills they need for a first step into the labour market, while employers train their workforce with a view to supplying the knowledge, skills and competences which they need to stay competitive

2. A second model of WBL is school-based VET which includes on-the-job training periods in companies. On-the-job training periods typically cover internships, work placements or traineeships that are incorporated as a compulsory or optional element of VET programmes leading to formal qualifications. They can be of varying duration but typically represent less than 50% of the training programme duration (often around 25-30% or less). They are primarily intended as effective school-to-work transition mechanisms that allow young people to familiarise themselves with the world of work and thus facilitate their transition from education to employment. In some countries or programmes, they are a prerequisite to be able to successfully complete a VET programme.

3. Finally, WBL that is integrated in a school-based programme, through on-site labs, workshops, kitchens, restaurants, junior or practice firms, simulations or real business/industry project assignments. The aim is to create "real life" work environments, establish contacts and /or cooperation with real companies or clients, and develop entrepreneurship competences. In this model, schools or training centres have the main responsibility for creating close to real life or real life working environments. VET schools are equipped with school workshops, labs, kitchens and restaurants, or cooperate with business and industry to use their facilities. The mandatory share of learning in these working environments varies, depending on the type of VET. Work in practice firms or junior firms and real-life project assignments are frequently used and often form mandatory parts of curricula. Teachers design learning activities in cooperation with companies: they need to develop the skills to work in multidisciplinary teams and focus on work process orientation, innovation and creation processes. Many countries in Europe combine these three general models of WBL (Work-Based Learning in Europe, Practices and Policy Pointers, retrieved from, June 2018, http://ec.europa.eu/dgs/education_culture/repository/education/policy/vocational-policy/doc/alliance/work-based-learning-in-europe_en.pdf).

3. REQUIREMENTS STANDARDS ASSESSMENT – SIMILARITIES AND DIFFERENCES TO THE MASTER SCHOOL MODEL

One core aspect of the quality of WBL is the profile of knowledge, skills and competences that learners develop. Good quality WBL is related to a range of competences and, in combination with school-based learning, results in professional profiles that embrace a full profession and enable learners to develop a full understanding of a professional field. Such understanding is needed in order for people to be able to adapt to change later on when technologies and processes change and some tasks disappear while new ones arise. The active involvement of social partners in defining these standards is an important quality factor and is especially well-developed in dual systems. The qualification standards for work-based or learning outcomes descriptions for smaller scale WBL activities need to take this account. They set the range of knowledge, skills and competence that is to be achieved through WBL. This should be broad enough to embrace a profession in a holistic manner and give learners the basis for not only immediate transition to employment but also future evolutions. As well as skills specific to the profession, learners need to acquire strong basic skills

All on-the-job learning periods, even short ones, should have a clear pedagogical purpose, defined learning outcomes and specified objectives that both the learner and the employer are aware of. In some cases learners participating in on-the-job training periods are only exposed to short-term periods of work experience, e.g. several weeks. These are not always designed as a learning process with clear objectives and planned tasks and thus learners risk ending up in on-the-job training periods that are unplanned and unstructured with limited opportunities for real learning or skills development. June 2013 Clear articulation between periods of work-based learning and school-based learning is key to the success of on-the-job training periods, particularly from the perspective of the learner. Critically, an outcomes-based curriculum makes it easier for learners and employers alike to identify the relevant knowledge, skills and competencies the learner is expected to acquire. This requires a clear understanding of the assessment approach and how the period of on-the-job training will be assessed (formative/summative).

In alternance models, learners spend large proportions of their training pathway in the workplace. It is therefore crucial that the workplace offers diverse and rich learning opportunities that enable learners to develop the skills, knowledge and competences they need to become fully qualified professionals. Training which is too narrow and too company-specific limits opportunities for transferability and progression. Students need exposure to a range of situations and tasks, and the curriculum for WBL should define a sufficiently broad range of knowledge, skills and competences, including a range of key competences. Companies, especially SMEs, can usefully cooperate to form

"training alliances" to offer learners exposure to a full range of situations and tasks. Sharing an apprentice among several companies ensures that s/he gets familiar with different technologies/processes. Some economic sectors, such as information technology or creative industries, may be organised in a way that does not fit into traditional apprenticeship schemes of providing learning at the workplace, with dedicated training by a *Meister* (master craftsman). Innovative models of alternance training can overcome this, for example by engaging apprentices in problem-based, creative and innovative tasks and assignments.

In Croatia Master craftsmen exam Postsecondary adult education programmes lead to additional competencies compared to ones previously acquired, but are not university education. As opposed to training programmes, a condition for enrolment in additional training programmes is the previously acquired expert knowledge of the area in which participants want to be additionally trained. Upon the completion of these programmes, participants who finished secondary school improve and extend previously acquired professional knowledge to meet labour market demands and to gain knowledge of new techniques and technologies, as well as of their use.

The programme for the Master Craftsman Exam is regulated by the Ministry of Entrepreneurship and Crafts and approved by the Croatian Chamber of Trades and Crafts. Postsecondary professional education and training entry requirements: An appropriate vocational education and training programme (the same profile), and at least 2 years of experience in the profession in which the candidate wants to take the Master Craftsman Exam; or an inappropriate vocational education and training programme (different profile), and at least 3 years of experience in the profession in which the candidate wants to take the Master Craftsman Exam; or appropriate 1 or 2 years of a vocational education and training programme, and at least ten years of experience in the profession in which the candidate wants to take the master craftsman exam. Education and training: Preparation for the Master Craftsman Exam is not compulsory, but can be organized by institutions for adult education and other entities. Master craftsman schools are not part of formal education and can be established under provision of the Act on Trades and Crafts. Intellectual Output 1 – National surveys Croatia, (Developed by: OUZG – Obrtničko Učilište - ustanova za obrazovanje odraslih Zagreb, retrieved from, June 2018 <http://www.projectshine.eu/wp-content/uploads/2016/09/P7-Croatia.pdf>).

- *Financing: Public and private*
- *Teachers qualifications: Higher education second cycle qualifications in different subjects and/or Master Craftsman Exam as well as other specialists in different areas*
- *Expected learning outcomes: To perform work at a high professional level, to manage an independent company, to employ all legislation defining an activity within a craft sector, to ensure quality, to know the technologies related to higher levels of productivity, to organize one's own work processes and the work of others, to transfer practical and professional knowledge and skills to apprentices, to produce a business plan and analyze business results, to ensure a creative working atmosphere, to motivate and develop co-workers, and to ensure safety at work.*
- *Assessment and awards: Master Craftsman Exam is offered by a committee of the Croatian Chamber of Trades and Crafts consisting of five persons. Two persons are master craftsmen in the related craft, one examiner is an expert in professional theory, one examiner is an expert in legislation and business management, and one examiner is an expert in skills related to the education of apprentices. The programme for the Master Craftsman Exam is regulated by the Ministry of Entrepreneurship and Crafts with the previous opinion given by the Croatian Chamber of Trades and Crafts. The exam is held by five member committee. The procedure of the exam is regulated by an Act delivered by the Minister responsible for entrepreneurship and crafts and approved by the Croatian Chamber of Trades and Crafts. Intellectual Output 1 – National surveys Croatia, Developed by: OUZG – Obrtničko Učilište - ustanova za obrazovanje odraslih Zagreb, retrieved from, June 2018 <http://www.projectshine.eu/wp-content/uploads/2016/09/P7-Croatia.pdf>*

In Slovenia the master craftsman exam is intended to verify if the candidate is qualified to perform their profession and occupation, to independently manage the shop, educate trainees and master other knowledge and skills determined in the list of exams for the master craftsman exam.

The master craftsman exam is taken in four parts:

*practical part (1st),
professional and theoretical part (2nd),
managerial and financial part (3rd),
pedagogical and andragogical part (4th).*

Individually, the parts of the master craftsman exam are divided in exam units in accordance with the list of exams, determining the content, scope of master craftsman's activities, the aims of the exam and parts of the exam indicating professional areas.

The candidate who wants to take the master craftsman exam, submits an application at the competent authority, proving the suitability for taking the exam.

The candidate applies at the competent authority for each exam unit with an application 30 days prior to the exam date at the latest. The candidate can make an electronic application or apply by post.

The entire exam is taken in accordance with the list of exams.

The practical part comprises the work test and master craftsman exam assignment. The written part for an individual subject in the professional and theoretical part of the master craftsman exam takes up to 180 minutes. The oral part of the exam or oral presentation takes a maximum of 30 minutes. The managerial and financial part of the exam is taken in written form and takes up to 180 minutes. The pedagogical and andragogical part of the master craftsman exam is composed of a written exam that takes up to 180 minutes and a practical appearance that takes 45 minutes.

The candidate can take several written exams on the same day; however, they may not exceed 360 minutes.

The competent authority sends the candidates' exam dates for each individual part of the master craftsman exam at least once per year. All exam dates are published on the website of the relevant authority. If the master craftsman exam is passed, the candidate receives a certificate.

Slovenia business point, retrieved from, June 2018,

<http://eugo.gov.si/en/permits/permit/12540/showPermit/>.

The Chamber of Craft and Small Business of Slovenia has been performing master craftsman exams since 2000 for 52 titles of a master craftsman. Master craftsman exams are performed for the majority of occupations in short supply for which no regular secondary education programme is on offer. The obtained title of a master craftsman is an excellent opportunity for getting a job in any respective profession and a competitive edge for enterprises because the brand of a Master emphasises mastery and quality of products or services. There are 52 titles of master craftsman.

(Slovenia business point, retrieved from, June 2018, <http://eugo.gov.si/en/permits/permit/12540/showPermit/>).

In Serbia the vocational education of adults is an integral part of the vocational education system and is closely related to the labour market, economy and other social systems. On the secondary education level it encompasses:

- short-term training programmes,
- regular vocational education programmes,
- post-secondary education programmes and
- continuous vocational education and knowledge refreshment programmes.

According to the Act on Foundation of Education System in Serbia in the field of secondary VET the following institutions are established: vocational school, mixed school, school for adult education and secondary school for children with special needs. These schools may organise curricula for secondary vocational education, apprenticeship, adjusted curricula for children with special needs, curricula for adult education, programmes of specialisations and masters' education as well as the accredited curricula of VET.

Masters' and specialists' exams. Masters' and specialists' exams are taken after master/specialist education. The exam covers theoretical and practical aspects and is realised in institutions accredited for performing these exams and work according to accredited programmes. The organisation, content, conditions and assessment systems are defined by a separate regulative developed by the VET Centre and endorsed by the MoES. As decentralisation and regionalisation of VET mean quality and quantity management in VET, the new Act on education opened various possibilities in this field.

(CONCEPT OF VOCATIONAL EDUCATION AND TRAINING IN SERBIA, retrieved from, June 2018, <http://www.vetserbia.edu.rs/Concept%20of%20Vocational%20Education%20and%20Trainig%20in%20Serbia.pdf>)

Specialist and master education in the secondary vocational school for the purpose of acquiring a specialization, can be attended by a candidate who has completed the appropriate school and has at least two years of working experience and lasts one or two years. Secondary vocational education can last for four or three years. However, it also includes various forms of education which allow the acquisition of qualifications at different levels through professional development and training, education for work, master and specialist education. In case of the formal secondary vocational education of adults, programmes have to be adjusted to the needs and abilities of adults as well as the labour market demands. In this case, the education lasts either two years when it comes to Level III qualifications or three years providing qualifications at Level IV. The formal education for acquiring qualifications at Level V (master, i.e. specialist education) lasts for either one or two years and it can be accessed by any person who has at least two years of working experience in a particular occupation (Institute for improvement of education Centre for Vocational Education and Training <http://www.zuov.gov.rs/wp-content/uploads/2014/02/NQFS.pdf>, page 21). The non-formal education programmes for acquisition of qualifications have the following duration depending on the level:

- Level I: not less than 120 hours;
- Level II: not less than 240 hours;
- Level III: not less than 1,000 hours (at least six months and at most two years);
- Level V: not less than six months and no more than two years.

The defined duration of non-formal education/training, as described above, provides the basic credibility of the vocational education process for the young and adults, i.e. it contributes to the quality assurance of the process of acquiring qualifications at a certain level.

Upon completion of the specialist or master's education program, the examination is organized in order to verify skills and knowledge necessary for performing the profession for which the candidate applied. The master's exam program is approved by the Minister based on the proposal of the Council for Vocational and adult Education. After passing the exam, to a candidate is issued a public document which confirms this in accordance with the Law on Secondary Education.

Special programs for adult education for two years and three years, programs of vocational training, specialist or master education, training programs and other programs for adult education are realized in secondary school, i.e. secondary school for adult education.

Admission to adults is done in accordance with the Law, and special laws regulating secondary education and adult education.

During the year the school enrolls candidates for acquiring specialist, i.e. master education, vocational training, retraining, additional training and training, with the approval of the Ministry. In the secondary vocational school for the purpose of acquiring a specialization, a candidate who has completed the appropriate school can be enrolled and has at least two years of working experience and lasts one or two years.

Upon completion of the specialist or master's education program, the exam is examined in order to check the skills and knowledge necessary for performing the profession for which the candidate applied. The master's exam program is passed by the Minister on the proposal of the Council for Vocational Education. After passing the exam, a candidate is issued a public document which confirms this in accordance with the Law on Secondary Education. (Institute for improvement of education Centre for Vocational Education and Training <http://www.zuov.gov.rs/wp-content/uploads/2014/02/NQFS.pdf>, page 27)

<i>Way of acquisition</i>	<i>Formal education (specialisation or craftsmanship)</i>	<i>Non-formal education</i>	<i>Recognition of prior learning (RPL)</i>
<i>Preconditions</i>	<i>Three or four-year secondary education completed and two years of relevant work experience</i>	<i>Four-year secondary education completed and two years of relevant work experience</i>	<i>Four-year secondary education completed and five years of relevant work experience</i>
<i>Minimum duration of programme</i>	<i>1 to 2 years</i>	<i>6 months to 1 year</i>	<i>–</i>
<i>Public document</i>	<i>Certificate of having passed the specialist exam or the Craftsmanship certificate</i>	<i>Certificate</i>	<i>Certificate</i>

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