



Situational analysis of Technical and Vocational Education and Training sector (TVET) in Bosnia and Herzegovina

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ACRONYMS

APOSO	Agency for Pre-school, Primary and Secondary Education
BAM	Bosnian Convertible Mark
BD	Brčko District
BIH	Bosnia and Herzegovina
CEDEFOP	European Centre for the Development of Vocational Training
CG	Career guidance
COM	Council of Ministers (of Bosnia and Herzegovina)
CVET	Continuous Vocational Education and Training
DEP	Directorate for Economic Planning
DIGCOMP	European Digital Competence Framework
ECTS	European Credit Point Transfer System
EL	Entrepreneurial learning
ELES	EU financed project "Entrepreneurial Learning in Education Systems in Bosna and Herzegovina"
ENTRECOMP	European Entrepreneurship Competence Framework
EQF	European Qualifications Framework
EQAVET	European Quality Assurance Framework
ESCO	European Classification of Skills, Competences, Qualifications, and Occupations
ETF	European Training Foundation
EUD	Delegation of the European Union
FBIH	Federation of Bosnia and Herzegovina
HE	Higher education
HEI	Higher education institution
HEA	Agency for Development of Higher Education and Quality Assurance of Bosnia and Herzegovina
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
ICT	Information and communication technology
IEA	International Association for the Evaluation of Educational Achievement
ILO	International Labour Organisation
IPA	Instrument for Pre-Accession Assistance
IRPO	Institute for Development of Pre-University Education
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupation

IVET	Initial Vocational Education and Training
KE	Key expert
LLL	Lifelong learning
LCG	Lifelong learning career guidance
MOCA	Ministry of Civil Affairs of Bosnia and Herzegovina
MOES	Ministries of education
MOFTER	Ministry of Foreign Trade and Economics
NEET	Not in Employment, Education and Training
PISA	Programme for International Student Assessment
PSC	Project Steering Committee
QA	Quality assurance
QF	Qualifications Framework
QFBIH	Qualifications Framework of Bosnia and Herzegovina
ODPS	Organisational Development Plans
OEAD	Austrian Agency for International Mobility and Cooperation in Education, Science and Research
OECD	Organisation for Economic Cooperation and Development
RCF	Regional Challenge Fund
RPL	Recognition of prior learning
RS	Republika Srpska
SDC	Swiss Development Cooperation
SDGS	Sustainable Development Goal(s)
SIGMA	Support for Improvement in Governance and Management
SME	Small and medium-sized enterprises
STEM	Science, Technology, Engineering and Math
SVET	Strengthening of Technical Vocational Education
TCF	Teacher Competence Framework
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VNFIL	Validation of Non-formal and Informal Learning
WB	World Bank
WBL	Work-based learning

GLOSSARY

Apprenticeship is a more intense and more structured WBL experience with regular pay, a defined employment status, a longer duration, and leading to a formal educational or professional qualification. In Bosnia and Herzegovina, this format of WBL is not recognised in the laws of secondary education by the responsible education authorities in Bosnia and Herzegovina.

Dual education/VET is a German (Austrian) model of WBL where student's practical training takes place at a company, supervised by a licensed mentor and paid by employers. A student is a responsibility of the company that provides the work placement.

Dual education that is applied in vocational education and training systems in Bosnia and Herzegovina is a form of WBL, which implies alternate learning at the school and company. The company assumes the obligation of providing practical training to students and assessing their achievements.

Internship is a relatively unstructured period of unpaid work experience at a company, typically undertaken by graduates seeking to gain work experience, or unemployed young people registered under active employment measures. In the context of Bosnia and Herzegovina, the status of graduates or unemployed persons is regulated by the labour laws in Republika Srpska, Federation of Bosnia and Herzegovina and Brčko District of Bosnia and Herzegovina. Unemployed persons are supported by public employment services, if they are registered as unemployed.

Practical training in vocational education and training or WBL in Bosnia and Herzegovina is organised through alternate learning at school and business company, school workshops, laboratories, and summer and winter holiday placements regulated by the respective laws in secondary education in Republika Srpska, cantons in the Federation of Bosnia and Herzegovina and Brčko District of Bosnia and Herzegovina.

WBL describes structured programmes that include learning through work, often resulting in a qualification.

1 INTRODUCTION

The purpose of the study is to provide an update on TVET situational analyses of the previously conducted scoping study by KEK-CDC and serve as input to design the project TVET System Strengthening in Bosnia and Herzegovina financed by SDC and implemented by GOPA, identify strategic orientation and related activity lines¹.

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The overall goal of the TVET System Strengthening project is to:

Improve TVET governance (primarily entity and cantonal level) with selected relevant actors able to fulfil their role and lead the changes needed for a dual-oriented TVET system in a coordinated manner, based on their reform plans. They feel confident and have the know-how to translate an evidence-based policy into practical changes, also in the long-term, via financially sound TVET systems.

The project goal is to be achieved through the following outcomes:

Outcome 1: Selected (based on commitment) education authorities countrywide fulfil their roles and responsibilities and drive inclusive dual TVET reforms, including system financing, to bring policy to practice.

Outcome 2: Businesses are proactively engaging with governments on dual TVET reforms.

The analysis² was conducted with the aim to assess the existing situation of the TVET system in Bosnia and Herzegovina; and to develop key

1 In line with the TVET Strategic Framework and Implementation Plan of Bosnia and Herzegovina (2021-2030).

2 The analysis is based on the findings of the review of existing literature, stakeholder consultations and feedback as well stakeholder presentations during field visits, which took place in the period January – March 2024.

recommendations³ that will inform the drafting of the ProDoc relevant for the implementation phase (2024 – 2028).

A supporting document to this study, a stakeholder analysis, has been developed related to project objective and correlated outcomes and is considered a strategic tool of the project identifying current and future collaboration opportunities as well as potential interest groups and individuals (companies) that could be interested in the project. A stakeholder map was developed in a consultative process by taking into account stakeholder needs and expectations, presenting assessment of various stakeholders' abilities to influence project activities. This mapping serves as a basis for interested parties' active participation in project activities contributing to the essential principle of the theory of change "from project to process", leading to the desired changes or outcomes, ensuring a sense of ownership conditions for post-project sustainability of interventions through a sense of ownership and sustainability of results achieved.

Complementary to the TVET Situational Analysis, a Political and Economic Analysis has been developed that aims to build a solid understanding of the context by analysing formal as well as informal structures and processes, and visible and hidden power relations and dynamics among the various stakeholders of development. As a living document it is supposed to provide new insights, new directions and partners, "theories of change" and entry points for action which help adapt interventions to changing realities (adaptive management) and manage risks effectively and get better results.

In compliance with SDC Guidelines, the document tends to establish "good practice" in development cooperation, secure the local context and local ownership as the most relevant for the success and sustainability of the project intervention, contributing through the project to process building.

3 Further building on previously done scoping study (integral part of tender documentation)

2 | EXECUTIVE SUMMARY

This report presents an update on the TVET situational analysis in Bosnia and Herzegovina following a scoping study by KEK-CDC. It aims to inform the design of the TVET System Strengthening in Bosnia and Herzegovina project, funded by SDC and implemented by GOPA. Discussing identified challenges presented in the sections below, strategic orientations and activity lines for enhancing the TVET system in Bosnia and Herzegovina, the following conclusions have been reached:

- ④ The education governance structure of Bosnia and Herzegovina is complex, involving 14 institutions spread across multiple administrative levels.
- ④ The TVET system in Bosnia and Herzegovina comprises a network of different education systems rather than a unified system.
- ④ Coordination of education across the country is primarily undertaken by the Ministry of Civil Affairs at the state level.
- ④ Educational reforms in Bosnia and Herzegovina have been slow, with challenges including fragmented decision-making, limited financial resources, and outdated equipment.
- ④ Despite reforms, TVET governance in Bosnia and Herzegovina remains fragmented, hindering effective policy-making and coordination.

Based on a detailed presentation of the situational analysis related to the TVET institutional and legal framework, labour market, statistical data available, dual VET environment, practices and settings, the following recommendations have been made:

- ④ Implement Evidence-Based Policy Making (EBPM) in TVET to align education with labour market needs and economic trends.
- ④ Promote stakeholder engagement by involving employers' associations and industry stakeholders in TVET policymaking and programme design.

- ④ Enhance TVET public-private dialogue to facilitate collaboration between stakeholders at macro, meso, and micro levels.
- ④ Strengthen quality assurance mechanisms by implementing a framework aligned with EQAVET principles and establish a robust monitoring and evaluation system.
- ④ Systematically implement Work-Based Learning (WBL) and dual TVET nationwide by improving regulations, incentivising participation, and developing innovative financing instruments.
- ④ Align TVET with labour market needs and technological trends, focusing on updating curricula, providing continuous professional development for teachers, and integrating digital and green transition skills.

These recommendations aim to address the challenges faced by the fragmented TVET system in Bosnia and Herzegovina and pave the way for a more effective governance, improved relevance, and enhanced quality of vocational education and training.⁴

4 For more information on the conclusions and recommendations, please visit section [8](#). Conclusions and Recommendations.

3 | METHODOLOGY

In developing this study, the project team applied diversified methods in order to gather data and relevant information during the period January – March 2024. The methods applied are as follows:

- ④ Document review: All relevant documents regarding the TVET sector, including education framework laws at the level of Bosnia and Herzegovina, laws and bylaws, regulations, and guidelines at the level of administrative units, strategies, studies, project documents, etc. Dual VET provision instruments and tools were also considered;
- ④ Semi-structured interviews: A total of 53 online and physical interviews were conducted with 92 persons representing the various stakeholders in both supply and demand side of the TVET sector⁵;
- ④ Consultative planning workshops:
 - ④ MoCA (MoCA) staff – February 23, 2024⁶;
 - ④ West-Herzegovina Canton Ministry of Education staff – February 14, 2024 (expression of needs for possible support, commitment, and cooperation⁷;
- ④ Participant observation:
 - ④ Partners' day of the Embassy of Switzerland – December 12, 2023;
 - ④ Informal Donor coordination meeting – February 23, 2024.
- ④ Statistics: The publicly available secondary data on education⁸ and foreign direct investment statistics of Bosnia and Herzegovina were analysed, where relevant.

9

5 Annex 4

6 ibid

7 Annex 5

8 Statistics of Bosnia and Herzegovina and various relevant EU and international sources

4 | CONTEXT

4.1 BACKGROUND

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Bosnia and Herzegovina has four tiers of governance, at the state, entity, canton and municipal levels. It consists of two entities: Federation of Bosnia and Herzegovina (FBiH), Republika Srpska (RS), and a separate Brčko District of Bosnia and Herzegovina (BD BiH). The Federation of Bosnia and Herzegovina consists of ten cantons, each of which has its own constitution, parliament, government and judicial powers. Republika Srpska has one level of local self-government with 57 municipalities, each with both exclusive and shared competences. In total, there are eleven constitutions, governments and legislators in the Federation of Bosnia and Herzegovina (10 cantonal and one entity). Cantons are further divided into 79 municipalities and cities, which constitute the local self-government units with their own executive and legislative powers. Brčko District of Bosnia and Herzegovina is a condominium jointly owned by the entities, but not managed by either. State legislation directly applies to Brčko District of Bosnia and Herzegovina and its fields of competence are nearly the same as the ones of the entities.

The education sector in Bosnia and Herzegovina is defined by the Constitution of Bosnia and Herzegovina, the constitutions of the entities, cantons, and the Statute of Brčko District of Bosnia and Herzegovina, which govern legal competencies in education. There are thus 12 institutions in charge of education, including the Ministry of Education and Culture of Republika Srpska, 10 cantonal ministries of education in the Federation of Bosnia and Herzegovina and the Department of Education of Brčko District of Bosnia and Herzegovina. Republika Srpska has a centralised government and one ministry of education. In the Federation of Bosnia and Herzegovina, each canton has their own ministry of education, while the Federal Ministry of Education and Science only has a coordinating role. Brčko District of Bosnia and Herzegovina has its own Department of Education. At the state level, the Ministry of Civil Affairs (MoCA) coordinates activities of all education institutions in Bosnia and Herzegovina. MoCA is responsible for carrying out activities related to



Figure 1. Administrative units in Bosnia and Herzegovina
Source: Scoping study 2022

the coordination of activities, the harmonisation of plans of entity bodies, and defining strategies at the international level, including education strategies. At the state level, there are also the Agency for Development of Higher Education and Quality Assurance, the Center for Information and Recognition of Qualifications in Higher Education, and the Agency for Pre-Primary, Primary and Secondary Education (APOSO).

Bosnia and Herzegovina has been an EU candidate country since December 2022, and will aim to gradually improve its vocational education and training (VET) system towards EU standards. The competent education authorities have committed the country to implementing the “Riga Conclusions” on VET, which emphasise the promotion of work-based learning (WBL) in all its forms (Riga Declaration, 2015). MoCA has produced a strategic document (Council of Ministers, 2021) that provides a framework for embedding the Riga Conclusions concerning WBL into both initial and continuing VET (hereinafter referred to as “Riga Conclusions of Bosnia and Herzegovina”). It provides an overview of various formats of WBL for Bosnia and Herzegovina, with action plans for their implementation in five priority areas.

While policymakers in the country aim to provide high quality education that meets the needs of the labour market (Council of Ministers, 2021) and ministries of education seek to implement WBL reforms, during the research period for this study, it was noted that support from other

ministries requires further improvement. On the other hand, there are positive examples of local communities participating in WBL governance, in curriculum development, in securing financial incentives for employers and students, and in providing practical training opportunities for students (e.g. Bosanska Krupa, Sanski Most, Cazin and Bihać), however, the professional capacity of staff in leadership positions needs further development. The complexity of education governance results in the existence of more than 70 education policy documents, including framework laws, strategies, legislation, and guidelines⁹. The complex governance structure of the country poses a challenge for effective and well-coordinated institutional responses within the education/TVET and employment sector. Cooperation between key actors in the education/TVET sector is relatively ad hoc and mostly occurs at the entity and local levels.

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4.2 TVET INSTITUTIONAL AND LEGAL FRAMEWORK IN BOSNIA AND HERZEGOVINA

The education/TVET sector falls exclusively under the jurisdiction of the entity of Republika Srpska, the cantons in the Federation of Bosnia and Herzegovina, and Brčko District of Bosnia and Herzegovina, as stipulated by their respective constitutions and laws. Each of these fourteen administrative units has its own ministry of education¹⁰, education laws, and education budget. At the state level, MoCA is responsible for the overall coordination of education across Bosnia and Herzegovina, including international liaison.

The education system is in compliance with the constitutional structure of Bosnia and Herzegovina as a country with two entities and Brčko District of Bosnia and Herzegovina. Responsibilities for education lie with Republika Srpska, the ten cantons of the Federation of Bosnia and Herzegovina, and Brčko District of Bosnia and Herzegovina. Instruction is delivered in three languages and follows three curricula. Bosnia and Herzegovina has an EU candidate country status since December 15, 2022 and on November 8, 2023, the European Commission recommended starting the accession negotiations on the condition that the country meet certain criteria¹¹.

9 ETF (2020), Bosnia and Herzegovina: Education, Training and Employment Developments 2020. Available at: https://www.etf.europa.eu/sites/default/files/document/Country%20Fiche%202020%20Bosnia%20and%20Herzegovina%20Education%20Training%20and%20Employment%20Developments_0.pdf

10 TVET included.

11 https://commission.europa.eu/news/enlargement-commission-recommends-starting-accession-negotiations-ukraine-moldova-bosnia-and-2023-11-08_en

Table 1. Number of students at secondary schools in the Federation of Bosnia and Herzegovina by cantons - 2022/2023

Una Sana Canton	6,792
Posavina Canton	805
Tuzla Canton	14,078
Zenica-Doboj Canton	11,778
Bosnia-Podrinje Canton	720
Central-Bosnia Canton	8,826
Herzegovina-Neretva Canton	7,235
West-Herzegovina Canton	3,262
Canton Sarajevo	15,095
Canton 10	1,824

Source: Institute for Statistics of the Federation of Bosnia and Herzegovina, First results, Secondary education in the Federation of Bosnia and Herzegovina, 2022/2023 School year - first results, Sarajevo, 2022, p. 2.

The Ministry of Civil Affairs of Bosnia and Herzegovina, in accordance with its competencies, has initiated the adoption of a Framework Law on Vocational Education and Training in Bosnia and Herzegovina at the state level in 2008. APOSO was established based on the adopted framework law at the state level.

Generally, the progress of educational reforms in Bosnia and Herzegovina is moving at a slow pace. This is especially evident when taking into consideration issues treated at the state level: qualifications framework, quality assurance and accreditation, planning of enrolment policies in accordance with labour market needs, the development of entrepreneurial, digital and green competencies in the context of the absence of a strategic framework for the development of human resources, weak financial resources, obsolete equipment, especially at VET schools, WBL for both teacher training and VET schools, VET and university, etc. The development of a qualifications framework in Bosnia and Herzegovina is in an early phase and requires extension, revision, development, and adoption of a new Action Plan, since the previous one had never been operational. Encouraging developments happened recently, when MoCA initiated the re-establishment of a working group for the further development of the qualifications framework, which had its first meeting in October 2023 and a second in December 2023. All responsible education authorities and their partners appointed members to the working group. "This is one

of the priorities for the future development of the education systems in Bosnia and Herzegovina.”¹²

At the state level, MoCA initiated activities related to the “Improvement of Quality and Relevance of Vocational Education and Training in Bosnia and Herzegovina – in the Light of Riga Conclusions – for the Period 2021-2030”¹³, but its implementation is still in an early phase. A structured pro-

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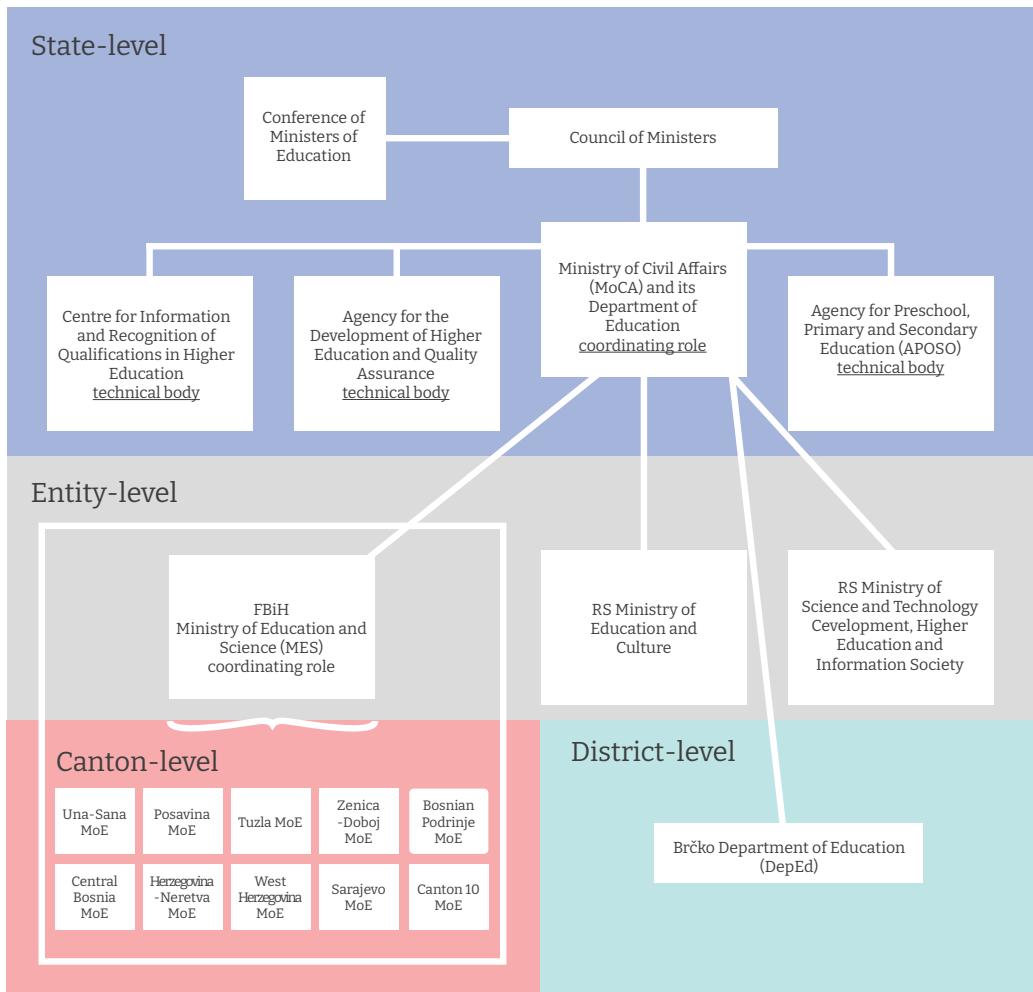


Figure 2. TVET Governance structure

- 12 Statement given during a fact-finding mission – meeting with the Ministry of Civil Affairs on January 22, 2024.
- 13 The fields of priority action identified in the document are (i) promoting WBL and making it attractive for companies and students, (ii) involving social partners in WBL policymaking (where social partners are defined as employers and schools, without mention of the state or trade unions), (iii) support to WBL implementation (i.e., how to implement WBL by involving tripartite

cess of the implementation and monitoring of the strategic document does not yet exist. The assessment of its implementation differs – from no noticeable progress to a limited progress in some parts of the country¹⁴; however, all relevant administration levels (10 cantons in FBiH, RS and BD BiH) seem to have formulated their individual priorities based on the mentioned countrywide policy document and initiated development of supporting documents. This, when finalised, will provide room for interventions targeting the improvement of the overall TVET governance in the country. A primary challenge for developments in the field of TVET in Bosnia and Herzegovina is the disjointed process of decision-making and financing due to a large number of administrations and decentralised governance arrangements.

The complex policy environment influencing also overall cost efficiency. Although it should be a centrepiece of TVET and labour market policies, social dialogue needs further institutionalisation. Social dialogue at the state level does not exist, while there is presence of it at the level of entities, Brčko District of Bosnia and Herzegovina and in some cantons in the Federation of Bosnia and Herzegovina. The actions of economic and social councils, social dialogue and social partners are embedded in the entity constitutions and relevant laws. Furthermore, the implementation of the Economic Reform Programme¹⁵ does not contain sufficient credible measures at the central level to address major challenges. Structured dialogue requires strong support and further development.

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Even though WBL (WBL) and dual VET are stated in policy documents, the application is still at an early stage. For example, the priorities for WBL in Bosnia and Herzegovina are outlined in the country strategic document (Priority No. 1). The document notes that Republika Srpska, the cantons of the Federation of Bosnia and Herzegovina and Brčko District of Bosnia and Herzegovina are willing to promote WBL according to the needs of students and companies; to increase the involvement of social partners in planning and management; to modernise curricula together with social partners; to improve contract arrangements and financial contributions; and to ensure the accreditation of companies. It provides an overview of various formats of WBL in Bosnia and Herzegovina, with action plans for their implementation. The most prevalent form of WBL or “practical training” is school based, with some students spending one to three days per week in a company and the rest of practical and theoretical hours at VET schools. Other formats such as virtual companies within schools and summer or winter holiday placements are available.

advisory committees, mentors, chambers of commerce, and how to define learning outcomes and methods of assessment) (iv) arranging finance for WBL.

14 Assessment of the fact finding mission conducted through January and February 2024.

15 Economic Reform Programme of Bosnia and Herzegovina 2023-2025 (ERP BiH 2023-2025)

A 2018 study tracking VET graduates showed that only half (51%) of employed VET graduates were engaged in jobs that corresponded to their education (GIZ, 2018). However, if well organised, it can augment the knowledge, skills, and competences of students, meeting the needs of employers and easing the transition from education to work.

Thanks to the support of donor organisations, a format of WBL known as “dual VET” has been promoted, but is at an early stage of implementation in Bosnia and Herzegovina. At this stage dual VET is only regulated by the Law on Secondary Education of Republika Srpska, and an experimental phase has started in certain occupations in cooperation with companies and the Chamber of Commerce and Industry of Republika Srpska. Dual VET is governed by a contract, follows a full learning cycle for a registered occupation, and leads to a recognised qualification. In the other parts of Bosnia and Herzegovina dual VET approach is still on hold or in a preparatory phase¹⁶ Analysis of legal frameworks and positive legal regulations in the Federation of Bosnia and Herzegovina that regulate certain issues relevant to the implementation practical training and summer and winter holiday placements at companies is uneven with the overlapping jurisdiction of federal and cantonal regulations, which in turn directly or indirectly affect the performance of students’ practical training in companies. Many relevant issues for conducting practical training are only partially regulated by current regulations or not regulated at all, as a result of which there are serious obstacles for employers in the process and those interested in organising practical training and/or summer and winter holiday placements, without coming into conflict with the law. In the Annex 2 of the study, there is a presentation of identified laws and bylaws with identified obstacles related to the implementation of practical training and summer and winter holiday placements at companies.

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¹⁶ In some cantons WBL/dual VET elements are regulated by bylaws (early phase).

4.3 LABOUR MARKET REALITY CHECK

Even though there has been some progress, Bosnia and Herzegovina lags behind other countries in the region in adopting and implementing WBL policies (OECD, 2018; OECD 2021; OECD 2022¹⁷; ETF Torino process 2024), and since the Council of Ministers (CoM) adopted the strategic document described above, little further progress has been made in ensuring the relevance of vocational education for the labour market. Consequently, vocational school graduates often struggle to find a job, lack tailored programmes to acquire missing skills, and lack access to finance to start their own businesses. Policies to assist the transition from school to work have had little effect. Although the Federation of Bosnia and Herzegovina supports young people in finding their first employment with measures to ease the school-to-work transition (European Commission, 2022a: 257), almost a quarter (23%) of secondary vocational students attend schools that do not provide any form of career guidance (OECD, 2019).¹⁸ All this has led to high rates of youth unemployment. Among the 15-24 age group, the unemployment rate was 35.1% in 2022, while almost one fifth (18.6% of women and 17.7% of men) of young people in this age group were neither in employment, education nor training¹⁹ Considering the whole labour force, three quarters (76%) of unemployed people are long-term unemployed due to, at least in part, an absence of appropriate skills, while a large proportion of the working-age population is inactive, including many low-skilled workers and workers above 40 years of age.

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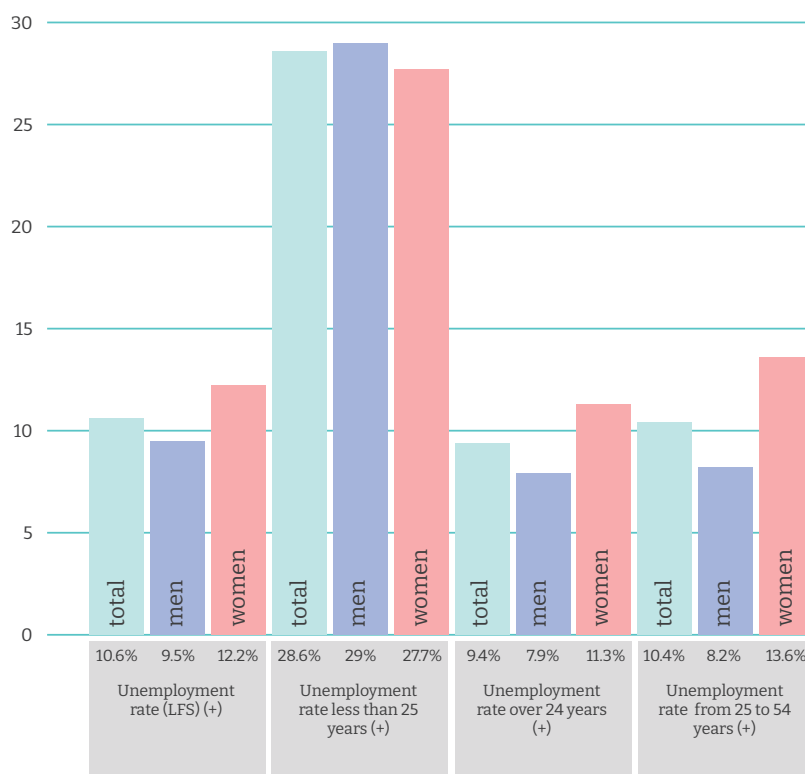
During the first eight months of 2023, employment was 1.3% higher than in the year before, while the LFS unemployment rate dropped to 13.1% in mid-2023, compared to 15.7% a year earlier. The main job-creating sectors were trade and tourism. Anecdotal evidence points to a continued outflow of qualified labour, starting to result in labour shortages in some sectors, such as construction. This could contribute to further wage pressures beyond productivity growth, impeding the country's competitiveness. During the forecasted horizon, employment growth is projected to continue. Unemployment is also set to decline further, although a significant share of structural unemployment could limit the extent of this decrease.²⁰

17 The chapter of the OECD Competitiveness Report of Education and Training shows that Bosnia and Herzegovina scores lowest of the Western Balkan countries on a scale measuring the implementation of WBL with an index of 2.0 compared to an average of 2.9 for the region (on a 1-5 scale) (OECD, 2021: Table 10.5).

18 These data can be found online in OECD, PISA 2018 Database, Table II.B1.6.9.

19 Data are from the Agency for Statistics of Bosnia and Herzegovina, available at https://bhas.gov.ba/data/Publikacije/Bilteni/2024/FAM_00_2023_TB_1_BS.pdf

20 The latest EU Report – Economic Forecast 2023
https://ec.europa.eu/economy_finance/forecasts/2023/autumn/autumn_forecast-2023_ba_en.pdf



Graph 1. LFS – Unemployment rate Q3 2023
Source: LFS Q3 2023

According to data presented in the latest Labour Market Survey – LFS (Q3 2023), the unemployment rate of youth (gender disaggregated) shows the following trends (Graph 1).

Despite progress achieved in terms of employment growth, young people, particularly young women, unemployment and inactivity are still high. Most of the youth holds temporary or atypical²¹ jobs or are engaged in the informal economy. The lack of skills, work experience, and supporting services available for unemployed youth, and the lack of access to finance, career guidance, and promotion of entrepreneurship and self-employment represent major obstacles and reasons for high unemployment rates among youth. Despite the recent decreasing trend of unemployment in Bosnia and Herzegovina, young people remain disproportionately affected by unemployment. Youth who live in rural areas have low income, many are long-term unemployed and are particularly affected by unemployment and prospects for near employment. Negative trends (migration, especially for the youth, mismatch between

21 Skills mismatch

the needs of the labour market and the needs of the economy) and fewer opportunities for employment represent the main obstacles for growth and competitiveness.

Skill shortages pose significant hurdles for businesses. According to a survey carried out by the World Bank in 2019²², 45.4% of employers in Bosnia and Herzegovina consider that an inadequately educated workforce was a moderate, major or very severe obstacle to their business activities, making this the fourth among the top ten business environment constraints.²³ It is an especially severe constraint among medium-sized businesses. This may be related to the finding from the OECD PISA survey that the education system fails to deliver an adequately trained workforce to the labour market, with more than half (54%) of 15-year-old students being underachievers in reading, just as 58% in mathematics and 57% in science (compared to 23%, 23% and 22% respectively in the EU) (ETF, 2022a). Employers report that foreign language skills, digital and IT skills, and soft skills²⁴ needed in the business environment are especially weak (ETF, 2023). In response to these skill shortages and gaps, almost two fifths (38%) of employers in the country need to provide formal training to their employees (World Bank, 2019). Employers also report significant skill mismatches. For example, a 2018 survey showed that only one half (51%) of employed VET graduates were engaged in jobs that corresponded with their education (GIZ, 2018). Part of the reason for skill mismatches is the inadequate connection between the VET system and the business sector and the lack of WBL opportunities for students and out of work adults with obsolete skills (European Commission, 2022a). In consequence, over the period from 2011 to 2019 there was a high level of emigration of VET graduates in search of suitable jobs, contributing to skill shortages even in the context of high rates of unemployment (Efendić, 2021).

Due to all the above factors, reforming the VET system to make it more aligned with labour market needs is one of the medium-term objectives of the 2022 Economic Reform Programme for Bosnia and Herzegovina. However, according to the European Commission (2022a), progress regarding reforms to promote lifelong learning is disappointing, although Republika Srpska has adopted legislation requiring employers to be represented on the management boards of public universities, creating an opportunity to influence WBL practices in the higher education sector. Other relevant initiatives include providing vocational counselling to students, developing local councils for education and employment, and

22 Latest available and reconfirmed through the research of the project team conducted in the period January – March 2024.

23 Calculated based on the World Bank Enterprise Survey 2019 and reconfirmed through the research of the project team conducted in the period January – March 2024.

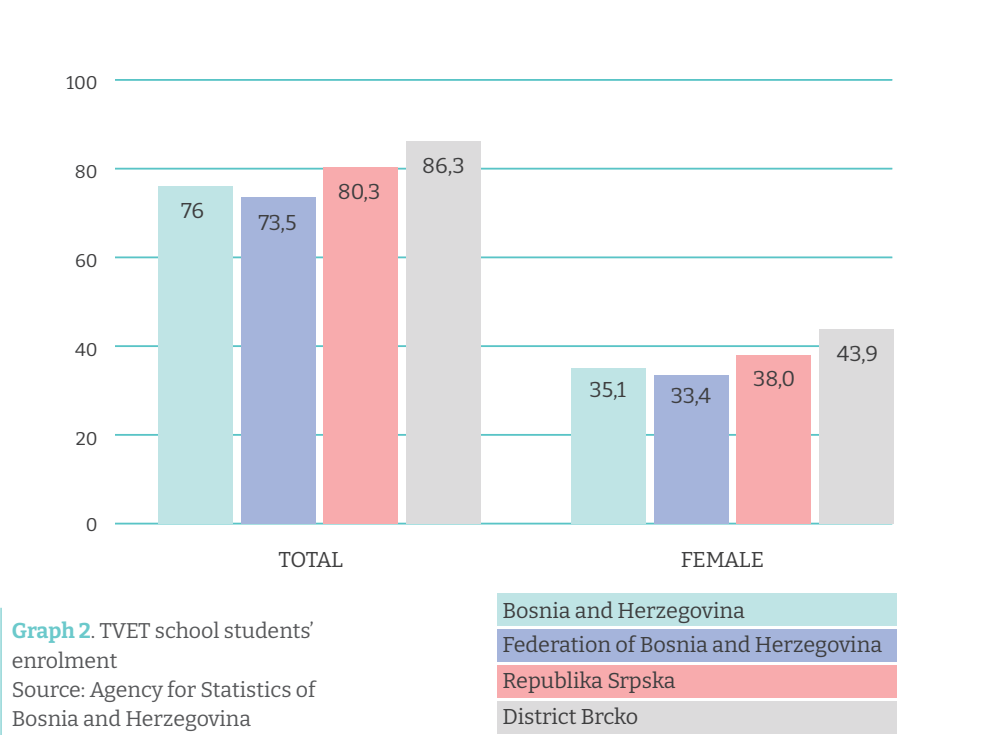
24 As per EU Key Competence Framework

developing internships schemes for students (European Commission, 2022a). The 2023 Economic Reform Programme recognises “the need for programme activities with the aim of supporting adult education programmes” (DEP, 2023: 156). It proposes to provide support to VET schools and higher education institutions to offer training programmes, professional training and development for adults with a focus on women, and in addition to this, to develop guidelines in the field of adult education in the context of lifelong learning in accordance with EU standards.

TVET in Bosnia and Herzegovina is an integral part of the education system, providing qualifications needed in the labour market. The problem is their alignment with economic growth and development in terms of fast changing Industry 4.0. and technological cycles. Even though defined as a priority, full system functioning is not in place with missing puzzles such as structured economy – VET dialogue (at all levels), skills forecast, improvement of quality assurance at all levels and in all forms, support and monitoring system performance, SMART data collection to support evidence based policy making, curriculum update (up to 30% as per technology update), populating register of occupational standards and complementary qualifications, complementary laws as per constitutional set-up of the country, etc. Having all that in mind, it is of paramount importance to significantly improve quality assurance in VET with a well-structured economy – VET dialogue and smart governance at all levels using evidence-based policy making principles and building capacities of existing institutions and stakeholders from TVET related supply and demand side.

4.4 TVET IN NUMBERS

In 2022/2023, 82.046 out of 107.936 students in Bosnia and Herzegovina (or 76%, were enrolled in secondary vocational education, and 24% in general (gymnasium and other schools) education (BHAS 2023)). When it comes to Republika Srpska, as many as 80.3% of students were enrolled in secondary vocational education, and only 19.7% in general education (Institute for Statistics of Republika Srpska, 2023). As far as the Federation of Bosnia and Herzegovina is concerned, a total of 51.684 students (out of 70.325), equal to 73.5% were enrolled in vocational education. At the level of Brčko District of Bosnia and Herzegovina, 86.3% were enrolled in VET schools. Among the total number of students in VET schools, around 37.6% were female (35.1% at the state level, 33.4% in FBiH, 38% in RS and 43.9% in BD BiH), as presented in Graph 2.



According to available data²⁵ found, there is a total of 312 schools, out of which, 211 are VET schools (i.e. 67.6%) in Bosnia and Herzegovina, while there are 137 in the Federation of Bosnia and Herzegovina, 71 in Republika Srpska and 3 in Brčko District of Bosnia and Herzegovina, as presented in table 2 below.

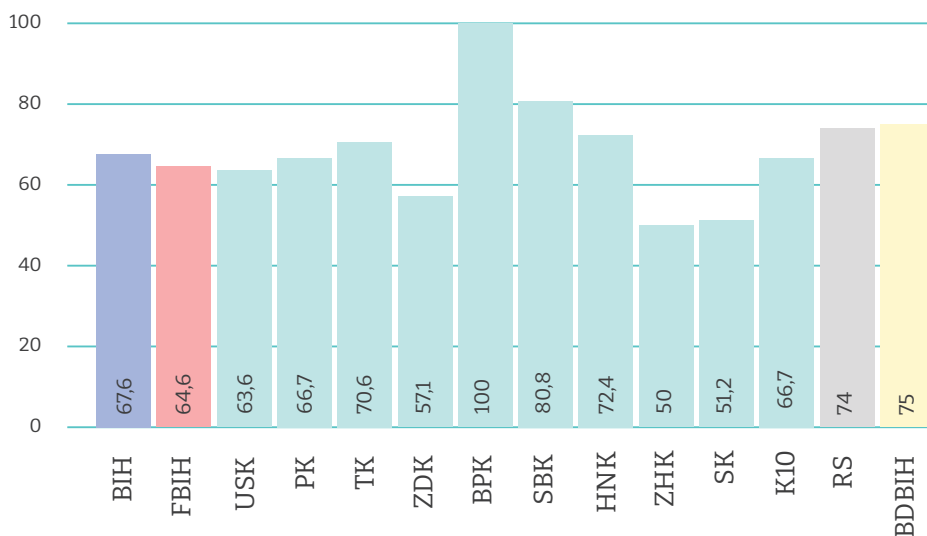
Table 2. # of VET schools at all levels

	Total	VET	VET (%)
BIH	312	211	67,6
FBIH	212	137	64,6
Una Sana Canton	22	14	63,6
Posavina Canton	3	2	66,7
Tuzla Canton	34	24	70,6
Zenica-Doboj Canton	35	20	57,1
Bosnia-Podrinje Canton	3	3	100,0

25 http://www.vetbih.org/portal/index.php?option=com_content&view=article&id=998Itemid=160&lang=hr#Republika-Srpska and APOSO website.

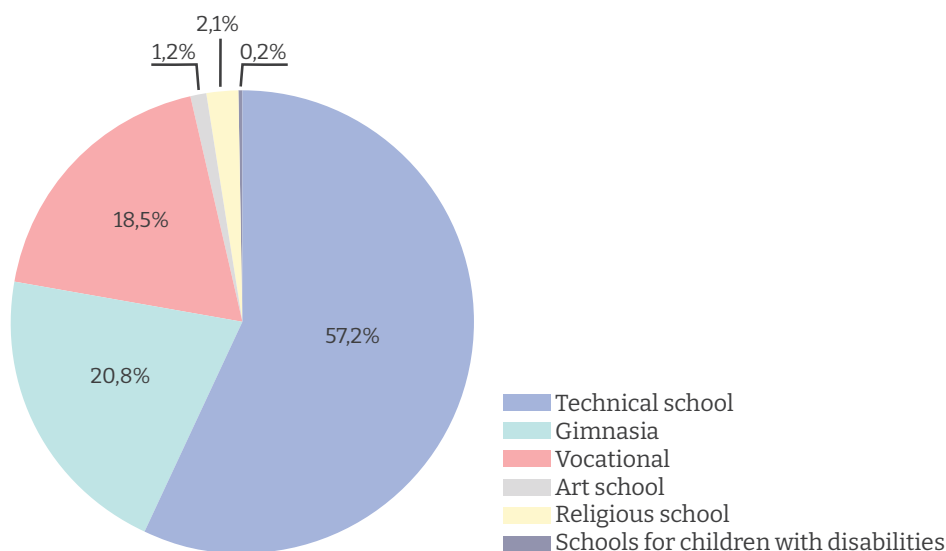
	Total	VET	VET (%)
Central-Bosnia Canton	26	21	80,8
Herzegovina-Neretva Canton	29	21	72,4
West-Herzegovina Canton	10	5	50,0
Canton Sarajevo	41	21	51,2
Canton 10	9	6	66,7
RS	96	71	74,0
BD BIH	4	3	75,0

As presented in the graph below, the highest share of VET schools is in RS and BD BiH, as compared to FBiH and overall BiH average. At the level of FBiH, the highest share is in Bosnia-Podrinje Canton, Central-Bosnia Canton, Herzegovina-Neretva Canton and Tuzla Canton, while the lowest share is in West-Herzegovina Canton, Canton Sarajevo and Zenica-Doboj Canton.



Graph 3. Share of VET schools in the total number of schools per government level

Most students in upper secondary education²⁶ in Bosnia and Herzegovina are enrolled in four-year TVET schools (BCS: "tehničke škole") or three-year VET schools (BCS: "stručne škole"). TVET lies at the intersection of education and the labour market and should meet the requirements of both students and employers. Additionally, more than half of students (57.2%) are enrolled in technical schools, gymnasia (20.8%), vocational schools (18.5%), religious schools (2.1%), art schools (1.2%), while 0.2% are enrolled in schools for children with disabilities.

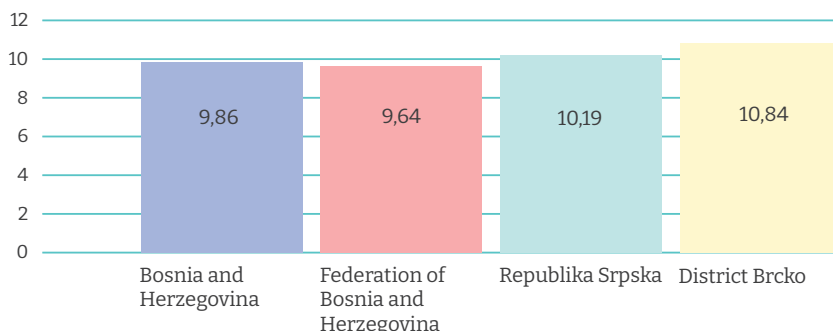


Graph 4. Students enrolled in TVET secondary schools in Bosnia and Herzegovina (%).

As far as the student – teacher ratio in TVET schools is concerned, the lowest ratio (9.64 students per teacher) are noted in the Federation of Bosnia and Herzegovina, while the highest ratio is noted in Brčko District of Bosnia and Herzegovina (10.84). The average ratio in Bosnia and Herzegovina is 9.86 students per teacher, which is significantly lower than in OECD countries (15 students per teacher in VET) or 14 in EU countries.²⁷

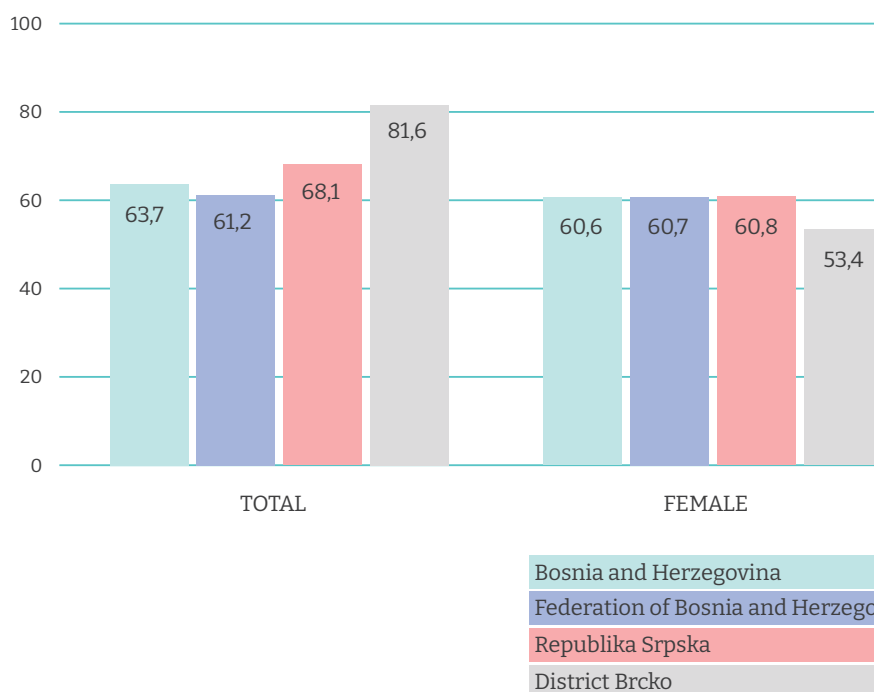
²⁶ Thematic Proposal_Review of Policies for Lifelong Learning in BiH.pdf (europa.eu)

²⁷ According to data available at https://www.oecd-ilibrary.org/education/ratio-of-students-to-teaching-staff-in-educational-institutions-by-level-of-education-2021_0736efc0-en



Graph 5. Student – teacher ratio in VET schools in Bosnia and Herzegovina

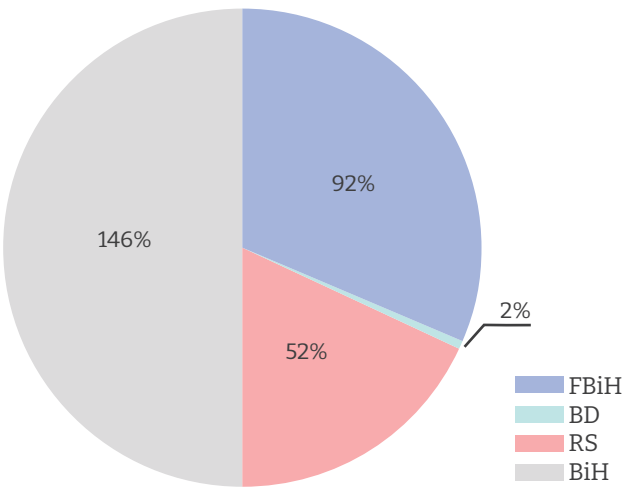
Gender disaggregated data indicate that, out of the total number of teachers (13.068), there are more than 63% employed in VET schools (8324) in Bosnia and Herzegovina, with more than 60% female teachers engaged in VET as compared to men (53% in BD, 60.8% in RS, 60.7% in FBiH and 60.58% at the state level), as presented in graph below.



Graph 6. Share of VET teachers in the total number and share of female teachers at VET schools - in percentages (%)

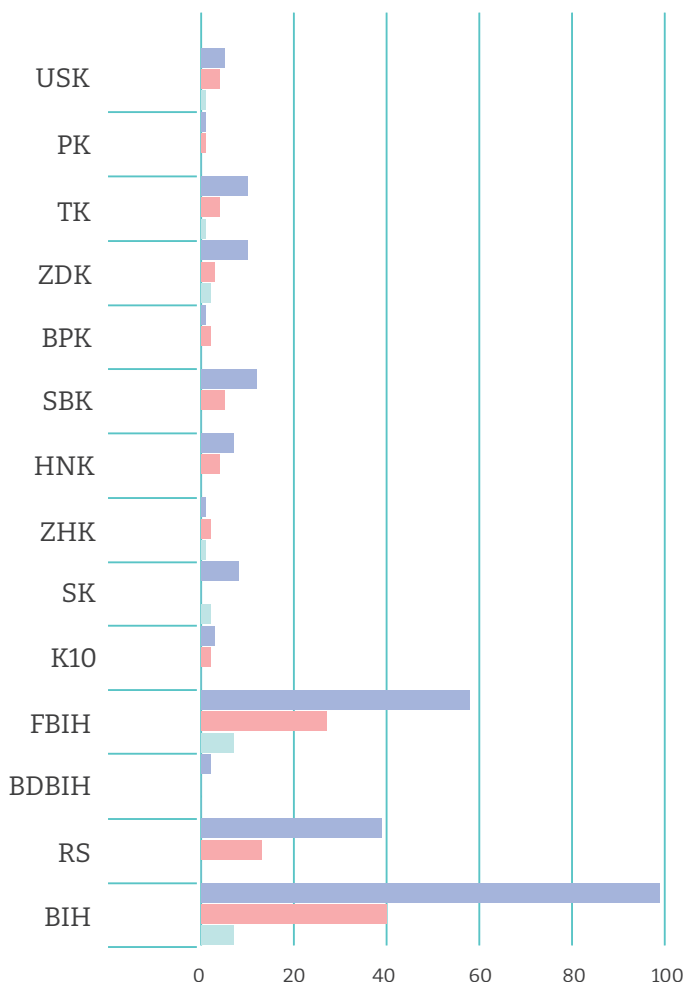
The latest analysis of the VET system performance in a lifelong learning perspective²⁸ carried out by ETF in 2023 (published in 2024) shows the position of Bosnia and Herzegovina in the several analytical dimensions under consideration for assessing VET policies and practices. Even though VET presents a significant share of enrolment in secondary education in Bosnia and Herzegovina, the support given to its development is highly inadequate.

The Political and Economic Analysis (PEA) highlights the significance of the most prominent economic sectors in Bosnia and Herzegovina (*metal processing, wood processing, tourism and catering, ICT²⁹, agriculture and food production³⁰*). The first three presented sectors significantly contribute to employment and industry



Graph 7. Number of schools providing programmes relevant to the occupational profiles in metal processing, wood processing, tourism and catering sectors

28 Microsoft Word - TRP_L1_Monitoring_report_BiH (europa.eu)
29 This sector is supported by other donors in Bosnia and Herzegovina and is more oriented toward higher education qualifications – EQF 6+.
30 This sector is still facing significant difficulties regarding its participation in a high-quality delivery of dual VET.



Graph 8. Number of TVET schools providing programmes from the metal processing, wood processing, tourism and catering sectors

According to data in graphs 7 and 8 above, out of 211 TVET schools in Bosnia and Herzegovina, the share of schools providing programmes relevant to the metal processing, wood processing, tourism and catering sectors is 146 (69.1%). Out of this number, 92 schools are in the Federation of Bosnia and Herzegovina (63%), 52 (35.6%) in Republika Srpska and 2 (1.4%) in Brčko District of Bosnia and Herzegovina. The data on the number of schools in the Federation of Bosnia and Herzegovina per canton is as follows:

Table 3. Number and percentage of schools providing programmes relevant to the metal processing, wood processing, tourism and catering sectors per canton in the Federation of Bosnia and Herzegovinae

CANTON	# OF SCHOOLS	% WITHIN FBIH
Una-Sana Canton	10	10,87%
Posavina Canton	2	2,17%
Tuzla Canton	15	16,30%
Zenica-Doboj Canton	15	16,30%
Bosnia-Podrinje Canton	3	3,26%
Central-Bosnia Canton	17	18,48%
Herzegovina-Neretva Canton	11	11,96%
West-Herzegovina Canton	4	4,35%
Canton Sarajevo	10	10,87%
Canton 10	5	5,43%

The relatively low enrolment in gymnasia may be explained by the fact that general education is perceived by both employers and the public as fostering a lower level of practical skills as compared to technical schools. However, many VET profiles are outdated and/or poorly equipped to provide the skills needed by employers (GIZ, 2018). According an APOSO report on curricula development in Bosnia and Herzegovina in the period 2010-2021 (APOSO, 2021), most students are interested in qualifications in the field of medicine, electrical engineering, mechanical engineering and metal processing. One of the most interesting areas for VET students is technical studies, and most VET schools have workshops where they provide practical training in these profiles. This contrasts with previous times when the first choices were often economics, accounting and administration.

Country results — International average



Theoretical index range: min/low performance =0 max/high performance=100

Graph 9. Torino process governance assessment 2024

Source: Torino Process monitoring database

The gap is still being covered by the efforts of the donor community, including the assistance of the Swiss Government through the Swiss Development Cooperation (SDC) in the reform of technical and vocational education and training, which can be summarised into several fundamental trends and current education policies:

- 🔄 Promotion of lifelong learning and continuous improvement to enhance social inclusiveness, employability, and workforce flexibility.

- ④ Continuous alignment of education and training with the needs of the labour market to ensure the relevance of students' skills and competencies.
- ④ Introduction of innovative and adaptable educational practices to ensure adequate preparation for the modern demands of the business environment.
- ④ Increased focus on practical skills and WBL to directly connect theory with practical experience.
- ④ Creation of more opportunities for the training and development of the teaching staff to improve the quality of teaching and mentoring.
- ④ Strengthening partnerships between educational institutions, the business sector, and relevant stakeholders to ensure a better response to the labour market's needs.
- ④ Designing programmes with learning outcomes derived from the labour market needs, i.e., occupational standards and qualifications.
- ④ Integration of general and vocational education into integrated and cohesive learning packages.

Improving the quality assurance in VET is fundamental for the effective and sustainable application of abovementioned trends and policies. Quality assurance³¹ refers to comprehensive efforts undertaken to ensure that educational resources, learning processes, and practices meet the highest standards, corresponding to the needs of the labour market.

4.5 ALIGNMENT WITH THE EU TVET POLICY ESSENTIALS

Bosnia and Herzegovina has been an EU candidate country since December 2022, and will aim to gradually improve its vocational education system towards EU standards. In its complex political, administrative, and educational environment, the country has committed itself to following and implementing VET related EU policy essentials.

A fundamental step was taken with the adoption of the "Qualifications Framework of Bosnia and Herzegovina" in 2011. As a result of this, the initial practice of developing occupational standards and education and training programmes has been established. The concept of modular programmes based on learning outcomes has been adopted, however, 13 years after the adoption it is still in very limited in terms of implementation

31 More in Chapter 6 of this report.

and application. Yet, the competent education authorities have already committed the country to implementing the “Riga Conclusions” on vocational education and training, which emphasises the promotion of WBL in all its forms (Riga Declaration, 2015). The Ministry of Civil Affairs has produced a document (adopted by the Council of Ministers, 2021) that provides a framework for embedding the Riga Conclusions concerning WBL into both initial and continuing vocational education and training. It provides an overview of various formats of WBL for Bosnia and Herzegovina, with action plans for their implementation. The fields of priority action identified in the document are (i) promoting WBL and making it attractive for companies and students, (ii) involving social partners in WBL policy-making, (iii) support for WBL implementation, and (iv) arranging finance for WBL. Other sections of the document analyse the development of quality assurance mechanisms, the qualification systems for VET with reference to the European Qualifications Framework, key competences in VET with reference to EU standards, and arrangements for continuous professional training of teachers, trainers and mentors in VET.

In the domain of quality assurance, the adoption of the strategic document “Improving the Quality and Relevance of Vocational Education and Training in Bosnia and Herzegovina based on the Conclusions from Riga (2021-2030)” is of particular importance. Although its full implementation faces significant challenges, this document has initiated some processes and activities related to creating conditions for applying quality assurance in VET (external and internal evaluation of VET providers). The concept of key competencies³², as an integral part (and indicator) of quality assurance in Bosnia and Herzegovina, has not yet received its basic conceptual form, nor has the process of integrating key competencies into education and training curricula, nor the process of training teachers for their work with students. Considering the current situation, a key challenge for the education policy and system in Bosnia and Herzegovina is aligning the concept and processes of quality assurance with EU quality assurance recommendations (EQAVET), integrating key competencies into education and training curricula, and functionally linking them to vocational competencies. VET governance and VET related structured dialogue, in line with EQAVET and UN SDGs No. 4 and 16, are particularly weak. According to OECD Competitiveness Outlook for South-East Europe 2021 assessment as well as SME Policy Index for Western Balkans and Turkey, Bosnia and Herzegovina is a poor performer when it comes to VET governance, mechanisms to identify training needs in the labour market and multilayer quality assurance.

32 Especially EU ENTRECOMP, DigComp and GreenComp

Table 4. OECD Competitiveness Assessment on TVET related indicators

Sub-dimension	Qualitative indicator	ALB	BIH	KOS	MKD	CG	SRB	WB6 average
Sub-dimension 7.3: Vocational education and training	VET governance	3.5	2.0	3.0	4.0	4.0	3.5	3.3
	Work-based learning	3.0	2.0	3.5	3.0	3.0	3.0	2.9
Sub-dimensional average score		3.3	2.0	3.3	3.5	3.5	3.5	3.1

Source: OECD Competitiveness Outlook for South-East Europe 2021

Based on the survey conducted by the project team (January – March 2024), VET related smart data collection to serve evidence-based policy making is weak and/or non-existent and its development is essential to serve a smart VET governance.

Being aware of the changing conditions in line with essential transition towards Industry 4.0, the *lifelong learning*³³ concept is a must, including recognition of prior learning (non-formal and informal). In the EU, this is supported by the latest developments defined through “microcredits” and competency passports. In Bosnia and Herzegovina, minimum pre-requirements for applying these processes have not been met, especially having in mind that there is no qualifications framework (QF) with all corresponding tools and mechanisms (Qualifications Register included).

For more than a decade, the Qualifications Framework in Bosnia and Herzegovina has been progressing, however it has not yet been fully implemented and used as a lifelong learning reference tool. It was created by the document “Baseline of the Qualifications Framework in Bosnia and Herzegovina”, adopted in 2011 (CoM, 2011), encompassing the eight levels of the European Qualifications Framework (EQF), as well as generic descriptors for each of the levels. It also defined that learning outcomes can be acquired through formal, non-formal and informal learning. However, the process of populating the framework is at slow pace due to different reasons³⁴.

To support the implementation of the Action Plan, the EU launched two technical assistance projects: **Development of Qualifications Framework for General Education – QFGE** (IPA 2012) and **Development**

33 Cedefop, Terminology of European education and training policy. ¶ selection of 130 key terms (europa.eu)

34 Geopolitical complexity

of Qualifications Framework for LLL – QFLLL (IPA 2013), which is related to VET and AE. The referencing process in Bosnia and Herzegovina started, led by the Ministry of Civil Affairs, and supported by both above-mentioned projects. Through the QFLLL Project, a **working group for development of the Referencing Report to the EQF³⁵** was established.

The “Action Plan for the Development and Implementation of the Qualifications Framework in Bosnia and Herzegovina for the Period 2014-2020” was adopted in 2015³⁶. Certain activities from the Action Plan were implemented³⁷ through two EU-funded projects – “Development of the Qualifications Framework for General Education” and “Development of the Qualifications Framework for Lifelong Learning”. Still, the Action Plan is not fully implemented, and its degree of progress has not been evaluated. Therefore, a new revised set of activities is still to be identified and planned. There is no adequate legislation that would support the functioning of the Qualifications Network in Bosnia and Herzegovina and the management model for the development and quality assurance of qualifications in Bosnia and Herzegovina. The complex organisation of the education sector in Bosnia and Herzegovina presents a particular challenge in this regard. An agreement on a simple qualifications management model would enable the development and adoption of legislation followed by the establishment of missing processes and the integration of all existing elements into a functional qualifications framework, as well as the completion of the referencing process of the Qualifications Framework in Bosnia and Herzegovina to the EQF.

In 2017, an “Inventory and Analysis of Existing Vocational Qualifications in Bosnia and Herzegovina” was developed by ETF³⁸. The inventory includes a total of 1,155 vocational qualifications, out of which 836 are in secondary initial VET, obtained in vocational schools, while 319 are obtained through lifelong learning programmes. The greatest number of qualifications comes from formal VET at levels 3 and 4. Only 6 qualifications are at level 2, while at level 5, there are 88 qualifications. Looking

35 It was composed of 24 members in total – representatives of: MoCA (both Department for Education and Department for Labour and Employment), APOS, HEA, ministries of education and ministries of labour and employment at the level of entities, 2 cantonal ministries of education, representatives of Department of Education of BD, Rector Conference of Bosnia and Herzegovina and Rector Conference of RS, higher education institutions, students’ organisations and trade unions.

36 “Official Gazette of Bosnia and Herzegovina”, No. 28/15

37 The register of qualifications (initial phase) as an electronic database available online (<https://eqf.ba/lista-standarda/pregled-standarda-kvalifikacije-u-strucnom-obrazovanju-i-obuci/>), comprising the qualifications developed through the aforementioned projects. No new entries have been registered since the end date of the projects. Models for the credit system, modularised and learning-outcomes based qualifications have been developed, but they are not further used by the different education authorities.

38 <https://www.etf.europa.eu/en/news-and-events/events/dissemination-findings-inventory-analysis-vocational-qualifications-bosnia>

at the number of qualifications per each level, it could be concluded that further development of the qualifications at the level 2 might be required, especially having in mind the need to provide qualifications for long-term unemployed adults and persons with special needs. Vocational qualifications at levels 3 and 4 are classified in 13 occupation families. More than half of the **742** qualifications at these levels (**56.1%**) are **outdated**, as they were developed in 1995 and 1996 and they need to be revised. In this way transition towards Industry 4.0 is hardly reachable and criticism coming from the private sector is justifiable. Most qualifications are found in two occupation families: metal processing (20.3%) and electrical engineering (15.8%). However, the number of students per occupational family showed that the economics, law, administration, and trade were the most popular³⁹. At level 5, structural modernisation from old qualifications “high skilled worker” to new “master craftsman” represents a challenge for all education authorities. It was noticed by that time that learning outcomes were not used at level 2 and only in very few cases at the level 5⁴⁰. However, about **42.9%** of most used qualifications at **level 3 and 4 are based on learning outcomes**⁴¹. Therefore, it was recommended that additional efforts be undertaken to increase the number of qualifications based on learning outcomes.

The occupational standards database contains 24 occupational standards for VET (QF levels 2 to 5) and 2 occupational standards for the higher education (QF levels 6 to 8) which is far beyond the needs of the economy of Bosnia and Herzegovina. The database of qualification standards contains 23 standards for VET and 5 standards for the higher education qualifications. In addition to these, there are other standards developed through other projects (financed by GIZ, USAID, Swiss SDC) still not inserted in the QF (latest example is the cook qualification developed by the ongoing USAID Tourism Project). Common to all these standards is that they are all created according to a similar (but not exactly the same) methodology, with the participation of representatives of the labour market and educational experts, and that they contain the essential parts that this type of standard should contain (key tasks, knowledge, skills, competences, LOs, units of LOs, etc.). However, these standards were only endorsed by the steering bodies of various projects (mainly with the participation of representatives of the relevant education authorities) and were not officially approved by the education authorities or other bodies responsible for approving the standards (which requires harmonisation and prompt reaction). An enabling legal and institutional framework for their insertion does exist and action is to be taken, supporting improvement of VET in Bosnia and Herzegovina and supporting institutional capacities for

39 Data 2017

40 Solely in the authority of the secondary VET

41 Mainly developed by technical assistance projects

it. It is not mandatory to use them during the development of curricula, and there is no compliance assessment during the adoption of curricula. Consequently, their use during the VNFIL arrangement should not be expected until the issue of the qualifications management in the BHQF is settled.

Bosnia and Herzegovina faces significant challenges in achieving the institutionalisation of competency-based education. It is a key challenge for Bosnia and Herzegovina to further align its training provision to the fundamental requirements of the competence-based education and training (CBE), primarily outlined by the EU's relevant frameworks: ENTRECOMP and DIGICOMP. Supporting the institutionalisation of CBE in Bosnia and Herzegovina is in line with these frameworks. These issues are essential elements of efficient governance and require support. More efforts in the institutionalisation of CBE to support entrepreneurial skills development among young people and enhance teachers' skills in CBE provision are crucial needs of Bosnia and Herzegovina. The role of the EU in the institutionalisation of CBE is crucial. Although non-binding, the EU Entrepreneurship Competence Framework (EntreComp),⁴² developed by the EU in 2016, provides countries with a useful reference and guidance for developing curricula and learning activities aiming to integrate entrepreneurship as a key competence in the education systems. It is especially important having in mind new entrepreneurial endeavours in those areas in which Bosnia and Herzegovina is by far lagging behind other EU candidate countries⁴³.

Table 5. Number of SMEs per 1000 inhabitants in the Western Balkans and Turkey (2017 and 2020)

SMEs per 1000 inhabitants	ALB	BIH	KOS	MKD	CG	SRB	TUR	WBT average
2017	15.4	8.5	20.3	26.5	48.8	50.9	38.3	29.8
2020	17.3	9.7	23.9	27.8	59.9	58.4	39.1	33.7
% change	12.,3	14.1	17.7	4.9	22.8	14.7	2.1	13.1

Source, OECD SME Policy Index for the Western Balkans and Turkey 2022

42 ETF (2022), Key Policy Developments in Education, Training and Employment in Bosnia and Herzegovina Available at: https://www.etf.europa.eu/sites/default/files/2023-03/Country%20Fiche%20_Bosnia%20and%20Herzegovina_2022_EN_web_0.pdf

43 OECD, SME Policy Index for the Western Balkans and Turkey 2022

This framework underlines the key role of entrepreneurship in bridging the gap between education and the workforce. The EU entrepreneurial competencies – EntreComp are grouped into three key areas:

- ④ Ideas and Opportunities,
- ④ Resources, and
- ④ Intro Action.

Similarly, first developed in 2013, the Digital Competence Framework (DigComp) provides a common framework for European countries in integrating digital competencies into teaching and learning practices and systems across various areas. DigComp, with its most updated version (DigComp 2.2⁴⁴), presents another important guidance for Bosnia and Herzegovina in further strengthening the institutionalisation of digital competencies in the education systems, including the VET systems.

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The key group areas identified in DigComp 2.2 are:

- ④ Information and data literacy;
- ④ Communication and collaboration with others using digital technologies;
- ④ Digital content creation;
- ④ Ensuring safety, including protection of data and information in digital environments as well as personal well-being; and
- ④ Problem-solving in digital environments.

In 2022, the EU Green Competence Framework – GreenComp, as a reference framework for sustainability competences, was adopted. It provides a common ground to learners and guidance to educators, advancing a consensual definition of what sustainability as a competence entails.

EU GreenComp comprises four interrelated competence areas:

- ④ Embodying sustainability values,
- ④ Embracing complexity in sustainability,
- ④ Envisioning sustainable futures and
- ④ Acting for sustainability.

44 The Digital Competence Framework (DigComp 2.2). Available at: https://publications.jrc.ec.europa.eu/repository/bitstream/JRC128415/JRC128415_01.pdf

Each area comprises three competences that are interlinked and equally important, strongly linked to the EU EntreComp learning outcomes. GreenComp is designed to be a non-prescriptive reference for learning schemes fostering sustainability as a competence. Application of the DigComp and GreenComp is supported by ongoing EU and GIZ projects.

In the EU, EntreComp, DigComp and GreenComp are seen as cross curriculum (horizontal) competences essential for transition towards Industry 4.0. (5.0) with application of Classroom 3.0 learning methodology.

5 | DUAL VET ENVIRONMENT SET UP – ANALYSIS OF THE KEY BUILDING BLOCKS

5.1 CURRENT TEACHING AND LEARNING PRACTICE AND CURRICULUM PROVISION

Bosnia and Herzegovina has a long tradition of providing vocational education and training through formal technical and vocational schools. In case of technical schools (ISCED 3A / EQF level IV), the curricula and syllabi last for four years, after which students may progress to the next educational level, and in case of vocational schools (ISCED 3C / EQF level III), the curricula and syllabi last for three years, after which progression to higher education is not automatic, but is rather dependent on passing additional exams. However, professional vocational advancement is still possible, and after two years of full-time work these students are entitled to pass the master craftsman exam (majstorski ispit) and if successful, they receive the title of master draftsman (majstor / EQF level V) (see the graph below).

37

TVET takes place at the intersection of education and the labour market and should meet the requirements of students and employers alike. However, there is a shared opinion among employers that the school system is not flexible enough and too reliant on theoretical learning and not enough on practical experience⁴⁵. Employers often say the students who study technical training at school are not properly prepared for work, while at the same time relatively few students receive adequate technical training in the framework of WBL placements with employers.

According to the last inventory of qualifications, there was a total 1,155 vocational qualifications, out of which 836 in secondary initial VET (delivered at TVET schools), obtained at vocational schools, while 319 were obtained through lifelong learning programmes. Most qualifications come from formal VET at levels 3 and 4. Only 6 qualifications are at level 2, while at level 5, there are 88 qualifications. Vocational qualifications at level 3 and 4 are classified in 13 occupation families. More than half of

45 Confirmed through interviews conducted by the project team during January – March 2024

LEVELS	
	8
	7
	6
 Specialist	5
 Master Craftsman	4
 Technician	3
 Qualified worker	2
 Semi-skilled worker	1

Graph 10. Type of VET Qualifications in Bosnia and Herzegovina

the **742** qualifications at these levels (**56.1%**) are **outdated** as they were developed in 1995 and 1996 and they need to be revised. During the preparation of this study, the Project team found that, in the meantime, a certain number of new qualifications⁴⁶ were developed and/or were being developed with the support of different donor projects, however they are still not listed in APOSO or QF in Bosnia and Herzegovina - eqf.ba (official instruments). That requires immediate response in terms of populating them with official instruments. The project team also found out that in some cantons, curriculum development is ongoing and led by the competent education authorities without following the official methodology (presented in the above mentioned manuals). Many EU projects in the past supported a curriculum reform. The VET department of APOSO prepared a report on the implementation of modular curricula for the period 2010-2021 (APOSO; 2021). Twenty years after the first introduction of modular curricula in VET, all curricula for qualification at the level 3 and 4 in Republika Srpska and Brčko District of Bosnia and Herzegovina are modular and are based on learning outcomes. In Republika Srpska, the curricula were adjusted according to the labour market needs for 54 qualifications in the school year 2022/2023 (APOSO, 2023). In the Federation of Bosnia and Herzegovina, the use of modular curricula varies from 6% in some cantons to 77%. For example, in Bosnia-Podrinje Canton, 3-year

⁴⁶ During the interview with APOSO, the project team was informed that approximately 60 occupational standards and qualifications were developed, but not incorporated into official instruments due to different reasons.

VET programmes are mainly based on labour market needs and nine curricula were redesigned and improved for VET schools. Four-year programmes have been adjusted for profiles such as economy and accounting, mechanical technician, CNC technician, agricultural technician, civil engineering technician, chemical technician, and mechatronic technician for motor vehicles (Puratić, 2023). Some cantons use traditional curricula for VET (level 3 and 4 of BQF). APOSO has also developed 31 occupational standards and six qualification standards in VET based on learning outcomes and key competences (APOSO; 2023).

A pre-requisite for a well-functioning WBL/dual TVET is that practical learning is defined within curriculum with a clear link to the qualification and occupational standard. A strategic document⁴⁷ defines priority actions related to WBL. These priorities envisage (i) the promotion of WBL to make it attractive for companies and students, (ii) promoting partnerships between schools and companies and their associations, (iii) the involvement of social partners in VET, and in VET policymaking, and the active involvement of companies and their associations and chambers in defining priorities in VET. The document emphasises the importance of a well-structured, permanent, transparent and efficient dialogue between partners in the education sector and labour and employment sector as well as coordination and decision-making on WBL through advisory councils and tripartite councils from school to government levels; the licensing of companies that offer WBL with qualified mentors; keeping a register of companies that offer training by chambers of commerce; student assessment and monitoring; and health and occupational safety insurance for students. The finding of the project team is that priorities listed above are not equally approached in the process of implementation all over Bosnia and Herzegovina. The level of maturity of the processes, implementation modalities and stakeholders rolls varies from non-systematic attempts to good practices to be shared throughout the country. These discrepancies are noted even within one administrative education authority and can be summarised as mainly anecdotal. Good examples with implementation of WBL related priorities are found in Republika Srpska, Zenica-Doboj Canton, Bosnia-Podrinje Canton Goražde with the support of GIZ. During site visits, the project team found that there were good initial developments preparing the ground for further application and the project received a request for support. In addition, there is a regional project ongoing lead by ERISSEE with the objective to develop regional occupational standards and qualifications where e.g. qualification standard for agro-technician of organic and conventional production (*agrotehničar organske i konvencionalne proizvodnje*) is developed by APOSO and shared with

47 The Strategic Document "Improvement of the Quality and Relevance of Vocational Education and Training in Bosnia and Herzegovina in the Light of the Riga Conclusions for the Period 2021-2030" (Council of Ministers, 2021)

EIRSEE countries, but not listed neither by APOSO or eqf.ba. The second standard developed by ERISEE is locksmith, which has “publishing pending development/adoption” status for Bosnia and Herzegovina⁴⁸.

Survey data (Schmid & Gruber, 2018) show that vocational school students in Bosnia and Herzegovina with experience of in-company placements perform better than students who have only received practical training at school workshops. Yet, while WBL is integrated into vocational secondary education, it is relatively weakly developed (OECD, 2021), as relatively few small and micro enterprises are willing and capacitated to provide the training places required (European Commission, 2022a). Furthermore, interviews conducted with employers in 2024 by the project team confirmed findings from the recent survey, which showed that companies view a lack of support from public institutions as the greatest challenge in implementing WBL, along with the excessively complex regulations involved (Schmid & Gruber, 2018). Despite that, employer interest is increasing due to emerging shortages of skilled labour.

The Strategy for the Development of Pre-School, Primary and Secondary Education of Republika Srpska for the period 2022-2030 with its action plans⁴⁹ focuses on improving practical training at companies, increasing the number of students in company work placements, adjusting the curricula to labour market needs, and enhancing partnerships between the education sector and the business sector. Additionally, development strategies at cantonal level for the period 2021-2027 and the Development Strategy of Brčko District of Bosnia and Herzegovina (2021-2027) prioritise better partnership and coordination between VET schools and the business sector through increased use of practical training placements in companies, and the adjustment of curricula to labour market needs, leading to a more competent and skilled workforce with a view to improve VET graduates’ employability.

⁴⁸ <https://eqet.erisee.org/qualification-standards/>

⁴⁹ Adopted by the Government of Republika Srpska, 2021

5.2 WORK BASED LEARNING AND/OR IN-COMPANY PRACTICAL TRAINING

The most prevalent form of WBL in vocational education in Bosnia and Herzegovina is known as practical training, which can be carried out either entirely at a school, or partly at the school and partly on the premises of an employer.⁵⁰ In case of the first format, students may undertake practical training either at school workshops, laboratories, school kitchen and/or “virtual companies” set up within the school. In case of the second format, while spending most of their time at school, students may also spend some time on work experience at a company, ranging from short visits to spending between one to three days a week on practical training at a company.⁵¹ Short work experience placements of up to 15 days can take place during summer and winter holidays. This format of WBL is often used in the tourism and catering sectors, but can also be found in administration and finance (e.g. in banks). The format of winter or summer holiday placements varies across Bosnia and Herzegovina, from being an obligatory placement to a voluntary choice of students and parents, which is far beyond dual VET principles.

Practical training is regulated through secondary legislation and is within the competence of every education authority. In recent years, many international organisations have focused on improving the secondary legislation and procedures related to practical training, e.g., GIZ, the Swiss Development and Cooperation Agency and other donor projects. Some good examples can be found in Republika Srpska, in Zenica-Doboj Canton and in Bosnia-Podrinje Canton. In some cantons, the extent of practical training at companies is a voluntary choice of students and their parents. Its actual application varies across entities and cantons, partly due to an insufficient involvement of the business community in the education system as a consequence of an uneven dispersion of enterprises and a lack of coordination and understanding between these sectors.

In general, there are two main types of WBL contracts: (i) between a school and a company, setting out which occupations are taught and how many students will be received each year, and (ii) between parents and companies and the school (the tripartite system). The selection of who gets to go to which companies is usually made by the school headmaster. In some cases, the selection process of students is completely transferred to companies due their previous negative experience with students’ attitudes

50 As it is referred to in legislation on secondary education

51 In the past, this was a part of the regular VET system associated with specific occupations, mostly “craft industries” (i.e., SMEs), and 3-year VET profiles involved obligatory practice at small firms or industrial enterprises (Hadžiomerović, 2018). This system broke down with the privatisation of the socially owned companies that had previously held strong links with their local VET schools.

towards acquiring knowledge and regular attendance at practical classes. Therefore, the organisation of practical training at companies takes place based on the selection of the best students through interviews, which sometimes also include their parents. School headmasters often select students in collaboration with companies, but this practice is subject to unfair favouritism, which may discriminate between students and should be discouraged. The project team found that information about student placements for in-company practical learning is almost impossible to find and that the collection of such information is scattered. According to a survey conducted a few years ago by KulturKontakt Austria (OEAD), only about two fifths (40%) of VET schools in Bosnia and Herzegovina are capable of providing school based practical training for their students (Schmid, 2018). From this information it is obvious that there is no sufficient data about how many students and in which occupational profiles are enrolled in practical training in these schools. There is a need for a systematic solution. During field visits, the project team received confirmation of this, with expressed commitment and readiness for sharing good practices noted at the Chamber of Commerce of Sarajevo and Chamber of Commerce and Industry of Republika Srpska.

In addition, there is little published information on the number of contracts provided within different cantons, while it is known that in Zenica-Doboj Canton about 2,000 students a year are using the new contracts. With the technical assistance of a GIZ project, the Chamber of Commerce of Sarajevo Canton established an online database in 2022 that gathers data on businesses that offer WBL to students. The Cantonal Chamber of Commerce was entrusted with the management and maintenance of the database; however, because of funding constraints and the closure of GIZ project in July 2023, the database is no longer in use, requiring further development and update in line with digital society principles⁵². Although ministries of education should possess that information, the data is not always collected and is often not publicly available. Field visits have also shown that most actors collect data manually.

Another issue related regarding WBL is the fact that the scope, depth and quality of WBL opportunities are often insufficient to achieve meaningful learning outcomes (Schmid & Gruber, 2018). The 2023 Torino Process Monitoring Report states that the hours of practical training have been increasing in recent years (but still not sufficient in time and quality for dual TVET) (ETF, 2023).

During field visits, best practice examples were noted in case of the public employment services playing an active role regarding the planning

⁵² Readiness expressed for sharing tools with other cantons and business associations.

of enrolment policies. In Republika Srpska and in some cantons in the Federation of Bosnia and Herzegovina, it appears that there is a relatively good coordination between public employment services, ministries of education and chambers of commerce. Public employment services (in RS, FBiH and BD BiH) prepare analyses of labour market needs and send them regularly to VET schools to assist shaping their enrolment policies.⁵³ Usually, in the second semester, public employment services visit primary schools to inform students about those occupations that are in high demand. Chambers of commerce also gather information on labour market needs, but unfortunately, no centralised information is available. Recently, the Chamber of Commerce and Industry of Republika Srpska has started to register companies that offer training for VET students (Union of Employers, 2023), while the Chamber of Commerce and the Institute of Adult Education keep lists of learning providers. A systematic analysis of needed skills is still missing. Employers' associations expressed a strong interest (even commitment) to play an active role in this respect. They also proposed to conduct a cost-benefit analysis of in-company training (for the beginning in one sector relevant to project intervention as part of strategic piloting).

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Based on rulebooks on practical training prescribed by the responsible education authorities (in those administrative units that have rulebooks on practical training⁵⁴), every student is to be assessed and evaluated by their mentor after a WBL placement. The practice of monitoring and evaluation of practical training at companies differs in Republika Srpska and in the cantons of the Federation of Bosnia and Herzegovina. In Zenica-Doboj Canton, practical training is regulated by a Rulebook on Practical Training at Companies, which covers the role of school coordinators for practical training and of mentors in the companies. In Bosnia-Podrinje Canton, the Rulebook on Practical Training was improved with the support of GIZ, and mentors now actively participate in partnership with school coordinators in the evaluation of student performance during practical training. For example, in Travnik, a town in Central-Bosnia Canton, the mentors for students in three- and four-year programmes carry out previous tests to check the theoretical knowledge of students in subjects related to their work activities and assess their achievements during practical work placements (which highlights huge discrepancies within the learning/teaching process and learning outcomes achieved – QA). Site visits paid to companies revealed that in the case of negative evaluation of the performance of students during practical training by company mentors this is not always well accepted by schools.

53 Labour Market Analysis 2021/2022 in FBiH, RS and BDBiH.

54 Republika Srpska and approximately 50% of cantons, but this is not harmonised at the state level.

Students attending four-year programmes at technical schools also carry out WBL within companies. Contrary to the opinion held by companies, some school headmasters believe that those students should spend more time at school studying the general subjects that are needed to progress to university (for example, they consider that placements involving 2 days per week at a company would be more appropriate than those requiring 3 days per week at a company). During an interview at one of the technical schools, the school headmaster highlighted that parents were concerned about their children spending too much time in practical training. It can be concluded that there is a strong need for awareness raising activities of the double role of TVET and for the improvement of quality assurance of in-company training at system level for the overall benefit in terms of the quality of learning achievements.

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In practice, students following a 4-year programme typically have less interest in WBL than those following a 3-year programme, apart from an interest in having a summer job, often without a mentor. But there is evidence, revealed through enrolment choices, that many students are interested in having at least some practical training, particularly in case of profiles such as electrical and mechanical engineering. Usually, there is more interest in those profiles than there are places for students. There is some research evidence indicating that students are unsatisfied due to a lack of sufficient practical training options available to them (Association of Secondary School Students, 2021). Evidence from the EU Labour Force Survey shows that, if WBL takes place within favourable (technologically advanced), conducive and supportive learning contexts at a company, it can become a more attractive place of teaching and learning for every student (Cedefop, 2016).

During the Inception phase for the preparation of project interventions, the project team visited a number of schools and some case studies with findings are given below.

Case Study 1: TVET School in Brčko District of Bosnia and Herzegovina

The technical school in Brčko District of Bosnia and Herzegovina enrolls more than 900 students per year, but the numbers have been falling. The school offers four-year programmes with 49 classes; only one third of students follow three-year programmes. Most practical training is provided at school workshops for groups of six to ten students. They have good equipment and machines, but they lack materials needed for practice (e.g., wood for the profile of carpenters, pipes for the profile of plumbers, or metal for metal working programmes).

In the final year, students are required to attend practical training at a company for two days per week. However, there are not enough employers who are willing to offer practical training placements. Representatives of the Education Department of Brčko District of Bosnia and Herzegovina told us that only few companies offer WBL placements and that “they see students more like employees than trainees.” Usually, students are not paid, with the exception of a few companies that provide free transport and/or a “bonus” amounting to 20 BAM for lunch, if they stay after one o’clock. Brčko District of Bosnia and Herzegovina provides scholarships for university students and, as of 2023, secondary school students that select enrolment profiles that are in high demanded on the labour market.

Case Study 2: Technical VET School in Banja Luka

During the site visit of a team of experts, the school headmaster highlighted that this was the largest school in Bosnia and Herzegovina and used to be the second biggest school in the former Yugoslavia. In the school year 2023/2024, about 1,500 students were enrolled. The school specialises in mechanical engineering, a subject taken by three quarters of students, as well as transport, and has recently introduced a new profile in mining.

The school has no problems attracting students, with more candidates for the enrolment than they have places available. It provides both three- and four-year programmes. In the first year, students are taught the theory of mechanical engineering or other subjects offered by the school. The students attending three-year programmes have more hours of practical training, and gain skills to use on the labour market after graduation. About 500 students undertake practical training at a company every year. Last year, 460 students participated in practical training (WBL) at 186 mostly large companies.

The coordinator of practical training is aware that the school is unable to provide adequate practical training itself due to outdated machines and old technologies it possesses. Companies are not willing to support the school directly by investing in new machines and equipment. On the other hand, the coordinator was dissatisfied with companies that lack interest in investing in training. Nevertheless, there are best practice examples, such as Elas Metal Export which has 300 employees and is well organised, providing mentors during practical training and allowances for students attending practical training. They take time to meet the parents at the first interview with the students. This is an example of good cooperation between a school and a company in WBL. In addition to practical training, the company also provides theoretical training, which is even more rare.

Apart from this good practice model, the school coordinator identified several challenges, such as a lack of coordination between teachers and mentors from companies. The coordinators do not have time to check on students to ensure that they are doing well or verify what they are doing. This is a general challenge throughout Bosnia and Herzegovina related to WBL practice. In addition, cooperation between teachers and mentors from companies is not properly regulated. In future, this should be supported by both the Ministry of Education and the Chamber of Commerce and Industry by improving the training for school coordinators and company mentors. There is also a certain degree of misunderstanding about whether the teaching content of practical training at a company should follow the school curriculum. Effective monitoring should be established as envisaged by the Rulebook on Practical Training in Republika Srpska. The usual practice should be that employers take part in drafting and adjusting the curricula, due to rapid changes in technologies and digitalisation.

Almost all students find employment after graduation. Many find jobs in Croatia, Slovenia or other EU Member States. Although the school does not track the students, the Chamber of Commerce and Industry does. They find that some specialties are more in demand, e.g., mechanical engineering, transportation and traffic occupations, often in a family business or elsewhere based on a recommendation from friends or former students.

The lack of adequate equipment and educational materials is a major concern for the school management. Schools lack funds for these expenditures and the management believes that the Ministry of Education and the local authorities should provide more funding for new equipment. The school also communicates with different partners and recently signed a contract with a donor for 1.7 million BAM for the purchase of CNC equipment. The headmaster also stated that the school lacks financial autonomy. It would be more independent, if it had its own subaccount. This is a challenge for most VET schools in Bosnia and Herzegovina, and some schools have achieved this status (e.g., the School of Agriculture, the School of Tourism and some others).

The two examples of very different VET schools presented above reveal significant differences in the modes of implementation of WBL in terms of time that students spend in practical training, the contexts of practical training, and the financial allowance for students or other bonuses that companies provide. Despite these best practice examples, our interviews held in the period January - March 2024 indicated that in-company training is often too narrow for three-year VET students. It was mentioned that in practice, teaching/learning activities are not sufficiently regulated, and there is a lack of monitoring (with supporting advisory services) of what has been learnt. One solution to this problem would be to establish inter-company (multi-company) training centres, to widen the scope of training offered through existing WBL practices.

The basic dual VET principle is based on the duality of teaching/learning process between the VET and private sector. In-company learning plays a significant role and is stated as a priority within "Riga Conclusions" in Bosnia and Herzegovina for the coming period. It is governed by a contract between the school and the company and follows a full learning cycle for economy-relevant occupations. It requires measures to develop the capacity of in-company trainers, cost-sharing arrangements between schools and businesses, and social protection and insurance arrangements for students.

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Unlike in case of dual education in Switzerland, Austria or Germany (where students are treated as employees), in Bosnia and Herzegovina the student retains the status of a student, rather than taking on the status of an employee of the company at which the training takes place (Schmid, 2018). The difference between the "dually organised" system in Bosnia and Herzegovina and dual education in Switzerland and Germany was described by one interviewee⁵⁵ as follows: "In Germany, the student belongs to the company; in Bosnia and Herzegovina, the student belongs to the school." Dual education initiatives in Bosnia and Herzegovina are therefore "school-based" rather than "company-based". GIZ has helped to establish what they call a "dually organised" system, rather than a fully German-style dual education. It does not involve an "internship" as in Germany, and the companies involved do not teach the curriculum as part of WBL placements. Thus, the form of dual education being introduced in Bosnia and Herzegovina has its own characteristics, because the school remains the responsible actor. The education authorities are comfortable with this arrangement and are only prepared to take on board some elements of classical dual VET, so we can say that the prevailing principle is the VET duality. This approach is appropriate for local conditions⁵⁶ and

55 During field visits January – March 2024

56 Having in mind the structure and characteristics of businesses in Bosnia and Herzegovina.

companies are becoming more interested in participating in dual VET due to the emerging labour shortages.

Dual VET in Bosnia and Herzegovina is still in an experimental phase and is being implemented in various forms in some parts of the country through the adoption of bylaws.^{57, 58} The first pilot school implementing “dual education” in Sarajevo Canton is the Economic School in Sarajevo. The team of experts visited the school and noted the following case study.

Case Study 3: The Economic School Sarajevo

The Economic School started implementing dual education in 2018 according to the German model of dual education adjusted to the context of Bosnia and Herzegovina. The school has 500 students, with no issues regarding enrolment. It is a four-year technical school. In the school year 2022/2023, the school had one class of bank technicians and five classes of economic technicians.

The Economic School started its dual education implementation with the support of GIZ and in cooperation with the Ministry of Education and Raiffeisen Bank. Later on, some other banks joined to offer students practical internships. There is a school coordinator, and mentors at the banks and they cooperate well. The students who choose the profile of bank technician, have two days of practice at a bank in the second year. In the third and fourth year, they spend three days at banks.

Due to the current provisions of the Law on Secondary Education, the issue of a financial allowance for students is not regulated. However, banks often decide to give students a bonus, which at the start of their cooperation was 50 BAM, but has now increased to 150 BAM. Students can also work there during the holidays, usually during summer holidays, when the banks offer 450 BAM.

The model has been implemented successfully and students are satisfied with the practice. Nevertheless, the school headmaster highlighted that there was more interest when dual education was first introduced than there is now. Some banks offer employment to students after their graduation. In general, students are satisfied with their work practice at banks, but their interest in the bank technician profile has been decreasing more recently due to parents dissatisfaction with the hours students spend at work.

57 A project called “DUALSCI” has developed a general model for the introduction of dual education in higher education institutions in Bosnia and Herzegovina. See: <https://dualsci.unze.ba/project-info/objectives/>

58 E.g. In one of the most promising initiatives coming from Sarajevo Canton, a law has been drafted, but is still waiting to be adopted by the Cantonal Assembly and there is a need for further rounds of public discussion. The proposed law provides that WBL will take place on two days per week in the second and third year, and three days per week in the third and fourth year. It is foreseen that these days will be paid, and that training will take place in line with the curriculum. In Sarajevo Canton, the Ministry of Economy is involved in developing dual education reforms, along with the Chamber of Commerce of Sarajevo, which plays an important role.

Students who choose the profile of an economic technician do not have practical training at companies. They have practical training at school workshops. Nevertheless, they are engaged in the organisation of events in cooperation with the business sector (e.g., the 2023 Economics Fair) that gives students opportunities to communicate with business representatives and enables links to future job placements by presenting their knowledge and skills. They also carry out regular visits to companies. In the 4th grade, a virtual classroom is an elective subject, which provides a virtual business with all business processes as in a real business administration.

The headmaster also highlighted the advantages for students who have practical experience in banks. They become more mature, ready for the world of work, have more knowledge and skills in the field of their interest. However, most graduates continue their education at higher education institutions (90%). Most of them choose the Faculty of Economics at the University of Sarajevo, while some of them choose the Faculty of Law. Other graduates are seeking jobs on the labour market and only few of them succeed in getting a job at the level or in the profile they are educated for.

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Although dual VET is not yet recognised in laws on education by relevant authorities, bylaws have been already adopted in some cantons (Una-Sana, Zenica-Doboj, Tuzla⁵⁹ and Bosnia-Podrinje Canton) and are being prepared in some other cantons (Sarajevo, Tuzla, West-Herzegovina⁶⁰ and Canton 10). The bylaws enable the implementation of dual VET within the existing set of laws. The first success was achieved in Goražde and other cantons quickly followed, adopting most of the same rules. The rules regulate various aspects of dual education, including the curricula and students' responsibility to keep a practical training diary at the company where they carry out their WBL (dual VET). However, as one interviewee pointed out, while it is easy to adopt laws, it is more difficult to implement them due to the many challenges, including capacities of companies to support dual VET in line with quality assurance principles.

Case study 4: Implementation of dual VET – example of Republika Srpska

In Republika Srpska, the Law on Secondary Education was amended in June 2022 and in December 2023, separating practical training from dual VET. The amendments introduce "apprenticeship" for students at companies, while it remains possible to do traditional practical training at a company. Dual education is implemented in cooperation with the Chamber of Commerce and Industry of Republika Srpska in specific sectors with developed bylaws and a Rulebook on Practical Training/Dual VET in secondary education. In the system being developed, a company must be certified, i.e. accredited to receive students.

59 Adopted in February 2024, with application starting in the school year 2024/2025

60 Draft Law in the consultation process; February 26 – with social partners and February 29 with the private sector.

Under dually organised education, WBL that takes place at a company should take up 25% of students' time, while students can attend practical training at more than one company. Dual education involves the payment of an allowance to students while attending their WBL, but in the few initiatives for dual education that exist, students are rarely paid for their work in a company (Branković, 2022). As indicated above, dual education students are not employees of the company, so it is not equivalent to an apprenticeship. For example, one school provides a 100 KM allowance and travel allowances for 1st year students, which they believe would stimulate employers to participate in the programme. The companies are expected to take over these costs in subsequent years. A system of tax relief for employers has been proposed, but this has not yet been adopted. Unfortunately, neither education authorities nor chambers of commerce perform the costs and benefits analyses of WBL/dual VET from the perspective of companies. There is also no information on benefits that could refer to the productive value students create while working for the company. There is no information on how many students remain at a company after they graduate, and the company benefits from reduced adjustment and recruitment costs. In general, there is a lack of information on the costs that include the allowances paid to the students, the costs of instructors and other employees engaged in WBL, safety equipment, travel, and food costs, as well as the machines and materials used for training the students rather than production, etc.

In Republika Srpska, some companies have their own training centres where they are implementing dual education. For example, a Slovenian company called Kolektor, which is a licenced provider of dual education, has its own training centre, where it instructs students how to operate CNC machines. The programme is a joint venture of the company and the Ministry of Education, which believes that this is the best way to implement dual education, although it needs a lot of investment.

The Chamber of Commerce and Industry of Republika Srpska provides training for WBL company mentors, monitors the pre-requisites for practical training and maintains a register of all contracts with students involved in WBL activities. The register records WBL contracts, the number of companies involved, information on occupations in which students are trained and information on the implementation of practical training.

Some education authorities ensured the obligatory allowance for students such as in Bosnia-Podrinje Canton, while in Republika Srpska and in various cantons in the Federation of Bosnia and Herzegovina (Sarajevo Canton, Tuzla Canton, Herzegovina-Neretva Canton) this is optional, paid by the company. This is done to increase the number of students enrolled in three-year programmes, who tend to spend more hours of practical training at the company and are most likely obtain a job after graduation. These initiatives are also directed to preserve and promote traditional craft industries organised mainly as SMEs.

The capacities of companies to deliver dual VET with the selection of mentors for students during their WBL at companies within the dual education system remain a challenge. The role of employers in establishing dual VET in Bosnia and Herzegovina went through the transition from no role at all (at the beginning) to the maturity level with assigning chambers to play a significant role. However, in the opinion of one interviewee, employers' associations also have a role to play in this process by actively participating in the training of mentors. Dual VET should be open to as many companies as possible to ensure capacity within the system as well as competition to improve the quality. In Bosnia and Herzegovina, employers' associations are members of economic and social councils, while chambers (at the moment are assigned with authorised role for dual VET). One of the main advantages for students is that dual VET may lead directly to a job with the same company after graduating from a VET school.

5.3 ENCOURAGING EMPLOYER INVOLVEMENT IN WBL

5.3.1 INSTITUTIONAL SETTING

Competence for WBL governance lies separately with Republika Srpska, the cantons of the Federation of Bosnia and Herzegovina and Brčko District of Bosnia and Herzegovina.⁶¹ On the employer side, the key social partners are the Employers' Association of the Federation of Bosnia and Herzegovina, the Union of Employers' Associations of Republika Srpska, and the Employers' Association of Brčko District of Bosnia and Herzegovina. In addition, chambers of commerce and chambers of crafts are also found at the entity level and in most of the cantons; they represent the interests of their member companies and are engaged in advocacy, and in the drafting of laws, regulations and economic programmes, business counselling, the development of entrepreneurship and the management of SMEs, labour market analysis and education and training for their members. They are financed by the fees of their members who are mainly large and medium sized companies. Their role in participating in decision making policies in education and in WBL governance differs across the various administrative units of the country. The Chamber of Commerce and Industry of Republika Srpska provides training for WBL company mentors, monitors the pre-requisites for practical training and keeps a register of all contracts with students involved in WBL activities. The register records WBL contracts, the number of companies involved, and contains information on occupations in which students are trained and information on the implementation of practical training.⁶² In

61 At the state level, the Labour and Employment Agency of Bosnia and Herzegovina is an advisory body with competences to monitor international agreements concerning labour market issues.

62 Law on Secondary Education, Official Gazette, No. 92/20

the Federation of Bosnia and Herzegovina, employers can contact their chamber of commerce to check if they meet the criteria to provide training to students. The chamber will check the mentors who provide the training and will give a five-year contract to the selected employers to provide the training. Currently, students find an employer, where they would like to do their practical training with the help of their school. In future, the chamber will be in charge of this process of matchmaking between schools, students and employers and there may be no direct contact between schools and employers. In Brčko District of Bosnia and Herzegovina, the Chamber of Commerce cooperates with the Employers' Association, but is not involved in planning education and training. It does however carry out a survey on labour market needs and makes the results available to education authorities.

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The *Framework Law on Secondary Vocational Education and Training in Bosnia and Herzegovina* stipulates that tripartite councils should be established to forge links between vocational education and the labour market (OECD, 2018). The purpose of the tripartite council (Employers' Association & Chamber of Commerce, Trade Union, ministries of education and VET school) is to predict the needs of the labour market, which should influence the enrolment policy of schools [8]. Their role in shaping enrolment policy is critical, with a major impact on the employability of VET graduates, especially since it is thought that some VET schools tend to shape their enrolment policy according to the needs of teachers rather than students (ETF, 2022).

In the Federation of Bosnia and Herzegovina, an intersectoral group for VET has been established with ministries of education, ministries of economy and other actors in VET through an inter-cantonal approach. The Chamber of Commerce in Zenica-Doboj has been active in leading this process. The Chamber of Commerce and Industry of Republika Srpska is an active partner in supporting WBL activities, supporting company mentors through a training programme with 24 hours of theoretical training and 16 hours of individual practical work (Paedagogical Institute of Republika Srpska, 2021). The training programme aims to provide adequate paedagogical, didactic and methodological knowledge to improve the quality of practical training for students at VET schools. The Chamber has trained and certified 14 mentors in the Doboj region with the support of GIZ (Chamber of Commerce and Industry, 2022).

However, the tripartite councils have not yet actively participated actively in defining the rights and duties of companies and students or in the drafting of regulations concerning working conditions for students attending practical training. The regulatory framework to define the

status of students participating in WBL and their legal protection is inadequate, and students are seldom covered by appropriate insurance. Social dialogue is relatively weak in Bosnia and Herzegovina (European Commission, 2022a) and needs to be strengthened, so that the social partners could play a more active role in licencing of in-company mentors, providing companies with guidance on WBL implementation, and in monitoring and evaluating WBL. In the Federation of Bosnia and Herzegovina, the better organised trade unions in the machine and trade sectors have a major impact on policy decisions related to the economic status of their workers. In some EU projects, representatives of trade unions have participated in workshops and conferences. Their representatives have also played a role in the working group for the development of the Action Plan for the implementation of the Qualifications Framework for Bosnia and Herzegovina 2014-2020 (Council of Ministers, 2014b).

The planning of WBL should be a joint activity of school coordinators and company mentors, but to achieve this, school coordinators require greater understanding of modern technologies and the work processes used in companies. In order to strengthen their competencies in this respect, it has been proposed that school coordinators could benefit from company-based training proposed in the strategic document on the implementation of Riga Conclusions (Council of Ministers, 2021). At the same time, company mentors may also require training through an accredited learning programme (Council of Ministers, 2021). In addition, the inclusion of employers in WBL governance bodies could assist VET schools to provide students with the competencies required for effective work placements (Schmid & Gruber, 2018). Such collaboration would require the involvement of all stakeholders, including schools, employers and local communities.

Partnerships and cooperation between policymakers, learning providers and employers is crucial to the success of structured WBL programmes (Sweet, 2018). However, considering the complex governance arrangements in Bosnia and Herzegovina, efforts to coordinate policy at the state-level and to provide country-wide guidelines have not been very effective. Interviewees proposed that EU assistance could do more to support the Ministry of Civil Affairs to take the lead in coordination, bringing companies and practitioners on board through the tripartite council, as regulated by the Law on Secondary Education in VET in Bosnia and Herzegovina. Inter-agency coordination could also be improved, in a bottom-up manner, with participation of stakeholders at the local level. One interviewee proposed that sectoral skills councils should be established to review the existing curricula in line with the labour market needs of each sector.

5.3.2 EMPLOYER PERSPECTIVE

In dual VET, companies play a key role in delivering practical/WBL. Although all the different formats of practical training could support students to learn vocational skills, the best practical training takes place in the working environment. One interviewed employer commented that students cannot gain relevant skills if they do not experience real work processes. Employers' associations frequently complain about the education system and the lack of VET graduates with specific profiles due to inadequate enrolment policies.

There is a different perspective in anticipating roles and responsibilities in dual VET – the employer perspective and the school perspective. The planned project support in multi-layer structured dialogue is of paramount importance.

In addition, there are very relevant issues (especially for micro and small enterprises) for increased participation of companies in dual VET such as (expressed by companies during site visits):

- ④ the practice of “poaching” by other companies, who recruit their trainees, so companies risk losing the benefit of their investment. Competition among employers is so intense that even VET students on WBL practical training placements are sometimes poached by competitor companies,
- ④ Moreover, many employers lack information about WBL and about their rights and obligations, highlighting the need to raise their awareness of the support that is available to them (Sweet, 2018),
- ④ Requests from VET schools to companies to take their students for a period of practical training are sometimes turned down because host companies think they are being used to make up for inadequate teaching at schools,
- ④ Lack of time in case of company staff to act as a mentor (approximately 50% of working hours)
- ④ Financial and non-financial recognition (benefits, incentives, recognised social responsibility, etc.),
- ④ Health and safety conditions for students at specific work places, especially valid for SMEs, etc.

Case study 5: Reflection from the private sector on outdated curricula, learning content and student assessment

One interview with representatives from a company in Travnik – GMS Company, in Central-Bosnia Canton that offers practical training to VET students in the mechanical engineering and metal processing sectors provides an insight into the challenges they face due to outdated curricula at local VET schools. In response to these challenges, the company aims to establish its own primary and secondary VET school to educate students regarding modern approaches to metal processing in the era of the digital transformation.

The company is interested in the development of WBL activities and participates in the Employers' Association of the Central-Bosnia Canton. The mentors at the company are willing to educate teachers at the local VET schools, but it seems that the teachers do not show much of interest in it. Currently, the company has 60 WBL students, with some even travelling to the company from another canton.

Although schools expect employers to provide a mentor for their WBL students, when a school sends their students to a private company, they often find that the students do not have a mentor or receive any pay. Many employers also do not provide any insurance, and schools are often unable to afford insurance for their students on a WBL placement.

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As opposed to the case study presented, Zenica-Doboj canton presents a best practice example as one of the few that have regulated WBL safety issues and insurance, on the basis of principles of “decent work” set out by ILO.

At the same time, some schools worry that more hours of practical training at companies may diminish the status and job security of their teaching staff.⁶³ In addition, while technology is advancing faster than schools can adapt, schools cannot purchase the latest equipment on which to train the students, and employers rarely give students any training in these new technologies. It is widely thought that unless these problems are fixed, skill shortages in some professions will only get worse.

Yet, in recent years, companies have begun to face retention challenges due to outmigration of labour from Bosnia and Herzegovina. Despite the high rate of unemployment, many employers are beginning to experience a shortage of labour with the necessary skills. As a result, employers are now becoming more interested in dual education than they used to be. They pay more attention to training and retraining and cooperate more with education institutions than in the past. In a recent survey,

63 Comments received at the kick-off meeting for this project in June 2023.

more than two fifths (44%) of employers expressed an interest in offering WBL opportunities to VET students (ETF 2020). Employers' associations confirmed during the site visits that they were aware of the urgent need for appropriate skills among new recruits to operate new technologies related to the green transition and artificial intelligence and expressed their strong commitment to actively cooperate within this project. They also highlighted a need for regular skills needs assessments and expressed their readiness for a systematic approach to this as well as for a cost – benefit analysis of dual VET – company perspective. Besides, employers start to strongly advocate “dual education” through their employers' associations, as they consider that this could be the best way to obtain a skilled workforce needed for current labour market conditions.

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During the site visits it was confirmed that capacity building of companies to participate in dual VET needs to be seriously addressed (especially with SMEs), because many of them still do not feel ready to be involved in implementing dual VET.

During the field visits, companies have confirmed that dual VET is effective for transferring the skills needed in the occupation: school-based dual VET students with in-company placements perform better than students in entirely school-based VET (e.g., using school workshops), although there is interest of companies to provide the required training places. Conducted interviews with employers' associations and individual companies as well as desk research showed that employer participation in WBL is limited, because they have no sufficient information and need more guidance in implementing dual education, and on their rights and obligations. Small and medium enterprises (SMEs) face difficulties covering the training curriculum, providing occupational health and safety protection at work, and providing financial compensation to students. Secondly, companies are tired of intangible results and endless concepts as they mostly see the costs, but not the value of the current practical in-company training practices, except for a few exceptions. The increased number of requests coming from VET schools for in-company training creates negativity at host companies, who believe they are being used to make up for inadequate teaching in schools.

The largest share of VET financing is provided by the state. The education ministries decide on initial VET financing, and budgets come from the entities, cantons and Brčko District of Bosnia and Herzegovina – 13 budgets in all. But spending per student varies, as do staff salaries. And while education is most cantons' biggest cost, financing of initial VET is not adequate. In 2018, Bosnia and Herzegovina allocated 4.4% of its GDP to education, close to EU average (4.7%) (World Bank, 2019).

6 | FINANCING OF VET

A large part of the funds are allocated to cover administrative costs of responsible education authorities and since every administrative unit is responsible for financing its own education, the allocation of the funds largely depends on their own financial resources. In the Federation of Bosnia and Herzegovina, 91% of the education budget goes on personnel; the figure is 87% in Republika Srpska. While enrolments are declining, the number of teachers has been increasing. Furthermore, nearly a third of staffing costs are accounted for by non-teaching staff. This raises questions about overall spending and the efficient use of education budgets (World Bank, 2019). This spending detracts from capital investments that could improve areas such as teacher development, addressed above. This ratio does not leave any margin of investment into technological updates and digital transformation in VET, essential for transition towards Industry 4.0. Resource disparities are across and within administrative units in Bosnia and Herzegovina, largely because local authorities raise their own funding for education. Financial support also comes through international donors like the EU, SDC, OeAD and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). In line with the Law on Financing of VET, public institutions can earn their own income by providing training and services, and from gifts, donations and grants, parental contributions, and renting of premises. But the accounting system developed to increase transparency and accountability in spending does not allow vocational schools to use these revenues immediately. Private sector financing of VET is voluntary and rare. However, in 2018, the smallest canton, Bosnia-Podrinje, introduced compulsory payments for companies engaged in apprenticeship training, including payments for equipment.

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The ministries of education cover teacher salaries, while local municipalities and city authorities cover the material costs of infrastructure and equipment; in addition, some equipment is donated by private companies. Public expenditure on education tends to neglect school infrastructure investment, especially in the smaller cantons, so while some schools continue to improve, others lack sufficient equipment to provide in-school practical learning. This is reflected in the finding of the OECD PISA survey

for Bosnia and Herzegovina that almost half (45.6%) of students attend schools whose headmasters reported that inadequate or poor physical infrastructure hinders the school's capacity to provide instruction (OECD, 2019).⁶⁴

The mode of financing WBL has not yet been resolved and is defined differently in the bylaws of each administrative unit (Employers' Association of Republika Srpska, 2023). Students are generally more interested in WBL at companies, if they are paid for their work, and this could motivate the design of financial arrangements. The dual education allowance was 15% of the average salary in the previous year. However, small and medium sized enterprises (SMEs) often find it difficult to provide a financial remuneration to WBL students. Companies complain about the costs of providing practical training and tend to neglect the benefits of such training to them (Schmid & Gruber, 2018).

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Priority area 4 of the Riga Conclusions for Bosnia and Herzegovina covers the financing of WBL, which (it argues) should be defined jointly by employers' associations and education authorities; tripartite advisory committees can play an important role in this. Other financial mechanisms, such as centralised funds ensured through contributions paid by companies, are also possible (Council of Ministers, 2021). Zenica-Doboj Canton has promoted cost-sharing for WBL in a pilot programme for two occupational profiles.⁶⁵ Employers offering WBL opportunities are rewarded with higher scores in public calls for grants, and with tax exemptions for meals provided to students. In addition, occupational injury benefits are provided for students during in-company training.

Due to the lack of regulations on WBL, a company in Travnik (GSM d.o.o.) has set up its own mechanism for financing WBL. In the second year of three-year VET programmes, the company provides an allowance of 200 BAM, which is increased to 300 BAM in the second semester, and students also have summer and/or winter holiday placements (*ferijalna praksa*). They also provide lunch and transport, which are taxable amounts for the company. The company has taken full financial responsibility for its WBL students.

In addition, good practices related to VET financing also include an enabling framework for VET providers for income generating activities to balance insufficient and inadequate financing and funding supporting conditions for further development. Besides, in Bosnia and Herzegovina

⁶⁴ These data can be found online in OECD, PISA 2018 Database Table II.B1.5.18.

⁶⁵ In this programme, new curricula were piloted for Carpenter and Technician for Wood Processing based on learning outcomes using a methodology developed to bridge the gap between modular and traditional curricula.

there are limitations within the legal framework that hinder the financial autonomy of VET providers as well as a lack of institutionalised financial incentives for public-private VET financing. In the future, SMART VET governance requires VET financing to be addressed by multilevel VET governance with improved regulations, fine-tuning and simplifying procedures, not affecting market distortion.

The financing of WBL is defined in bylaws of each administrative unit, with great differences in its application. There is a need for harmonisation of the governing rules for financing of WBL.⁶⁶ The experience of EU Member States shows that students are more interested in practical training at companies when they are financially compensated for their work. This should motivate decision makers in Bosnia and Herzegovina to provide such financial arrangements.

Case study 6: VET financing incentives through tax deduction – Slovakia

1. Deduction from corporate income tax of legal entities
The maximum amount that a company may deduct is:
 - EUR 3,200 if more than 400 hours of practical training provided per one learner
 - EUR 1,600 if more than 200 hours of practical training provided per one learner.
2. Deduction from income tax of physical persons
Up to 100% of eligible expenditure may be deducted if the total annual wage does not exceed EUR 1,901.

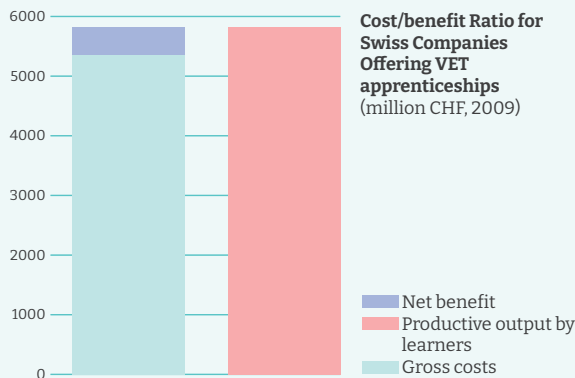
Source: Cedefop, 2023.

⁶⁶ The issue of financing is a major challenge and has not yet been resolved (Employer' Association of RS (2023).

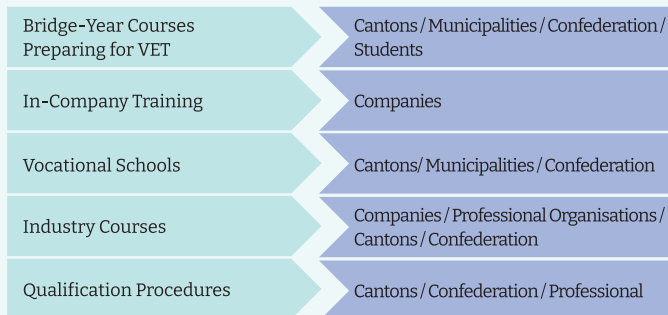
Case study 6: VET financing in Switzerland

Having regard to the fact that the economy of Bosnia and Herzegovina and Switzerland are quite different in terms of a vast number of parameters, with the private sector being involved for the purposes of achieving a better quality in the implementation of the secondary vocational education curricula, the system cannot be fully copied.

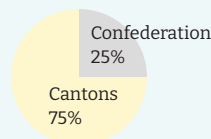
Yet, the good practices from the Swiss model should be used and adjusted to conditions in Bosnia and Herzegovina. A major step forward can be made with the foreign investors coming from countries in which this model of education is already put into practice. Their experiences will be more than welcome to be able to make the required changes.



FUNDING OF VET







Distribution of Public Funding





FUNDING OF VET / PET

Public funding 2010: CHF 3,4 BILLION, of which

-  **25% by the confederation**, distributed as follows:
 -  90% flat rate funding (per capita) to the cantons for their tasks
 -  10% for projects to develop and improve the quality of VET/PET and specific VET development projects that serve the public interest (VPETA, art. 54 and 55) and for third parties (organisation of federal PET examinations)

-  **75% by the cantons**

Inputs from economy (professional organisations, companies)

-  Basic tasks (e.g. definition of training content)
-  about 30 to 40 % of Swiss companies train apprentices

Source: Swiss Federal Institute for VET 2013, confirmed by CEDEFOP 2023

7 VET QUALITY ASSURANCE (QA)

Assuring the quality and relevance of vocational education and training (VET) has become a more important and challenging task as today's labour markets change faster than ever.

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The establishment of a coherent VET quality assurance system in compliance with EQAVET recommendations is crucial for the relevance and reliability of VET for the labour market and individuals, and the development of skills and competences that will render possible employability and lifelong learning.

In Bosnia and Herzegovina, the competent education authorities are responsible for QA⁶⁷ in compliance with the EQAVET. However, a number of supporting documents for QA have been developed since 2015 with the support of the EU⁶⁸ and other donor supported projects⁶⁹.

A "VET Quality Assurance Manual" was developed with the support of the project. The manual includes topics such as: VET quality assurance standards, self-evaluation manual for institutions, external evaluation manual for institutions, systemic evaluation manual, external evaluator training standards and Guidelines on the European Credit System for Vocational Education and Training (ECVET). The Action Plan for the Development and Implementation of the Qualifications Framework in Bosnia and Herzegovina for the period 2014 – 2020 also defines quality assurance: "Quality assurance is a system and a set of procedures applied in order to maintain the agreed standard of products and services, including their continuous improvement".

There are no quality assurance mechanisms in place to systematically monitor the quality of education inputs, outputs or outcomes (World Bank, 2019). However, the first steps towards a state-wide quality assurance framework for VET have been taken with a framework proposal

67 Improvement of Quality and Relevance of VET in Bosnia and Herzegovina – in the Light of Riga Conclusions for the period 2021-2030

68 IPA, "Lifelong Learning Qualifications Framework Development in Bosnia and Herzegovina" 2015 - 2018, EuropaID/134310/DH

69 <https://eqf.ba/dokumenti/> "VET Quality Assurance Manual" was developed with the support of the project

developed in 2018 in line with EQAVET, including the provision of data by all education authorities (cantons, RS and BD BiH). Considering the current situation, a key challenge for the education policy and system in Bosnia and Herzegovina is applying EQAVET principles at all levels and phases.

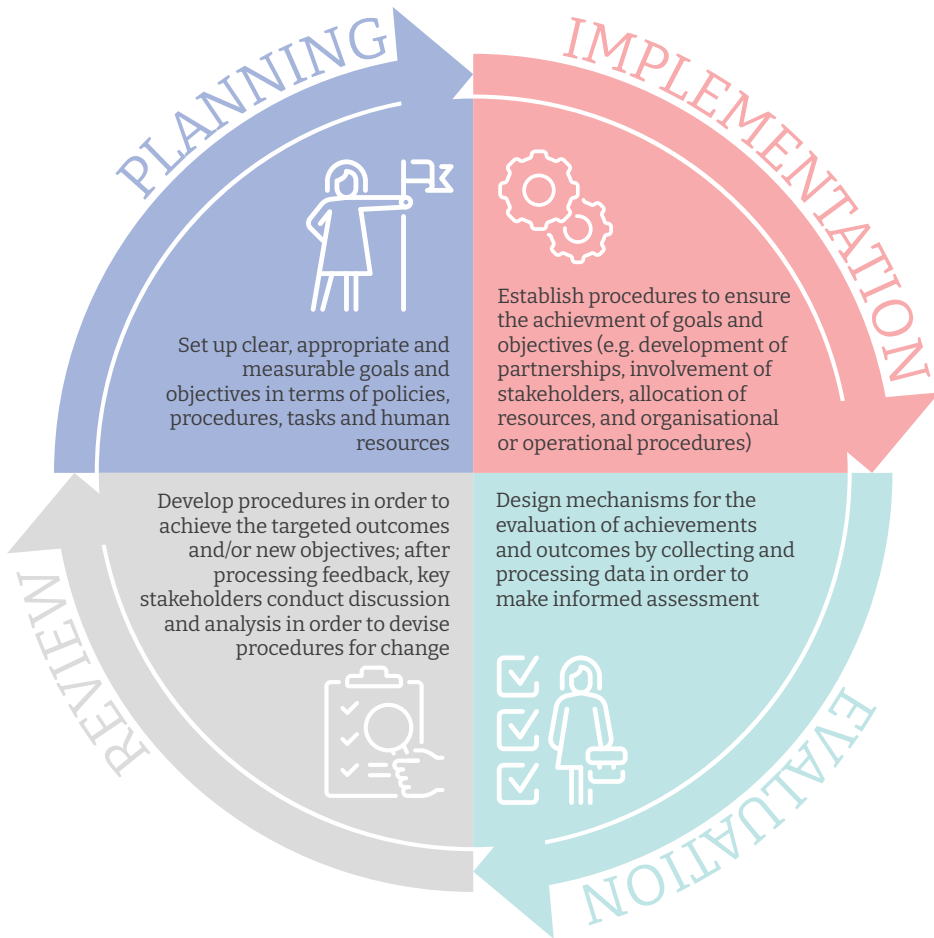
In line with EQAVET, the quality of VET is to be addressed from two angles, where one is addressing the quality of the full policy cycle (Planning – Implementation – Evaluation – Review) and another one is related to the performance on the VET provider (school) level. In addition, there is a network of EQAVET National Reference Points (NRP), coordinated by the European Commission. Bosnia and Herzegovina is still lacking an NRP. These two aspects of QA are interrelated and complementary, because VET quality indicators can be best seen based on the level of student achievements and are a result of educational work.

Starting from the first EQAVET indicator addressing relevance through structured VET – business dialogue, to almost the last indicator addressing mechanisms to identify training needs in the labour market, there is a clear need for VET SMART governance modalities, which is to be supported by the project building EBPM.

The same goes for the limited role of social partners in decision-making and the lack of a comprehensive quality assurance system for VET. But the country has made a steady progress, leading to some effective institutional arrangements, good practices and innovative initiatives on several governance functions in line with EU standards and guidelines. Stable progress on VET governance and systemic reform is characterised by policy improvement, better regulation, and procedure fine-tuning and simplifying, which will help Bosnia and Herzegovina move to 'defined' multi-level VET governance.

A precondition for systematic quality assurance is a fully functional qualifications framework complemented by a register of qualifications. The Qualifications Framework in Bosnia and Herzegovina is "only at an early stage of implementation" (Cedefop REFERNET)⁷⁰. Recently, the Ministry of Civil Affairs established a working group for the further development of the BQF, which had its first meeting in October 2023. All responsible education authorities and their partners nominated members to the working group. This is one of the priorities for the future development of the education systems in Bosnia and Herzegovina.

70 <https://www.cedefop.europa.eu/en/tools/nqfs-online-tool/countries/bosnia-herzegovina-2020>



Graph 11. EQAVET key elements
Source: European Commission EQAVET Framework

The assessment of student achievements during practical learning is not yet standardised, but is regulated by different laws and bylaws for secondary schools in the entities, cantons and Brčko District of Bosnia and Herzegovina. The criteria for assessment during practical training also vary across the different administrative units. A good example of assessment of practical training is in Bosnia-Podrinje Canton. It has a new Rulebook on Evaluation and Assessment of Students at VET Schools, the implementation of which started in the school year 2021/2022⁷¹. The assessment, in addition to applied knowledge, includes an assessment of key student competences and practical assignments. Every student has their daily portfolio and progress portfolio where they can register daily experience during their work at a school workshop or a company. Every

⁷¹ Rulebook on development, evaluation and assessment of students at secondary schools <http://mo.bpkg.gov.ba>

assignment is assessed either by a school coordinator or a mentor at a company, covering the application of theoretical knowledge in practice. The progress portfolio contains a collection of students' practical assignments in a subject module, a self-evaluation, a process of designing products and analysis of experience, and an evaluation of practical skills. The Rulebook was prepared in the framework of the GIZ VET project in Bosnia-Podrinje Canton.

The model of self-evaluation and external evaluation of quality at the school level was introduced in Bosnia and Herzegovina through the EU project "Development of a Qualifications Framework for Lifelong Learning in Bosnia and Herzegovina". However, the project team was unable to find out whether schools in different administrative units implement the proposed model. The pedagogical institutes in the entities, cantons and BD BiH are responsible for quality assurance in VET and for establishing an external assessment of students at VET schools. The QA at provider level (self-assessment) is still in the early phase of application and there is room for improvement and capacity building.

The quality of WBL is a key issue. The deadlock in the implementation of the qualifications framework hinders the application of many quality assurance mechanisms resulting from it. Cooperation between schools and companies is another area that requires improvement. Usually, the planning of WBL is a joint activity of school coordinators and company mentors. Although practical training manuals for coordinators were developed, employers are of the opinion that there is still room for significant improvement regarding their direct involvement in in-company training⁷². One reason could be that school coordinators, teachers, and school management⁷³ lack up-to date knowledge of technologies and work processes used at companies.

⁷² Limited capacities of school coordinators for in-company practical training: limited to non-existent number of schools with assigned staff, lack of financial support, etc.

⁷³ QA coordinators included

8 CONCLUSIONS AND RECOMMENDATIONS

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The purpose of the study is to provide an update on TVET situational analyses of the previously conducted scoping study by KEK-CDC and serve as an input to design the project TVET System Strengthening in Bosnia and Herzegovina financed by SDC and implemented by GOPA, identify the strategic orientation and related activity lines⁷⁴. The analyses⁷⁵ were conducted with the aim to assess the existing situation of the TVET system in Bosnia and Herzegovina; and to develop key recommendations that will inform the drafting of the ProDoc relevant for the implementation phase (2024 - 2028).

8.1 CONCLUSIONS

Bosnia and Herzegovina has an extremely **complex education governance** arrangement that consists of 14 institutions responsible for overseeing education developments (13 ministries and a state-level education agency), decentralised in two entities, Republika Srpska and the Federation of Bosnia and Herzegovina, both of which have an education ministry. The Federation of Bosnia and Herzegovina further consists of 10 cantons, each with an its own education ministry. Education affairs in a third administrative area – Brčko District of Bosnia and Herzegovina – are overseen by a dedicated education department. Due to such a complex administrative structure at all government levels in Bosnia and Herzegovina, the education governance resulted in the existence of **more than 70 education policy documents, including framework laws, strategies, legislation, and guidelines**. Even over the past 25 years, the TVET system in Bosnia and Herzegovina went through various reforms and activities, including the development and establishment of a VET legislative framework and policies, development of occupational standards, qualifications, modular curricula, development of a Qualifications Framework, establishment of

⁷⁴ In line with the TVET Strategic Framework in Bosnia and Herzegovina and its Implementation Plan (2021-2030).

⁷⁵ The analysis is based on the findings from the review of existing literature, stakeholder consultations and feedback as well as stakeholder presentations during field visits, which took place in January and February of 2024.

quality assurance – due to governance specifics, the education system in Bosnia and Herzegovina cannot be observed as a single system. It is more appropriate to observe the TVET system in Bosnia and Herzegovina as a network of different education systems within the context of a single state.

The overall coordination of education across Bosnia and Herzegovina, including liaison at international level, is carried out by the Ministry of Civil Affairs at the state level⁷⁶. Education legislation is handled at three levels: state level (framework legislation) – **macro**; entity level (FBiH and RS) – **meso1**; and cantonal level (including BD BiH) – **meso 2**, due to decentralised governance systems. The framework law on VET addresses the role of social partners and the needs and demands of the economy, the autonomy of vocational schools in response to local economic needs, the potential for cooperation between schools, while maintaining their autonomous legal status, the diversification of training offers for adults, and the potential for income generation by schools. Each of the administrations is responsible for enacting its own education legislation and complementary financing scheme. The Agency for Pre-Primary, Primary and Secondary Education of Bosnia and Herzegovina (APOSO) supports the implementation of education policies. Besides, a Conference of Ministers of Education provides a dialogue framework on state-wide education affairs with decisions taken by a state-wide Council of Ministers. Ten paedagogical institutions operate across the two entities, providing support and in-service teacher training to schools. Initial teacher training is provided by eight public universities. All the above noted examples of "governance in TVET" present huge challenges for sustainable growth and development, boosting employability and poses a challenge for effective and well-coordinated institutional responses within the Technical and Vocational Education and Training (TVET) and employment sector. Educational reforms in Bosnia and Herzegovina are generally progressing slowly, particularly concerning matters addressed at the national level. This includes issues such as the qualifications framework, quality assurance, accreditation, enrolment policies aligned with labour market demands, fostering entrepreneurial, digital, and green skills, the absence of a strategic human resource development framework, limited financial resources, outdated equipment, particularly in vocational education and training (VET) schools, the need for WBL for teacher training and VET institutions at both secondary and tertiary levels, and more. Even after 16 years after its adoption on state level, some administrative units in Bosnia and Herzegovina have still not managed to adjust their education laws to the Framework Law on VET. The most recent developments in

76 The role of the Ministry of Civil Affairs is to provide support to the responsible education authorities in addressing themes of common interest, which is supposed to lead to the development of state-wide supporting instruments.

vocational education include the development of the strategic document “Improvement of Quality and Relevance of VET in Bosnia and Herzegovina - in the Light of Riga Conclusions” (for the period 2021- 2030) with five objectives for the improvement of VET in Bosnia and Herzegovina and its integration into the European VET area and speed up the accession of Bosnia and Herzegovina to the EU.

Challenges in advancing TVET governance in Bosnia and Herzegovina are:

- ④ Fragmented decision-making and financing,
- ④ Cost inefficiency,
- ④ Lack of TVET structured dialogue,
- ④ EBPM – including skill needs analysis, monitoring and SMART data-collection and monitoring,
- ④ QA at all levels and phases,
- ④ Lack of VET responsiveness to the Industry 4.0.,
- ④ Weak social dialogue,
- ④ Ineffective/insufficient institutional setting – although present in entities and some cantons in the Federation of Bosnia and Herzegovina,
- ④ Lack of alignment between enrolment policies and labour market needs,
- ④ Implementation of WBL (WBL) and dual TVET is still in its early stages,
- ④ Lack of comprehensive WBL/dual TVET regulation,
- ④ Financing instruments supporting implementation of WBL/ dual TVET.

Despite various reforms over the past 25 years, the TVET system remains fragmented, with governance distributed among multiple institutions at the state, entity, cantonal, and district levels. This complexity poses challenges for coordination and effective policy making.

8.2 RECOMMENDATIONS

As a response to the above listed challenges, the following is recommended with the aim to **support SMART TVET governance in Bosnia and Herzegovina**⁷⁷:

Evidence Based Policy Making (EBPM) in TVET

In order to meet the evolving needs of the labour market and support economic growth and development, it is recommended to introduce evidence-based policy making focused on improvement of the relevance, quality, and effectiveness of TVET. This approach enables an informative decision-making process, based on credible data and analysis by collecting data on industries, occupations, and economic trends, to determine the skills and competencies needed and present them in the register of qualifications in a transparent manner.

Special attention is to be given to capacity building, equally addressing actors from the demand and supply side.

Promote Stakeholder Engagement

Foster greater engagement of employers' associations, chambers of commerce, and other industry stakeholders in TVET policymaking and programme design and encourage collaboration between educational institutions and companies to co-create relevant and effective training programmes is the focus of this recommendation.

Enhance TVET public – private / education – business structured dialogue to bring policy to practice

The recommendation focuses on investing efforts in institutionalising a structured dialogue at the macro, meso and micro level to facilitate and establish collaboration modalities between all relevant stakeholders (presented in Annex 1) and developing and delivering high quality TVET governance (equally addressed supply and demand).

Strengthen quality assurance mechanisms

The recommendation entails application and implementation of quality assurance framework for TVET aligned with EQAVET principles at all levels and phases. This recommendation also includes a robust monitoring and

⁷⁷ Building on good international practices and relevant know how for conditions in Bosnia and Herzegovina.

evaluation system to track the implementation and impact of TVET policies and programmes by collecting SMART data to inform evidence-based decision-making and identify areas for improvement.

Strengthen a country-wide systematic approach to the implementation of WBL (WBL)/dual TVET

The recommendation entails improvement of regulations and government incentives to promote WBL/dual TVET learning opportunities for students (and teachers), incentives to SMEs for their active participation. This also includes development of innovative financing instruments.

Aligning TVET with labour market needs and technological trends relevant for Industry 4.0

The recommendation would focus on TVET curricula regular update, reflecting emerging technological trends and industry needs, including digital and green transition.

Special attention is to be given to the TVET teachers CPD, especially industry knowledge (technology update) with in-company training, and capacity to deliver competency-based education and digital and green transition in TVET.

8.3 LIST OF ANNEXES:

1. Stakeholders Mapping
2. Legislative Framework for WBL/dual TVET
3. Key donors projects in TVET
4. List of meetings contacted and stakeholders consulted
5. MoCA consultative planning workshop

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