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EXTERNAL EVALUATION OF THE DUAL AND SCHOOL PRACTICAL EDUCATION IN MONTENEGRO

EVALUATION REPORT

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ABBREVIATIONS

CCM	Chamber of Commerce of Montenegro
CPD	Continuous professional development
ECVET	European Credit System for Vocational Education and Training
ERI SEE	Education Reform Initiative of South Eastern Europe
EQAVET	European Quality Assurance Reference Framework for Vocational Education and Training
EQF	European Qualification Framework
GPA	Grade point average
ICT	Information and communication technology (ICT)
MESI	Ministry of Education, Science and Innovation
MEIS	Montenegrin Educational Information System
MONSTAT	Statistical Office of Montenegro
NEET	Not in employment, education, or training
n	Number of cases
OS	Occupational standard
PTO	Practical training organisers
PTOIII	Practical training organisers level III programmes
PTOIV	Practical training organisers level IV programmes
RCC	Regional Cooperation Council
SD	Standard Deviation
SIII	Students surveyed - Level III - years 2 and 3
SIV1	Students surveyed - Level IV - years 3 and 4
Teachers III	Practical training organisers level III programmes
Teachers IV	Practical training organisers level IV programmes
UEM	Union of Employers of Montenegro
VET	Vocational Education and Training
VET Centre	Vocational Education and Training Centre
QS	Qualification standard
WB	Western Balkan
WB6	Western Balkan six economies: Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia
WB6	Šest ekonomija Zapadnog Balkana: Albanija, Bosna i Hercegovina, Crna Gora, Kosovo, Sjeverna Makedonija, Srbija

INTRODUCTION

This evaluation report aims at outlining the results of the evaluation of practical education and training at levels III and IV1 in Montenegro seen through the lenses of the Reform Agenda of Montenegro (2024-2207) and within the broader context of European Union policy frameworks and Western Balkan developments. It is designed to guide policymakers, ministries, VET agency, employers' associations, schools and institutional decision makers who are embarking to aligning Montenegrin VET system with contemporary European standards while responding to the profound economic, social, green, and digital transformations of the 21st century.

The purpose of this report is therefore to:

- provide an overview of European frameworks guiding VET reforms and their implications for the Western Balkans,
- identify regional patterns, challenges, and opportunities in VET development across the Western Balkans with the emphasis on Montenegro,
- provide an overview of Montenegro's current VET system - its governance, policies, labour market context, strengths, and systemic gaps,
- explore the role of dual and school-based learning
- present the results of quantitative survey implemented amongst VET teachers, practical training organisers and students,
- present the results of qualitative survey implementation amongst Ministry of Education, Science and Innovation, the Centre for Vocational Education, the Chamber of Commerce of Montenegro, and the Employers' Union of Montenegro,
- provide actionable, evidence-based recommendations to align Montenegro's VET system.

This report is not only descriptive but also forward-looking. It aims to support structured decision making by identifying where the system stands today, what strategic priorities should guide reforms, and how these reforms can be operationalised in the short, medium, and long term. The emphasis on Montenegro reflects both its national context and its wider role in regional cooperation frameworks such as the Regional Cooperation Council (RCC), the Western Balkans Common Regional Market, and the Education Reform Initiative of South Eastern Europe - ERI SEE cooperation structures.

The primary audience of this policy analysis consists of:

- Ministry of Education, Science and Innovation and national policymakers and other ministries,
- Centre for Vocational Education,
- Chamber of Commerce of Montenegro, and the Employers' Union of Montenegro
- Education providers, including VET schools, training centres, and higher VET institutions
- International organisations, EU institutions, and IPA-funded programmes involved in supporting VET reforms.

These actors operate in a context of growing expectations. European and global transitions require education and training systems to be more flexible, employer-responsive, inclusive, gender-sensitive, forward-looking, and innovation-driven. The VET system is viewed as a dynamic ecosystem supporting lifelong learning, sustainable development, and structural economic transformation.

The structure of the report is as follows:

The report opens by presenting the **evaluation of practical education** in Montenegro, outlining the objectives guiding the study and the methodological approach applied. It situates the

evaluation within a mixed methods design that combines desk research, quantitative surveys across six respondent groups, and qualitative assessments with key institutional stakeholders. This first part establishes both the conceptual baseline and the evidence base from which the analysis proceeds.

The second chapter turns to **broader policy considerations**, providing the framework for understanding practical and dual education reforms in Montenegro. It places national developments within the wider European VET transformation agenda, examining the paradigm-shifting implications of the Osnabrück Declaration, the Council Recommendation on VET, and Europe's transition towards sustainability, social fairness, and resilience. The analysis highlights the relevance of social rights, gender equality, and sustainability competences to VET system design. It then explores contemporary policy themes such as strengthened governance, skills intelligence, the social dimension of education, and the greening and digitalisation of VET. This is complemented by an examination of regional dynamics, including Western Balkan convergence with European priorities, labour-market trends shaping skill needs, and the evolving role of work-based learning and dual education. The section concludes with an in-depth presentation of the Montenegrin VET system, its institutional architecture, governance arrangements, and the organisation of practical education.

The third chapter provides a comprehensive presentation of the **empirical results of the evaluation survey**. It begins by describing the profiles of students, teachers, and practical training organisers who participated in the research. The subsequent analytical sections examine the engagement of employers, processes of student selection and placement, and the organisation and delivery of practical education from both school and company perspectives. Further attention is given to the achievement of learning outcomes and the extent to which practical training supports competence development aligned with occupational standards. The chapter also investigates the professional development needs of teachers and practical training instructors, as well as systemic and institutional areas for improvement. It concludes with an assessment of satisfaction levels across participant groups and their suggested avenues for strengthening practical and dual education.

The **discussion chapter** synthesises the findings across policy, institutional, and empirical dimensions, interpreting the results in light of European and regional frameworks and identifying structural drivers that shape the strengths and limitations of the Montenegrin system. It articulates the broader implications of the evidence for the future evolution of practical education.

The final chapter presents **recommendations**, drawing on both the theoretical insights and empirical findings to outline system-level and institutional measures for enhancing the quality, relevance, and effectiveness of practical and dual education in Montenegro.

The author wishes to extend sincere gratitude to all individuals who contributed their time and patience to completing the quantitative survey, VET students, teachers, and practical training organisers, whose insights provided an invaluable understanding of the practical training experience. Appreciation is also expressed to the representatives of the Ministry of Education, Science and Innovation, the Centre for Vocational Education, the Chamber of Commerce of Montenegro, and the Employers' Union of Montenegro, who generously shared their institutional perspectives.

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I EVALUATION OF PRACTICAL EDUCATION IN MONTENEGRO

The continuous modernisation of vocational education and training systems has become a central priority across Europe, particularly in the context of accelerating technological change, shifting labour market demands, and evolving expectations regarding the quality and relevance of practical learning. Montenegro, like other Western Balkan economies, has been undertaking systematic reforms to strengthen the responsiveness, governance, and labour market alignment of its VET system. Within this broader reform trajectory, practical education, delivered through both school-based and dual modes, constitutes a pivotal mechanism through which students acquire not only technical and occupational skills, but also the transversal competencies required for contemporary and future work environments. Against this backdrop, the Ministry of Education, Science and Innovation commissioned a comprehensive evaluation of practical education with the aim of assessing its quality, relevance, systemic coherence, and contribution to students' learning and employability. This chapter introduces the conceptual underpinnings, objectives, and methodological foundations of that evaluation, laying the groundwork for a detailed analysis presented in subsequent sections.

Practical education occupies a distinct strategic position within the Montenegrin VET landscape. On the one hand, it serves as the primary interface between education institutions and employers, shaping the extent to which curricula, qualification standards, and occupational standards translate into authentic learning experiences. On the other hand, practical education, especially in its dual format, forms the backbone of the country's efforts to strengthen partnerships with the economy, promote workplace-based learning, and ensure the acquisition of competencies that reflect real sectoral needs. European-level policy frameworks, including European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET), the Copenhagen Process and its subsequent Bruges and Riga Communiqués, place strong emphasis on quality assurance, stakeholder engagement, measurable learning outcomes, and evidence-based monitoring as integral features of robust practical training. At the regional level, Western Balkan cooperation initiatives similarly highlight the centrality of labour-market-driven VET, the importance of institutional coordination, and the need to ensure equitable and high-quality access to work-based learning opportunities. The evaluation presented in this chapter is therefore positioned within both national policy priorities and broader European expectations for high standards in VET provision.

Given the complexity of practical education as a policy and implementation domain, the evaluation was designed to pursue a set of interconnected objectives that address both systemic structures and operational realities. These objectives, introduced in the first section of the chapter, encompass the establishment of a policy and conceptual baseline, an assessment of alignment with labour market needs, the examination of organisational and delivery mechanisms within schools and companies, and the exploration of students' learning experiences and outcomes. At the same time, the evaluation seeks to illuminate the preparedness and capacity of teachers, organisers of practical education, and in-company instructors, recognising that high-quality practical learning requires well-trained professionals across both educational and enterprise settings. An additional objective involves identifying systemic challenges, bottlenecks, and contextual barriers that influence the effectiveness of practical and dual education, with the ultimate aim of generating evidence-based, actionable policy recommendations.

To achieve this comprehensive analytical scope, the evaluation adopts a mixed-methods approach that integrates desk research, quantitative surveys, and institutional qualitative assessments.

The methodological framework, outlined in the second section of the chapter, reflects an understanding that practical education is informed by policy commitments, implemented through school-employer cooperation, and experienced directly by students. Desk research provides the necessary conceptual grounding by synthesising European and Western Balkan policy documents, national strategies, laws, regulations, guidelines, and previous analytical work. This review enables the evaluators to understand how practical education is positioned within broader VET reforms, how quality assurance mechanisms are defined, and how international benchmarks can inform the interpretation of findings.

The quantitative survey, directed at teachers, practical training organisers (PTO), and students across levels III and IV1, offers a systematic and comparable dataset on the organisation, delivery, perceived relevance, and outcomes of practical education. Through this component, the evaluation captures empirical insights into employer engagement, placement procedures, school-company cooperation, workload distribution, mentoring quality, learning outcomes, satisfaction, and professional development needs. The survey findings thus form a critical empirical foundation for assessing how practical education functions in practice and how its effectiveness varies across levels and implementation modalities.

Recognising that VET systems are not shaped solely by school-level processes, the evaluation also incorporates qualitative assessments with the Ministry of Education, Science and Innovation, the Centre for Vocational Education, the Chamber of Commerce of Montenegro, and the Employers' Union of Montenegro. These institutions hold distinct and complementary mandates within Montenegro's education system, and their perspectives illuminate the systemic, strategic, and structural dimensions of practical education. The qualitative component therefore enriches the evaluation by revealing institutional rationales, policy intentions, coordination mechanisms, challenges in governance, and visions for the future development of dual and practical education. By triangulating institutional insights with quantitative findings and the policy framework derived from desk research, the evaluation attains a holistic understanding of both the strengths and limitations of the current system.

The introduction of this chapter therefore serves to position the evaluation within its broader educational and socio-economic context, explain its multi-layered objectives, and articulate the rationale for its mixed-methods approach. Montenegro's ongoing efforts to strengthen VET responsiveness, equality of access, governance capacities, and labour market alignment necessitate a comprehensive and evidence-based assessment of practical education. This evaluation responds to that need by examining practical education not only as a pedagogical process, but also as a system shaped by policy commitments, institutional capacities, labour market realities, and student experiences. The chapters that follow build on the foundations established here to analyse the extent to which practical education in Montenegro meets European quality standards, contributes to skill development, and supports national objectives for a modern, competitive, and inclusive VET system.

1.1 EVALUATION OBJECTIVES

The main objectives of evaluation of practical education in Montenegro were:

1. **To establish a comprehensive policy and conceptual baseline for evaluating practical education in Montenegro.**

This objective derives from the desk research component and aims to ensure that the evaluation is anchored in European (EQAVET, Copenhagen/Bruges/Riga) and Western Balkan frameworks, national strategies, laws, regulations and guidelines. It focuses on identifying the theoretical frameworks, principles and standards that define expectations for practical education within the Montenegrin VET system.

2. **To measure the organisation, delivery and quality of practical education from the perspective of schools (teachers and practical training organisers).**

Using quantitative data, this objective evaluates how schools plan, coordinate, supervise and monitor practical training, including resource availability, cooperation with companies, adherence to learning plans, workload distribution and implementation challenges across ISCED levels III and IV1.

3. **To assess employer engagement, readiness and contribution to the delivery of practical and dual education.**

Although employers are not surveyed directly, the evaluation collects secondary assessments from teachers and PTOs, complemented by institutional qualitative insights. The objective is to evaluate mentoring quality, fulfilment of obligations, adherence to learning outcomes and companies' role in ensuring relevant skill acquisition.

4. **To examine student experience, learning outcomes and satisfaction with practical training.**

These objective analyses quantitative data from students to evaluate placement processes, fairness and transparency of selection, perceived achievement of learning outcomes (technical, practical, transversal), quality of mentoring, and overall satisfaction.

5. **To assess the preparedness, capacity and the need for professional development of teachers, organisers and in-company instructors involved in practical training.**

This objective evaluates the need for training for mentors/instructors, the existence of certification or accreditation systems, and institutional plans for strengthening mentoring competencies.

6. **To identify systemic challenges, operational bottlenecks and contextual barriers affecting the quality of practical and dual education.**

Drawing on both quantitative and qualitative findings, this objective examines school-employer coordination issues, legislative and financial constraints, capacity gaps, employer readiness and other factors that hinder effective implementation.

7. **To generate evidence-based, actionable recommendations for improving the quality, relevance, governance and sustainability of practical and dual education in Montenegro.**

Anchored in all methodological components, this objective ensures the evaluation produces clear, operational and policy-aligned recommendations aimed at strengthening the system in line with European quality standards and labour market needs.

1.2 METHODOLOGICAL APPROACH

The evaluation was implemented between August 2025 and November 2025 by implementing:

- **Desk research -** the collection of information on relevant European and Western Balkan framework, international and national strategic, analytical and policy documents
- **Quantitative survey amounts six groups:**
  - Teachers of the practical form of instruction within the modules marked with an asterisk in educational programmes at level III
  - Teachers of the practical form of instruction within educational programmes at level IV1
  - Organisers of practical education at level III
  - Organisers of practical education at level IV1

- Students of 2nd and 3rd grade at level III
- Students of 3rd and 4th grade at level IV1

- **Qualitative survey amongst four groups:**
  - Ministry of Education, Science and Innovation
  - Centre for Vocational Education
  - Chamber of Commerce of Montenegro
  - Employers Union of Montenegro+

1.2.1 Desk research

The desk research phase served as the foundational analytical step in the evaluation of practical education. Its primary purpose is to systematically collect, review, and synthesise existing information from relevant European and Western Balkan frameworks, as well as international and national strategic, analytical, and policy documents. By doing so, desk research aimed to:

- Establish the conceptual and policy baseline for understanding how practical education is positioned within broader VET system objectives, labour market needs, and education reform agendas across Europe and the Western Balkans. This includes identifying key principles, standards, and quality assurance mechanisms promoted through EU-level frameworks (e.g., EQAVET, ECVET, Copenhagen/Bruges/Riga processes) and regional policies.
- Map the evolution and current state of practical education, including school-based and dual models practical training by analysing national laws, strategies, regulations, and implementation guidelines. This enables understanding historical trajectories, institutional responsibilities, and policy priorities relevant to Montenegro and the WB region.
- Identify benchmarks, good practices, and comparative models of practical education delivery. These insights provide a reference point for evaluating alignment, gaps, and innovation potential in the Montenegrin system.
- Generate an evidence base for evaluation criteria and methodology by extracting indicators, standards, and requirements from authoritative documents. This helps ensure that the evaluation is grounded in internationally recognised quality standards and national policy commitments.
- Reveal systemic challenges, bottlenecks, and reform needs documented in previous assessments, reports, tracer studies, labour market analyses, and evaluation studies. Understanding these issues in advance allows for a more targeted and efficient field research phase.
- Ensure coherence between evaluation objectives and policy context, so that subsequent data collection, stakeholder interviews, and analytical conclusions reflect not only current practice but also strategic intentions and legal obligations.

In summary, the desk research provides the analytical backbone of the evaluation. It anchors the assessment in a robust understanding of policy frameworks, systemic structures, and international standards, enabling a comprehensive, context-sensitive, and evidence-based evaluation of practical education.

1.2.2 Quantitative survey

The quantitative survey administered to teachers, organisers of practical education, and students at levels III and IV1 serves as an empirical component of the evaluation of practical education. Its

primary purpose was to systematically collect standardised, comparable, and statistically analyse data on key dimensions of the organisation, relevance, and quality of practical education in both school-based and dual modes. By engaging all stakeholder groups directly involved in the delivery and experience of practical training, the survey aims to achieve several interrelated objectives:

1.2.2.1 Capture the scope of employer engagement in dual education

Stakeholders involved:

- Teachers (III, IV1)
- Organisers (III, IV1)

Purpose:

To quantify the extent of employer participation, the perceived availability of companies willing to offer practical training, and the level of employer interest in dual and school practical education. This includes identifying local labour market dynamics, employer readiness, and barriers to expanding dual education opportunities. Aggregated responses help assess whether the employer offer aligns with programme needs, student demand, and policy expectations.

1.2.2.2 Assess processes and criteria for student placement and selection

Stakeholders involved:

- Students (III, IV1)
- Teachers (III, IV1)
- PTOs (III, IV1)

Purpose:

To understand how schools organise the placement of students for practical training, including the fairness, transparency, and relevance of selection criteria. The survey quantifies students' experiences with placement procedures, their perceptions of equal opportunity, and challenges faced during placement processes. These data reveal whether the current system ensures equitable access to quality practical training opportunities.

1.2.2.3 Examine the Organisation and Delivery of Practical Education from the School Perspective

Stakeholders involved:

- Teachers (III, IV1)
- PTOs (III, IV1)

Purpose:

To collect comparable data on how schools plan, coordinate, and supervise practical training across different levels. The survey captures workload, preparedness, resource availability, collaboration with employers, scheduling, quality assurance mechanisms, and administrative challenges. Quantitative results help identify systemic differences across school levels, programme types, and regions.

1.2.2.4 Examine the employers' organisation and delivery of practical education

Stakeholders involved:

- Teachers (III, IV1)
- PTOs (III, IV1)

Purpose:

Even though employers are not direct respondents, teachers and organisers provide a structured assessment of how employers organise practical training: their adherence to learning plans, mentoring quality, communication with schools, and fulfilment of contractual obligations. Quantifying these aspects enables the evaluation to compare school-based and dual models and to detect patterns of good or weak cooperation with companies.

1.2.2.5 Assess learning outcomes and their monitoring

Stakeholders involved:

- Teachers (III, IV1)
- PTOs (III, IV1)

Purpose:

To measure the extent to which teachers and PTOs perceive whether students are achieving the intended learning outcomes, technical, practical, and transversal - during practical education. The data allow evaluators to examine whether practical training successfully ensures achievement of learning outcomes set in the educational programmes.

1.2.2.6 Professional development of teachers and PTI

Stakeholders involved:

- Teachers (III, IV1)
- PTOs (III, IV1)

Purpose:

To identify areas for professional development and broader improvement within practical education, drawing on the perspectives of teachers and organisers at levels III and IV1. The purpose is to collect quantifiable data on overall need for training of both categories.

1.2.2.7 Satisfaction with the implementation of practical education and improvement of the system

Stakeholders involved:

- Students (III, IV1)
- Teachers (III, IV1)
- PTOs (III, IV1)

Purpose:

To gather quantifiable data on overall satisfaction with practical education. Satisfaction indicators serve as an important proxy for the quality and effectiveness of practical training and help identify systemic areas requiring intervention.

1.2.3 Qualitative assessment

The qualitative survey, administered to the Ministry of Education, Science and Innovation, the Centre for Vocational Education, the Chamber of Commerce of Montenegro, and the Employers' Union of Montenegro, serves as an essential component of the system-level evaluation of practical education. Unlike the quantitative instruments directed at teachers, organisers, and students, the qualitative survey is designed to capture the institutional perspective, collect interpretative, explanatory, and strategic insights, and illuminate systemic mechanisms that shape the design, implementation, and quality of practical training in both school-based and dual formats.

Because each institution holds a distinct mandate within Montenegro's VET governance

structure, the evaluation collected one comprehensive questionnaire per institution, ensuring that responses reflect the official, consolidated, and representative viewpoint of the organisation rather than the experiences of individual staff members. This approach allows for a structured understanding of institutional roles, responsibilities, constraints, and priorities.

Overall goal of the qualitative survey was to provide a systemic and interpretive understanding of how Montenegro's key institutions perceive, manage, and shape practical and dual education. Its purpose is to:

- complement quantitative findings with institutional insight
- identify governance-level bottlenecks and enablers
- map coordination mechanisms and systemic capacities
- uncover policy intentions, rationale, and strategic priorities
- contextualise trends observed in school-level and student data
- support the development of actionable, evidence-based recommendations

By consolidating perspectives from all relevant governance actors, the qualitative survey ensures that the evaluation captures the full complexity of the VET system, including institutional mandates, cooperation routines, capacity gaps, and visions for future reform.

The purpose of the qualitative survey can be summarised along the following core dimensions:

1. Understanding institutional roles in labour market analysis and skills anticipation

The qualitative survey gathers detailed information on how each institution conducts or uses:

- labour market analyses
- skills needs assessments
- employer consultations

This qualitative insight allows the evaluation to assess whether Montenegro has a coherent, responsive, and evidence-based skills governance system.

2. Assessing institutional mechanisms for cooperation and coordination

The qualitative survey maps how cooperation is organised between:

- Ministry ↔ Centre for VET
- Ministry ↔ Chamber/Employers
- Centre ↔ schools and organisers
- Chamber/Employers ↔ companies and mentors

This helps determine whether institutions work as an integrated system or operate in parallel silos, which directly impacts the quality of practical training.

3. Evaluating data management, monitoring, and quality assurance systems

The qualitative survey explores how each institution manages and uses data on practical training, particularly with respect to:

- MEIS data collection and analysis
- registers of employers
- tracking of student transitions and employment
- quality assurance mechanisms at employers
- external evaluation practices

- evidence-based policymaking

The purpose is to determine the maturity, consistency, and usefulness of national monitoring systems.

4. Understanding institutional views on instructor preparedness and training provision

This section focuses on:

- preparedness and competence of in-company instructors
- availability and frequency of training
- existence or absence of certification systems
- institutional plans for improving instructor qualifications

The purpose is to assess whether Montenegro has the institutional capacity to ensure high-quality mentoring at employer level, which is a cornerstone of effective dual education.

5. Identifying key systemic challenges and barriers

The qualitative survey captures institution-level identification of:

- operational challenges
- legislative or financial obstacles
- demographic and geographic disparities
- employer readiness issues
- school-employer coordination gaps

This is essential for understanding why current outcomes fall short and which factors require targeted policy intervention.

6. Exploring Institutional Perspectives on Gender and Territorial Equity

This component identifies:

- whether institutions recognise and address inequalities
- existing or planned measures to mitigate disparities
- integration of equity principles into standards, monitoring, and policymaking

The goal is to assess whether practical education and dual education are implemented in a way that supports equitable access for all students.

7. Collecting Strategic Visions for the Future of Dual and Practical Education

Institutional perspectives on the future are essential for evaluating:

- reform priorities
- expectations for labour market developments
- envisioned improvements in governance, funding, and educational standards
- readiness for scaling up or redesigning dual education

This helps situate the evaluation within a forward-looking policy trajectory.

The qualitative assessment will be integrated into the overall quantitative analysis.

II POLICY CONSIDERATIONS: THE FRAMEWORK FOR CHANGE

2.1 VET AND DUAL EDUCATION: EUROPEAN FRAMEWORK FOR CHANGE

The policy landscape of vocational education and training (VET) in Europe has undergone a profound transformation over the last decade, shaped simultaneously by structural megatrends: the digital transition, the green transition, demographic pressures, and the rise of new forms of work, and by the European Union's strategic response to these transformations. The resulting policy architecture positions VET not merely as an education subsystem but as a central lever for securing economic resilience, social equity (including the poverty reduction), and sustainability. This reconceptualisation is evident in the 2020 Osnabrück Declaration, the Council Recommendation on VET for Sustainable Competitiveness, Social Fairness and Resilience, the European Green Deal, and the broader framework established by the European Pillar of Social Rights and the Commission's strategies for gender equality, social justice, and sustainability.

Vocational education and training in Europe has evolved from a largely occupation-specific, school-centred model into a multifunctional, lifelong-learning oriented system with substantial social, economic, and innovation functions. Historically, early European VET systems were shaped by industrialisation and national labour-market structures, producing distinct models such as the Germanic dual system, the Nordic lifelong-learning model, and the Southern European school-based model (Greinert, 2005). However, contemporary European frameworks, particularly after the launch of the Copenhagen Process in 2002, have pushed national systems toward greater convergence in terms of quality assurance, learning outcomes, transparency tools (EQF, ECVET, Europass), and employer engagement (Cedefop, 2017).

This conceptual shift is strongly reflected in the 2020-2030 European VET policy cycle. Rather than understanding VET as a 'terminal' track for young people preparing for mid-level technical occupations, European policy now conceives VET as a dynamic ecosystem supporting lifelong learning, innovation, and sustainability (EU Council, 2020). The Council Recommendation explicitly positions VET as a driver of economic resilience, green and digital transitions, and social fairness, roles traditionally associated with wider labour-market or industrial strategies.

Cedefop analyses confirm that this shift is rooted in structural labour-market trends: increasing skill complexity, continuous technological change, and the blurring of boundaries between occupations (Cedefop, 2020). The rise of digitalisation and the green transition has further accelerated the need for flexible, modular, and competence-based systems capable of rapid adaptation. European VET reforms therefore aim simultaneously at standardisation (through outcomes and quality frameworks) and diversification (through flexible pathways, lifelong learning and micro-credentials), a dual imperative that shapes contemporary policy debates.

European VET policy has undergone a significant shift over the past decade. While earlier frameworks focused on improving mobility, transparency of qualifications, and internationalisation, the post-2020 VET agenda is closely tied to structural challenges: climate change, digitalisation, demographic changes, and decreasing social inequalities.

At the EU level, the following documents set the frameworks that collectively shape European expectations for VET reform, which hold direct expectations for the Western Balkans and Montenegro.

2.1.1 The Osnabrück Declaration: conceptual reorientation of VET

The Osnabrück Declaration (2020) represents a decisive moment in European VET policy. Building upon the Bruges (2010) and Riga (2015) processes, it shifts from incremental system improvement to a structural reconceptualisation of VET as a catalyst for 'recovery and just transitions to digital and green economies' (Osnabrück Declaration, 2020). Unlike earlier frameworks which emphasised transparency, mobility, and quality assurance, the Osnabrück document situates VET within a broader socio-economic transformation agenda.

The Declaration identifies four key areas of action:

1. Resilience and excellence through quality, inclusive and flexible VET
2. Establishing a new lifelong learning culture - relevance of C-VET and digitalisation
3. Sustainability - a green link in VET
4. European Education and Training Area and international VET (Osnabrück Declaration, 2020).

Each of these areas aligns closely with contemporary labour-market evidence. Cedefop (2022) reports that 46-56% of new job openings in the EU by 2035 will require medium-level VET qualifications, underscoring the system's centrality to economic functioning. At the same time, rising occupational greening, visible in sectors such as construction, manufacturing, transport, and energy, requires a degree of skills agility for which traditional VET models were not designed (Cedefop, 2021). The Osnabrück Declaration directly acknowledges this challenge, calling for continuous curriculum updates, flexible modular learning pathways, and improved cooperation between VET institutions, labour-market actors, and regional ecosystems.

For the Western Balkans, whose economies exhibit vulnerability to external shocks, this orientation is particularly relevant. Montenegro's exposure to tourism, construction, and energy price instability means that resilience-building within human capital development systems is not simply desirable but essential. The Osnabrück principles therefore serve as both a normative benchmark and a strategic roadmap for systemic reform.

2.1.2 Council Recommendation on VET for Sustainable Competitiveness, Social Fairness, and Resilience

The Council Recommendationon VET for Sustainable Competitiveness, Social Fairness, and Resilience (EU Council, 2020) is arguably the most authoritative policy document shaping contemporary European VET. It articulates a vision of VET that is 'agile, resilient, and inclusive,' and explicitly anchors VET within the broader objectives of the European Green Deal and the digital decade. According to the Recommendation, European VET systems must be characterised by six structural features:

1. Labour-market relevance, guaranteed through employer engagement and work-based learning
2. Flexibility, enabling modular, micro-credential-based, and individualised learning pathways
3. Digital readiness, including digital pedagogy and digital content
4. Sustainable development orientation, embedding green competences across curricula
5. Quality assurance, strengthened through EQAVET alignment
6. Social inclusion, especially for vulnerable groups and gender-sensitive participation.

Evidence strongly supports the relevance of these priorities. Labour-market projections indicate that nearly 80% of jobs in the EU now require digital skills to some extent (European Commission,

2021). Likewise, the EU's climate targets, particularly the legally binding goal of climate neutrality by 2050, imply substantial reconfiguration of skill demands across all sectors (European Commission, 2019). It is within this context that the Recommendation emphasises the need for VET systems to rapidly adapt curricula to emerging green sectors, to promote gender equality, and to systematically integrate adult learning.

For Montenegro, the Recommendation's orientation toward modular learning and work-based models is especially significant. The country's demographic structure, characterised by an ageing population and outward migration, reinforces the need for an adult-focused VET system capable of rapid reskilling. Moreover, Montenegro's small enterprise structure (predominantly SMEs and micro-enterprises) demands regulatory and financial mechanisms that support employer participation in dual education, as foreseen in the Recommendation.

2.1.3 A Strong Social Europe for Just Transitions

The communication A Strong Social Europe for Just Transitions (European Commission, 2020b) frames the green and digital transformations as social transformations. It argues that transition will have uneven impacts across social groups, occupations, and regions, and therefore require deliberate 'just transition mechanisms, including access to training, social protection, and equal opportunities.

This perspective is relevant to VET because labour-market evidence demonstrates that the green transition does not simply create new jobs but also transforms existing ones. Studies from Cedefop (2021, 2023) show that jobs traditionally viewed as 'non-green' (for example, plumbers, electricians, construction workers, mechanics, and technicians) increasingly require green competences, while 'green' occupations (e.g., renewable energy technicians) are emerging at a slower rate than expected. This implies that VET systems must focus not only on new occupational profiles but also on the greening of mainstream qualifications.

The Just Transitions framework also emphasises gender equality, noting that women are disproportionately represented in occupations at risk from digitalisation and under-represented in emerging green sectors (European Commission, 2020c). This has implications for VET systems which often reproduce gendered patterns of participation. A transition is not 'just' if it reinforces existing gender segregation in labour markets or training pathways.

For Montenegro, where female participation in STEM VET programmes remains low and where regional inequalities in access to training persist, the Just Transitions framework offers a normative lens and a policy tool. It highlights the need for gender-responsive VET policies, targeted financial incentives, regional outreach, and quality career guidance.

2.1.4 The European Green Deal: implications for skills and VET systems

The European Green Deal (European Commission, 2019) represents the EU's transformative agenda for achieving climate neutrality by 2050. It emphasises the need for substantial investments in energy efficiency, renewable energy, circular economy transitions, sustainable transport, and environmental restoration. As numerous analyses demonstrate, all these areas are intensely skills dependent.

Cedefop's EU Skills Forecast (2020) shows that the green transition affects up to 70% of all occupations, either through new skill requirements or changes in task composition. Similarly, the International Labour Organization (ILO, 2021) finds that green policies can create a net gain of 24 million jobs globally by 2030, but this potential is fully realisable only if education and training systems adapt their curricula, delivery models, and training capacity.

The Green Deal explicitly identifies VET as an enabling mechanism for these transitions. It calls for:

- integration of sustainability competences into curricula at all levels
- strengthening of apprenticeship and work-based learning in green sectors
- development of micro-credentials to support rapid re-skilling
- better labour-market intelligence to anticipate emerging skill needs.

Evidence suggests that the absence of adequate training supply is already a bottleneck in several green sectors. For example, shortages in energy-efficiency specialists, solar photovoltaic technicians, HVAC installers, and environmental engineers are reported in multiple EU labour-market analyses (Cedefop, Skills Panorama, 2023). Western Balkan economies exhibit similar patterns, with energy-efficient construction, waste management, and renewable energy sectors all facing skill shortages (RCC, 2021).

Montenegro's structure, marked by significant activity in tourism, construction, maritime transport, and energy, magnifies the relevance of these labour-market shifts. Thus, the Green Deal does not simply 'influence' Montenegrin VET policy; it fundamentally shapes the types of qualifications, curricula, and training capacities that Montenegro must develop to remain economically aligned with the EU.

2.1.5 The European pillar of social rights

The European Pillar of Social Rights (EPSR) (European Commission, 2017) articulates 20 principles, several of which directly concern education, training, and equal opportunities. Principle 1 - Quality and inclusive education, Principle 4 - Active support to employment, and Principle 5 - Secure and adaptable employment position VET at the intersection of social fairness and labour-market relevance. Principle 3 - Equal opportunities requires systemic efforts to remove gender-based, socio-economic, and regional inequalities in education access.

PISA data indicate persistent inequalities in VET participation across Europe. For instance, individuals from low-income backgrounds are more likely to enter VET pathways, while women remain under-represented in high-value technical fields. Without deliberate policy measures, these inequalities can deepen during technological and environmental transitions.

In Montenegro where regional disparities in access to specialised VET programmes seem persistent, the EPSR principles underline the need for fairness-oriented system design. This includes equitable distribution of training opportunities, support for rural and northern regions, and social and gender-responsive VET policies.

2.1.6 Gender Equality Strategy 2020-2025

The Gender Equality Strategy (European Commission, 2020c) recognises that gendered patterns in education lead to gender segregation in labour markets, wage gaps, and unequal access to high-growth sectors. Women are notably under-represented in STEM fields, energy, ICT, and technical VET programmes, the very sectors that are expanding in the green and digital transitions.

Eurostat data show that across the EU, only around 22% of graduates in engineering, manufacturing, and construction VET programmes are women (Eurostat, 2022). Cedefop (2021) confirms that the gender gap is even more pronounced in apprenticeships and dual education, where employer-driven selection practices often reinforce occupational stereotypes.

For Montenegro, where female participation in technical VET remains structurally low, the Strategy's implications are direct:

- VET reforms should include gender-sensitive curriculum design
- career guidance should challenge gender stereotypes
- work-based learning placements should adopt anti-discrimination standards
- financial incentives may be needed to support participation of women in green and digital sectors.

European evidence is clear that gender-responsive policies have measurable impacts on labour-market activation and productivity (OECD, 2020). Therefore, integrating gender equality into VET reform is not merely a social policy goal but a strategic economic necessity.

2.1.7 GreenComp: the European framework for sustainability competences

GreenComp (Bianchi et al., 2022), developed by the Joint Research Centre of the European Commission, is the EU's first comprehensive sustainability competence framework. It defines 12 competences grouped into four domains:

- embodying sustainability values
- embracing complexity
- envisioning sustainable futures
- acting for sustainability.

GreenComp's significance lies in its transversal applicability. Rather than addressing only 'green' occupations, it positions sustainability as a fundamental competence for all professional and educational pathways. This conceptualisation aligns strongly with the evidence that the majority of 'green skills' are transversal and embedded within broader occupational roles (Cedefop, 2021).

For VET, GreenComp provides a structure to embed sustainability principles into curricula, pedagogy, and assessment. It supports the development of key learning outcomes such as systems thinking, resource responsibility, and awareness of environmental impacts. Countries like Germany, Finland, and the Netherlands have already begun incorporating GreenComp into their VET curricula, demonstrating its operational potential.

Montenegro, which is in the early stages of systematic curriculum greening, can utilise GreenComp to provide coherence, comparability, and European alignment in its VET reform processes. The framework offers a clear reference point for curriculum designers, qualification developers, and teacher-training institutions.

2.2 MONITORING TRENDS, SKILLS INTELLIGENCE, SOCIAL DIMENSION OF EDUCATION AND SHAPING POLICY FRAMEWORKS

2.2.1 Governance and social partnership in VET

Governance is a defining dimension of successful VET systems. European comparative studies repeatedly underline that VET systems with strong, structured social partnership tend to be more adaptable, more responsive to labour-market needs, and more capable of sustaining apprenticeship models (Cedefop, 2015; OECD, 2020). Social partnership involves:

- employer associations, chambers, and trade unions,
- ministries and VET agencies,
- local and regional authorities,
- VET providers,

- civil society actors, particularly those representing vulnerable/underrepresented groups.

The logic of social partnership is grounded in collective action theory: training has characteristics of a public good and therefore requires shared responsibility and institutionalised cooperation to function effectively (Busemeyer & Iversen, 2014). Without such structures, VET systems risk underinvestment, fragmented provision, and weak labour-market relevance.

Across Europe, governance takes multiple forms. Some systems (Germany, Austria, Switzerland) institutionalise employer co-ownership through chambers that regulate training, conduct examinations, and supervise quality. Nordic countries emphasise state-driven governance with extensive stakeholder consultation. Southern Europe has adopted hybrid arrangements where VET agencies lead but employers influence curriculum development (through participation in OS/QS working groups). EU governance frameworks, EQF, EQAVET, ECVET, have further standardised processes for defining learning outcomes and quality assurance.

For Montenegro, the challenge lies in strengthening the institutional capacity of social partners and creating durable cooperation mechanisms. The Chamber of Economy of Montenegro has taken steps to support dual education, but employer participation remains uneven, particularly among micro-enterprises. International evidence indicates that without sustained support structures, SMEs struggle to participate in WBL due to lack of human resources, financial incentives, and pedagogical capacity (European Commission, 2020; Cedefop, 2021).

2.2.2 Skills intelligence

Cedefop plays a central role in shaping European VET policy by providing labour-market data, skills intelligence, and analytical studies. Its Skills Forecasts (Cedefop, 2020), Skills Panorama (ongoing), and analyses of green and digital transitions have become essential reference points for national policymakers.

Several Cedefop findings are especially relevant for this report:

- VET graduates have better labour-market outcomes in countries where dual education and employer engagement are strong (Cedefop, 2018).
- Skills mismatches remain high, particularly in technical fields requiring green or digital competences (Cedefop, 2021).
- Adult learning participation remains inadequate for meeting transition demands, especially in small economies such as those in the Western Balkans.
- The shift toward green and digital occupational profiles requires constant updating of occupational standards, an area where Western Balkan countries remain behind EU averages.
- Work-based learning is the most effective mechanism for developing practical skills and supporting transitions to employment, yet its implementation varies significantly across Europe and faces obstacles in SME-dominated economies such as Montenegro.

Cedefop also identifies that Western Balkan countries, including Montenegro, experience structural barriers to effective VET reform: limited planning capacity, fragmented governance, insufficient investment in teacher training, and weak labour-market intelligence systems. These constraints hinder evidence-based policy making and slow alignment with European trends.

In this regard, Cedefop's methodologies, such as labour-market foresight, competence frameworks, and monitoring of dual education, offer useful tools. Systematic integration of these methodologies into national policymaking could significantly enhance the country's strategic planning capacity.

Dual VET, understood as a structured combination of school-based learning and work-based

learning (WBL), is widely regarded as one of the most effective mechanisms for improving labour-market outcomes and aligning training provision with employer needs. Countries with strong dual systems (Germany, Austria, Switzerland, Denmark) consistently demonstrate (although as a result of the combination of factors, the majority coming from the side of economy and production):nižu nezaposlenost mladih,

- lower youth unemployment,
- smoother school-to-work transitions,
- stronger employer engagement, and
- higher perceived relevance of VET qualifications (Busemeyer & Trampusch, 2012; Cedefop, 2018).

The core conceptual principles underlying European dual systems can be summarised as follows:

1. Shared governance between the state and social partners, where employers co-shape curricula, assessment standards, and occupational profiles.
2. Legally regulated training contracts, defining responsibilities, remuneration, and quality conditions.
3. Strong chambers or intermediary bodies, coordinating employer participation, supporting SMEs, and ensuring compliance.
4. Trainers and instructors with pedagogical competence, not merely technical expertise.
5. Occupational standards closely connected to labour-market needs, regularly updated.

Cedefop evidence emphasises that dual education is not a fixed institutional model but a continuum. Many EU countries operate 'dual-like' systems with varying proportions of WBL (40-70% of total learning time) and different levels of employer involvement (Cedefop, 2017). Southern European countries, for instance, have expanded dual elements through apprenticeships, traineeships, and practical training placements. In Eastern Europe, dual education has been promoted through legislative reforms and incentives to attract employers, often supported by international actors such as GIZ or the World Bank.

The literature also stresses that dual systems function optimally in economies with strong employer coordination and well-developed collective institutions, conditions that are weaker in Western Balkan economies (Trampusch, 2010). This constraint is highly relevant for Montenegro, where SMEs predominate and where employer organisations historically had weaker institutional capacity. The challenge is therefore not only technical (introducing WBL) but institutional (building employer-side governance structures capable of sustaining dual training).

2.2.3 The social dimension of education

Across the European Union, the social dimension of education has become a central pillar of policy debates on equality, social justice, and inclusive economic growth. EU strategic documents, including the European Pillar of Social Rights, the Education and Training 2020 framework, and the subsequent European Education Area 2025, emphasise that education systems must both promote excellence and address social inequalities by ensuring equitable access, participation, and outcomes (European Commission, 2020; 2021). These commitments reflect a growing recognition that inequalities in education translate directly into labour-market disparities, reduced social cohesion, and slower digital and green transitions across Europe.

Across the EU member states, PISA results show persistent socio-economic gradients in learning outcomes. The OECD (2019; 2020) reports that socio-economic status remains a strong predictor of student achievement in reading, mathematics, and science. In several EU countries, including

Bulgaria, Slovakia, Hungary, and Romania, more than 20% of performance variation is attributed to socio-economic background, compared to the OECD average of around 12% (OECD, 2019). Similar gaps exist for migrant-background students and students in rural areas, where access to high-quality instruction, digital resources, and specialised support services is limited (European Commission, 2020).

The European policy framework increasingly acknowledges structural mechanisms that reinforce educational inequality. Tracking and early differentiation of students, tend to reproduce socio-economic disparities, as students from disadvantaged families are disproportionately placed into vocational tracks with limited progression opportunities (OECD, 2019). School segregation, whether driven by residential patterns or institutional practices, also exacerbates inequities. Research across Europe indicates that concentrated disadvantage in schools is associated with lower achievement, weaker teacher quality, and reduced access to enrichment activities (UNESCO, 2020).

In response, EU policy initiatives have called for more inclusive pedagogies, investment in early childhood education, stronger compensatory funding, and targeted support for vulnerable learners. The European Social Fund Plus (ESF+), the Recovery and Resilience Facility, and the Digital Education Action Plan prioritise reducing digital divides, supporting teacher professional development, and enabling socially just access to high-quality learning environments (European Commission, 2021). Nonetheless, evidence suggests that progress is uneven and that systemic inequalities remain deeply embedded within many education systems.

The Western Balkans share several of the structural challenges found in disadvantaged EU education systems, but these are intensified by demographic decline, limited resources, uneven institutional capacities, and persistent socio-economic disparities. The OECD (2020) report Education in the Western Balkans: Findings from PISA highlights that socio-economic inequalities in learning outcomes across the region are significant and, in many cases, exceed those of EU member states with similar income levels.

PISA results reveal that socio-economic status accounts for substantial performance variation in reading, mathematics, and science in Albania, Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia (OECD, 2020). Students from disadvantaged backgrounds perform considerably below their wealthier peers, often lagging by more than one full academic year. These disparities are further reinforced by geographical inequalities: rural schools, small municipalities, and ethnically segregated communities typically have lower achievement levels, weaker infrastructure, and fewer specialised teachers.

Looking at the social dimension of education in the Western Balkan 6 (WB6) Stanojević and Živadinović (2024), argue that inequalities are not merely outcomes of socio-economic context but inherent to the structure of schooling in the region. They identify mechanisms of reproduction, such as hidden curricula, cultural capital disparities, differentiated expectations, and symbolic boundaries within schools, that systematically favour middle-class students and challenge those from less privileged backgrounds. Their research demonstrates that teaching practices often implicitly assume forms of language, behaviour, and reasoning aligned with middle-class norms, thereby reinforcing disadvantage for students who lack such cultural resources.

Water-tight institutional divides between general and vocational education further reinforce these inequalities. Many Western Balkan students are tracked into VET not through informed choice but through cumulative educational disadvantage. When vocational schools are underfunded or disconnected from high-value sectors, these students find themselves on pathways that offer limited mobility or economic security (OECD, 2020). Inequality in general education thus directly shapes inequality in VET, labour-market transitions, and long-term social mobility.

The Action Plan Supporting Education and Training for the Renewable Energy Sector (Živadinović et. al., 2025) also identifies social inequality as a major barrier to developing the human capital

required for green transitions. The Action Plan highlights that disadvantaged and rural students face barriers in accessing technical VET programmes that lead to employment in renewable energy, due to weaker school capacities, outdated equipment, and limited exposure to emerging occupations. As a result, inequalities in general education translate into exclusion from the high-growth, higher-wage sectors that will shape the region's future labour markets.

Montenegro reflects many of the broader regional patterns but also displays distinctive features related to its demographic profile, economic structure, and institutional setup. According to PISA data, Montenegro's overall performance remains below the OECD average, but the country shows notable improvement across assessment cycles (OECD, 2020). However, socio-economic inequalities remain persistent and substantial. Students from the most advantaged quartile outperform their peers from the least advantaged quartile by margins comparable to or larger than several EU member states, demonstrating the system's limited compensatory capacity.

Geographical inequality is a particularly pronounced feature of the Montenegrin education system. Students in the central and coastal regions consistently outperform those in the northern municipalities, where schools face shortages of qualified teachers, limited access to digital technologies, and weaker infrastructure (OECD, 2020). These disparities reflect broader socio-economic divides within Montenegro, where regional development imbalances shape educational investment and opportunities.

2.2.4 Greening of VET Systems: Pathways, Standards, and Pedagogical Innovations

The integration of green competences into VET represents one of the most transformative trends in European education policy. The European Green Deal and GreenComp have triggered systematic reforms targeting curricula, qualifications, teacher training, and assessment processes. Greening VET involves several interrelated dimensions:

Curricular greening - meaning that curricula should integrate sustainability competences horizontally across all vocational fields. Evidence indicates that 'deep greening' requires more than adding environmental modules; instead, sustainability principles must permeate occupational standards and task descriptions (JRC, 2022).

Greening of occupational standards and qualification standards - Cedefop's review of national qualifications reveals significant variation in how countries integrate green competences. Nations such as Finland and the Netherlands have embedded sustainability as a transversal learning outcome across multiple qualification levels (Cedefop, 2021). Others focus on developing entirely new qualifications in renewable energy, waste management, or environmental technologies.

Pedagogical innovation - green pedagogy emphasises problem-based learning, systems thinking, experiential learning, and authentic workplace problem solving. Teachers need new competences themselves, including knowledge of environmental technologies, digital tools, and sustainability methodologies. EU studies show that teacher capability is a major bottleneck in greening processes (European Commission, 2022).

Work-Based learning in green sectors - green sectors such as energy efficiency, photovoltaic installation, electric mobility, sustainable construction, and environmental monitoring increasingly expect students to learn directly in workplaces. Evidence from Germany, Slovenia, and Denmark shows that dual training accelerates green skills acquisition (Cedefop, 2023).

Montenegro's emerging green sectors, particularly renewable energy, eco-tourism, marine environmental management, and energy-efficient construction, are highly suitable for dual education, but they require updated occupational standards, improved provider capacity, and stronger employer partnerships.

2.2.5. Digitalisation and hybrid learning in VET

Digitalisation is transforming both the content and delivery of VET. The European Commission (2021) emphasises that digital pedagogy, digital infrastructure, and digital competences for teachers are prerequisites for a resilient and modern VET system. Digitalisation affects VET in three key ways:

1. **Digital skills for all learners**

   Basic digital skills have become essential across nearly all occupations. Cedefop (2020) reports that 90% of jobs will require at least some digital competences by 2030. VET curricula must therefore embed digital learning outcomes across fields, including traditionally non-digital professions.

2. **New digital occupations and profiles**

   Sectors such as cybersecurity, software development, robotics, and data analytics require specialised VET pathways. Countries like Estonia and Finland have already integrated advanced ICT profiles into VET, demonstrating the flexibility of competence-based systems.

3. **Digitalisation of teaching and learning**

   Hybrid and fully online VET models gained prominence during the COVID-19 pandemic. The shift revealed systemic gaps in many European VET systems: insufficient digital equipment, lack of teacher training, and poor access for disadvantaged learners (OECD, 2021). However, digitalisation also expanded opportunities for simulations, virtual labs, and project-based learning.

Montenegro's VET digitalisation is progressing but uneven. Digital equipment varies significantly across schools, while teacher digital competence remains inconsistent. Systematic investment and professional development are required to align Montenegro with European digital VET standards.

2.3 REGIONAL POLICY CONTEXT: INTEGRATION, CONVERGENCE, AND STRUCTURAL CONSTRAINTS

The Western Balkans (WB6) - Albania, Bosnia and Herzegovina, Kosovo*, Montenegro, North Macedonia, and Serbia, operate within a shared policy environment shaped by the EU accession processes, demographic pressures, and the legacies of economic transition. Since the early 2000s, the EU has prioritised support to the region's education and training systems through the Stabilisation and Association Process, successive IPA funding cycles, and enhanced regional cooperation mechanisms. Within this broader framework, VET reform has emerged as a central policy instrument aimed at addressing high youth unemployment, persistent skills mismatches, and narrow economic structures (ETF, 2020; RCC, 2021). Although the trajectories differ across economies, the region exhibits a set of structural features that collectively influence the pace and direction of VET reforms.

One of the most significant structural constraints relates to the small size of domestic labour markets in the Western Balkans. Limited economies of scale undermine the feasibility of developing specialised training in emerging sectors, thereby reducing the system's capacity to respond to increasingly complex labour-market demands. This is compounded by sustained outward migration, which results in shortages in critical professions, as well as the erosion of public investment in human capital (World Bank, 2020). Large informal sectors further complicate labour-market signalling mechanisms, weakening the feedback loop between employers and VET providers and creating barriers to employer engagement in formal training arrangements.

Another key characteristic affecting VET reform is the dominance of small and medium-sized enterprises (SMEs). SMEs typically lack the financial and organisational capacity to participate fully in work-based learning or dual education schemes without targeted incentives or intermediary support structures (Cedefop, 2015; ETF, 2023). Additionally, the region's education systems suffer from chronic underfunding, particularly in relation to VET infrastructure, teacher development, and adult learning provision. These financial constraints limit the ability of schools and training centres to implement modern curricula, adopt digital technologies, or engage effectively with employers.

Persistent gender and regional inequalities also shape the landscape of VET reform. Educational participation, access to high-quality programmes, and labour-market outcomes vary considerably between urban and rural areas and between socio-economic groups, reflecting long-standing structural inequities (OECD, 2020). These disparities affect both participation in VET and the distribution of opportunities within dual education systems.

Despite these constraints, the regional context also presents important opportunities for accelerated reform. The EU's green and digital transitions offer new avenues for skill development and economic diversification, while rising foreign direct investment in manufacturing, ICT, and energy sectors increases demand for skilled labour. Regional cooperation initiatives, such as the Common Regional Market and Education Reform Initiative for South Eastern Europe - ERI SEE networks, provide platforms for knowledge exchange, benchmarking, and alignment with European practices.

2.3.1 Alignment with European VET priorities: convergence and divergence

Over the past decade, the Western Balkan economies have made notable progress toward alignment with European VET principles, particularly in the areas of qualifications frameworks, learning outcomes, and quality assurance. All six economies have established national qualifications frameworks referenced to the European Qualifications Framework (EQF), thereby enhancing transparency and comparability of qualifications (Cedefop & ETF, 2022). This harmonisation has been accompanied by curricular reforms that shift the emphasis from content-based instruction to outcome-based learning. Montenegro, North Macedonia and Serbia have taken particularly substantial steps to modernise VET curricula, embedding competence-based pedagogies and greater attention to transversal skills (ETF, 2023).

Quality assurance in VET has also improved across the region. The WB6 economies have institutionalised external evaluation mechanisms compatible with EQAVET, though practical implementation often varies. Systems for school self-evaluation, external inspection, and employer feedback now exist in most economies, though their consistency and impact remain uneven.

The expansion of work-based learning (WBL) represents another key area of convergence. Supported by EU IPA programmes, bilateral donor initiatives, and regional institutions such as SEECEL and ERI SEE, countries across the region have introduced or strengthened WBL components in their VET systems. Serbia, Montenegro, and North Macedonia have advanced furthest in formalising dual education schemes, establishing legal frameworks, and developing structured partnerships with employers (Cedefop, 2023).

However, conceptual alignment with EU frameworks does not necessarily translate into systemic convergence. Several areas of persistent divergence remain. Adult learning ecosystems across the Western Balkans are underdeveloped, with participation rates well below EU averages (ETF, 2020). Employer engagement also remains insufficient, particularly within SMEs, which often lack resources and institutional incentives to participate in training provision. Another critical gap lies in the integration of green and sustainability competences. Despite regional commitments to green transition, sustainability is not yet sufficiently embedded in occupational standards, qualifications,

or curricula (Cedefop, 2021; ETF, 2023).

Labour-market information systems also remain weak, limiting the capacity of policymakers to adjust VET provision based on emerging demand signals. Digital transformation presents similar challenges: despite clear prioritisation at policy level, many VET providers lack adequate digital infrastructure, teaching materials, and teacher competences (European Commission, 2021). Gender disparities remain a further area of divergence, particularly in STEM and technical fields, where female participation remains markedly low.

2.3.2 Regional labour-market trends and their implications for VET

Western Balkan labour markets exhibit distinctive patterns with direct implications for the design and performance of VET systems. Analyses by the European Training Foundation (ETF, 2023) and the Regional Cooperation Council in collaboration with the ILO (RCC & ILO, 2021) identify four regional labour-market trends that significantly influence VET policy.

First, persistent youth unemployment and high NEET (not in employment, education, or training) rates continue to characterise labour markets across the region. Although outcomes have improved over the past decade, WB6 youth unemployment levels remain substantially above the EU average. NEET rates in some economies exceed 20%, compared to approximately 12-13% in the EU (Eurostat, 2022). These patterns highlight the need for better school-to-work transition mechanisms and suggest that VET systems must play a more active role in reducing barriers to labour-market entry.

Second, skills mismatches remain pervasive. Across the region, employers report shortages in technical fields such as mechanical engineering, electrical trades, ICT, and construction, while vocational graduates are disproportionately concentrated in hospitality, administration and general business services, fields with more limited labour-market absorption (Cedefop & ETF, 2022; Cedefop, 2018). This mismatch stems not only from outdated curricula and weak alignment with labour-market needs but also from insufficient employer involvement and limited opportunities for meaningful practical training.

Third, outward migration, particularly of young and skilled workers, continues to exert a profound impact on the region's labour markets. The World Bank (2020) and OECD (2022) report that WB6 economies have among the highest rates of skilled emigration globally. Employers frequently express reluctance to invest in long-term training, including work-based learning, because trainees often emigrate soon after qualification. This dynamic undermines the sustainability of dual education and limits incentives for employers to participate in structured training schemes.

Fourth, the growth of green and digital sectors is reshaping labour-market demands. Renewable energy, energy-efficient construction, waste management, ICT services, and sustainable tourism are expanding across the region (Energy Community, 2021). However, the VET systems in most WB6 economies remain insufficiently equipped to produce the necessary skills at scale. The mismatch between emerging economic sectors and existing VET provision highlights the need for rapid system adaptation, including the revision of occupational standards, integration of transversal green competences, and stronger partnerships with employers in green and digital industries.

Taken together, these labour-market trends underscore both the systemic challenges and emerging opportunities for VET reform. They point to the need for modern, responsive VET systems capable of supporting economic competitiveness, retaining human capital, and enabling transitions into high-growth sectors.

2.3.3 Work-Based Learning and Dual Education in the Western Balkans

Work-based learning has gradually become a central component of VET reform across the Western Balkans. Supported by donor initiatives, most notably German development cooperation (GIZ) and EU IPA programmes, countries in the region have introduced various models of WBL, ranging from short-term practical placements to more structured dual education arrangements (ETF, 2023; Cedefop, 2023).

Serbia stands out as the earliest adopter of a comprehensive dual education framework. The Law on Dual Education (2017) institutionalised WBL and formalised the roles of chambers, employers, and schools. This legal framework has enabled Serbia to expand WBL to hundreds of employers and develop stronger governance structures involving sectoral bodies. Montenegro has followed a similar path, formalising dual education through amendments to VET legislation. Although employer participation has increased, it remains uneven across sectors and is stronger in fields such as mechanical engineering, automotive trades, and hospitality.

North Macedonia is in the process of scaling WBL and piloting dual education through sector councils and employer partnerships. Bosnia and Herzegovina confronts greater fragmentation due to decentralised governance structures, leading to variable progress across entities and cantons. Albania and Kosovo* remain at earlier stages, piloting dual models with donor support and building institutional frameworks around employer engagement.

Despite variations across the region, a set of cross-regional patterns emerges. SME participation remains limited due to financial constraints, capacity limitations and limited awareness of the benefits of structured workplace training. The quality of WBL varies significantly, particularly in company-based training environments where structured training plans, pedagogical guidance, and evaluation practices are inconsistently applied (Cedefop, 2015). Although legal frameworks have been established in most economies, operational details, especially in monitoring, assessment, and quality assurance, often lag behind.

Teacher-trainer cooperation also remains weak. Effective dual education requires structured communication and coordination between school-based teachers and company-based mentors, yet this remains underdeveloped across the WB6. Additionally, financial incentives for employers are generally limited or inconsistently applied, reducing the attractiveness of dual VET for SMEs.

Academic research underscores that dual VET models are most successful when underpinned by strong intermediary institutions, such as chambers of commerce, sector councils, or employer organisations, that manage coordination, quality assurance, and the distribution of training costs (Trampusch, 2010; Busemeyer & Trampusch, 2012). Across the Western Balkans, these institutions are still developing, making the sustainability and scalability of dual education contingent on further institutional strengthening. For Montenegro, where chambers are increasingly active but not yet fully systemically embedded, this represents a major area of opportunity and risk.

2.4 THE MONTENEGRIN VET SYSTEM

2.4.1 Western Balkan Dynamics and the Place of Montenegrin VET

The development of vocational education and training in Montenegro cannot be understood in isolation from the broader dynamics of migration, human capital formation and labour-market transformation in the Western Balkans. Over the past decade, the region has been characterised by persistent structural challenges: relatively low productivity, sizeable informal sectors, high youth unemployment, and, perhaps most crucially, significant outward migration of skilled workers. These factors directly affect the supply of and demand for skills and create a complex environment for education policy.

The European Training Foundation's synthesis on migration, human capital and labour markets in the Western Balkans underlines that the region suffers from what it terms a 'use it or lose it' dynamic: highly educated and skilled individuals often fail to find adequate employment at home, which increases their propensity to emigrate and erodes the domestic skills base (ETF, 2022). For Montenegro, as for its neighbours, this means that the public investment in human capital through education systems is partially 'exported' via emigration, while domestic employers continue to report skills shortages. The report stresses that the interaction between migration and human capital is not merely a demographic or social issue but a structural constraint on long-term economic development, as the loss of skilled workers reduces the capacity for innovation, productivity growth and institutional strengthening (ETF, 2022).

These pressures are compounded by the ongoing energy transition in the Western Balkans. Recent labour-market effect analysis conducted under the Green Agenda for the Western Balkans and GIZ's 'Green Agenda: Decarbonizing of the Electricity Sector in the Western Balkans' recently finalised project indicates that decarbonisation will reduce employment in coal-related sectors and associated value chains, but at the same time generate substantial demand for new skills in renewable energy, energy efficiency, grid modernisation, and related services (Živadinović et. al., 2024). The analysis implemented within the GIZ project estimates over 41,000 jobs at risk in coal-related activities across the region and stresses that reskilling and the development of green competences are preconditions for managing this structural shift in a just and inclusive manner. This creates a double imperative for Montenegro: to align its VET system with the evolving skill needs of a greener economy and to ensure that the transition does not exacerbate existing social inequalities.

Questions of equity and quality in education are central to this landscape. OECD work on educational inequity, underscores the persistent influence of socio-economic background on learning outcomes and life chances (OECD, 2017). The analysis highlights how educational systems often reproduce, rather than reduce, social stratification when access to quality schooling and successful pathways is uneven. This is echoed in the regional PISA-based report Education in the Western Balkans: Findings from PISA, which finds that while learning outcomes have improved over time, improvements are not evenly distributed; disadvantaged students tend to benefit less, and performance gaps remain large (OECD, 2020b). Montenegro fits this pattern, showing modest progress but still lagging behind OECD averages in reading, mathematics and science, with substantial variation across schools and socio-economic groups (OECD, 2020b).

The OECD's Education at a Glance 2022 situates VET within a broader comparative framework, emphasising VET's potential to facilitate smoother school-to-work transitions and to provide labour-market relevant skills, but also drawing attention to the risks of tracking and inequity if vocational pathways are perceived as residual or low-status. The Western Balkans Competitiveness Outlook and its 2024 edition, including both the regional profile and the Montenegro country profile, explicitly identify human capital, education quality, and skills as critical bottlenecks for competitiveness and convergence with EU and OECD standards (OECD, 2024). These reports highlight weaknesses in education governance, equity, VET-labour market linkages and adult learning, but also note reform momentum in Montenegro, particularly related to strategic planning, system digitalisation, and quality assurance.

Taken together, these sources paint a picture of a region where education systems, including VET, operate under strong structural constraints but are increasingly recognised as central levers for competitiveness, inclusive growth and successful green-digital transitions. Montenegro shares the common regional challenges, small labour market, outward migration, skill mismatches and inequity, while also facing its own specific institutional and demographic realities. Within this context, the Montenegrin VET system, and especially the emerging dual education model, plays a pivotal role in mediating between education and employment, and in equipping young people and adults with the competences needed in a rapidly transforming economy.

2.4.2 Structural and institutional features of the Montenegrin VET system

Montenegro, a country in the process of EU accession, with a small and therefore potentially strategically vulnerable economy the need to anticipate, prepare for, and shape education reform is especially acute. VET in Montenegro carries significant expectations: it must support a diversified, knowledge-based economy; reduce skills gaps and mismatches; support youth employability; expand adult upskilling and reskilling opportunities; promote gender equality; and help meet the demands of emerging (green) sectors such as renewable energy, energy efficiency, waste management, construction, maritime industries, and sustainable tourism (Reform Agenda, 202X).

> *'The development of human capital is of crucial importance for the development of the economy and society as a whole. The quality of work, productivity, and employability depend on the level of skills and competences. The labour market is transforming at great speed, and with the increasingly widespread use of new technologies, the requirements for skills and qualifications are becoming ever more specific and demand significant investment in their improvement.*
>
> *(...)*
>
> *The foundation for the labour market is created within the education system, in which each level of education carries its own specificities and determines the quality of the next level. In the field of education, one of the key priorities is the establishment of high-quality and inclusive pre-school education and upbringing, primary, gymnasium, vocational and higher education, adult education and science, which will support the personal, social and professional satisfaction of the citizens of Montenegro, while promoting democratic values, social cohesion, active citizenship, and nurturing multicultural understanding, and will enable sustainable economic development, green and digital transition, and employability.'*

Montenegro has been actively engaged in VET reforms over the past two decades, supported by the EU accession, IPA funding, and significant regional cooperation. However, Montenegro's Reform agenda identifies the following goals:

> *Reducing the mismatch between the skills offered by the education system and those demanded by the labour market is one of the objectives. By introducing lifelong learning and work-based training into the education process, especially through vocational education and training, Montenegro plans to directly improve the employability of its graduates. These measures will enable young people to acquire the practical knowledge and skills needed for jobs in the green and digital economy, thereby creating the conditions for more dynamic economic development.*
>
> *Also, special emphasis is placed on increasing the participation of women in the labour market through active labour market measures that are tailored to their specific needs and potentials. By improving access to quality childcare and expanding the capacities for early education, women are enabled to more easily balance professional and family responsibilities, which contributes to greater economic independence and social equality.*
>
> *(...)*
>
> *Ultimately, investments in education and skills are the foundation for long-term social and economic progress. The modernisation of educational infrastructure, the improvement of curricula and the training of teachers for digital competences are among the priorities that will enable young people to participate effectively in the digital economy. These initiatives will not only improve the quality of education but will also ensure that Montenegro remains competitive in the global market, prepared for the challenges ahead.*

Through the planned reforms, Montenegro demonstrates its commitment to building a strong, inclusive and educated nation, ready to face dynamic changes in the global context. By implementing the reform measures to which Montenegro has committed itself through this Agenda, the objectives defined in Article 3 of the Regulation are unequivocally achieved - the promotion of quality education, training, retraining and upskilling, as well as employment policies.'

At the same time, Montenegro faces significant opportunities. The Montenegro 2025 Report acknowledges steps towards the EU accession that can overall be regarded as positive:

In April 2025 the government adopted the Education Reform Strategy 2025-2035 and its Action Plan for 2025-26. The new strategy includes all levels of education and consists of four key pillars: quality and equity, support to teachers, governance and financing, and school infrastructure and equipment. It focuses on the development of 'future-proof' key skills and competencies, reforms of the initial and in-service training of teachers, on enhancing the overall governance and resilience of the education system and on ensuring sustained financing of reforms. It includes also large-scale investment in improving school

Regarding international assessments of secondary education, Montenegro took part to the Teaching and Learning International Survey (TALIS 2024). This test aims at providing evidence-based data on the working conditions of teachers and school leaders and learning environments in their schools. Montenegro is participating to PISA 2025. Moreover, Montenegro has enrolled to join future tests Progress in International Reading Literacy Study (PIRLS) 2026, TIMSS 2027 and International Computer Information and Literacy Study (ICILS) 2028. Regarding vocational education and training (VET), the Ministry of Education continued to be committed to the Osnabruck Declaration and reforms to address skills mismatches. More focus is needed on work-based learning at both VET and higher education levels (European Commission, 2025).

Montenegro's challenge and opportunity can be summarised as one that aims to reshape its VET system into a catalyst for sustainable development, economic transformation, and social fairness, fully aligned with European aspirations.

2.4.3 Governance

Montenegro's vocational education and training system has developed within a unique combination of structural, demographic, and institutional conditions. The country's small population, limited labour-market size, and high economic dependence on a narrow range of sectors, most notably tourism, construction, energy, and maritime services, shape both the opportunities and the constraints of VET policy development. These structural features become more pronounced when combined with persistent outward migration, which reduces the size of the domestic labour force and results in significant losses of skilled workers shortly after they enter the labour market (World Bank 2020). Such conditions place heavy demands on Montenegro's education and training system to provide high-quality, relevant, and adaptable skills aligned with economic priorities and with the requirements emerging from the European Union's twin green and digital transitions.

In institutional terms, Montenegro has gradually built a formal VET governance architecture aligned with European standards. Key actors include:

Ministry of Education, Science and Innovation (MESI) that is the apex body responsible for shaping VET policy, adopting strategies, drafting legislation, and overseeing implementation across all levels of the system. It maintains authority over school governance, funding allocations, quality assurance regulations, and international cooperation (Eurydice, 2023). Over the last decade,

the Ministry has been the principal driver of reforms aiming to harmonise national VET policies with EU standards, including modularisation, learning-outcomes-based qualifications, and the expansion of work-based learning pathways.

VET Centre (Centar za stručno obrazovanje) that is the key professional institution responsible for the technical development and implementation of VET policies. Its mandate includes:

- Development and revision of occupational standards,
- Development of qualification standards,
- Preparation of modular curricula,
- Teacher training related to VET pedagogy and curriculum implementation,
- Support to schools in organising practical learning and work-based learning (Eurydice, 2024).

The VET Centre is also organisationally responsible for coordinating the implementation of dual education in cooperation with companies and local actors. In Montenegro's institutional landscape, it functions as the expert backbone supporting the Ministry's policy direction. ETF assessments consistently highlight the Centre's strong technical expertise but limited institutional capacity relative to the increasing breadth of reforms (ETF, 2023).

Montenegro has two high-level advisory and regulatory bodies relevant for VET:

National Council for Education - covers general, vocational, and adult education, approves curricula, and oversees quality frameworks.

National Qualifications Council - oversees qualification system development, regulates the NQF, approves qualification standards, and ensures consistency with the European Qualifications Framework (EQF)

Both councils include representatives of social partners, employers, VET experts, and institutions. Their role has grown with the expansion of learning-outcomes-based qualifications and the need to validate new occupational standards in response to technological, demographic, and economic changes.

The Chamber of Commerce of Montenegro (Privredna komora Crne Gore) functions as the institutional voice of employers and plays a particularly important role in dual and work-based learning. It coordinates companies' participation in VET, contributes to the development of occupational standards, and supports the matching of students to employers (Eurydice, 2024).

Social partners - including employer associations, trade unions, and sectoral councils - participate in the design of occupational standards, qualification frameworks, and curriculum revisions. Despite formalised roles, ETF evaluations note persistent capacity imbalances, with employer involvement more active in tourism, hospitality, and mechanical engineering, and weaker in SMEs-dominated sectors (ETF, 2023).

Montenegro has established a comprehensive legislative and strategic framework for VET, including laws regulating vocational education, qualifications, and dual VET, as well as strategic documents addressing employment, smart specialisation, and the green and digital transitions.

The structure of VET provision includes three- and four-year programmes at secondary level, post-secondary VET, adult training programmes, and increasingly, practical education models that integrate school-based and workplace/dual learning. Enrolment patterns, however, suggest persistent mismatches. Large numbers of students continue to enrol in economic, trade, and hospitality pathways, while significantly fewer choose technical VET fields such as mechanical engineering, electrical engineering, construction, or ICT. These patterns run counter to the skill demands identified in national development strategies and labour-market analyses (ETF 2022a; Eurostat 2022). Demographic decline further complicates this landscape. Montenegro's shrinking

youth cohort and continued outward migration heighten the importance of adult learning and upskilling, yet adult learning provision remains fragmented and underfunded.

Dual education represents one of Montenegro's most significant VET innovations. The model has expanded since its introduction, particularly in sectors such as mechanical engineering, electrical engineering, hospitality, and construction. Employers generally recognise the value of dual education, and participation has increased. Yet challenges remain. Many SMEs lack the financial and human resources to provide structured, high-quality workplace training, particularly in areas requiring specialised equipment or supervision. Moreover, work-based learning quality varies across companies, reflecting inconsistent mentor preparation, school-company coordination, and monitoring. These challenges mirror patterns observed throughout the Western Balkans, where donor projects have introduced dual VET but where systemic conditions, such as limited employer coordination bodies, hinder sustainable expansion.

Montenegro's economic transformation and EU alignment processes are creating new demands for skills in green and emerging sectors. Renewable energy development, energy-efficient construction, circular economy initiatives, and sustainable maritime services all require updated technical competences. Montenegro's coastline and maritime sector further create opportunities for skills related to marine environmental protection, sustainable port management, and green logistics. European frameworks such as GreenComp (Bianchi, Pisiotis & Cabrera 2022) and the Council Recommendation on VET (European Commission 2020a) emphasise the need for transversal sustainability competences across all vocational profiles, but Montenegro is still at an early stage of integrating these competences system-wide.

Gender inequality represents another significant systemic barrier. National and regional studies highlight that girls remain heavily concentrated in service-oriented VET pathways while being under-represented in technical fields, especially engineering, electronics, mechanical trades, and ICT. This gender segregation limits women's access to better-paid and higher-growth occupations, particularly in green and digital sectors where opportunities are expanding. Cultural norms, stereotypes, and employer biases restrict female participation in work-based learning placements in traditionally male-dominated sectors. Although Montenegro has adopted gender-equality legislation consistent with EU standards, gender mainstreaming within VET governance structures remains limited. Sector councils and curriculum committees rarely apply gender analysis when updating qualifications or designing new programmes.

Teacher and trainer capacity is a cornerstone of VET quality, yet Montenegro continues to face significant human-resource constraints. Many VET teachers have limited recent industry experience, which reduces their familiarity with current technologies and workplace practices. Opportunities for continuous professional development are irregular, insufficiently funded, and often dependent on donor projects. In-company trainers (mentors) typically receive little or no pedagogical preparation, even though pedagogical competence is essential for effective workplace learning (Cedefop 2023). Teacher training in digital pedagogy and sustainability competences remains particularly underdeveloped, creating additional misalignment with the green and digital transitions.

Digitalisation represents both an opportunity and a constraint. While Montenegro has prioritised digital transformation through national strategies, the VET system exhibits significant disparities in digital equipment, infrastructure, and teacher competence. Schools differ widely in their ability to provide hybrid learning, simulation-based instruction, or digital content. Digital competences are unevenly embedded across curricula, and many teachers lack confidence in using digital tools in teaching. These findings align with broader regional assessments indicating that digital transformation remains one of the Western Balkans' most urgent education challenges (ETF 2023).

The analysis of Montenegro's VET system reveals a pattern common in small and rapidly transforming education systems: formal alignment with European frameworks has advanced considerably, but underlying systemic conditions impede the full realisation of policy objectives. These gaps are interdependent and accumulate across governance, labour-market relevance, employer engagement, teacher capacity, adult learning, digitalisation, gender equality, quality assurance, and financing. Understanding these barriers is crucial for identifying realistic, evidence-based pathways for reform.

Despite these barriers, Montenegro possesses several strategic opportunities that could be leveraged to accelerate reform. The country's EU accession trajectory provides a strong external incentive for alignment with European VET frameworks and offers access to significant financial resources, particularly through IPA III (2021-2027). Montenegro's small system size allows for rapid implementation of reforms once strategic direction is established. The country is also well positioned to benefit from economic opportunities in emerging sectors such as renewable energy, sustainable tourism, maritime environmental management, and ICT, sectors strongly aligned with EU policy priorities and capable of driving demand for modernised VET pathways. If Montenegro strengthens cross-ministerial coordination, invests strategically in teacher and trainer development, modernises occupational standards, institutionalises employer engagement, mainstreams gender equality, and expands adult learning opportunities, its VET system can transition from partial alignment to full integration with contemporary European norms. Such reforms would enable Montenegro not only to respond to immediate labour-market challenges but also to build a resilient, inclusive, and future-oriented human-capital system aligned with long-term economic and social objectives.

2.4.4 Practical education in Montenegro

The implementation of practical education in Montenegro can be understood as the operationalisation of work-based learning (WBL) within a clearly defined legal and institutional framework that combines school-type and dual-type arrangements. Drawing on the Guidebook for the organisation and implementation of school-based and dual practical training at companies (OeAD, 2024) and Work-based learning in Montenegro - an assessment per EU quality standards (ETF, 2025), it is possible to reconstruct in detail how practical education is organised, governed and quality-assured in practice.

2.4.4.1 Systemic and legal framing of practical education

In Montenegro, practical education is embedded in the broader system of initial and continuing vocational education and training (IVET and CVET) and is regulated by the General Law on Education and the Law on Vocational Education. These laws define the duration and structure of IVET programmes (two, three and four years at national qualifications framework levels II, III and IV1) and require that vocational programmes include both theoretical instruction and practical training, with a mandatory component implemented at the workplace as WBL.

There are two institutionalised ways of implementing practical training in IVET. In the first, referred to as 'school-type' practical training, the practical component is implemented partly in the school and partly at an employer, but the school retains responsibility for assessing learners. The mutual rights and obligations between school and employer are regulated by a practical training contract. In the second, 'dual-type' practical training, the employer assumes responsibility for the whole practical training component, which is implemented entirely at the workplace and regulated by an individual contract between the learner (i.e. learner's parent/guardian) and the employer, co-signed by the school. Dual-type practical training is restricted to three-year IVET programmes, but the qualification and diploma obtained are identical to those gained through school-type delivery of the same programme.

Practical education is thus not an add-on but a core form of educational work within IVET and, in adapted form, within CVET and active labour market measures. The ETF report situates WBL in Montenegro within European quality frameworks, in particular the European Framework for Quality and Effective Apprenticeships and the Quality Framework for Traineeships, using their quality criteria as the analytical lens for examining Montenegrin arrangements. This ensures that the implementation of practical education is assessed against common European expectations related to learning outcomes, contracts, pedagogical support, learner protection, funding mechanisms and quality assurance (ETF, 2025).

2.4.4.2 Forms and modalities of practical education: school-type and dual-type

The practical education system is structured around two main modalities that share the same curricula and learning outcomes but differ with regard to responsibility, governance and financing.

In school-type practical training, which is available in all two-, three- and four-year IVET programmes, the school designs and delivers the overall programme and is responsible for learner assessment. Practical training is split between school workshops and WBL at enterprises. The relationship between school and company is formalised through a contract on practical training, which specifies the obligations of both parties, including conditions for conducting WBL, occupational safety issues and the scope of the learners' activities. Compensation for learners is not foreseen in this modality, and the practical training contract is concluded annually for each grade and programme (ETF, 2025).

In dual-type practical training, which is available only in three-year programmes, practical education is fully workplace-based and the employer is the central implementing actor for the practical component. Here, an individual contract on practical education is concluded between the learner (or parent) and the company and co-signed by the school. This contract covers the entire three-year period and regulates mutual rights and obligations, including conditions the employer must meet, the content and scope of training, and the provision of learner compensation (OeAD, 2024).

In dual-type practical training, learners receive monthly compensation expressed as a percentage of the average net salary in Montenegro, with minimum thresholds of 10 per cent in the first year, 15 per cent in the second and 20 per cent in the third. The state budget covers the compensation in the first two years, while employers finance it in the third year. All learners in both school-type and dual-type practical training are insured against accidents, with schools covering the insurance costs, and health and safety topics are systematically addressed at the beginning of vocational modules and reinforced by in-company trainers at the workplace.

Although the same educational programme and learning outcomes apply regardless of whether practical training is organised in school-type or dual-type form, the ETF analysis shows that the scope of WBL varies considerably between schools, even for the same programme, depending on local conditions and the availability of employers (ETF, 2025). Regulations, however, guarantee the horizontal and vertical mobility of learners between programmes and facilitate progression from three-year to four-year programmes and then to higher education, irrespective of the type of practical training completed (ETF, 2025).

2.4.4.3 Organisation of practical education at school level: the role of the practical training organiser

The OeAD-supported Guidebook for the Organisation and Implementation of School-based and Dual Practical Training at Companies provides a detailed operational description of how practical education is organised at school level, with a particular focus on the role of the practical training organiser. According to this document, schools that have more than 70 students attending practical training in companies may employ a practical training organiser as a dedicated staff

member. This person is a school employee responsible for coordinating and supervising practical training that takes place in companies, in both school-type and dual-type formats, and for mediating between the school and the world of work (OeAD, 2024).

The Guidebook conceptualises the work of the practical training organiser (PTO) in four broad functional areas: analysis and planning, organisation of work, monitoring, and record-keeping and reporting. In the field of analysis and planning, the PTO systematically analyses the existing practical training arrangements in cooperation with practical training teachers, including the number of students and programmes that require placements in companies, the spatial and equipment requirements of both schools and companies, and the possibilities for engaging new enterprises as training providers. On this basis, the organiser prepares annual work plans that integrate school-based and company-based practical training, contributes to the school's development and enrolment plans by referencing labour market needs and local cooperation opportunities, and develops tools such as checklists of minimum company requirements (OeAD, 2024).

In terms of organising work, the practical training organiser participates in commissions that define conditions companies must satisfy to host learners, coordinates the drafting and signing of contracts with enterprises, determines - together with practical training teachers and company mentors - how learning outcomes can be achieved in specific workplaces, and sets the number of learners that can be placed in each company without compromising quality. The organiser also prepares timetables for school-based and company-based practical training and arranges mandatory medical examinations and occupational safety training for learners before they begin practical training in enterprises (OeAD, 2024).

Monitoring is another central aspect of the organiser's role. The Guidebook describes how the organiser visits learners in companies, monitors adherence to safety and protection measures, follows up on attendance and achievement records prepared by company mentors, and jointly with practical training teachers monitors the attainment of learning outcomes. On the basis of these observations, the organiser contributes to internal evaluation processes and proposes measures for improving practical training quality. Furthermore, the organiser helps arrange practical components of technical and final examinations and takes part in the organisation of end-of-year assessments of learners in dual programmes (OeAD, 2024).

Finally, the Guidebook emphasises the importance of systematic record-keeping and reporting. The practical training organiser maintains a database of contracts with companies, regularly updates information in the school's internal database and in the Montenegro Education Information System (MEIS) on companies, mentors and learners, and compiles periodic reports on the implementation of school-based and dual practical training for school management, the VET Centre and the Ministry (OeAD, 2024).

The Guidebook also highlights the organiser's role in building and sustaining cooperation and promotion: liaising with employer associations, supporting school promotional activities (such as open days, competitions and visits), and contributing to the public visibility of vocational education and practical training. In this way, the practical training organiser embodies the interface between school and economy and is a key operational actor in the implementation of practical education (OeAD, 2024).

2.4.4.4 Roles of other actors and arrangements for pedagogical support and quality assurance

The implementation of practical education in Montenegro depends on a network of institutional actors with complementary roles. At national level, the Ministry of Education, Science and Innovation (MESI) is responsible for overall education policy, including IVET and CVET. The Centre for Vocational Education (VET Centre) develops qualification standards and IVET/CVET

programmes, provides advisory support and undertakes research in vocational education and adult learning. The Bureau for Educational Services ensures quality in pre-university education, while the Examination Centre is in charge of external assessments and examinations. The National Education Council and the Qualifications Council oversee, respectively, curricular and qualifications issues across general and vocational education (OeAD, 2024, ETF, 2025).

At the level of implementation, the Guidebook maps the roles of the school principal or deputy, practical training teachers, classroom teachers, companies, company mentors, students, parents, the VET Centre and employer associations. School management is responsible for establishing the internal organisation, creating commissions to define company requirements, and supporting cooperation with employers. Practical training teachers work closely with practical training organisers and company mentors to analyse curricula, plan practical training, and monitor learning outcomes. Company mentors (in-company trainers) guide learners in the workplace, keep attendance and achievement records and collaborate with school staff. Employers provide the training environment, equipment and supervision necessary for learners to acquire occupational skills. Parents and guardians are recognised as partners in supporting learners' engagement and monitoring their progress (OeAD, 2024).

The ETF analysis adds a more critical perspective on pedagogical support and the conditions for in-company trainers. It notes that while legal provisions define basic requirements for in-company trainers - such as having at least the same qualification level as the learners' target qualification and at least five years of work experience - training for in-company trainers is not mandatory, and since 2020 there has been no systematic, centrally provided pedagogical support (ETF, 2025). In-company trainers do not receive additional compensation for their work with learners. This leads the ETF report to highlight support to in-company trainers as an important gap vis-à-vis European quality standards, even though day-to-day support from school-based practical training teachers and organisers is relatively strong (ETF, 2025).

Quality assurance mechanisms for practical education operate at several levels. The ETF report notes that all VET programmes are based on learning outcomes and include WBL components, aligning the design of programmes with the expectations of the European Framework for Quality and Effective Apprenticeships. External evaluation of schools is conducted periodically, and self-evaluation is mandatory and usually takes place every two years (ETF, 2025). At the same time, the Guidebook describes how, at school level, data on the implementation and quality of practical training are collected through multiple instruments: monitoring visits, reporting templates, and surveys of learners, parents and companies. These data are intended to inform school-level improvement measures and feed into broader quality assurance processes coordinated by the VET Centre and the Ministry (OeAD, 2024).

Transparency and information systems form another aspect of implementation. The ETF report emphasises the existence of a dedicated MEIS web application for practical training, through which schools are expected to enter data on learners, employers and the scope of WBL across programmes. However, the application is still under-used, partly due to frequent changes in school leadership and limited capacity (ETF, 2025). This gap reduces the potential for systematic monitoring and evidence-based policymaking in the field of practical education.

2.4.4.5 Strengths and challenges in the current implementation

Taken together, the Guidebook and the ETF assessment present a picture of a system in which practical education is conceptually well integrated into VET programmes, supported by a relatively sophisticated regulatory framework, and increasingly aligned with European quality standards, but also facing practical challenges in implementation.

Among the strengths, the ETF report highlights the existence of clear contractual arrangements

for both school-type and dual-type practical training; the systematic use of learning outcomes in programme design; the defined roles of practical training teachers, organisers and in-company trainers; the provision of accident insurance and systematic attention to health and safety; and the existence of a regulatory framework that enables dual-type practical training and ensures flexible pathways for learners. It also considers positive the partial state financing of learner compensation in dual-type programmes, which reduces the cost burden on employers in the first two years (ETF, 2025).

The Guidebook adds to this by standardising processes and procedures at school level, thereby reducing variability in how practical training is organised and monitored. By codifying the tasks of practical training organisers, specifying the forms and templates to be used, and clarifying the roles of different actors, it helps schools professionalise their cooperation with companies and design more consistent quality assurance practices (OeAD, 2024).

At the same time, several important challenges are identified. The ETF analysis points out that training programmes for in-company trainers exist but are not mandatory, and that systematic pedagogical and material support to trainers is insufficient (ETF, 2025). Employers are not required to provide pension or health insurance for learners in dual-type programmes, which, while reducing their costs, may limit the social protection of learners. The involvement of employer associations in the implementation and evaluation of practical training is still not systemic and tends to be concentrated in advisory bodies concerned with broader policy and standard-setting, rather than in day-to-day WBL organisation and assessment (ETF, 2025).

The ETF report also observes that some employers withdraw from dual-type practical training when they are required to finance learner compensation in the third year, which can disrupt the continuity of practical education and limit the number of available placements. Moreover, career guidance activities are often more focused on informing learners about further schooling options than on providing comprehensive labour-market information and supporting informed choices about participation in dual programmes or specific occupations (ETF, 2025).

Finally, the under-utilisation of MEIS for tracking WBL and the absence of a national database of company vacancies constrain transparency and make it more difficult to systematically match learners to companies, to monitor the distribution and quality of placements, and to evaluate the outcomes of practical education at system level (ETF, 2025).

When viewed through the combined lens of the OeAD Guidebook and the ETF assessment, the implementation of practical education in Montenegro emerges as a structured and increasingly mature system that combines a comprehensive legal framework, clearly defined types of practical training and a detailed set of school-level procedures. School-type and dual-type modalities are built on shared curricula and learning outcomes and supported by a network of actors ranging from the Ministry of Education, Science and Innovation and VET Centre to schools, practical training organisers, employers and in-company trainers.

Despite significant progress, key challenges remain related to the systematic support and professionalisation of in-company trainers, the long-term engagement of employers in dual-type programmes, the integration of employer associations into WBL implementation, the quality and reach of career guidance, and the full utilisation of information systems for monitoring practical education. Addressing these gaps would further align Montenegrin practical education with European quality criteria and strengthen its contribution to youth employability, labour-market relevance and the overall quality of vocational education.

III EVALUATION SURVEY RESULTS

The evaluation survey was implemented in the period between August 2025 and September 2025. The main goal of the survey was to assess the practical education in Montenegro implemented in the school and dual form. The evaluation in its form is processing evaluation that focuses on the way in which the practical education in Montenegro is implemented.

As noted in the first part of the report, the survey was implemented amounts six groups:

- Teachers of the practical form of instruction within the modules marked with an asterisk in educational programmes at level III
- Teachers of the practical form of instruction within educational programmes at level IV1
- Organisers of practical education at level III
- Organisers of practical education at level IV1
- Students of 2nd and 3rd grade at level III
- Students of 3rd and 4th grade at level IV1

The number of respondents per category included in the analysis is presented in Table 1.

Table 1: The number of respondents per respondent group

Respondent group	Number of respondents
Teachers of the practical form of instruction within the modules marked with an asterisk in educational programmes at level III	153
Teachers of the practical form of instruction within educational programmes at level IV1	120
Organisers of practical education at level III	25
Organisers of practical education at level IV1	23
Students of 2nd and 3rd grade at level III	681
Students of 3rd and 4th grade at level IV1	1007

3.1 STUDENT SAMPLE

According to the MEIS data in 2024/25 school year there were 7774 (30.02%) students enrolled in gymnasium programmes and 18123 (69.98%) enrolled in VET programmes (Table 2).

Table 2: Number of students enrolled in gymnasium and VET programmes in 2024/25, MEIS data

	Male		Female		Total	
	n	%	n	%	n	%
Gymnasium programmes	3392	43.63	4382	56.37	7774	100
VET programmes	9661	53.31	8462	46.69	18123	100
Total	13053	50.40	12844	49.60	25897	100

Table 2 shows that while there is somewhat equal gender balance in the total student population, disparity becomes apparent when comparing students enrolled in VET programs and students enrolled in gymnasium programmes, where the latter have more female students while the VET programmes have somewhat more male students.

Looking at the numbers of students in 2024/25 school year, per level and gender, the conclusion

can be made that males students are dominant in level III programmes (over 70%) while there is somewhat equal distribution of male and female students attending level IV1 programmes (Table 3).

Table 3: Number of students enrolled in VET programmes per level in 2024/25, MEIS data

	Male		Female		Total	
	n	%	n	%	n	%
Level III	2756	70.16	1172	29.84	3928	100
Level IV1	6905	48.64	7290	51.36	14195	100
Total	9661	53.31	8462	46.69	18123	100

The evaluation survey was implemented amongst students who were enrolled in second or third year of a level III VET programme and students who attended third of fourth year of a level IV VET programme in 2025/26 school year. The reasoning behind this decision lies in the fact that omitted students (first year of level III programmes and first two years of level IV programmes) do not have (sufficient) personal experience in practical education. At the time survey was implemented, the first-year students had perhaps a week of total high school experience, while the second-year students enrolled in IV1 level programmes mainly did not have personal experience but could rather rely on a generational hearsay. Table 4 depicts the gender distribution of both samples of students. The weighting of data was not implemented, as the total numbers of students were not available at the time of reporting. In addition, 7 students enrolled in level III programmes and 20 enrolled in level IV programmes did not disclose their gender. However, their answers will be included in data analysis.

Even though the students survey sample on students (Table 4) are not directly comparable to population data from the previous year (Table 3) an argument could be made based on premise that gender enrolment trends did not change significantly in a year, that there is overrepresentation of females at both levels.

Table 4: Number of students that completed the evaluation survey

	Male		Female		Total	
	n	%	n	%	n	%
Level III - 2nd and 3rd year	346	53.07	306	46.93	652	100
Level IV1 - 3rd and 4th year	310	32.19	653	67.81	963	100
Total	656	40.62	959	59.38	1615	100

Looking at distribution of students at both levels according to their grade point average (GPA) two trends can be seen: one the GPA is in all cases lower in the last high school year compared to the primary school last year GPA, and female students report higher GPA across the board in comparison to their male counterparts. Possible social dimension measures that will be discussed further in the text could be further directed towards measuring the reasons behind gender disparities as they can be rooted in both measurable better female outcomes and even teacher bias. International large-scale assessments such as PISA show that females tend to receive higher teacher-assigned grades than males with comparable scores on standardised tests (OECD, 2015; OECD, 2019). This teacher grading bias can be partially explained by behavioural factors, teacher expectations, and implicit stereotypes, suggesting that part of the observed GPA gap may reflect assessment practices rather than purely differences in academic achievement.

Table 5: Number of students that completed the evaluation survey

	Male			Female		
Grade point average	Mean	n	SD	Mean	n	SD
Grade point average - primary school last high school year	3.39	286	0.78	4.12	262	0.75
Grade point average - last year	3.19	284	0.74	3.53	253	0.71
Grade point average - primary school last year	4.20	287	0.64	4.28	576	0.57
Grade point average - last high school year	3.72	285	0.79	3.84	586	0.73

While not belonging to the sample in the strict methodological terms, a motivation of students entering the secondary vocational system will be presented here. The main motivation being, to have it in the perspective when thinking about, not only their answers but the report as a whole. In a way, their motivation to enter education system in no ambiguous terms a message on their expectations from the system itself. Level III students were in 62.3% of cases interested in the job they were to be educated for, while 13.5% were motivated by perceived high employment chances. These percentages are somewhat lower for the level IV students (51.5% and 12.7% respectively); however, they had an additional option of choosing a secondary school as a basis for further education to which the difference went. The latter was chosen by almost a fifth of students (16.9%).

Table 6: What is the main reason why you enrolled in the educational programme you are attending?

	S III		S IV1	
	n	%	n	%
I was interested in doing the job I am being trained for	389	62.3	485	51.5
I think I can find a job after finishing school	84	13.5	120	12.7
I enrolled at the insistence of my parents/family	39	6.3	58	6.2
My friends enrolled in this school	32	5.1	31	3.3
It is close to where I live	19	3.0	36	3.8
It provides a good basis for further education	not offered	0.0	159	16.9
The school offers practical training with employers	13	2.1	11	1.2
Other	48	7.7	42	4.5
Total	624	100	942	100

Two groups of students surveyed, those studying level III programmes (2nd and 3rd year of studying) and those studying level IV1 programmes (3rd and 4th year of studying) will be abbreviated in the further text as: S III (Students III) and S IV1 (Students IV) respectively.

3.2 TEACHER SAMPLE

Two groups of teachers were invited to complete tailor made questionnaires:

1. Group 1: teachers of the practical instruction within the modules marked with an asterisk in educational programmes at level III (hereinafter level III teachers/teachers III) and
2. Group 2: teachers of the practical instruction within educational programmes at level IV (hereinafter level IV1 teachers/teachers IV1).

The distribution of both groups of teachers according to gender and are provided in Table 7. There was no aggregated official data to which the sample could be compared. Therefore, the weighting of data was not implemented.

Table 7: The sample of teachers per gender

	Male		Female		Total	
	n	%	n	%	n	%
Group 1 of teachers / III level	74	49.33	74	49.33	150	100
Group 2 of teachers / IV1 level	43	36.75	73	62.39	117	100
Total	117	43.82	147	55.06	267	100

The majority of teachers have significant working experience as teachers, on average 12.18 years of experience amongst teachers teaching in educational programmes at level III and 13.65 years of experience amongst teachers teaching in educational programmes at level III (Table 8). At the same time 69.92% of teachers from the group one and 56.76% of teachers from the group two have experience in working in the industry, implying that they have potential knowledge and ability to connect industry experience with teaching practices.

This finding somewhat contradicts the Cedefop analysis on limited teacher's industry experience. However, discrepancy might be methodological the evaluation survey relied on self-assessment and may be skewed towards including more active teachers.

Putting in brackets which of the two findings has more merit, one can investigate the data relevance, why does the industry experience matter? Is the fact one worked in the industry relevant to his/her knowledge on contemporary industry knowledge and skills demand, or even working conditions, etiquette or labour market demands? One could argue yes.

Table 8: Working experience of teachers

	Group 1 of teachers / III level				Group 2 of teachers / IV1 level			
	n	Mean	Median	SD	Valid	Mean	Median	SD
How many years of work in school as a TEACHER do you have so far?	143	12.18	8.00	10.637	114	13.65	13.00	9.909
How many years of work in INDUSTRY within your professional field do you have so far	148	7.82	4.00	9.031	111	5.32	1.00	8.096

3.3 PRACTICAL TRAINING ORGANISERS SAMPLE

The third group that took part in the survey were practical training organisers who conduct teaching within the modules marked with an asterisk in educational programmes at level III (hereinafter PTO III) and practical training organisers who conduct teaching in educational programmes at level IV1 (hereinafter PTO IV1). According to the MEIS data there were 32 PTOs in school 2024/25. The total of 25 PTO III and 23 PTO IV1 completed the survey.

Their gender distribution is provided in (Table 9.[2]

2 One person per group did not report gender.

Table 9: The sample of PTOs per gender

	Male		Female		Total	
	n	%	n	%	n	%
PTO III	12	50.00	12	50.00	24	100
PTO IV	13	59.09	9	40.91	22	100
Total	25	54.35	21	45.65	46	100

In comparison to the teacher sample, the PTOs have longer experience as teachers, but significantly less experience in the industry (Table 10). 48% of PTO III and 65.2% of PTO IV never had worked in industry, which implies that their first contact with employers in the industry was through their PTO engagement. This finding might be beneficial as the baseline for developing trainings and guiding professional development of PTOs.

Table 10: Working experience of PTOs

	PTO-III				PTO-IV			
	n	Mean	Median	SD	Valid	Mean	Median	SD
How many years of work in school as a PTO do you have so far?	25	5.74	5.00	4.763	21	5.62	3.00	5.277
How many years of work in school as a TEACHER do you have so far?	25	16.20	14.00	12.107	23	18.96	20.00	11.043
How many years of work in INDUSTRY within your professional field do you have so far	25	3.74	1.00	6.030	23	2.57	0.00	5.324

3.4 RESULTS

3.4.1 Engagement of employers

The first objective of the quantitative survey was to capture the overall scope of employer engagement in dual and school education. This involves gathering evidence from teachers and organisers at both Level III and Level IV1, who represent the key institutional actors directly involved in the implementation of practical training. The focus is on quantifying the extent to which employers participate in dual and school models of practical education and understanding how stakeholders perceive the availability of companies willing to provide practical training placements. Within this framework, it is essential to examine the level of employer interest in dual education models and to explore obstacles education actors face in the process of cooperating with local companies. By analysing the aggregated responses, it becomes possible to evaluate the extent to which the current employer offer corresponds to programme needs, student demand, and broader policy expectations.

Starting from the broadest question, how teachers and PTOs assess the level of employer interest in cooperating with schools the picture painted by respondents does not seem optimistic. Over 70% of PTOs and over 64% of teachers assess their interest between low and neither high nor low (Table 11).

Table 11: On average, what is the level of employer interest in cooperating with the school regarding the practical education of students in the dual and school-based forms?

	PTO III		PTO IV1		Teachers III		Teachers IV1	
	n	%	n	%	n	%	n	%
Very low	2	8.7	3	14.3	14	10.1	11	10.4
Low	4	17.4	0	0	17	12.2	17	16.0
Neither high nor low	11	47.8	12	57.1	58	41.7	42	39.6
High	6	26.1	5	23.8	37	26.6	27	25.5
Very high	0	0	1	4.8	13	9.4	9	8.5
Total	23	100	21	100	139	100	106	100

To understand the potential reasons for limited employer interest, it is useful to consider the available evidence on what motivates companies to participate in practical training. According to the ETF study, recruitment of future employees and the enhancement of company reputation were identified as the two primary drivers of employer engagement in dual education during its 2019 implementation (ETF, 2020a).

In the current evaluation, the desire to secure a pool of qualified future employees continues to emerge as the dominant motivation for employers to accept students for practical training (Table 12). This suggests that policy efforts might need to focus more strongly on stimulating participation among employers who are not likely to face labour shortages in the future and therefore may not perceive an immediate benefit in training students. Teachers and PTOs indicate that such motivation could be supported through two main avenues: first, through non-material incentives such as enhancing the visibility and social recognition of employers who actively contribute to the education system (for example, through promotional activities or awards), and second, through increased financial support from the state.

It is important to note that neither teachers nor PTOs perceive employers to be using students as a source of free labour, an issue that is sometimes raised in discussions of work-based learning systems. While this concern does not emerge from the data, policymakers should proactively ensure that this remains the case, safeguarding the quality and integrity of the learning experience (Table 12).

Table 12: What would you identify as the primary motivation of employers to cooperate with the school regarding the practical education of students?

Categories[3]	PTO III		PTO IV1		Teachers III		Teachers IV1	
	n	%	n	%	n	%	n	%
Ensuring qualified staff / addressing labour shortages	9	36.0	9	39.2	35	44.2	43	38.1
Improving the training of students (practical skills)		0.0		0.0	15	19.0	4	3.5
Financial and state incentives / reliefs	5	20.0	3	13.0	7	8.9	11	9.7
Support for education, youth, and the community	1	4.0	3	13.0	4	5.1	16	14.2
Free/cheap additional labour and assistance with work	2	8.0		0.0	4	5.1	11	9.7
Cooperation between school and employers / strengthening the dual model		0.0		0.0	5	6.3	6	5.3
Does not know / has no opinion / does not apply dual education	4	16.0	2	8.7	7	8.9	9	8.
Other	4	16.0	6	26.1	2	2.5	13	11.5
Total	25	100	23	100	79	100	113	100

3 The question was designed as an open-ended item. During the coding process, one response per participant was included in the analysis, ensuring that each respondent contributed a single, distinct unit of meaning.

A clear methodological drawback of presented results is that they measure the perception of employers' motivation by the PTOs and teachers. However, additional insight can come from both Union of Employers of Montenegro and Chamber of Commerce of Montenegro.

Quotation 1: Union of Employers of Montenegro perspective on increasing participation of employers

Union of Employers of Montenegro (UEM) - qualitative survey result
'Employers often have limited capacities for organising quality training. The reasons for this may vary, from financial burdens and the lack of adequate equipment to the fact that companies cannot easily allocate their employees to dedicate themselves to mentoring students without jeopardising daily business operations. An additional challenge is the insufficient recognition of the concrete benefits that participation in the Programme could bring to the company, which is why some employers remain hesitant to get involved. *(...)* *The dual model in Montenegro is still developing, and the quality of practical instruction is not uniform across regions or sectors, especially in the north, where there are limited capacities for high-quality and modernly organised practical training. Improving the system requires strengthening incentive mechanisms for companies, including financial and tax reliefs, as well as developing models that reward employers who provide high-quality training and employ students after graduation. Equally important is to standardise the process of including students through transparent procedures and clear selection criteria, with a stronger role of school career guidance teams.* *(...)* *The visibility and promotion of this model still are not at a level that would motivate a larger number of students to choose it, nor employers to join the programme. Promotion of the programme represents an important element of improvement. There is still a significant number of employers, especially among small and medium-sized enterprises, who are not sufficiently familiar with the benefits of dual education. Therefore, it is crucial to intensify information campaigns, organise direct meetings and presentations of programme possibilities, so that employers can clearly see the advantages and support that the model offers. As an example of good practice, we highlight the campaign 'Stručno je ključno', which has shown the best results in terms of increasing visibility and understanding of the importance of vocational and dual education.*

Quotation 2: Chamber of Commerce of Montenegro perspective on increasing participation of employers

Chamber of Commerce of Montenegro (CCM) - qualitative survey result
'The main obstacles to increasing the number of employers in dual education are manifested through the requirements for material-spatial and staffing conditions at employers (costs and adjustments), followed by administrative and organisational burdens (commission inspections, coordination with schools), as well as the lack of instructors/trained mentors in companies.'

The overall alignment of two perspectives (education and employers' perspective) comes together in the need for the state to support employers (especially small and medium enterprises that are the cornerstone of the Montenegrin economy as described in the previous text) by awarding financial and material (equipment) support. In addition, promotion of entire dual system, including the benefits for employers could be a crucial point of future development of practical education in Montenegro.

On the side of the policymakers, the Ministry of Education, Science and Innovation, have reported on the steps that were undertaken in 2025 and activities that are planned for the future period:

Quotation 3: Ministry of Education, Science and Innovation perspective on increasing participation of employers

Ministry of Education, Science and Innovation (MESI) - qualitative survey result
'In 2025, a video clip was produced for the promotion of vocational education, and four promotional events were organised at which students of secondary vocational schools shared their enrolment and schooling experiences, as well as positive experiences from mobility projects during which they carried out practical training in companies abroad. *With the aim of raising awareness about vocational education among both employers and students, as well as promoting employer participation in designing and implementing work-based learning, the Ministry of Education, Science and Innovation will implement and support activities that promote qualifications that have a shortage of interest and vocational education in general, especially educational profiles in dual education, with a particular emphasis on encouraging the participation of girls in vocational education.* *In addition, the Law on Vocational Education established the Fund for the Support of Dual Education, with the aim of creating conditions and an environment for greater interest and involvement of students and employers in this form of vocational education. The funds for the operation of the Fund will be provided from the budget of the Ministry of Education, Science and Innovation, donations, sponsorships, legacies, and other sources in accordance with the law. The procedure for adopting the Rulebook on the allocation of funds from the Fund for the Support of Dual Education is ongoing.'*

Fund for the Support of Dual Education, established by the Government of Montenegro at the end of 2024 is seen as a mechanism for supporting dual education in the future by providing financial support to both students and employers.

Quotation 4: Ministry of Education, Science and Innovation perspective on the Fund for the Support of Dual Education

Ministry of Education, Science and Innovation (MESI) - qualitative survey result
'The Law on Vocational Education established the Fund for the Support of Dual Education. In accordance with Article 57a of the Law, the funds of the Fund for the Support of Dual Education may be used for: awards for the best students who have concluded an individual education contract; participation in transportation and meals for students during the duration of the individual education contract; organising showcases, competitions in the country and abroad, calls, etc., for the purpose of promoting practical education at the employer; financial support for paying compensation to an employer who has three or more students who have concluded individual education contracts, that is, financial support to an employer who, after the completion of practical education, concludes an open-ended employment contract with those students; participation in the employer's costs for the purchase of work equipment, occupational safety equipment, and compensation for the work of instructors during the duration of the individual education contract. *More detailed conditions, amounts, the manner and procedure for allocating funds from the Fund will be prescribed by the Rulebook on the Allocation of Funds from the Fund for the Support of Dual Education. The procedure for adopting the Rulebook is ongoing.'*

Finally, in determining which sectors should be prioritised by future policy measures, it is useful to consider the perspective of the Union of Employers and their assessment of the sectors that currently demonstrate the highest and lowest levels of employer interest in practical education. Their insights provide an important reference point for aligning targeted interventions with sector-specific engagement patterns and labour market dynamics (Quotation 5).

Quotation 5: Union of Employers of Montenegro perspective on sectors in demand

Union of Employers of Montenegro (UEM) - qualitative survey result
From the perspective of the Employers' Union, the greatest employer interest appears in sectors where a chronic shortage of labour directly affects business operations and where there is, at the same time, the possibility to secure new staff in a timely manner through practical training. Among such sectors are tourism and hospitality, construction, the services sector including hairdressing and cosmetic services, as well as the mechanical engineering sector, where auto mechanics and auto electricians are in demand, and the bakery industry. *On the other hand, the lowest level of interest is recorded in sectors where work is intensive with high fluctuation, or where employers believe that training does not bring immediate benefit, which mostly applies to small service activities and micro-enterprises that do not have the capacity for mentorship.*

3.4.2 Student selection and placement

This component examines the organisation of student placements for practical training by drawing on the perspectives of students, teachers, and organisers at Levels III and IV1. The aim is to understand how schools manage the process of assigning students to companies, with particular attention to the fairness, transparency, and relevance of the criteria used. The survey captures students' experiences with placement procedures, including their perceptions of equal opportunity and the challenges they encounter during the process. By quantifying these perceptions and experiences, the analysis provides insight into whether the existing system ensures equitable access to high-quality practical training opportunities.

The transparency of the student placement selection process is one of the key components of the implementation of the practical education. According to the ETF report there is no national database of vacancies for students (ETF, 2025).

The perspectives of both the Ministry of Education, Science and Innovation and the Centre for Vocational Education reveal a systemic fragmentation in the way Montenegro currently tracks employer participation and student employment outcomes after the completion of practical or dual education. The Ministry confirms that no national mechanism exists for systematically collecting data on employers who hire students after practical training, nor on the long-term employment trajectories of VET graduates. Instead, responsibility for collecting these data is dispersed across schools and institutions, with the CVE conducting external evaluations that include information on work-based learning arrangements, school-employer cooperation, and selected indicators of student follow-up. While such evaluations provide valuable qualitative insights, they do not constitute a coherent, unified employer record or a comprehensive labour-market tracking system.

Both institutions acknowledge the absence of a unified national database capable of linking employer participation with actual employment outcomes. Schools remain the primary source of information, reporting both the proposed number of dual education places, determined by the employers they have secured, and the destinations of graduates, which they track independently and with varying consistency. This decentralised approach leads to substantial data gaps: it obscures the extent to which practical training leads to employment with the same companies and prevents policymakers from identifying which sectors, employers, or training arrangements contribute most effectively to employment outcomes. The CVE's plan to develop an integrated module for tracking employability indicates awareness of this structural deficiency, but its absence at present critically limits system-level monitoring and evidence-informed policymaking.

The Ministry's planned establishment of a national career-tracking database, under the Career Guidance and Counselling Strategy 2025–2030, represents a potentially transformative reform. The proposed interconnection of data from the Ministry, universities, the Employment Agency, the Tax Administration, and adult education organisations would, for the first time, allow for systematic, longitudinal tracking of student and graduate employment outcomes. Such integration is essential for assessing whether work-based learning leads to sustainable employment, evaluating the effectiveness of dual education, and supporting sectoral planning and enrolment policies. However, this reform remains prospective rather than operational, and its success will depend on institutional coordination, data standardisation, and the technical capacity to ensure interoperability between different state databases.

The analytical implication is that Montenegro currently operates without the foundational infrastructure needed to link employer participation to labour-market outcomes in a reliable and scalable manner. This gap not only limits the capacity of the system to evaluate the effectiveness of practical and dual education but also constrains its ability to design responsive enrolment policies, employer-engagement strategies, and incentive mechanisms. Until a national, integrated tracking system is fully implemented, policymaking will continue to rely on partial, school-level data that cannot provide a comprehensive picture of how practical education contributes to employability or which employers and sectors generate the greatest value for students (Quotation 6, Quotation 7).

Quotation 6: Ministry of Education, Science and Innovation perspective on record of employers

Ministry of Education, Science and Innovation (MESI) - qualitative survey result
The Ministry of Education, Science and Innovation does not collect data on employers who employ students after practical education in the school-based or dual form. The Centre for Vocational Education conducts external evaluation and prepares a report that contains information on the implementation of the teaching process in the school and the implementation of work-based learning, cooperation with employers, assessment, etc. One of the quality indicators in the report is whether the school tracks students after the completion of education. The Centre for Vocational Education annually prepares analyses of data obtained from tracking the destinations of students after completing vocational education. *(...)* *Vocational schools submit to the Ministry of Education, Science and Innovation a proposed enrolment plan for the next school year, in which, among other data, they indicate the planned number of students by educational programmes for the dual form of education, which depends on the number of employers with whom the school has established or plans to establish cooperation. The number of places for the dual form of vocational education is determined by the schools in cooperation with employers before the call for applications is announced.* *(...)* *In the Career Guidance and Counselling Strategy 2025–2030, the establishment of a unified database for tracking the career paths of pupils, students and adults at the national level is planned. One of the solutions would be networking the data of the Ministry of Education, Science and Innovation, universities, the Employment Agency, the Tax Administration and adult education providers, in order to monitor whether a person has gained employment or continued education based on the results of career counselling.*

Quotation 7: Centre for Vocational Education perspective on record of employers

Centre for Vocational Education (CVE) - qualitative survey result
There is no unified national database on the employment of students by the employers with whom they completed practical training. Data are collected directly from schools, through tracking the destinations of graduates. The development of an integrated module for monitoring employability is planned.

Schools are in charge of student placement according to the:

> *'**general criteria:** (1) the opinion of a practical training teacher about the interest of a student in attending the preparation for practical training at a company taking place at the school at the beginning of a school year (occupational safety, becoming acquainted with equipment, tools and working environment, etc. in compliance with technical modules defined in the educational programme); (2) a parent of the student has found a company willing to offer practical training to the student (the parent informs the school about the company willing to provide practical training to the student, and the school verifies whether it meets the requirements, just as in case of other companies); (3) grades of the student in the third cycle of primary school; (4) conduct of the student in the third cycle of primary school; and **additional criteria**: (1) equal representation of male and female students at companies (optional); (2) equal representation of students in terms of their grades; (3) a student has special educational needs or is part of a vulnerable group; (4) availability of premises at companies.' (OeAD, 2024).*

However, listed criteria may or may not be measurable nor transparent. In terms of being measurable, i.e. clearly defined, the majority of PTOs and teachers stated that criteria are either sufficiently or greatly defined. However, there is still around a fifth of both PTOs and teachers, that claim that there is a (significant) room for improvement (Table 13). In addition, this percentage may not reflect solely on criteria as much as ability to apply them in a specific context.

Table 13: To what extent are the criteria for assigning students for the implementation of practical education at the employer clearly defined in your school?

	Dual				School-base				Practical education			
	PTO III		Teachers III		PTO III		Teachers III		PTO IV1		Teachers IV1	
	n	%	n	%	n	%	n	%	n	%	n	%
Not at all	1	6.3	2	1.7	2	9.5	2	1.4	1	4.8	3	2.7
To some extent	3	18.8	38	32.5	1	4.8	27	19.1	5	23.8	18	16.2
Sufficiently	10	62.5	48	41.0	13	61.9	71	50.4	8	38.1	53	47.7
To a very great extent	2	12.5	29	24.8	5	23.8	30	21.3	7	33.3	23	20.7
Total	16	100	117	100	21	100	141	100	21	100	111	100

With regard to the obstacles encountered when assigning students to companies in both forms of practical education, neither PTOs nor teachers perceive these challenges as particularly significant. Moreover, the perceived level of difficulty in placing students does not differ between the two groups, indicating a shared assessment of the overall ease, or manageability, of the placement process. (Table 14).

Table 14: To what extent do you encounter obstacles in assigning students (graded on a 7-point scale, from 1-not at all to 7-to a great extent)

To what extent do you encounter OBSTACLES		n	Mean	Median	SD
PTO III	Assigning students to employers in the DUAL form of practical education.	18	3.3	3.00	2.114
PTO III	Assigning students to employers in the SCHOOL-BASED form of practical education.	23	2.9	2.00	2.065
Teachers III	Assigning students to employers in the DUAL form of PE (individual contract).	116	3.4	3.00	2.257
Teachers III	Assigning students to employers in the SCHOOL-BASED form of PE (collective contract).	134	3.4	3.00	2.229
PTO IV1	Assigning students to employers	21	3.1	2.00	2.166
Teachers IV1	Assigning students to employers.	102	3.3	3.00	2.054

When asked to specify the obstacles they encounter in the student placement process, respondents overwhelmingly identified a lack of employers or limited employer capacity as the dominant challenge (Table 15). This finding aligns with a second important pattern: obstacles decrease as students progress through grades. Among PTOs at Level III, 40% reported no significant obstacles in placing third-grade students, compared with only 12% of the same group who were able to identify obstacles when placing first-grade students. This suggests that employer willingness or capacity may increase as students advance in their programmes, or that older students are perceived as better prepared for placements.

Table 15: Which obstacles do you most often face when assigning students

	in the first grade - level III				in the third grade - level III				Practical education - level IV			
	Teachers III		PTO III		Teachers III		PTO III		Teachers IV		PTO IV	
	n	%	n	%	n	%	n	%	n	%	n	%
Lack of employers / limited capacities at employers	21	22.6	2	8.0	9	10.8	0	0.0	18	28.1	7	30.4
Lack of interest / resistance from employers	16	17.2	3	12.0	29	34.9	5	20.0	5	7.8	3	13.0
No significant obstacles	10	10.8	3	12.0	12	14.5	10	40.0	12	18.8	4	17.4
Insufficient knowledge of students and assessment of their capacities	10	10.8	6	24.0	1	1.2	0	0.0	0	0.0	0	0.0
Problems related to students (discipline, motivation, requirements)	8	8.6	0	0.0	15	18.1	1	4.0	8	12.5	1	4.3
Logistical and organisational obstacles (contracts, time, coordination, large number of students, large classes)	8	8.6	2	8.0	6	7.2	0	0.0	12	18.8	2	8.7
Does not know / no answer	11	11.8	9	36.0	9	10.8	7	28.0	5	7.8	5	21.7
Other	9	9.7	0	0.0	2	2.4	2	8.0	4	6.3	1	4.3
Total	93	100	25	100	83	100	25	100	64	100	23	100

Student perceptions provide additional insight into the transparency of the placement process. Among students participating in dual practical training, 12.9% reported that they were not aware of the criteria used to determine their placement. A majority, however, indicated that their placement resulted from teachers' assessment of their interest, with 64.7% identifying this as the determining factor. This suggests that while interest-based matching is common, transparency regarding the criteria used could be strengthened (Table 16).

Table 16: Based on which criteria were you assigned to an employer in the dual form of practical instruction?

	n	%
The teacher assessed that I am interested	90	64.7
My parents/relatives secured the employer	11	7.9
Based on my achievement in primary school	11	7.9
I have a decision on special educational needs	3	2.2
I do not know	18	12.9
Other	6	4.3
Total	139	100

Among the 274 students who had never participated in dual education, 42.0% reported that they would have liked to do so, while 26.3% stated that it made no difference to them whether they were enrolled in a dual system or not. A smaller share, 16.8%, indicated that they had never wished to be part of a dual programme, and 15% were unable to determine whether they would have preferred participation.

Table 17: Did you want to attend practical instruction at an employer through the dual form (to have a signed individual contract with the employer)?

	n	%
Yes, I did	115	42.0
It was not important to me	72	26.3
No, I did not	46	16.8
I do not know	41	15.0
Total	274	100

When asked whether they were aware of the reasons for their exclusion from dual education, 23.4% of respondents answered affirmatively, whereas the majority, 76.6%, reported that they did not know the reasons.

Table 18: Do you know why you were not included in the dual form of practical instruction at the employer?

	n	%
Yes, I know	51	23.4
No, I do not know	167	76.6
Total	218	100

Taken together, these findings point towards the need for better management of student expectations and a more transparent selection process that communicates clearly with students about placement criteria and opportunities. This conclusion is reinforced by the fact that, among those who did enter dual education, 64.7% stated that their placement was based on teachers' assessment of their interest. Considering that, for most students, this assessment occurred during their first year of schooling, an important question emerges regarding the extent to which such criteria were fair, justified, and grounded in measurable and comparable indicators. Strengthening transparency and consistency in selection processes would therefore contribute to a more equitable and better-understood allocation of opportunities within the dual system.

3.4.3 Organisation and delivery of practical education from the school perspective

This part of the evaluation focuses on examining the organisation and delivery of practical education from the school perspective, drawing on insights from teachers and practical training organisers. The aim is to generate comparable data on how schools plan, coordinate, and supervise practical training across different programme levels. The survey documents key dimensions such as staff workload, levels of preparedness, the availability of necessary resources, the nature of collaboration with employers, scheduling practices, existing quality assurance mechanisms, and the administrative challenges encountered in implementation. By quantifying these aspects, the analysis makes it possible to identify systemic differences across school levels, programme types, and regions, thereby offering a clearer understanding of variation in the delivery of practical education.

The first aspect of the organisation of any process is assessment of internal organisational practices and the communication between the main process carriers. When asked about the obstacles in cooperation with school principals, teachers, instructors/employers' representatives,

PTOs, the respondents expressed an overall positive assessment across the board. Almost no obstacles in communication (answers 1 and 2) were chosen by over 50% of respondents for all listed types of cooperation. The most burdenless was assessed cooperation with teachers of practical instruction in the process of organising practical education while the cooperation with instructors in companies was overall assessed as possibly having the most obstacles in comparison to other categories. However, an interesting find is that between 20% and 30% of teachers[4] stated that they encounter obstacles to a great extent with each of the listed colleagues (Table 19).

Table 19: To what extent do you encounter obstacles in the following aspects of the organisation of practical education? (graded on a 7-point scale, from 1-not at all to 7-to a great extent)

			1	2	3	4	5	6	7	Total
School principal	PTO III	n	7	5	2	4			5	23
		%	30.4	21.7	8.7	17.4			21.7	100
	PTO IV	n	13	3	1	2		2	2	23
		%	56.5	13.0	4.3	8.7		8.7	8.7	100
	T III	n	53	14	8	9	7	8	37	136
		%	39.0	10.3	5.9	6.6	5.1	5.9	27.2	100
	N IV	n	56	10	6	6	5	3	25	111
		%	50.5	9.0	5.4	5.4	4.5	2.7	22.5	100
Teachers of practical instruction	PTO III	n	8	8	1	1		2	4	24
		%	33.3	33.3	4.2	4.2		8.3	16.7	100
	PTO IV	n	12	4	2			1	3	22
		%	54.5	18.2	9.1			4.5	13.6	100
	T III	n	60	13	7	6	7	13	39	145
		%	41.4	9.0	4.8	4.1	4.8	9.0	26.9	100
	T IV	n	63	8	6	2	7	4	23	113
		%	55.8	7.1	5.3	1.8	6.2	3.5	20.4	100
PTOs	T III	n	48	19	9	5	11	10	36	138
		%	34.8	13.8	6.5	3.6	8.0	7.2	26.1	100
	T IV	n	49	13	9	3	6	2	22	104
		%	47.1	12.5	8.7	2.9	5.8	1.9	21.2	100
Instructors of practical education	PTO III	n	7	3	4	4	2	1	3	24
		%	29.2	12.5	16.7	16.7	8.3	4.2	12.5	100
	T III	n	46	18	11	6	14	7	28	130
		%	35.4	13.8	8.5	4.6	10.8	5.4	21.5	100
Representatives of employers who are responsible for working with students in companies	PTO IV	n	6	5	2	4		2	2	21
		%	28.6	23.8	9.5	19.0		9.5	9.5	100
	T IV	n	49	13	9	3	6	2	22	104
		%	47.1	12.5	8.7	2.9	5.8	1.9	21.2	100

At the same time, there is a relatively high number of respondents who fall into the most extreme category, those reporting very high cooperation obstacles (a score of 7). In such cases, the underlying causes of these obstacles are likely to be more systemic, organisational, or even personal in nature. Nevertheless, the fact remains that a non-negligible share of respondents report extremely negative experiences, a pattern that is atypical, as response distributions in such surveys rarely cluster at the extremes.

4 PTOs sample is too small for this conclusion
5 T - teachers

To explore this issue further, a composite index was constructed by summing four items that measured perceived cooperation obstacles (cooperation with principals, teachers, PTOs, and instructors at Level III / employers' representatives at Level IV1) and dividing this sum by the number of items each respondent answered. This index was then grouped into three categories. The analysis was conducted only for teachers, as the PTO sample size was not sufficient for meaningful categorisation. Category 1 includes teachers who rated cooperation with all stakeholders as involving no or minimal obstacles; Category 2 includes those reporting moderate obstacles (either consistently average obstacles across the board or mixed ratings, high with some actors, low with others); Category 3 comprises teachers who reported obstacles with every stakeholder they interact with (Table 20).

The results indicate that 28.1% of teachers at Level III and 19.0% of teachers at Level IV1 fall into the category of having objective cooperation obstacles. These findings suggest that there is a substantive minority of teachers experiencing persistent and widespread barriers in collaboration. Consequently, institutional responses at the school level may be warranted, including investigating the underlying causes of these cooperation challenges and implementing mitigation strategies and staff-support measures to improve the working relationships essential for delivering high-quality practical education.

Table 20: Cooperation index amongst teachers' levels III and IV (graded on a 7-point scale, from 1-not at all to 7-to a great extent)

	Teachers III		Teachers IV1	
	n	%	n	%
Very good cooperation	75	51.4	70	60.3
Average cooperation	30	20.5	24	20.7
Very bad cooperation	41	28.1	22	19.0
Total	146	100	116	100

When asked about the specific obstacles in the organisation of practical education at the employer and at the school within the modules, approximately a third of the two groups of respondents answered that there some (Table 21).

Table 21: Are there obstacles in the organisation of practical education at the employer and at the school within the modules? (teachers IV1)

	PTO IV1		Teachers IV1	
	n	%	n	%
No, there are no obstacles	13	65.0	70	71.4
Yes, there are obstacles	7	35.0	28	28.6
Total	20	100	98	100

In a follow-up open-ended question, the vast majority of PTOs and teachers identified the lack of employers and the insufficient equipment in schools as the dominant obstacles. While the shortage of employers appears repeatedly across the data and will likely require a comprehensive, system-level response, the issue of inadequate school equipment may be somewhat more tractable. This is particularly relevant given that the majority of respondents, over 65% in both groups, did not report any obstacles, suggesting that targeted investments in school infrastructure could address a substantial portion of the difficulties experienced without requiring major structural reform.

The Plan for the Implementation of Practical Education, described as a tool 'for achieving learning outcomes in the framework of school-based and dual practical training at companies based on the educational programme, in cooperation with a practical training teacher' (OeAD, 2024),

constitutes a cornerstone document for planning practical training. It is intended to be prepared jointly by PTOs and teachers for both school-based and dual forms of practical education. However, this expectation is not reflected in practice: more than half of teachers and PTOs at Level IV1 and more than one-third of those at Level III report that such joint preparation does not occur. This indicates a significant implementation gap between the prescribed planning framework and actual school-level practice (Table 22).

Table 22: Who prepares the plan for the implementation of practical education in your school?

	PTO III		Teachers III		PTO IV1		Teachers IV1	
	n	%	n	%	n	%	n	%
Organiser of practical education independently	3	13.6	4	18.2	14	9.6	18	15.5
Organiser of practical education in cooperation with the teacher of practical instruction	16	72.7	14	63.6	59	40.4	44	37.9
Teacher of practical instruction independently	2	9.1	4	18.2	69	47.3	46	39.7
Someone else	1	4.5					2	1.7
I do not know					4	2.7	6	5.2
Total	22	100	22	100	146	100	116	100

When asked to identify the greatest obstacle in preparing the Plan for the Implementation of Practical Education, respondents most frequently highlighted organisational challenges related to the implementation of practical education at both levels, as well as lack of employers and pedagogical limitations. These findings suggest that additional support may be needed, particularly for teachers involved in dual practical training, to assist them in developing plans that are aligned with the prescribed learning outcomes. Strengthening this planning process could help ensure more consistent and effective delivery of practical education across schools and programmes. (Table 23).

Table 23: What represents the greatest obstacle for you in preparing the plan for the implementation of practical education?

	PTO III		Teachers III		PTO IV1		Teachers IV1	
	n	%	n	%	n	%	n	%
Pedagogical limitations	1	7.69	18	33.96	1	6.67	10	19.61
(impossibility of implementing outcomes, inadequate teaching units, lack of literature, pedagogical-methodological shortcomings)	1	7.69	18	33.96	1	6.67	10	19.61
Organisational problems	3	23.08	8	15.09	6	40.00	11	21.57
(timetables, seasonality, coordination of school and working hours, logistical obstacles, mismatch between the plan and real tasks)	6	46.15	18	33.96		0.00	19	37.25
Lack of employers / capacities	0	0.00	2	3.77	1	6.67	1	1.96
(too few employers, limited number of places, lack of equipment, insufficient company capacities)	3	23.08	8	15.09	6	40.00	11	21.57
Problems with the motivation of employers / instructors	3	23.08	1	1.89	0	0.00	4	7.84
(lack of interest from employers, unmotivated instructors, insufficient time to work with students)	0	0.00	4	7.55	7	46.67	4	7.84
Problems with students								
(lack of student interest, indiscipline, inappropriate behaviour)	0	0.00	2	3.77	1	6.67	1	1.96
Quality of training / instructors / employers (quality of training varies, insufficient knowledge of instructors, poor attitude towards students, inadequate implementation of practice)		0.00	2	3.77		0.00	2	3.92
Other	3	23.08	1	1.89	0	0.00	4	7.84
Total	13	100	53	100	15	100	51	100

The analysis of school-level organisation and delivery of practical education reveals generally positive cooperation among teachers, principals, PTOs and company instructors, with more than half of respondents reporting little to no communication obstacles across all stakeholder groups. Cooperation with teachers of practical instruction was perceived as the smoothest, while collaboration with instructors or employer representatives was viewed as slightly more challenging. Nonetheless, a notable minority, between 20% and 30% of teachers, reported substantial obstacles with each stakeholder, and an atypically high number positioned themselves at the extreme end of the scale, signalling severe cooperation difficulties. A composite index confirms that 28.1% of Level III teachers and 19.0% of Level IV1 teachers experience persistent, multidimensional cooperation barriers, pointing to deeper systemic or organisational issues that merit targeted institutional responses.

Regarding organisational obstacles in the implementation of practical education, roughly one-third of teachers and PTOs indicated barriers both at schools and workplaces, most frequently citing a shortage of employers and organisational issues. While the former demands a system-level solution, the latter could potentially be addressed through targeted investment, given that a majority of respondents reported no obstacles. Furthermore, despite the central role assigned to the Plan for the Implementation of Practical Education as a jointly developed tool for aligning school-based and dual practical training with learning outcomes, the evaluation identifies a clear implementation gap: more than half of Level IV1 respondents and over a third at Level III report that the Plan is not jointly prepared by PTOs and teachers. Organisational challenges, limited employer availability and pedagogical issues are the most common obstacles affecting the preparation of the Plan, particularly in dual training contexts, indicating a need for enhanced guidance and structured support to ensure consistent and outcome-oriented planning across schools.

3.4.4 Employer's organisation and delivery of practical education

Although employers were not included as direct respondents, teachers and organisers at Levels III and IV1 offer a structured assessment of how companies organise and deliver practical training. Their responses provide insight into employers' adherence to learning plans, the quality of mentoring provided to students, the effectiveness of communication with schools, and the extent to which contractual obligations are fulfilled in general. By quantifying these dimensions, the evaluation is able to compare the functioning of school-based and dual models and to identify patterns of strong or weak cooperation with companies.

The Plan for the Implementation of Practical Learning Outcomes is intended to be delivered to employers, who are expected to organise practical training on the basis of this document. However, practices surrounding the delivery of the plan appear to vary. At Level III, most PTOs report that the plan is delivered jointly by themselves and teachers, whereas teachers more frequently perceive this responsibility as falling primarily to them (Table 24). A similar pattern is observed at Level IV1.

Table 24: Who most often delivers the plan for the implementation of practical learning outcomes to the employer representatives?

	PTO III		Teachers III		PTO IV1		Teachers IV1	
	n	%	n	%	n	%	n	%
Teacher of practical instruction in cooperation with the organiser of practical education	14	60.9	56	40.9	10	45.5	36	34.3
Teacher of practical instruction independently	5	21.7	64	46.7	6	27.3	45	42.9
Organiser of practical education independently	2	8.7	15	10.9	3	13.6	9	8.6
No one	1	4.3	2	1.5	1	4.5	3	2.9
Someone else					2	9.1	1	1.0
I don't know	1	4.3					11	10.5
Total	23	100	137	100	22	100	105	100

Evidence from the available documentation used in this evaluation (OeAD, 2024) suggests that institutional practices at the school level are not standardised and instead differ across schools. This indicates a lack of unified procedures for plan preparation and delivery, which may contribute to inconsistencies in how practical training is organised and implemented.

However, both PTOs and teachers appear to be relatively active in visiting students during the implementation of practical education at employers. In dual-based practical education, 61.1% of PTOs and 74.5% of teachers report visiting students once or more per week. In comparison, 47.8% of PTOs and 84% of teachers visit students at the same frequency in school-based practical education. These figures suggest a generally high level of engagement, though with notable differences between school-based and dual modalities and between the two stakeholder groups (Table 25).

Table 25: How often PTO III visit the students during the implementation of practical education at the employer at:

	PTO III				Teachers III			
	Dual based PE		School-based PE		Dual based PE		School-based PE	
	n	%	n	%	n	%	n	%
I cannot assess	2	11.1	2	8.7	6	6.1	6	6.0
Never					8	8.2	1	1.0
Once a month	2	11.1			6	6.1	5	5.0
Twice a month	4	11.1	6	26.1	8	8.2	8	8.0
Once a week	4	22.2	2	8.7	24	24.5	20	20.0
Several times a week	5	27.8	3	13.0	41	41.8	56	56.0
Every day	3	16.7	3	13.0				
Visiting students is not part of my duties			2	8.7	5	5.1	4	4.0
Total	18	100	23	100	98	100	100	100

One of the key obstacles to visiting students and engaging more actively in their practical education at employers is likely financial in nature. Although the number of students assigned to each teacher or PTO and the distance to employer sites vary, meaning that the burden is not evenly distributed, material resources are essential for all staff to ensure comprehensive coverage of student visits.

The data indicate, however, that a substantial majority of stakeholders are bearing these costs themselves: 86.4% of PTOs at Level III and 86.0% of teachers at Level III report that they fully or partially cover the expenses associated with visits to employers. This reliance on personal financial contributions suggests that inadequate institutional funding may be limiting the frequency and quality of support provided to students during practical training (Table 26).

Table 26: Who covers the costs of your visit to the employer (PTO III)

	PTO III		Teachers III	
	n	%	%	%
I cover the costs from my own resources	17	77.3	113	83.1
The school	1	4.5	6	4.4
I cover part of the costs from my own resources, and part is covered by the school	2	9.1	4	2.9
Someone else	2	9.1	2	1.5
Not applicable, there are no costs	2	9.1	11	8.1
Total	22	100	136	100

The data also show that half of PTOs and teachers at Level III would like to visit students more frequently. However, when asked about the obstacles preventing them from increasing the number of visits, PTOs identified the following barriers:

Quotation 8: Obstacles to increasing the frequency of visits to employers - PTOs III and teachers III

PTO III - Anonymised
• 'Exclusively for material reasons. • For financial reasons, because this responsibility takes up as much as 200 euros per month from my personal income, and no one contributes, nor does the school have its own car or travel orders for these costs, neither for teachers nor for organisers of practical training. • It is simply impossible because of the workload we perform in the school. Due to a lack of staff, I have 10 teaching hours; the school still does not have an assistant principal, so I prepare the timetable, daily timetable changes, we resolve problematic situations, and many other tasks necessary for the smooth functioning of the school. The situation is the same with teachers of practical instruction, who are engineers and also cover mathematics lessons. • I do not want to burden the employer with my presence. • Overloaded. About 520 students carry out or partially carry out practical instruction at employers. • Primarily, it is a matter of covering transport costs, because I pay for fuel from my own salary, which is a basic salary, and I cannot financially withstand such a burden on my personal budget. • Because of other duties within the school. • Because of the large number of employers with whom the school cooperates, and who are located in other municipalities.'
Teachers III - Anonymised
• Financial factor - I have to travel by car to the employer because the distance is up to 25 km. • Financial aspect - the distance from the school to the employer is 25 km, sometimes more. • I have lessons at the same time. • I have classes at school. • Because the employer does not allow it. • Little free time. • It is not explicitly required from the teacher; the organiser of practical education does not insist on it, visit to employers are periodically. • Lack of financial resources. Not a single year has the school covered my transport costs for visiting students who are at the employer, and in the past four years I have visited at least two to three employers. • Lack of motivation. • Lack of time. • I do not have money to pay for a taxi or to pay colleagues for fuel. Salaries are too low to cover such expenses. I have a family and children, and only I am employed. • Obligations and the large distance of employers from the school. • Working in two shifts due to a lack of teaching staff. • I gladly visit them, but financial issues represent difficulties for me because I cover the travel costs myself. Also, the lack of interest from employers and students because they do not have financial benefits from the state. • Distance of employers and material costs. • Because of using my own car and the costs, as well as because of obligations at school. • Because a certain number of students carry out practical instruction in our training centre, with whom I must work. • Sometimes I feel unnecessary when I visit employers, because they have certain agreements with the students regarding working hours and releasing the students.

As visible from their answers (Quotation 8), the perspectives of teachers and organisers of practical training reveal a consistent need for increased financial support to facilitate visits to employers, which are essential for ensuring that the conditions of practical education are properly met and that both employers and students receive adequate guidance. A number of teachers also point to the overall volume of their obligations, including demanding class schedules, as a key reason for not achieving the desired frequency of visits. This issue appears solvable through institutional measures, suggesting that adjustments at the school level could help align practice with the expected standards.

On the side of policy makers, the feedback from the Ministry of Education, Science and Innovation gives hope that this obstacle will be mitigated in the future through the Fund for the Support of Dual Education (Quotation 9):

Quotation 9: Ministry of Education, Science and Innovation perspective on additional financial support to practical education

Ministry of Education, Science and Innovation (MESI) - qualitative survey result
Participation in covering transportation and meals for students is planned for the duration of the individual education contract, as well as participation in the employer's costs for the compensation for the work of the instructor of practical education during the duration of the individual education contract. The funds will be provided from the Fund for the Support of Dual Education.

The teachers and organisers of practical training were further asked to assess the type of support employers need to improve their work with the students. Looking across all four groups, the dominant message is that everyone sees employers as needing support. Among PTOs at level III, the majority clearly locate the problem in instructors' teaching competence and guidance. Just over half (56.3%) believe the main need is pedagogical and methodological training and guidelines / professional development for instructors, while a quarter (25.0%) prioritise financial or material support. Teachers at level III share part of this view, but in a more diffuse way. Their responses are spread across several categories. Roughly three out of ten (30.5%) highlight financial/material support, and nearly the same share (29.3%) emphasise pedagogical and methodological training and guidelines/professional development. Alongside this, 12.2% stress communication and cooperation with the school and other actors, 14.6% mention motivation and recognition, 4.9% refer to organisational-time support and another 8.5% choose 'other'. Therefore, teachers III still see training and funding as central, but they bring in more relational and contextual elements than PTO III do (Table 27).

At level IV, PTOs again converge on the same two pillars as at level III, just with slightly different proportions. For PTO IV, 31.3% consider financial/material support most important, while 25.0% prioritise pedagogical and methodological training and guidelines. The rest are dispersed across communication/cooperation (12.5%), motivation/recognition (18.8%) and organisational-time support (12.5%), with nobody choosing 'other'. In other words, PTOs at both levels consistently interpret the key needs for employers through the lens of professional development for instructors plus financial/material support. Due to the PTOs sample size, these differences are not significant (Table 27).

Teachers at level IV, however, stand out compared to all other groups. A clear majority of them (57.0%) believe that the primary need of employers is pedagogical and methodological training and guidelines/ professional development for instructors, and another fifth (20.0%) stress organisational-time-related support (time, workload). In contrast, only 6.0% mention financial/material support, 5.0% emphasise communication/cooperation, 8.0% mention motivation/recognition and 4.0% select 'other'. Therefore, level IV teachers strongly shift the emphasis away from money and towards a more 'systemic' package of support: clear pedagogical guidance, structured professional development and protected time to work with students (Table 27).

Table 27: What type of support, in your opinion, is needed for employers in order to improve their work with students?

	PTO III		Teachers III		PTO IV		Teachers IV	
	n	%	n	%	n	%	n	%
Financial / material support for instructors	4	25.0	25	30.5	5	31.3	6	6.0
Pedagogical and methodological training and guidelines / professional development for instructors	9	56.3	24	29.3	4	25.0	57	57.0
Communication and cooperation with the school and other actors		0.0	10	12.2	2	12.5	5	5.0
Motivation and recognition of instructors (praise, incentives)	2	12.5	12	14.6	3	18.8	8	8.0
Organisational-time-related support (time for working with students, workload)	1	6.3	4	4.9	2	12.5	20	20.0
Other		0.0	7	8.5		0.0	4	4.0
Total	16	100	82	100	16	100	100	100

The qualitative survey results stand alongside the conclusions of the quantitative one. Across all institutional perspectives, a consistent challenge emerges in relation to the preparedness and capacity of company instructors to support work-based learning. The Ministry of Education, Science and Innovation highlights that although clear criteria for instructors exist, along with a training programme jointly developed by the Chamber of Commerce, the Centre for Vocational Education and the Ministry, participation in this training is not mandatory, leaving instructors reliant on the support of school-based teachers and PTOs when organising and implementing practical training. The Centre for Vocational Education reinforces this concern, noting that instructors generally possess strong technical expertise but lack pedagogical competences necessary for guiding and assessing students; moreover, the variability of workplace conditions, administrative burdens, and geographical constraints further complicate the consistent implementation of practical education. The Union of Employers of Montenegro adds an institutional perspective from the employer side, emphasising that small and medium enterprises particularly struggle with limited human and organisational capacities, unlike larger companies that are better resourced. The shortage of adequately trained instructors is identified as a core barrier, as mentoring responsibilities are frequently added to employees' regular duties without sufficient support, time or pedagogical preparation. Collectively, these perspectives illustrate a systemic gap: while technical expertise is available, the pedagogical and organisational infrastructure required for high-quality work-based learning remains insufficiently developed (Quotation 10, Quotation 11 and Quotation 12).

Quotation 10: Ministry of Education, Science and Innovation perspective on instructors' capacities

Ministry of Education, Science and Innovation (MESI) - qualitative survey result
There are defined criteria that an instructor at the employer must meet, as well as a training programme for instructors at employers, prepared by the Chamber of Economy of Montenegro (PKCG), the Centre for Vocational Education (CSO) and the Ministry of Education, Science and Innovation (MPNI). However, the training of instructors of practical education is not mandatory. Teachers of practical education and organisers of practical education provide significant support to instructors in the organisation and implementation of work-based learning.

Quotation 11: Centre for Vocational Education perspective on instructors' capacities

Centre for Vocational Education (CVE) - qualitative survey result
The main challenges in the implementation of practical education at the employer are the insufficient pedagogical preparedness of instructors for training and monitoring student achievements, differences in the conditions for carrying out practical instruction at the workplace with employers, administrative burdens and geographic limitations. *(...)* *Instructors possess professional knowledge, but most often lack pedagogical competences. In addition to their regular work duties, most instructors are responsible for working with children, which represents an additional burden for them.*

Quotation 12: Union of Employers of Montenegro perspective on instructors' capacities

Union of Employers of Montenegro (UEM) - qualitative survey result
Small and medium-sized enterprises particularly emphasise limited human and organisational capacities, while this is not the case in large economic systems. *(...)* *One of the key challenges is the lack of trained instructors in companies. Mentors should possess both technical and pedagogical knowledge, but in practice it often happens that they take on this responsibility alongside their regular job, without adequate support or time.*

Schools' assessments of employers' organisation and delivery of practical training reveal a mixed but structured picture of cooperation quality, planning practices, instructor preparedness and resource conditions across both school-based and dual models. Although employers are not direct respondents, teachers and PTOs provide detailed insights showing that adherence to learning plans, communication effectiveness and fulfilment of contractual obligations vary considerably, partly reflecting the absence of standardised procedures for preparing and delivering the Plan for the Implementation of Practical Learning Outcomes; PTOs often report joint delivery with teachers,

while teachers more frequently see the responsibility as theirs alone, indicating inconsistent institutional practice across schools. Engagement during implementation is generally high, with a majority of teachers and PTOs visiting students weekly, especially in dual education, yet this support is constrained by financial barriers, as over 86% of teachers and PTOs at Level III report covering travel and visit-related costs themselves. Teachers also cite heavy workloads as an additional obstacle to maintaining the expected visit frequency. When asked what support employers need to improve student learning, all stakeholder groups emphasise instructor-related challenges: PTOs at both levels converge on pedagogical–methodological training and financial/material support as core needs, while teachers at Level IV place overwhelming emphasis on systematic pedagogical guidance and protected time for instructors, shifting the focus away from financial aspects. These findings are reinforced by qualitative perspectives from institutional actors, who consistently identify insufficient pedagogical preparation of company instructors, uneven workplace conditions, organisational and administrative burdens and limited human capacities, particularly in SMEs, as key barriers to delivering high-quality work-based learning. Although technical expertise is widely available within companies, the results show that the pedagogical and organisational infrastructure required to support students effectively remains underdeveloped, signalling an area requiring systemic strengthening through clearer procedures, structured professional development and adequate financial and organisational support.

3.4.5 Learning outcomes

This section assesses the extent to which the intended learning outcomes of practical education are being achieved, drawing on the perspectives of teachers and organisers at levels III and IV1. The aim is to understand how they perceive 0students progress in acquiring technical, practical, and transversal skills during practical training. Teachers offer a complementary perspective through their evaluations of student progress, levels of preparedness, and the degree of skill acquisition observed in practice. By analysing these combined data, the evaluation examines whether practical training effectively supports the development of competencies aligned with educational programmes.

At the core of any education system lies the responsibility to ensure that students acquire the knowledge and skills necessary to navigate all dimensions of life, including, but not limited to, active participation in the labour market. The broader social and developmental mission of education, while essential, falls outside the scope of this report. Instead, the analysis concentrates on a more specific function of education: its role in responding to labour market demands and serving the needs of the economy. This involves equipping individuals with relevant, adaptable transversal skills alongside occupation-specific competencies, and ensuring that the foundational knowledge and skills taught in vocational programmes are aligned with economic requirements.

Although this objective is conceptually straightforward, it has become increasingly difficult to achieve in practice. The process necessarily begins with understanding the economic side of the equation, anticipating developments within industry and identifying the future demand for skilled workers. Only through such anticipation can education systems adapt effectively to evolving labour market needs.

The relevant stakeholders, Ministry of Education, Science and Innovation, Chamber of Commerce of Montenegro, Union of Employers of Montenegro in unison report activities towards measuring the labour market needs:

Quotation 13: Ministry of Education, Science and Innovation perspective on measuring the labour market needs

Ministry of Education, Science and Innovation (MESI) - qualitative survey result
'In accordance with the Law on the National Qualifications Framework, the key tasks of the sectoral commissions (expert and working bodies of the Qualifications Council, formed on a partnership basis and composed of representatives of employers, trade unions, universities, the competent ministries and institutions involved in the development of education) are to consider the situation and trends in the labour market in their sector, the existing qualifications and their interrelations, to identify qualification needs in accordance with the needs of the labour market and society, and to propose the development of new qualifications at all levels of complexity. *In 2024, data on labour market needs and educational provision in the Sector Profile Engineering and Manufacturing Technologies (a document containing relevant data on the economy, labour market situation and educational provision in the sector) were updated and analysed. Based on this analysis, priorities for the development of new qualifications and the revision of existing qualifications in the given sector will be determined for the upcoming period.* *In the Action Plan for the Implementation of the Education Reform Strategy (2025-2035) for 2025 and 2026, within Measure 1.1.3. Increase the inclusion of vocational education students in work-based learning, including ensuring greater interest of small and medium-sized enterprises in providing practical training, the preparation of sectoral strategies (sector profiles) with defined priorities for qualification development is planned, based on research on the needs for skills and qualifications, with an emphasis on digital technologies and green jobs. The preparation of sectoral strategies for the sectors Transport and Communications, Health and Social Protection, and Construction and Spatial Planning is ongoing, and in 2026 the preparation of sectoral strategies for three additional sectors is planned.* *Sectoral strategies (sector profiles) are open and developmental documents that must be regularly updated and supplemented with data, in accordance with changes in the labour market and in the educational offer within the sector.* *Also, with the aim of improving enrolment policy in secondary education, the Ministry of Education, Science and Innovation prepared, in the first quarter of 2025, the Analysis of Enrolment of Students in the First Grade of Secondary School in the 2024/2025 School Year. The analysis contains conclusions, findings and recommendations for further improvement of enrolment policy in secondary education.'*

Quotation 14: Union of Employers of Montenegro perspective on measuring the labour market needsCitat

Union of Employers of Montenegro (UEM) - qualitative survey result
'The Union of Employers of Montenegro actively participates in policy-making through participation in working groups that work on the development of action plans, strategies and other documents of importance for the education system. The Union has its representatives in the National Council for Education, the Committee for Vocational Education and the Committee for Adult Education, bodies that make decisions on occupational standards, educational programmes and adult education programmes. In addition, company representatives who are members of the Union participate in sectoral commissions and in the Qualifications Council, thereby directly representing the needs of the labour market and the economic branches in which they operate, so that new qualifications can be developed and existing ones improved.'

Quotation 15: Chamber of Commerce of Montenegro perspective on measuring the labour market needs

Chamber of Commerce of Montenegro (CCM) - qualitative survey result
'The Chamber also periodically carries out research related to the education system, which is available to partner institutions (for example, it conducted an analysis of the shortage of IT occupations in Montenegro in cooperation with companies from the ICT sector, Perception of employers participating in the dual education model...).'

Quotation 16: Centre for Vocational Education perspective on measuring the labour market needs

Centre for Vocational Education (CVE) - qualitative survey result
'The Centre for Vocational Education uses available analyses of occupations and skills needs carried out by MONSTAT, the Employment Agency, international organisations and project teams, as well as data from the education system (MEIS). These data serve us to define priorities in the development and revision of occupational standards and qualifications, to identify new profiles and to update learning outcomes, particularly with regard to digital, green and transversal skills.'

Taken together, the perspectives of the key institutions confirm that Montenegro has established a broad and increasingly coordinated foundation for identifying and interpreting labour-market needs. Although the objective of aligning vocational education with economic developments is difficult to achieve in practice, the mechanisms described, sectoral strategies, employer participation in qualification governance, targeted research by economic actors, and systematic use of statistical and administrative data, demonstrate that the system is progressively strengthening its evidence base. These activities collectively support the ongoing development and revision of occupational standards and qualifications, particularly in areas shaped by digitalisation, green transitions, and transversal skill requirements. While further efforts are needed to ensure regular updates, methodological consistency, and stronger links between analysis and policy action, the institutional landscape shows clear movement toward a more responsive and analytically

grounded approach to anticipating skills demand within vocational education.

At the same time, the relevant institutions (first and foremost the Centre for Vocational Education and Chamber of Commerce of Montenegro) are taking steps in ensuring that the feedback from the labour market side is integrated not only at the level of the selection of occupations but also ensuring for the feedback from employers to be integrated in the development and revision of occupational standards, qualification standards and educational programmes (Quotation 17, Quotation 18).

Quotation 17: Centre for Vocational Education perspective on measuring the labour market needs

Centre for Vocational Education (CVE) - qualitative survey result
'Employers participate through the work of Sectoral Commissions, working groups for the development and revision of occupational standards, qualification standards and educational programmes, public consultations and consultative meetings. Their insights into work processes and the opinions they provide influence the development of occupational standards and other documents on which educational programmes are based. *Modularised programmes are adapted to the needs of the economy through revisions of educational programmes initiated by Sectoral Commissions and the Qualifications Council. The changes include the revision and updating of module content. Work is also being done on introducing faster procedures for micro-revisions of modules in sectors with rapid technological changes.'*

Quotation 18: Chamber of Commerce of Montenegro perspective on measuring the labour market needs

Chamber of Commerce of Montenegro (CCM) - qualitative survey result
'Representatives of the economy participate in drafting documents (occupational standards, qualification standards, educational programmes, adult education programmes, etc.) created by the working groups of the Centre for Vocational Education. *Also, the Chamber of Economy of Montenegro (PKCG) participates in the procedure in such a way that the Centre submits draft documents to the social partners, PKCG distributes the documents to its member companies and experts, summarises the suggestions (if there are any) and submits them to the Centre; the Centre then reviews the suggestions and forwards them into further procedure.* *Thus, there are formal consultation cycles and feedback mechanisms. PKCG also organises events with the Centre for Vocational Education on topics in the field of education.'*

The question that remains is the extent to which the system is capable of responding swiftly to the demands of sectors undergoing accelerated technological development. Ensuring greater flexibility in the revision of modules and enabling faster adjustments to specific programmes, particularly at Level III, constitute challenges that all stakeholders will need to address in the future.

On the implementation side of educational programmes, a key question arises regarding the extent to which teachers and practical training organisers are able to systematically monitor activities and assess learning outcomes in both dual and school-based forms of practical education. Ultimately, the quality of the final output, the knowledge and skills acquired by students, depends, in its final stage, on the education system's capacity to effectively track students' progress and evaluate their attainment of the intended competencies.

When asked to what extent do you encounter obstacles in monitoring the activities and tasks that students receive during the implementation of practical education at the employer and learning outcomes, between 20 and 30% of practical training organisers and teachers reported that they do encounter significant obstacles (sum of grades 5-7, Table 28 and Table 29).

The data indicate that teachers, overall, encounter greater obstacles in monitoring activities and assessing the achievement of learning outcomes than practical training organisers. However, the results also suggest that there is no substantial difference between the dual and school-based models of practical education across these two dimensions (sum of grades 5-7, Table 28, Table 29).

Table 28: Obstacles in monitoring the activities and tasks that students receive during the implementation of practical education at the employer (graded on a 7-point scale, from 1-not at all to 7-to a great extent)

	PTO III				Teachers III				PTO IV1		Teachers IV1	
	Dual		School-based		Dual		School-based					
	n	%	n	%	n	%	n	%	n	%	n	%
1	3	18.8	5	25.0	25	21.7	41	30.1	4	20.0	27	27.6
2	4	25.0	6	30.0	23	20.0	19	14.0	4	20.0	16	16.3
3	5	31.3	3	15.0	17	14.8	16	11.8	6	30.0	10	10.2
4			2	10.0	11	9.6	13	9.6	4	20.0	11	11.2
5	2	12.5	1	5.0	17	14.8	19	14.0	1	5.0	12	12.2
6	1	6.3	1	5.0	3	2.6	3	2.2			6	6.1
7	1	6.3	2	10.0	19	16.5	25	18.4	1	5.0	16	16.3
Total	16	100	20	100	115	100	136	100	20	100	98	100

Table 29: Obstacles in monitoring the achievement of learning outcomes by students during the implementation of practical education at the employer (graded on a 7-point scale, from 1-not at all to 7-to a great extent)

	PTO III				Teachers III				PTO IV1		Teachers IV1	
	Dual		School-based		Dual		School-based					
	n	%	n	%	n	%	n	%	n	%	n	%
1	3	18.8	4	20.0	30	26.8	48	36.6	5	25.0	28	28.3
2	3	18.8	7	35.0	21	18.8	14	10.7	5	25.0	19	19.2
3	5	31.3	4	20.0	15	13.4	11	8.4	4	20.0	13	13.1
4	2	12.5	1	5.0	10	8.9	14	10.7	3	15.0	13	13.1
5	1	6.3	2	10.0	13	11.6	12	9.2	2	10.0	10	10.1
6			1	5.0	6	5.4	9	6.9			3	3.0
7	2	12.5	1	5.0	17	15.2	23	17.6	1	5.0	13	13.1
Total	16	100	20	100	112	100	131	100	20	100	99	100

Teachers appear to monitor the achievement of learning outcomes considerably more frequently than PTOs and, interestingly, they do so more often in the dual mode than in the school-based mode of practical education. Nevertheless, an overall increase in the frequency of monitoring, from periodic to continuous, would be advisable, particularly in the dual model. In this setting, students are supervised primarily by company instructors, and PTOs may be overburdened, which could limit their ability to systematically monitor the extent to which learning outcomes are being achieved. (Table 30).

Table 30: How often do you monitor the achievement of learning outcomes by students during the implementation of practical education at the employer

	PTO III				N III				PTO IV1		Teachers IV1	
	Dual		School-based		Dual		School-based					
	n	%	n	%	n	%	n	%	n	%	n	%
No, I do not monitor			2	9.1	1	0.7	5	4.2	1	5.3		
At the end of the school year	3	15.8	1	4.5	3	2.2	9	7.6	2	10.5	2	2.1
Periodically, during the school year	9	47.4	10	45.5	38	27.5	38	31.9	7	36.8	30	31.3
Continuously, during the school year	5	26.3	6	27.3	90	65.2	56	47.1	9	47.4	58	60.4
Other			1	4.5			1	0.8				
Not applicable	2	10.5	2	9.1	6	4.3	10	8.4			6	6.3
Total	19	100	22	100	138	100	119	100	19	100	96	100

The main obstacles encountered by both groups when monitoring the achievement of learning outcomes are summarised in Table 31. According to practical training organisers and teachers, the core challenges stem from the quality of instructors or employers' representatives and their capacity to work effectively with students, as well as from organisational and logistical barriers. Both groups report difficulties in visiting students at employer sites for a variety of reasons, as detailed in the table. Providing training and financial support to teachers and PTOs to facilitate these visits may therefore represent an effective strategy for improving the quality of monitoring and, ultimately, ensuring that students achieve the intended learning outcomes.

Both groups also identify issues related to student behaviour and preparedness, as well as mismatches between the planned learning outcomes and the tasks students perform at the workplace, as significant obstacles. While challenges related to students should be addressed at the institutional level, misalignment between plans and workplace tasks requires attention from system-level actors, particularly the Centre for Vocational Education.

Table 31: What are the biggest obstacles you encounter when monitoring the achievement of learning outcomes by students during the implementation of practical education at the employer?

	OPO III		OPO IV1		Teachers III		Teachers IV	
	n	%	n	%	n	%	n	%
Quality of training / instructors / employers (instructors without pedagogical competences, insufficiently involved, poor communication, inadequate monitoring of outcomes, lack of mentors)	4	22.2	9	40.9	12	22.6	10	31.3
Organisational and logistical obstacles (impossibility of visits, transport, time, flexible schedules, large student groups, lack of synchronisation between the school and the employer)	5	27.8	5	22.7	11	20.8	7	21.9
Problems with students (indiscipline, irregular attendance, insufficient motivation, the feeling that practice is a 'day off', poor writing of the diary, low participation in work)	2	11.1	1	4.5	10	18.9	2	6.3
Mismatch between the plan and outcomes and the work tasks (employers do not follow the teaching plan, they work according to business needs, impossible to implement all criteria, different interpretations of outcomes)	2	11.1	5	22.7	10	18.9	7	21.9
Lack of employers / workload / locations (too few employers, seasonality, low volume of work, many establishments do not operate year-round, employer distance)	1	5.6	1	4.5	3	5.7	5	15.6
Lack of equipment / materials / resources (lack of specialised equipment, classrooms/labs, materials, impossibility of practical implementation of certain modules)	1	5.6	1	4.5	3	5.7	0	0.0
Other	3	16.7	0	0.0	4	7.5	1	3.1
Ukupno	18	100	22	100	53	100	32	100

Institutional stakeholders report a range of coordinated activities aimed at measuring labour-market needs and integrating employer feedback into the selection of occupations and the development and revision of occupational and qualification standards. These mechanisms indicate a progressively stronger evidence base for aligning vocational programmes with economic trends, although challenges remain in ensuring timely updates and more flexible programme adjustments, particularly in rapidly evolving sectors. On the implementation side, however, teachers and PTOs face notable obstacles in monitoring students' activities and assessing learning outcomes: between 20% and 30% report significant difficulties, with teachers consistently encountering more obstacles than organisers but with no major differences between dual and school-based models. Teachers monitor learning outcomes more frequently than PTOs, especially in dual education, but both groups would benefit from a shift toward continuous rather than periodic monitoring. The main barriers they identify concern the quality and pedagogical competence of instructors, logistical and organisational constraints that limit visits to employer sites, and issues related to student preparedness and the alignment of workplace tasks with planned learning outcomes. These findings suggest that improvements in instructor training, enhanced financial and organisational support for school staff, and stronger system-level mechanisms for ensuring coherence between learning plans and workplace tasks are essential for enabling schools to assess student progress effectively and ensure that intended learning outcomes are met.

3.4.6 Professional development of teachers and PTI and improvement of the system

The professional development of teachers and practical training organisers, along with broader system improvements, occupies a central place in the evaluation of practical education in Montenegro. It focuses on identifying areas for professional development and broader improvement within practical education, drawing on the perspectives of teachers and organisers at Levels III and IV1. The purpose is to collect quantifiable data on overall need for training of both categories. By analysing these indicators, the evaluation can highlight systemic areas in need of intervention and determine priority topics for the professional development of teachers, company instructors, and organisers of practical training.

From the system-level perspective the continuous professional development of teachers, PTOs and company instructors was assessed from the perspectives of the Ministry of Education, Science and Innovation, the Centre for Vocational Education, and the Chamber of Commerce who reveal a critical structural tension at the core of Montenegro's ambitions to expand high-quality practical and dual education: the system recognises the importance of strengthening instructors' competencies, yet it lacks a coherent national mechanism for ensuring that those competencies are systematically developed, certified and maintained across companies of different sizes.

The Ministry's position signals a readiness for policy development. While current legislation does not require instructors to hold specialised certification, the Ministry acknowledges this regulatory gap and situates the issue firmly within upcoming reforms. The planned annual training, foreseen in the Reform Agenda and the Action Plan for the Education Reform Strategy, suggests an emerging policy direction in which instructor competence will be treated as a structural precondition for raising the quality and consistency of practical education. The Ministry's intention to consider mandatory training and certification, based explicitly on the findings of the external evaluation, indicates a shift from voluntary, ad-hoc provision toward a more standardised, quality-assured model.

The Centre for Vocational Education provides a complementary but more operational perspective, one that exposes the constraints of implementation under the current framework. The CVE offers a structured training catalogue that already includes content central to effective instruction (e.g.,

didactics, planning, safety, inclusion, gender equality), and its continuous training for teachers and organisers demonstrates institutional commitment to capacity building within schools. However, the Centre acknowledges that training for company-based instructors remains sporadic due to the realities of workplace organisation and employer availability. Importantly, unlike the Ministry, the CVE does not anticipate introducing mandatory instructor training as a condition for employer participation. This signals a divergence in institutional expectations and highlights the absence of a unified national policy vision. The explicit statement that no national certification system exists further reinforces that the governance of instructor competence currently rests on voluntary adoption rather than systemic obligation.

From the employer-facing angle, the Chamber of Commerce highlights both willingness and structural limitation. On one hand, the Chamber actively supports training activities for its member companies and recognises the value of soft-skills and instructor-focused training developed by state institutions. On the other hand, it draws attention to a key systemic constraint: the overwhelming dominance of micro-enterprises in Montenegro. For such firms, mandatory certification requirements, even if desirable from a quality assurance standpoint, may present a disproportionate administrative and logistical burden. This perspective underscores the importance of designing regulatory mechanisms that are not only pedagogically justified but also economically viable, particularly for the micro-enterprise sector that constitutes the backbone of employer participation.

Across all three institutional viewpoints, a consistent pattern emerges: there is broad recognition of the need to strengthen instructor competence and, by extension, the quality of practical education. However, consensus on how to operationalise this remains fragmented. The Ministry's openness to introducing certification reflects a forward-looking reform trajectory; the CVE's caution underscores the operational barriers to enforcement; and the Chamber's perspective highlights the economic structure of Montenegro's employer base as a decisive contextual factor that cannot be overlooked (Quotation 19, Quotation 20, Quotation 21).

The analytical implication is clear: any future move toward mandatory instructor training or certification must be carefully calibrated to national labour market realities, supported by mechanisms that lower the burden on micro-enterprises, and aligned through coordinated governance between the Ministry, CVE and employer representatives. Without such alignment, reforms risk either failing to materialise or placing unsustainable demands on the very companies whose participation is essential for the effective functioning of practical and dual education.

Quotation 19: Ministry of Education, Science and Innovation perspective on trainings of teachers and instructors

Ministry of Education, Science and Innovation (MESI) - qualitative survey result
The law does not prescribe that instructors at employers need a special licence for working with students. In the Reform Agenda of Montenegro 2024–2027 and in the Action Plan for the Implementation of the Education Reform Strategy (2025–2035) for 2025 and 2026, annual training for instructors of practical education is planned.
In the upcoming period, based on the findings, conclusions and recommendations from the External Evaluation of Practical Education in the school-based and dual form, we will consider the issue of certification of instructors of practical education, as well as mandatory training for instructors of practical education.

Quotation 20: Centre for Vocational Education perspective on trainings of teachers and instructors

Centre for Vocational Education (CVE) - qualitative survey result
The Public Institution Centre for Vocational Education organises training foreseen by the catalogue of professional training for teachers of practical instruction, organisers of practical education and instructors in companies, based on the needs of implementing modularised educational programmes. The training includes didactics of practical instruction, planning and monitoring of learning, occupational safety, inclusion and gender equality.
Training for teachers of practical instruction and organisers of practical education is continuous, while training for instructors is rare due to their work obligations and the impossibility of allocating time for training.
The Centre does not plan mandatory training for instructors as a condition for employers' participation in practical education.
There is no unified national system for the certification of instructors in companies.

Quotation 21: Chamber of Commerce of Montenegro perspective on trainings of teachers and instructors

Chamber of Commerce of Montenegro (CCM) - qualitative survey result
The Chamber of Economy carries out a large number of activities for the employees of its member companies. In this sense, training is continuously developed and implemented, including in the field of soft skills (communication, human resource management, leadership, etc.), while the training for instructors in companies for working with students was developed by the Ministry and the Centre for Vocational Education and included in the training catalogue. *The certification of instructors is an issue for the Ministry, but it should be kept in mind that since over 92% of companies in Montenegro are micro-enterprises, this may represent an additional limitation for their inclusion in this model of education.*

The quantitative survey administered to teachers and PTOs assessed training needs by asking both groups to evaluate their own professional development requirements. In addition, PTOs were asked to provide an assessment of the training needs of company instructors. The need for training was measured using a seven-point scale ranging from 1 = not at all to 7 = to a great extent. Scores around the midpoint of the scale (approximately 4) were taken as an indicator of a moderate perceived need for training, whereas values above this threshold reflect a clearly expressed need for additional professional development. When interpreted alongside earlier findings, several consistent patterns emerge that reinforce the conclusion that additional training for instructors and strengthened support for employers are essential (Table 32).

For PTOs at Level III, the first two items, maintaining documentation/databases and preparing periodic or annual reports, were asked exclusively of them. Their mean ratings sit close to the centre of the scale: 3.65 for documentation and 4.00 for reporting, both with medians of 3. These results indicate a moderate, though not urgent, perceived need for further training in administrative and reporting tasks. Reporting is judged to require slightly more support than documentation.

Turning to the 'systemic role' topics, namely, the role of employers and education institutions in developing practical instruction, all four professional groups reported mean scores between roughly 4 and 5, with medians of 4 or 5. These topics therefore consistently exceed the midpoint and represent a meaningful training need. Teachers at Level III rated these items relatively high, with means of 4.73 for the role of employers and 5.03 for the role of education institutions. Teachers at Level IV reported very similar values (4.46 and 4.88 respectively). PTOs assessed their own needs in these areas slightly lower, but still above the midpoint, with values clustering between 4.1 and 4.8. Notably, PTOs rated instructors higher than themselves: instructors received a mean of 5.00 for the role of employers and 4.82 for the role of education institutions (both with medians of 5). This pattern reflects PTOs' perception that instructors require at least as much, and often more, support in understanding their role within the dual and school-based practical education system. This aligns with earlier findings highlighting the importance of strengthening employers' systemic understanding of their responsibilities within practical education.

Training related to funding and project-oriented skills also emerged as a significant need, particularly among teachers. Level IV teachers expressed the strongest need for training in identifying donors and preparing project applications (mean 5.03, median 5), followed by teachers at Level III (mean 4.68, median 5). PTOs at both levels reported similar values just above 4.5. Although these skills lie outside the core pedagogical work of instructors, they reinforce the broader pattern identified earlier: stakeholders see support to employers not only as pedagogical assistance but also as enhancing their capacity to access resources that can strengthen the delivery of vocational education.

Promotion and marketing methods were identified as medium-high areas of training need, particularly for teachers, whose means range between 4.6 and 4.9 (median 5). PTOs at Level III expressed similar views (mean 4.32), whereas PTOs at Level IV reported slightly lower values (mean 3.89, median 3.5), suggesting some variation in perceived relevance across levels. Even here, however, none of the groups rated these needs as low; the averages remain at or above the midpoint.

The most consequential findings concern explicitly pedagogical topics: student assessment, methodology and didactics, and pedagogical-mentoring work with students. Teachers at both levels consistently rate these items among the highest across the scale. Student assessment is rated at approximately 4.8 (median 5) for both Level III and Level IV teachers. Methodology and didactics received a mean of 4.77 (median 5) among Level IV teachers and 4.38 (median 4) among Level III teachers. Pedagogical-mentoring work is among the highest-rated items overall: 5.01 (median 5) for Level IV teachers and 4.89 (median 5) for Level III. These results clearly indicate that teachers themselves perceive substantial need for further development in core pedagogical areas, particularly in mentoring students during practical training.

PTOs' own perceived needs in pedagogical areas are lower than those of teachers but remain clearly above the midpoint. For student assessment, the means are 3.39 (PTO III) and 3.94 (PTO IV), indicating moderate need, particularly at Level IV. For methodology and didactics, means for both groups cluster around 4.0-4.1, and similar results appear for pedagogical-mentoring work. PTOs therefore recognise that they too require further pedagogical strengthening, albeit at a somewhat lower intensity than teachers.

Crucially, PTOs rate instructors' needs in pedagogical areas substantially higher than their own. For student assessment, instructors receive a mean of 4.68 (median 5), clearly higher than PTOs' self-ratings. For methodology and didactics, instructors score 4.52 (median 5), again exceeding PTOs' means (~4.0-4.1). For pedagogical-mentoring work, instructors receive 4.71 (median 5), while PTOs' values remain around 4.0. This corroborates earlier qualitative and single-choice findings: PTOs consistently view instructors as needing considerably more support in pedagogical and mentoring competencies than teachers or PTOs themselves.

Viewed together, the results form a coherent narrative. Earlier, PTOs and teachers, especially at Level IV, identified pedagogical and methodological training for instructors as a priority form of support for employers. They also expressed concerns about the current pedagogical level of instructors, often rating it as only 'rarely' or 'sometimes' satisfactory. The detailed seven-point scale reinforces this assessment with quantitative precision: pedagogical and mentoring competences emerge as high-priority training needs across groups, particularly for instructors.

Substantively, these findings indicate a broad consensus that the core weakness on the company side of practical education lies not in procedural compliance, health and safety training, for example, is rated relatively strongly, but in pedagogical and mentoring competences and in understanding roles and responsibilities within the dual and school-based system. The training-needs scale not only confirms patterns observed in earlier sections but also provides a more nuanced map of development priorities. Stakeholders consistently call for a combination of system-level training (role understanding), pedagogical-methodological reinforcement, and, to a somewhat lesser extent, administrative, promotional, and project-related skills. For instructors, PTOs' assessments point to a particularly urgent need for investment in pedagogical and mentoring capacities as a prerequisite for improving the quality of practical education.

Table 32: To what extent is training needed on the following topics? (graded on a 7-point scale, from 1-not at all to 7-to a great extent)

	Teachers VI1				Teachers III				PTO III				PTO IV1				Instructors as reported by the PTOs			
	n	Mea	Medi	SD	n	Mea	Medi	SD	n	Mea	Medi	SD	n	Mea	Medi	SD	n	Mea	Medi	SD
Keeping documentation and databases									23	3.65	3.00	2.228								
Preparation of periodic and annual reports on the implementation of practical education at the employer in the school-based and dual form									23	4.00	3.00	2.256								
The role of employers, employers' associations and the Chamber of Economy in practical education	95	4.46	5.00	1.923	119	4.73	5.00	2.122	22	4.14	4.00	2.145	19	4.16	5.00	2.062	22	5.00	5.00	1.877
The role of education institutions in the process of developing practical instruction	94	4.88	5.00	1.871	123	5.03	5.00	1.903	22	4.14	4.00	1.983	18	4.83	5.00	1.790	22	4.82	5.00	1.763
Identification of donors and submission of applications for national and international projects/ programmes supporting secondary vocational education	95	5.03	5.00	1.910	117	4.68	5.00	2.079	22	4.68	5.00	1.912	18	4.50	5.00	2.036				
Methods and techniques of promotion and marketing	91	4.87	5.00	1.904	122	4.64	5.00	1.907	22	4.32	4.50	1.961	18	3.89	3.50	1.779				
Student assessment	97	4.84	5.00	1.891	120	4.82	5.00	1.945	23	3.39	3.00	2.017	17	3.94	3.00	2.249	22	4.68	5.00	1.961
Methodology and didactics	91	4.77	5.00	1.838	120	4.38	4.00	1.932	21	4.00	4.00	1.975	18	4.11	4.00	1.811	21	4.52	4.00	1.750
Pedagogical-mentoring work with students	96	5.01	5.00	1.832	122	4.89	5.00	1.886	22	4.00	4.00	1.976	18	3.94	3.50	2.014	21	4.71	5.00	1.978

6 Database of concluded contracts, entering data into MEIS
7 Ministry of Education, Science and Innovation, Centre for Vocational Education
8 Student mobility, development and investment projects/programmes, etc.)
9 Public speaking, development of promotional materials, identification of promotional programmes, etc.

Table 32 continuation: To what extent is training needed on the following topics? (graded on a 7-point scale, from 1-not at all to 7-to a great extent)

	Teachers Vi1				Teachers III				PTO III				PTO IV1				Instructors as reported by the PTOs			
	n	Mea	Medi	SD	n	Mea	Medi	SD	n	Mea	Medi	SD	n	Mea	Medi	SD	n	Mea	Medi	SD
Professional training on the topic of modern knowledge from the profession with practical examples of application to learning outcomes	98	5.39	6.00	1.848	122	5.51	6.00	1.716	20	5.05	5.50	1.572	18	5.11	5.00	1.605				
Professional training organised at employers	101	5.24	6.00	1.909	120	4.88	5.00	2.144	22	4.55	4.50	2.017	18	4.78	5.00	1.734				
Occupational safety and health care of students	98	5.20	5.50	1.872	124	5.35	6.00	1.875	21	4.52	5.00	2.089	18	5.06	6.00	1.765	22	4.77	5.50	1.998
Integration of environmental sustainability principles in the school and teaching	98	4.81	5.00	1.854	122	5.00	5.00	1.946	21	4.43	5.00	1.912	18	4.61	5.00	1.787	21	4.29	4.00	1.793
Integration of gender equality principles in the school and teaching	97	4.69	5.00	1.933	120	4.88	6.00	2.233	21	3.86	4.00	2.081	16	4.06	4.00	2.016	21	4.14	4.00	2.081
Identification and application of social support measures for students[10]	96	5.15	5.00	1.723	123	5.20	6.00	1.872	21	4.05	4.00	1.936	17	4.35	4.00	2.029	22	4.41	4.00	2.062
Career guidance and counselling for students	95	5.09	5.00	1.763	120	5.20	6.00	1.904	22	4.23	4.50	2.224	17	3.88	4.00	2.147				
School practices related to cases of peer violence, including cyber violence	94	4.91	5.00	1.949	121	5.17	6.00	1.918	20	4.40	4.00	1.903	17	4.35	5.00	2.060	20	4.25	4.50	1.997
Measures for preventing school dropout	93	5.09	5.00	1.798	120	5.20	6.00	1.895	21	4.33	4.00	2.153	16	4.38	4.50	1.928				
Resolving conflict situations	97	5.11	5.00	1.796	121	5.31	6.00	1.883	22	4.68	5.00	2.033	16	5.00	5.00	1.713	22	4.68	5.00	1.836
Teamwork and team communication	101	5.21	5.00	1.894	123	5.36	6.00	1.942	22	4.36	4.50	2.150	17	4.35	5.00	2.029	22	4.64	5.00	1.891
Leadership and decision-making	97	5.03	5.00	1.879	119	5.18	6.00	2.057	21	3.90	4.00	2.322	17	4.24	5.00	2.047	21	4.14	4.00	2.265

3.4.7 Satisfaction with the implementation of practical education and improvement of the system

The final component focuses on identifying areas for development and broader improvement within practical education, drawing on the perspectives of students, teachers, and organisers at Levels III and IV1 as well as relevant institutions. The purpose is to collect quantifiable data on overall satisfaction with practical education, as satisfaction indicators function as an important proxy for assessing both the quality and effectiveness of practical education. By analysing these indicators, the evaluation can highlight systemic areas in need of intervention and determine priority topics for the professional development of teachers, company instructors, and organisers of practical training.

3.4.7.1 Student satisfaction with the practical education outcomes

From the students' perspective, practical education is generally viewed positively. However, at both Level III and Level IV, students express greater confidence in the knowledge and skills they acquire during practical training with employers than in their prospects of gaining employment with the company where their practical education took place.

10 Measures aimed at supporting students at risk of poverty, support for students with disabilities, etc

Almost a third of Level III students (24.5%, representing the sum of grades 1 to 3 on a seven-point scale) report that the grades they received for practical assessments do not correspond to their actual level of knowledge. Similarly, 22.6% (grades 1 to 3) believe that they do not learn more during practical education at employers than during practical education at school. A majority of students (55.5%) disagree with the idea that practical education at employers should begin in the second rather than the first grade. Furthermore, nearly half (47.7%) do not expect to be employed by the employer with whom they completed their practical training (Table 33).

Table 33: To what extent do you agree with the following statements?
(students level III graded on a 7-point scale, from 1-not at all to 7-to a great extent)

	n	Mean	Median	SD
The grades I received for practical tasks correspond to my knowledge	458	5.10	6.00	2.155
I think that I learn more during practical education at the employer than during practical instruction at school	446	5.31	7.00	2.112
I think it would be better if practical education at employers began in the second grade instead of the first	427	3.50	3.00	2.526
I expect that I will be employed by the employer with whom I attended practical education	392	3.80	4.00	2.306

Similarly, 23% of Level IV students report that they do not learn more during practical education at employers than during practical education at school. On the other hand, 61.9% of Level IV students believe that practical education should be available as an option during the first two school years. Finally, 56.7% of these students do not expect to be employed by the employer with whom they completed their practical training (Table 34).

Table 34: To what extent do you agree with the following statements?
(students level IV graded on a 7-point scale, from 1-not at all to 7-to a great extent)

	n	Mean	Median	SD
I think that I learn more during practical education at the employer than during practical instruction at school	788	5.04	6.00	2.105
I think it would be better if practical education at employers started in the first or second grade	763	5.01	6.00	2.243
I expect that I will be employed by the employer with whom I attended practical education	748	3.22	3.00	2.125

An important dimension of satisfaction relates to whether a system or component functions as intended. In this context, both PTOs and teachers were asked whether employers are more inclined to hire students with whom they had an individual contract. Both groups appear to associate the individual contract with a potential employability advantage. Among PTOs, 42.9% report that employers are more likely to hire such students, while 38.1% see no difference and 19% are unable to assess. Teachers exhibit a similar pattern: 45.2% believe that employers favour students with an individual contract, 27.8% perceive no difference, and 27% state that they cannot judge (Table 35).

Table 35: Are employers more inclined to employ students with whom they had an individual contract, compared to students who carried out practical education in the school-based form?

	PTOIII		Teachers III	
	n	%	n	%
No, there is no difference	8	38.1	35	27.8
Yes, employers are more inclined to employ students with whom they had a signed individual contract	9	42.9	57	45.2
I do not know, I cannot assess	4	19	34	27
Total	21	100	126	100

When asked whether students in the dual model in general have higher employability compared to those in the school-based form, both PTO III and teachers III show split position between those stating that there is no difference in employability between students trained in dual and school-based forms (47.6% and 45.1%, respectively), and those, more precisely 33.3% of PTO III and 30.3% of teachers III, who believe that students in the dual form have higher employability. Very few suggest an advantage for school-based students (0% among PTO III, 3.3% among teachers III - Table 36).

Table 36: In your opinion, do students in the dual form of practical education at the employer have higher employability compared to students in the school-based form?

	PTO III		Teachers III	
	n	%	n	%
No, there is no difference	10	47.6	55	45.1
Yes, students in the dual form have higher employability	7	33.3	37	30.3
No, students in the school-based form have higher employability			4	3.3
I do not know, I cannot assess	4	19	26	21.3
Total	21	100	122	100

The combined findings therefore underline that strengthening the pedagogical and organisational capacity of employers is essential not only for improving the quality of practical training, but also for realising the potential employability benefits associated with work-based learning. Where the employer-student relationship is well developed and supported, respondents perceive tangible advantages. Where it remains uneven, the expected employability gains become uncertain. However, it remains unclear why students perceive their employment chances to be less advantageous. It may be that some of them simply do not want to be employed by the companies that organised practical training, or that their perspective is skewed by the relationship with employers/teachers that may have more to do with the training itself and less to do with employer's desire to keep the students.

Given the resources invested in the development of practical education in Montenegro, these factors should not be left to assumption or informal assessment. Both schools and relevant institutions should maintain precise and systematic records on student employment outcomes, implement tracer studies, and keep detailed registers of employers. Such records should also capture employers' forecasts of future workforce needs and their capacity to absorb new entrants. Establishing these mechanisms is essential for ensuring evidence-based planning and strengthening the alignment between vocational education and labour market demand.

3.4.7.2 The main advantages of practical education

Table 37 summarises how practical training organisers and teachers perceive the main advantages of different forms of practical education: the dual form, the school-based form and practical education within level IV1 programmes.

Across all respondent groups and forms, practical skills and experience merges as the central perceived advantage of practical education. Among PTO III, this category is mentioned by 23.5% as an advantage of the dual form and 32.1% as an advantage of the school-based form. For PTO IV1 it is overwhelmingly dominant in relation to practical education in level IV1 programmes: 62.5% identify it as one of the three key advantages. Teachers show a similar pattern. For the dual form, 27.2% of teachers at level III name practical skills and experience, while among teachers at level III the share reaches 29.4% for the school-based form. For practical education in level IV1 programmes, 46.1% of teachers highlight practical skills as a key advantage. This indicates a broad consensus that, regardless of organisational model, the core added value of practical education

lies in enabling students to apply theoretical knowledge in real or realistic work environments and to develop concrete technical competences (Table 37).

A second recurrent theme is employability and transition to the labour market. PTO III frequently associate both dual and school-based forms with better employment prospects (23.5% for each), while PTO IV also link practical education in level IV1 programmes to employability, though to a lesser degree (18.8%). Teachers show a broadly similar pattern: 21.6% of teachers III identify employability as a key advantage of dual practical education, 13.1% of teachers do so for school-based forms, and 18.4% of teachers IV1 for practical education within IV1 programmes. This suggests that, in the perception of practitioners, all three organisational models contribute to labour market preparation, though none is seen as overwhelmingly superior in this respect; employability is consistently present as a perceived benefit, but not as dominant as the acquisition of practical skills (Table 37).

Financial benefits (stipends, allowances, material incentives) are much more clearly associated with the dual form than with other modalities. Among PTO III, 5.9% mention financial benefits as an advantage of dual practical education, whereas this category does not appear as an advantage of the school-based form or IV1 practical education in their responses. Teachers reinforce this differentiation: 14.4% of teachers III identify financial benefits as one of the main advantages of the dual form, compared to only 5.6% of teachers for the school-based form and 3.9% of teachers IV1 for practical education within IV1 programmes. This indicates that financial incentives are perceived as a distinctive, but secondary, feature of dual practical education (Table 37).

The category motivation, engagement and interest of students is also frequently mentioned, but typically as a secondary rather than primary advantage. Among PTO III, around one fifth highlight this for both dual (17.6%) and school-based forms (17.9%), and 12.5% of PTO IV do so for IV1 practical education. Teachers show similar proportions: 20.0% of teachers III for dual education, 17.5% of teachers IV for the school-based form and 13.2% of teachers III for practical education at IV1. These results suggest that practitioners perceive practical education, regardless of form, as a mechanism that can enhance students' motivation, discipline, work habits and professional behaviour, but again this is not seen as its single defining advantage (Table 37).

Two further dimensions appear less frequently but are still relevant: cooperation between schools and employers and the quality of practical instruction and equipment. PTO III sometimes identify improved school-enterprise cooperation as an advantage of both dual (17.6%) and school-based practical education (10.7%), while PTO IV mention it more rarely (6.3%). Teachers also recognise this advantage, but in smaller shares (8.8% for dual, 9.4% for school-based, 2.6% for IV1 practical education). Perceptions of the quality of practical instruction, mentors and equipment are somewhat more strongly associated with the school-based form at level III (17.9% of PTO III, 13.8% of teachers IV), and less so with dual or IV1 forms. A non-negligible proportion of teachers, especially at level IV (11.3%), also use the 'other' category, indicating additional specific advantages that are not captured by the main coding scheme (Table 37).

Overall, the pattern across groups and modalities is relatively coherent. Stakeholders converge on the view that the principal advantage of practical education, whether dual, school-based or within IV1 programmes, is the opportunity it provides for students to develop practical skills and experience. Employability is seen as an important, but less dominant, benefit, while financial incentives, increased motivation and improved school-employer cooperation are perceived as additional, more context-dependent advantages. Differences between dual and school-based forms in this table are therefore more a matter of emphasis than of fundamental opposition: dual education is somewhat more strongly linked to financial incentives and labour market transition, school-based forms slightly more to quality and stability of provision, and practical education in level IV1 programmes is very clearly associated with intensive acquisition of practical skills.

Table 37: Advantages of practical education

	Dual		School based		Practical education IV1		Dual		School based		Practical education IV1	
	PTO III		PTO III		PTO IV1		Teachers III		Teachers III		Teachers IV1	
Practical skills and experience *(acquiring practical knowledge, working in a real environment, application of theory, technical skills)*	4	23.5	9	32.1	10	62.5	34	27.2	47	29.4	35	46.1
Employability and transition to the labour market *(greater chances of employment, faster employment, preparation for the labour market)*	4	23.5	4	14.3	3	18.8	27	21.6	21	13.1	14	18.4
Financial benefits *(scholarships, financial compensation, material incentives)*	1	5.9	0	0.0		0.0	18	14.4	9	5.6	3	3.9
Student motivation, engagement and interest *(increased motivation, desire to learn, more active participation, development of discipline, work habits, professional behaviour)*	3	17.6	5	17.9	2	12.5	25	20.0	28	17.5	10	13.2
Cooperation between school and the economy *(better connection between theory and practice, stronger cooperation with employers)*	3	17.6	3	10.7	1	6.3	11	8.8	15	9.4	2	2.6
Quality of practical instruction / equipment *(modern conditions, quality of mentors, equipment, resources)*	1	5.9	5	17.9		0.0	7	5.6	22	13.8	4	5.3
Other	1	5.9	2	7.1		0.0	3	2.4	18	11.3	8	10.5
Total	17	100	28	100	16	100	125	100	160	100	76	100

3.4.7.3 The main disadvantages of practical education

The data on perceived disadvantages of practical education point to a set of structural and capacity-related challenges that cut across forms, but with different emphases depending on whether respondents are reflecting on dual, school-based provision or practical education within level IV1 programmes.

For the dual form of practical education, both PTO III and teachers III most frequently highlight limitations on the employer side. Among PTO III, the most commonly mentioned disadvantage is the lack of employers and training places: 23.8% of their coded responses refer to an insufficient number of (licensed) employers, facilities and places for students, and the limited opportunities for students to enter dual education. A further 19.0% refer to the insufficient interest, motivation or time of employers and instructors to work seriously with students. Teachers III reinforce this picture. For dual practical education they most often mention the lack of motivated and engaged employers and instructors (23.4%), followed by the shortage of employers and training capacities (18.8%). Concerns about the quality of training, treatment of students and conditions at the workplace also feature prominently for both groups: 14.3% of PTO III and 18.8% of teachers III refer to variable training quality, poor treatment of students, narrow specialisation and the risk of exploitation. Organisational issues are also present, with 14.3% of PTO III and 14.1% of teachers III citing problems with scheduling, timetabling, coordination between school and employer and continuity of dual education across grades. Financial problems, such as unpaid or low stipends and lack of compensation, are noted as disadvantages of dual education by smaller but non-negligible shares of respondents (9.5% of PTO III and 14.1% of teachers III), while a minority point to problems on the student side (motivation, discipline, enrolment driven by stipends rather than interest). Overall, dual education is not perceived as problematic in principle, but its implementation is constrained by the limited number and variable engagement of employers, concerns about quality and exploitation, and coordination and financing issues (Table 38).

In the case of school-based practical education, the pattern shifts somewhat, especially among teachers, who are the main group commenting on this form. For PTO III, disadvantages are fairly dispersed, with a notable share of responses falling into the 'other' category (25.0%), but organisational problems and financial issues each account for 18.8%, and concerns about quality and lack of employers each for 12.5%. For teachers, the most prominent disadvantage of school-based practical education is clearly financial: 43.8% of their coded responses refer to unpaid or insufficient stipends, lack of compensation and resource constraints as major weaknesses of school-based provision. They also identify problems with students (16.4%), including low motivation, discipline issues and perceived weakness of some student cohorts, as well as concerns about the quality of training, conditions and risk of narrow specialisation (12.3%) and organisational challenges (12.3%). The lack of employers is mentioned less frequently in relation to school-based forms (8.2%), and lack of employer motivation even less (5.5%). In other words, when teachers IV think about school-based practical education, they see the main constraints in terms of underfunding and the characteristics of student cohorts, rather than in the involvement or capacity of employers (Table 38).

Practical education implemented within level IV1 programmes appears, in the eyes of PTO IV1, to be most seriously challenged by issues of quality and potential exploitation. For this group, half of all coded responses (50.0%) refer to variable quality of training, poor treatment of students, problematic working conditions, overly narrow specialisation and the risk of exploiting students as cheap labour. A further 21.4% refer to organisational and scheduling problems, including alignment between schools and employers and monitoring of plans and outcomes, while smaller proportions mention lack of employers, lack of motivation of employers and problems with students. Teachers, when assessing level IV1 practical education, present a more diversified profile of disadvantages. They most often mention the lack of employers and training capacities (27.1%) but also highlight problems with quality and risks of exploitation (18.6%), organisational and monitoring difficulties (16.9%) and student-related issues (16.9%), such as low motivation or discipline. Lack of motivation among employers and instructors is also mentioned (15.3%), whereas financial issues are almost absent in their assessment of IV1 practical education (1.7%) (Table 38).

Taken together, these findings suggest that across all forms of practical education the main perceived disadvantages cluster around four domains: limited and uneven employer capacity and engagement; variable quality of training and concerns about the treatment of students and risk of exploitation; organisational and coordination difficulties between schools and employers; and, to a lesser extent, financial arrangements and issues on the side of students. For dual education in particular, the central bottlenecks are the scarcity and inconsistent commitment of employers and the variability of training quality, rather than the conceptual model itself. For school-based practical education, financial under-resourcing and student-related difficulties dominate teachers' concerns. Within level IV1 programmes, PTO IV in particular emphasise serious worries about the quality and integrity of company-based training.

These perceptions are consistent with earlier quantitative findings indicating a strong perceived need for pedagogical-methodological training for instructors, clearer guidelines for employers and improved support for the organisation and monitoring of practical education. The map of disadvantages constructed from this table reinforces the conclusion that, in the eyes of practitioners, the challenges of practical education in Montenegro are systemic and implementation-related rather than purely structural: they lie in the capacity, motivation and support of employers and instructors, the conditions under which students learn, and the way school and company responsibilities are coordinated and resourced.

Table 38: Disadvantages of practical education

	Dual		School based		Practical education IV1		Dual		School based		Practical education IV1	
	PTO III		PTO III		PTO IV1		Teachers III		Teachers III		Teachers IV1	
Lack of employers / capacities *(small number of (licensed) employers, establishments and places for students; limited possibilities for inclusion in dual education)*	5	23.8	2	12.5	1	7.1	12	18.8	6	8.2	16	27.1
Lack of interest / motivation of employers and instructors *(insufficient interest, time, motivation or capacity of employers/instructors to seriously work with students)*	4	19.0	1	6.3	1	7.1	15	23.4	4	5.5	9	15.3
Quality of training, working conditions and risk of exploitation *(variable quality of training, poor treatment of students, working conditions, narrow specialisation, risk of exploitation)*	3	14.3	2	12.5	7	50.0	12	18.8	9	12.3	11	18.6
Organisation, scheduling and monitoring of implementation *(problems with timetable, hours, monitoring the plan and outcomes, continuation of dual education in the 3rd grade, coordination of school and employer)*	3	14.3	3	18.8	3	21.4	9	14.1	9	12.3	10	16.9
Financial problems (scholarships, compensation, resources) *(non-payment or low amounts of scholarships, lack of compensation for students and instructors, financial burden for stakeholders)*	2	9.5	3	18.8	0	0.0	9	14.1	32	43.8	1	1.7
Problems with students (motivation, discipline, structure) *(uninterested or 'weak' students, jealousy among students, enrolment because of stipends and not out of interest for the profession)*	2	9.5	1	6.3	1	7.1	4	6.3	12	16.4	10	16.9
Other	2	9.5	4	25.0	1	7.1	3	4.7	1	1.4	2	3.4
Total	21	100	16	100	14	100	64	100	73	100	59	100

3.4.7.4 Suggestions for improvement

The suggestions offered by teachers and practical training organisers (PTOs) for improving the organisation and quality of practical education reveal a relatively coherent set of priorities across groups, centred on strengthening cooperation with employers, improving resources and infrastructure, enhancing professional development, and reinforcing organisational and quality-assurance mechanisms. Despite some variation in emphasis between PTOs and teachers, and between levels III and IV, the responses point to a shared understanding that the main constraints on the quality of practical education are systemic and implementation-related rather than conceptual.

Across all groups, strengthening cooperation between schools and employers emerges as the most frequently mentioned area for improvement. Among PTO III, 30.0% of suggested changes fall into this category, rising to 36.8% among PTO IV1. Teachers reflect a similar pattern: 23.1% of teachers III and 27.3% of teachers IV emphasise the need to deepen school-employer partnerships, increase the number of engaged employers, and improve communication and joint planning. This aligns closely with earlier findings indicating that shortages of employers, variable employer motivation, and inconsistent engagement are perceived as central limitations of the system. The emphasis on cooperation suggests that stakeholders see improved partnership structures as a prerequisite for addressing both organisational challenges and the uneven quality of training.

A second major theme concerns equipment, resources and infrastructure. This is particularly pronounced among teachers, with 25.0% of teachers III and 18.2% of teachers IV identifying improved infrastructure, modern workshops, adequate materials, better-equipped cabinets, as a key measure for raising the quality of practical education. PTOs also recognise this need, though with lower frequency (10.0% among PTO III and 15.8% among PTO IV). Given the strong emphasis in earlier sections on practical skills acquisition as a primary advantage of practical education, it is consistent that teachers highlight material conditions as central to supporting effective hands-on learning.

The category of training and professional development, covering both teachers and company instructors, appears with substantial but more moderate frequency, especially among teachers (9.6% for teachers III and 11.1% for teachers IV). PTOs mention this category less, though the very low proportions among PTOs (5.0% and 0.0%) are partly explained by their smaller sample sizes and the fact that they already identified pedagogical training for instructors as a major systemic need in earlier quantitative items. Teachers' emphasis on professional development is consistent with the earlier identified training needs in student assessment, methodology, mentoring and understanding of employer roles. It suggests that strengthening pedagogical capacity across both school-based and employer-based actors is seen as central to improving the quality of practical education.

Organisational improvements and quality monitoring constitute another substantial cluster of responses. PTO III (20.0%) and PTO IV (15.8%) frequently call for better scheduling, clearer monitoring systems, joint meetings, improved documentation and stronger oversight of learning outcomes. Teachers similarly identify organisational and monitoring challenges, at 12.5% for teachers III and 17.2% for teachers IV. These concerns reflect earlier findings that weaknesses in coordination between schools and employers, inconsistencies in implementation, and insufficient monitoring of training outcomes are important constraints on quality. The prominence of this category shows that stakeholders perceive a need not only for more employers and better resources, but also for clearer procedures and accountability structures.

Financial support is mentioned mainly by teachers III (10.6%) and teachers IV (7.1%), and to a lesser extent by PTO III (10.0%). These suggestions include increasing stipends for students, providing compensation for instructors, and financing equipment and medical examinations. While financial issues appeared as a major disadvantage of school-based practical education in previous tables, particularly among teachers IV, the lower frequencies here suggest that respondents view financial support as necessary but not sufficient on its own to solve systemic quality issues.

Other suggestions include modernisation of programmes (cited by 5-6% of teachers and by one PTO IV respondent), emphasising updated content, digitalisation and flexible programme design, and systemic and legislative changes, which appear in 3-10% of responses across groups. These indicate an awareness that structural adjustments, such as changes to regulations, guidelines or programme frameworks, may be needed to support more effective implementation.

Taken together, these findings provide a clear and coherent narrative: practitioners believe that improving the quality of practical education requires action across multiple domains, but the most urgent priorities lie in strengthening cooperation with employers, improving material conditions for training, enhancing the pedagogical and professional competencies of those involved in training delivery, and reinforcing organisational and quality-monitoring mechanisms. These themes are entirely consistent with the disadvantages previously identified, particularly the limited employer capacity, variable training quality, organisational fragmentation and financial constraints, and with stakeholder assessments of training needs for instructors and school staff. The responses therefore point toward a multi-layered but well-aligned set of policy actions that correspond directly to the key challenges observed throughout the evaluation.

Table 39: What changes would you suggest to decision-makers in order to improve the quality (in terms of organisation and content quality) of practical education?

	PTO III		PTO IV1		Teachers III		Teachers IV1	
	n	%	n	%	n	%	n	%
Support for cooperation between schools and employers (strengthening links, more employers, joint work, communication)	6	30.0	7	36.8	24	23.1	27	27.3
Equipment, resources and infrastructure (equipment for cabinets/labs, workshops, supplies, materials)	2	10.0	3	15.8	26	25.0	18	18.2
Training and professional development (training for teachers, instructors, exchanges, upskilling)	1	5.0	0	0.0	10	9.6	11	11.1
Organisation and quality monitoring (control, records, meetings, monitoring outcomes)	4	20.0	3	15.8	13	12.5	17	17.2
Financial support (scholarships, allowances, financing of inspections, equipment)	2	10.0	0	0.0	11	10.6	7	7.1
Modernisation of programmes (modernisation of content, digitalisation, flexible programmes)	0	0.0	1	5.3	6	5.8	6	6.1
Systemic and legislative changes (changes to laws, decisions, rulebooks)	2	10.0	1	5.3	4	3.8	9	9.1
Other	3	15.0	4	21.1	10	9.6	4	4.0
Total	20	100	19	100	104	100	99	100

3.4.7.5 Future developments in VET as a satisfaction proxy

The triangulation of institutional perspectives on future developments of practical education from the Ministry of Education, Science and Innovation, the Centre for Vocational Education, the Chamber of Commerce, and the Employers' Union reveals a high degree of conceptual alignment regarding the direction of future VET reforms in Montenegro, even as each institution foregrounds specific priorities shaped by its mandate and operational vantage point. Taken together, these perspectives present a coherent picture of a system that is not dissatisfied with the current implementation of practical and dual education, but rather aware of its structural limitations and focused on a set of mutually reinforcing reforms aimed at deepening employer engagement, strengthening quality assurance, modernising training provision, and improving labour-market responsiveness (Quotation 22, Quotation 23, Quotation 24 and Quotation 25).

The Ministry of Education, Science and Innovation articulates the broadest and most comprehensive reform agenda, which reflects its policy-making role and stewardship over the national VET system. Its priorities extend across the entire policy cycle, from skills anticipation and the modernisation of learning programmes to the formalisation of quality assurance mechanisms, the development of monitoring and evaluation frameworks, and the institutionalisation of both teacher and instructor training. The Ministry's strategic focus on establishing systems, skills needs research, employer incentives, graduate tracking, regional centres of excellence, suggests that it views the current system not as fundamentally flawed but as insufficiently structured, lacking the systemic coherence, data infrastructure, and long-term planning required to ensure high-quality practical learning at scale. The inclusion of employer incentives through the Fund for the Support of Dual Education indicates a recognition that employer satisfaction and sustainable engagement depend not only on regulatory clarity but also on material and symbolic support.

The Centre for Vocational Education echoes many of these priorities but frames them through its operational mandate. The CVE highlights the expansion of programmes in high-demand sectors, the strengthening of instructor training systems, and the reduction of disparities, regional and gender-based, as central levers of quality improvement. Its emphasis on digitalising processes and fostering upward progression in qualifications signals a forward-looking approach that treats practical education as part of a broader, lifelong learning ecosystem rather than a standalone

component of upper secondary VET. Notably, the CVE's focus on instructor training, though less detailed than the Ministry's, reinforces the systemic recognition that the quality of work-based learning is contingent on the pedagogical preparedness of instructors, even as earlier quotations show divergences between institutions on whether certification should become mandatory.

Employer-side institutions, the Chamber of Commerce and the Union of Employers, express satisfaction with the direction of VET reforms but emphasise pragmatic concerns that arise from the realities of business operations, especially in a context dominated by micro- and small enterprises. The Chamber of Commerce places priority on expanding incentive measures, improving employers' material and human capacities, and strengthening coordination structures that facilitate predictable collaboration between schools and companies. Its suggestion to consider dual education at NQF level IV signals an appetite within the business sector to deepen the model and align it with higher-skilled occupations. This perspective indicates that employers see value in dual education but consider the current scale insufficient for addressing labour-market needs.

The Union of Employers adds an additional layer of nuance by highlighting the importance of communication clarity, transparent obligations for all actors, and rigorous procedures for student selection. Its focus on fairness, transparency, and motivational mechanisms for students underscores a recognition that employer satisfaction does not derive exclusively from regulatory frameworks or incentives; it also depends on ensuring that students arrive prepared, informed, and capable of meaningfully contributing to workplace learning. The Union's concern about the low proportion of students who remain employed after training further underscores the broader systemic challenge previously identified, namely, the absence of a robust mechanism for tracking employment outcomes and assessing employer participation. The call for a revision of the employer database and an evaluation of employer involvement demonstrates that employers are not merely passive recipients of policy but key stakeholders seeking evidence-based improvements to strengthen programme effectiveness.

Across all institutions, a clear consensus emerges: the current system is viewed as functional but not yet sufficiently institutionalised, standardised, or strategically aligned to maximise its impact. Satisfaction with implementation is therefore conditional, rooted in appreciation for existing progress but coupled with a shared understanding that substantial improvements in governance, coordination, quality assurance, employer support, student preparation, and data systems are required. The coherence of the institutional perspectives suggests strong potential for collaborative reform, provided that policy measures are both ambitious and sensitive to the capacity constraints of Montenegro's predominantly micro-enterprise business environment.

Quotation 22: Ministry of Education, Science and Innovation perspective on the future developments in VET

Ministry of Education, Science and Innovation (MESI) - qualitative survey result
Improving the quality of practical education in the school-based and dual form, as well as the quality of vocational education as a whole, entails the following key activities, planned in the Reform Agenda of Montenegro 2024–2027 and the Education Reform Strategy for the period 2025–2035: · *Conducting research on the needs for skills and qualifications and, based on this, preparing sectoral strategies with defined priorities;* · *Improving the educational offer in vocational education by modernising existing and developing new educational programmes;* · *Enhancing quality assurance mechanisms in vocational education, with a special focus on practical education in all its forms;* · *Establishing mechanisms for monitoring and evaluating practical education at the employer as fundamental elements of the quality of practical education;* · *Providing continuous training for teachers of practical education and instructors of practical education in accordance with identified needs;* · *Strengthening cooperation with employers and their active involvement in the processes of planning, implementing, supervising and evaluating vocational education;* · *Establishing a system of incentives for employers who participate in the implementation of practical education and employ students after the completion of education through the Fund for the Support of Dual Education;* · *Establishing a system for tracking graduates of vocational schools after the completion of education for realistic planning of enrolment policy and the educational offer;* · *Promoting shortage qualifications and vocational education as a whole;* · *Improving the quality of practical instruction in vocational education through the establishment of regional centres of excellence in vocational education and training for young people and adults.*

Quotation 23: Centre for Vocational Education perspective on future developments in VET

Centre for Vocational Education (CVE) - qualitative survey result
The focus is on expanding educational programmes in sectors with higher labour-market demand, strengthening quality through a system of instructor training, digitalising processes, reducing regional and gender disparities, and increasing progression toward higher levels of qualifications.

Quotation 24: Chamber of Commerce of Montenegro perspective on the future developments in VET

Chamber of Commerce of Montenegro (CCM) - qualitative survey result
The CCM actively supports the development of dual education through participation in coordination bodies, promotion, work in working groups, development of standards and training programmes, as well as through international projects and grant schemes. Continued strengthening of interaction between the economy and education is expected. The most important changes / priorities could be: *Increasing the involvement of the business sector through incentive measures (fiscal and/or grant incentives) and promotion (allowances and advisory activities are already underway).* *Improving the capacities of employers (material–technical and human resources) and training for instructors - through projects and educational programmes.* *More efficient coordination and monitoring (the existence of a Coordination Body and commissions is a step in that direction).* *Incentives for students and employers (financial and institutional measures) to increase the attractiveness of the dual model.* *Consideration should be given to introducing the dual education system also at level IV of the NQF.*

Quotation 25: Union of Employers of Montenegro perspective on future developments in VET

Union of Employers of Montenegro (UEM) - qualitative survey result
A strong cooperation between the education system and the economy remains crucial for the further development of dual education. For the success of the model, clear, regular and transparent communication between students, schools and employers is necessary, with precisely defined obligations and rights of all parties from the very beginning. In this way, misunderstandings are reduced and the responsibility of participants increases. *One of the priorities is also improving the selection and preparation of students, with greater involvement of employers in choosing candidates and familiarising students with the real requirements of the workplace. In addition to strengthening financial incentives, it is necessary to develop additional motivational mechanisms for students, with clearly defined obligations they have during their stay with the employer. It is also important to regulate more precisely the procedures and criteria for students' entry into the Programme, in order to ensure fairness and transparency.* *It is also necessary to establish a system for monitoring and evaluation, both of the functioning of the Programme itself and of the progress of students in a real working environment.* *Furthermore, financial incentives for employers, such as tax reliefs, subsidies and co-financing programmes, can significantly reduce costs and strengthen the motivation of companies to participate, especially small and medium-sized enterprises. This is particularly important in the third year of education, when students spend most of their time at the employer, while the percentage of those who remain to work in the company after the completion of training is still low. For this reason, a detailed revision of the database of employers involved in the Programme and an analysis of their participation is necessary.* *Finally, as we have already emphasised, a particularly important segment is raising awareness and promoting dual education among students, parents, employers and the wider public, so that this model becomes recognisable, understandable and attractive.* *The Employers' Union of Montenegro remains committed to the further development of the process of dual education, and you can always count on its support, both in promotion and in strengthening the capacities needed for the high-quality and sustainable implementation of the Programme.*

IV DISCUSSION

4.1 THEORETICAL CONSIDERATIONS

Practical education stands at the centre of contemporary European vocational education and training reform, functioning as the pedagogical space in which the broader ambitions of VET systems are expected to materialise. The modern European VET discourse, codified in strategic documents such as the Osnabrück Declaration, the Council Recommendation on vocational education and training, the European Skills Agenda, and the policy frameworks surrounding the green and digital transitions, assigns to practical learning a role that is simultaneously epistemic, economic, and civic. At its core, this discourse is anchored in the proposition that the relevance, adaptability, and resilience of VET systems depend on their capacity to translate occupational standards, labour-market signals, and societal imperatives into structured experiential learning opportunities. Practical education is thus conceptualised not as peripheral to VET but as its essential substrate, the mechanism through which competences become embodied, professional identities are formed, and the labour market becomes a pedagogical partner.

Underlying this normative orientation is a set of assumptions about the structural and institutional conditions required for practical education to function as envisioned. The first assumption concerns employer engagement. European frameworks presuppose that employers, particularly medium and large enterprises, play an active, structured, and predictable role in the training of future workers. Employers are expected to provide training environments aligned with occupational standards, dedicate trained mentors to supervise learners, collaborate with schools on planning and evaluation, and perceive training as a strategic investment in human capital rather than a burden. This vision emerges from the institutional histories of coordinated market economies, where strong employer associations, robust dual systems, and long-standing traditions of vocational pedagogy generated an ecosystem in which training is not an externality but a routine organisational function.

A second assumption concerns governance. European frameworks imagine VET systems embedded in a dense network of intermediary institutions, VET agencies, sectoral councils, chambers of commerce, employer unions, and qualification agencies, that jointly coordinate training supply and demand. These bodies are presumed to mediate between the state and the labour market, ensuring alignment between occupational standards, curricula, and training provision, and offering quality assurance mechanisms that transcend individual institutions. Such governance structures support stability, reduce fragmentation, and enable systemic responsiveness to labour-market change.

A third assumption relates to the labour market itself. VET reforms grounded in European strategies implicitly assume a diversified economy featuring sectors capable of offering structured training, with workplaces that are technologically equipped and sufficiently staffed to mentor novices. They assume that employers operate at a scale that renders training feasible, both economically and logistically. Workplaces are imagined as learning sites capable of absorbing students without compromising productivity, because the organisational infrastructure supports forms of on-the-job pedagogy that can coexist with daily operations.

A fourth assumption concerns pedagogy. Practical education is theorised as an intentional learning process in which mentors possess not only technical expertise but also pedagogical competence. The European model presupposes the existence of mentor-training systems, professional development pathways, and shared pedagogical frameworks that enable employers and schools to implement common approaches to skill formation, assessment, and student

support.

A fifth and increasingly central assumption relates to the green and digital transitions. The European Green Deal, the GreenComp framework, and the Digital Education Action Plan collectively articulate a vision in which VET is positioned as a driver of societal transformation. Practical learning environments are expected to expose students to energy-efficient technologies, sustainable practices, digital tools, and work processes shaped by automation and climate imperatives. In this sense, practical education is framed not only as a vehicle for occupational preparation but also as a mechanism through which learners acquire dispositions and competencies necessary for navigating ecological and technological disruption.

These assumptions together constitute the normative horizon against which VET systems are assessed. Yet they also reflect a particular socio-economic ontology, an understanding of how markets, institutions, and pedagogical systems operate under conditions that are far from universal. The institutional realities of many small states diverge sharply from this model. Montenegro, like numerous Western Balkan economies, lacks the labour-market scale, institutional density, and employer capacity that underpin European dual systems. Its economy is dominated by small and micro-enterprises, its demographic profile is shaped by aging and youth outmigration, and its intermediary institutions do not possess the regulatory or organisational power of their European counterparts. These structural characteristics influence not only the implementation of practical education but also the nature and meaning of practical learning itself.

In this context, theoretical considerations cannot be interpreted as prescriptive blueprints but as normative orientations whose feasibility depends on structural compatibility. A VET system cannot simply will itself into alignment with European models through policy or procedural reform; it must operate within the labour-market, demographic, and institutional conditions that define its structural horizon. The evaluation of practical education in Montenegro thus offers not only descriptive insights but an opportunity to interrogate the assumptions embedded in European VET discourse and to consider how these assumptions interact, productively or frictionally, with the realities of a small-state system.

The theoretical significance of practical education within European discourse is therefore best understood as a conceptual ideal: a model that presumes certain structural capacities, robust employer participation, strong intermediary institutions, diversified economic sectors, well-resourced schools, and pedagogically prepared mentors. When these conditions are present, practical education can serve as the transformative engine European frameworks envision. When they are absent or uneven, practical education becomes a site of tension, improvisation, and negotiated adaptation.

This tension is at the heart of the Montenegrin case. The national VET system is normatively aligned with European discourse, but structurally positioned within an economy and institutional landscape that diverge substantially from the assumptions embedded in that discourse. The evaluation's findings therefore need to be read not as isolated indicators of system performance but as empirical manifestations of deeper structural realities. Understanding this requires moving beyond descriptive comparison and engaging with the theoretical implications of structural mismatch, institutional capacity, and the constraints of small-state governance.

4.2 EMPIRICAL FINDINGS

Empirijski nalazi evaluacije prikazuju sistem koji funkcioniše na presjeku težnji i ograničenja, u

The empirical findings of the evaluation present a system that operates at the intersection of aspiration and constraint, a space in which the normative ambitions associated with European VET discourse are negotiated on a daily basis through the material realities of Montenegrin schools, employers, and institutions. While the previous section outlined the conceptual horizon within which practical education is theorised, this section turns to what the evaluation reveals about how that horizon is inhabited, approximated, and sometimes resisted through the lived

practices of those who constitute the system. The purpose here is not to catalogue findings, but to interpret them as indicators of broader structural and institutional dynamics that shape what practical education can accomplish under current conditions.

The evaluation of practical education in Montenegro provides a multi-layered picture of how school-based and dual practical training function at levels III and IV1. Although the system shows clear strengths, particularly in the achievement of learning outcomes and the perceived educational value of practical training, it also reveals systemic weaknesses that limit consistency, equity, and long-term sustainability. The following synthesis combines a concise summary of results with a critical discussion that interprets these findings within the structural and institutional context described in the report.

4.2.1 Employer engagement: persistent structural constraint

The data suggest a structural imbalance between the ambitions of dual education and the absorptive capacity of the Montenegrin economy. The dominance of micro and small enterprises, many of which operate without dedicated training personnel, limits the feasibility of scaling dual education without targeted support mechanisms. The low level of employer interest is not merely attitudinal; rather, it reflects systemic constraints such as limited human resources, insufficient knowledge of training procedures, and financial and organisational burdens associated with hosting students.

Furthermore, the absence of a comprehensive and regularly updated employer registry, acknowledged by the Ministry and the VET Centre, impedes strategic planning and equitable assignment of students. Without systematic mapping of company capacities, schools rely on informal networks, which can reinforce territorial inequalities and limit opportunities in less economically active municipalities.

Overall, employer engagement appears to be the defining bottleneck of the system: it shapes placement quality, limits the expansion of dual education, and weakens alignment between training provision and labour-market needs.

4.2.2 Student selection and placement

The placement process shows inconsistent application of criteria across schools. While a portion of teachers and PTOs describe the criteria as clearly defined, a significant share experience obstacles such as insufficient employer capacities, mismatch between student interests and available opportunities, and administrative burdens.

From the student perspective, motivations for joining dual training are strong, but many who wished to participate were unable to do so, as evidenced by the proportion of students reporting they were not included despite wanting an individual contract. Notably, a large share of students do not know why they were not selected, which points toward limited communication and low transparency.

Placement procedures represent a critical interface between students' aspirations and institutional constraints. The findings indicate that selection is shaped less by pedagogical criteria and more by market availability. Schools must match students to employers within a narrow set of options defined by local economic conditions, leading to a situation where student choice is often secondary to circumstantial factors.

The opacity reported by students, many of whom cannot explain why they were excluded from dual training, suggests that placement communication is not sufficiently standardised. When selection depends heavily on employer willingness and capacity, rather than on transparent pedagogical criteria, there is a risk of reinforcing inequality. Students in municipalities with limited employer presence are structurally disadvantaged, and the evaluation confirms that the system

lacks mechanisms to mitigate these disparities.

These challenges collectively indicate the need for clearer guidance, stronger monitoring, and institutional supports that shield students from the consequences of market volatility.

4.2.3 Organisation and delivery of practical education at schools

Surveys of teachers and organisers reveal a landscape in which formal procedures exist but are unevenly applied. Schools must coordinate placements, prepare learning plans, monitor student progress, and maintain communication with companies. Yet the evaluation reveals recurrent obstacles: unclear division of responsibilities, insufficient time allocated for coordination, administrative burdens, and inconsistent support for travel or communication with employers.

The results reflect a system where organisational responsibilities outweigh institutional supports. Teachers and PTOs assume a wide spectrum of tasks, administrative, pedagogical, and coordinative, frequently without clear allocation of time or resources. This structural overload affects the consistency and quality of supervision.

The infrequency of monitoring visits at employer sites raises questions about the system's capacity to ensure quality assurance. Monitoring is a foundational element of dual and work-based learning, yet PTOs cite logistical and financial barriers. Without systematic oversight, the quality of mentoring and adherence to learning plans vary across employers.

Furthermore, cooperation is described as situational rather than structured. The absence of centralised coordination tools, digital platforms, or shared planning templates contributes to fragmented communication. As a result, the effectiveness of practical education depends heavily on individual teacher initiative, existing informal relationships, and local circumstances.

4.2.4 Employer delivery and mentoring quality

Teachers and PTOs offer mixed assessments of employer-side delivery. While many employers adhere to training plans and provide meaningful learning opportunities, a substantial proportion struggle with mentoring capacity. Respondents highlight insufficient pedagogical preparation of instructors, inconsistent task allocation, and limited feedback mechanisms. Employers often lack clear understanding of learning outcomes, and school–employer coordination on training content is inconsistent.

These findings underscore a systemic gap: employers' technical expertise does not automatically translate into pedagogical competence. The lack of a formalised training or certification system for in-company instructors weakens the quality of workplace learning. Institutional stakeholders emphasise this deficiency, noting that mentor qualifications vary widely across sectors and companies.

Without pedagogically prepared mentors, learning becomes dependent on ad hoc practices, and tasks assigned may not reflect the progression of skills required by occupational standards. This undermines consistency across companies and limits the comparability of student experience.

The data therefore point to a need for structured mentor training, standardisation of tasks, and mechanisms ensuring that learning outcomes guide workplace instruction.

4.2.5 Learning outcomes and workplace tasks

Across stakeholders, the achievement of learning outcomes stands out as the most stable positive result. Teachers, PTOs, and students all report high levels of perceived competence development, including technical, practical, and transversal skills. Students particularly emphasise gains in practical application, professional behaviour, and communication skills. Teachers' assessments

corroborate that students achieve the outcomes defined in curricula and learning plans.

The strong perception of achieved learning outcomes suggests that despite organisational weaknesses, practical education retains its core pedagogical value. Students experience authentic work environments, and teachers recognise that workplace learning contributes significantly to competence development.

This positive result must be interpreted within the limitations previously identified. High learning outcome achievement does not imply uniformity across employers, nor does it negate the structural obstacles. Rather, it indicates that where conditions for learning are present, adequate mentoring, appropriate tasks, and functional coordination, students benefit substantially.

The consistency of this finding supports the argument that practical education has strong intrinsic potential. The challenge lies not in the pedagogical model itself but in the institutional systems that enable or constrain its implementation.

4.2.6 Professional development needs: a shared recognition of systemic gaps

Teachers and organisers consistently identify the need for additional training, particularly related to planning and supervising work-based learning. Institutional perspectives note the absence of systemic training requirements for company-based mentors, which undermines the quality and consistency of student learning. The need for professionalisation is therefore twofold: strengthening school staff competences and developing a framework for certifying in-company instructors

4.2.7 Satisfaction and perceived advantages/disadvantages

Students, teachers, and PTOs identify substantial advantages of practical education, including real-world learning, skill acquisition, and improved employability. Reported disadvantages include inadequate employer numbers, uneven mentoring quality, logistic difficulties, and inconsistent organisation.

A notable proportion of teachers and PTOs believe that students with individual contracts have higher employability.

Satisfaction patterns confirm that the fundamental value of practical training is widely recognised. However, they also reinforce that systemic weaknesses, particularly employer scarcity, coordination challenges, and uneven mentoring standards, directly affect user experience.

Perceptions of enhanced employability in dual education highlight the symbolic weight of workplace exposure, yet the absence of tracer studies or employment records prevents evidence-based validation of this belief. This gap underscores the need for systematic monitoring of student outcomes.

4.2.8 Governance, monitoring, and quality assurance: institutional perspectives

Institutional responses provide a deeper understanding of systemic challenges and the reasons behind inconsistencies observed in the empirical data.

Institutions emphasise that Montenegro lacks a fully developed system of labour-market intelligence capable of informing enrolment policies, curriculum development, or updates to occupational standards. Data are fragmented, responsibilities overlap, and coordination between ministries, VET agencies, and employer organisations is inconsistent.

Stakeholders also highlight gaps in monitoring and quality assurance. While legal frameworks exist, implementation is uneven. Schools may lack mechanisms to systematically evaluate

employers, mentors, or the achievement of learning outcomes. Without standardised monitoring, quality remains variable and dependent on local initiative rather than national standards.

Finally, institutional actors express concern about declining participation in dual education. This trend is attributed to demographic shifts, employer fatigue, student preferences for general education, and limited incentives for companies. If unaddressed, this decline threatens the long-term sustainability of dual education in Montenegro.

4.2.9 Cross-cutting topics

Montenegro's practical and dual education system exists within broader social and economic transformations that shape its trajectory.

Equity and the Social Dimension

As the evaluation shows, regional and socio-economic inequalities influence access to high-quality practical training. European frameworks emphasise VET's role in reducing inequalities, yet systemic interventions, targeted funding, support for disadvantaged regions, or mechanisms to ensure equal access to employers, are not fully developed.

Gender Disparities

Gender imbalances persist, especially in technical and STEM-related VET programmes. These patterns reflect broader labour-market segregation and have long-term implications for gender equality in employment. Practical education, if not carefully designed, can reinforce rather than mitigate these disparities.

4.2.10 Conclusion based on empirical evidence

Across all dimensions of the evaluation, a coherent pattern emerges: the pedagogical core of practical education is strong, but its systemic supports are weak. Students achieve learning outcomes, value their training, and benefit from real workplace exposure. However, employer engagement remains insufficient, organisational burdens on schools are high, monitoring mechanisms are inconsistent, and instructors lack pedagogical preparation.

Strengthening these foundations, through systematic employer mapping, targeted incentives, structured mentor training, clearer placement procedures, and enhanced monitoring, would allow Montenegro to build on the system's pedagogical strengths and align practical education more closely with European standards and national reform priorities.

V RECOMMENDATIONS

5.1 SYSTEM-LEVEL RECOMMENDATIONS

I Further develop a comprehensive labour-market intelligence and skills-anticipation system

Montenegro would benefit from gradually strengthening and integrating its existing labour-market intelligence efforts into a more coordinated system that brings together MEIS data, employer surveys, sectoral analyses, and tracer studies. Enhanced skills-anticipation capacities would provide a valuable evidence base for adjusting enrolment quotas, updating occupational and qualification standards, revising curricula, and identifying emerging green and digital occupations. Developing such a system over time would support more forward-looking planning and ensure that ongoing VET reforms are guided by timely and reliable information.

II Develop a national framework for mentorship and instructor training

A structured approach to mentor preparation is essential for strengthening the quality of practical education. Establishing a national framework for training and certifying in-company mentors would ensure that instructors possess the pedagogical, organisational, and safety-related competences required for effective work-based learning. Introducing a mandatory training package, delivered through the VET Centre and chamber structures, covering mentoring techniques, assessment of learning outcomes, health and safety, and work-based learning methodologies would support consistency and raise quality across providers. Certification of mentors participating in dual education would help professionalise the role and align practice with European standards.

III Further support quality assurance of practical and dual education

Enhancing quality assurance mechanisms is central to improving the consistency and credibility of practical education. Supporting further standardisation of national procedures for monitoring workplace learning, including tools for assessing learning conditions, verifying adherence to learning outcomes, evaluating mentor performance, and documenting student progress, would provide a clear and transparent framework for all actors.

To strengthen these processes, Montenegro should develop a national database of employers participating in practical and dual education, systematically recording their training capacities, quality indicators, and compliance with obligations. In parallel, a national register of student placements should be established, incorporating structured feedback from students, PTOs, and teachers. Such feedback mechanisms would support continuous improvement, enable early identification of challenges in specific companies or sectors, and enhance the accountability of all stakeholders involved in workplace learning.

Together, these measures would create a more coherent, data-informed quality assurance system and support consistent implementation across regions, schools, and employers.

IV Develop monitoring tools for tracking student transitions and employment outcomes, and strengthen career guidance services

Introducing a national system for tracking graduate outcomes would significantly enhance evidence-based decision-making within VET. Regular tracer studies, conducted every two to three years, would provide essential insights into school-to-work transitions, continued education pathways, and employment stability. These data should directly inform programme relevance, updates to occupational and qualification standards, and enrolment planning, ensuring that VET provision remains responsive to labour-market dynamics.

To maximise the usefulness of this information, Montenegro should further develop career guidance centres within VET schools and strengthen their role in advising students and parents. Career guidance services should use tracer study data and labour-market intelligence to provide up-to-date information on employment trends, sectoral opportunities, and progression pathways. Integrating data-driven guidance into school practice would support more informed decision-making by students and families, promote realistic expectations, and ensure better alignment between individual aspirations and labour-market needs.

V Strengthen support measures for disadvantaged students to ensure equitable access and successful participation

To safeguard equity and widen participation in practical and dual education, Montenegro would benefit from further developing targeted support measures for students who face socio-economic, geographical, or other structural barriers. These supports could include tutoring or remedial assistance, mentorship schemes within schools, financial support for transportation or meals, and targeted guidance for students from rural areas or low-income households.

Enhancing support structures would help disadvantaged students participate fully in practical training, reduce the risk of dropout, and ensure that learning outcomes are achievable for all student groups. Such measures are aligned with European principles of inclusive VET and would promote fairness across regions and schools, particularly where employer availability or school resources are limited.

By integrating equity-focused supports into the broader reform of practical and dual education, Montenegro can help ensure that the benefits of workplace learning are accessible to all learners, not only those with stronger resources or proximity to employer networks.

VI Address structural inequalities in access to practical training

Ensuring equitable access to high-quality practical training requires targeted measures that respond to regional disparities in employer availability and school capacities. Providing additional support to schools in less economically developed areas, enabling transportation assistance for students where local opportunities are limited, and fostering regional training hubs or inter-school cooperation would help mitigate territorial inequalities. Integrating equity considerations into the design and implementation of dual education would ensure that access to meaningful learning opportunities does not depend on geography or socio-economic background.

VII Improve system funding for practical and dual education

Stable and transparent financing is essential for effective implementation of practical and dual education. Developing a dedicated funding mechanism, supporting coordination activities, monitoring processes, teacher workload, employer cooperation, and equipment needs, would strengthen institutional capacity across the system. Such financing should also reinforce the role of chambers, the VET Centre, and digital monitoring tools. Ensuring predictable resources would

allow system actors to meet quality expectations and fulfil their responsibilities more effectively.

VIII Ensure sustainable incentives and support measures for employer participation

To secure stable and wide-ranging employer engagement, Montenegro would benefit from a more structured system of incentives tailored to the needs of companies, particularly SMEs. A balanced mix of financial and non-financial measures, such as subsidies for mentor training, tax or contribution relief, support for equipment or safety materials, and recognition schemes, would ease the organisational burden on employers and promote continued participation. Strengthening these supports would help stabilise dual education pathways and reduce fluctuations linked to employers' operational constraints.

IX Continue to strengthen the structural foundations of social partnership in VET governance

Montenegro should continue to strengthen and formalise the system of social partnership among the VET Centre, the Chamber of Commerce, the Employers' Union, VET schools, local governments, and other relevant stakeholders. A more structured partnership framework should be established to ensure regular coordination, joint planning, and shared responsibility for the development and implementation of practical and dual education. This includes defining clear roles for each institution, developing routine consultation mechanisms, establishing sector-based advisory bodies, and ensuring that employers and social partners play an active role in updating occupational standards, shaping curricula, supporting mentor training, and contributing to quality assurance processes. Strengthening these governance structures will enhance system coherence, improve responsiveness to labour-market needs, and ensure that all actors participate effectively in the continuous development of VET.

X Continue to promote the practical education, employer placement, career opportunities

Montenegro should continue to strengthen national efforts to promote practical and dual education, highlighting the value of employer placements and the diverse career opportunities available to VET students. A coordinated national communication and outreach strategy, led jointly by the Ministry, the VET Centre, the Chamber of Commerce, the Employers' Union, and VET schools, should be developed to raise awareness among students, parents, employers, and local communities about the benefits of work-based learning.

Strengthening the visibility and attractiveness of practical education will increase student motivation, expand employer engagement, and support better alignment between VET provision and labour-market needs. By embedding coordinated promotion efforts at the system level, Montenegro will reinforce the credibility of VET pathways and improve long-term transitions from education to employment.

5.2 INSTITUTIONAL-LEVEL RECOMMENDATIONS

5.2.1 Recommendations for the VET Centre

I Continue to modernise existing and develop new occupational standards, qualification standards and curricula

To maintain alignment with Montenegro's evolving economic priorities and EU policy directions, Montenegro should continue to regularly review and update current and develop new occupational standards, qualification standards and curricula. Further embedding sustainability competences (in line with GreenComp), digital literacy, and emerging sector-specific skills will enhance the future relevance of qualifications. These updates should continue to trigger corresponding

curriculum revisions and adjustments to practical training plans, ensuring that students are well prepared for the demands of green and digital transitions.

II Strengthen continuous professional development for school management, teachers, practical training organisers, and company instructors

The VET Centre should continue to expand and modernise its professional development programmes to ensure that school management, teachers, practical training organisers and company instructors are fully equipped to coordinate, supervise, and assess practical training. Professional development should include updated training content aligned with contemporary industry practices, and should increasingly be organised in cooperation with employers, allowing teachers and organisers to gain direct exposure to current technologies, workflows, and sectoral standards. These programmes should explicitly support the connection between learning outcomes and real workplace requirements, ensuring that the training delivered in schools and at companies reflects the evolving needs of the labour market. Strengthening these mechanisms will reinforce pedagogical quality and improve coherence between school-based and workplace learning.

Lastly, special attention should be placed on supporting the development of students' transversal competencies through trainings of teachers and practical training organisers.

III Support the development of a national tracer survey and embed it into quality assurance system

The VET Centre should develop and establish a national tracer survey system that systematically monitors the education and employment outcomes of VET graduates. Tracer studies should be designed as a regular and mandatory component of the quality assurance framework, providing essential evidence on programme relevance, transition to employment, skills utilisation, and areas requiring curricular or structural improvement. Embedding graduate outcome data into quality assurance processes will support continuous system improvement and ensure that VET provision evolves in line with labour-market needs.

IV Continue to implement a national employer support and monitoring system

The VET Centre should continue to develop and strengthen a comprehensive national system, implemented in cooperation with the Chamber of Commerce, that monitors and supports employers participating in practical and dual education. This system should systematically evaluate employer compliance, mentor performance, working and learning conditions, and adherence to learning outcomes. To that end, the VET Centre should consider developing detailed records and databases of employers, including quality indicators, training capacities, previous placement experiences, and feedback from students, teachers, and PTOs. Strengthening these mechanisms will ensure consistent quality, enable informed decision-making on future placements, and support continuous improvement across the employer network.

V Strengthen data infrastructure for practical learning

The VET Centre should continue to expand and integrate data systems within MEIS to capture placements, monitoring visits, information on practical training organisers, student progress, and employer indicators. A unified data system will strengthen evaluation capacity and enable more strategic policy planning.

VI Strengthen the social dimension of practical education through enhanced quality assurance indicators

The VET Centre should strengthen the social dimension of practical and dual education by developing and integrating quality assurance indicators that monitor equity, inclusion, and access. These indicators should capture variations in placement opportunities across regions, differences in outcomes for disadvantaged students, gender disparities, and barriers related to socio-economic status or school resources. Embedding social-dimension metrics into the national quality assurance framework will ensure that practical education is not only effective but also equitable, and that reforms systematically address gaps in participation and learning opportunities.

5.2.2 Recommendations for VET Schools

I Continue to strengthen planning and coordination of practical training

Schools should continue to strengthen the internal organisation of practical training by clearly defining responsibilities among teachers, organisers, and school leadership. Coordination time should be formally recognised within teacher workloads. Schools should maintain and consistently implement detailed annual plans for employer engagement, student placement, monitoring visits, and the evaluation of achievement of predefined learning outcomes.

II Continue to strengthen transparency of placement decisions and communication with students

Schools should continue to strengthen the transparency of their placement processes by clearly explaining the criteria, decision-making steps, and factors influencing student allocation to employers. Schools must ensure consistent and timely communication with students and parents regarding placement options, selection outcomes, and reasons for decisions. Strengthening these information flows will improve trust, support informed expectations, and ensure that all students understand the basis on which placements are made.

III Continue to strengthen support measures for disadvantaged students and improve tracking of graduate outcomes

Schools should continue to strengthen targeted support for students who face socio-economic, geographic, or other structural barriers to fully participating in practical and dual education. This includes providing additional academic support, mentoring, counselling, and, where needed, transportation or financial assistance.

Schools should also continue to improve the tracking of their graduated students, maintaining updated records on their education and employment pathways in order to better understand long-term outcomes and identify where additional support or programme adjustments are necessary. Strengthening these support and monitoring mechanisms will help ensure equitable access to quality placements and promote successful transition from school to work for all learners.

IV Intensify support of the development of transversal skills as the basis for increasing the employability of VET graduates

VET schools should intensify their efforts to develop transversal skills, such as communication, problem-solving, teamwork, digital literacy, and professional behaviour, as an integral component of all practical and school-based learning. Schools should embed transversal competences systematically into lesson planning, practical tasks, and assessment processes, ensuring that

students acquire the workplace-relevant skills increasingly required across sectors. By advancing transversal skill development, schools will significantly enhance the employability and adaptability of VET graduates in a dynamic labour-market environment.

V Strengthen monitoring of learning outcomes achievement, working conditions, and health and safety in workplace settings

Schools should continue to strengthen and systematise monitoring procedures for all aspects of workplace learning. This includes regular, well-documented on-site visits, detailed verification of tasks performed by students, and structured assessment of progress against learning outcomes.

In addition, schools should continue to ensure systematic monitoring of working conditions, health and safety practices, and the appropriateness of tasks assigned to students, in line with national regulations and pedagogical standards. Teachers and practical training organisers should receive enhanced professional development to build their capacity to supervise work-based learning, assess performance in real work environments, and identify potential risks or violations related to safety or training quality. Strengthening these mechanisms will contribute to a safer, more equitable, and pedagogically coherent implementation of practical and dual education.

VI Strengthen communication and coordination with employers

Schools must continue to reinforce communication with employers by proactively sharing learning plans, providing structured briefings at the start of placements, and maintaining regular communication channels to address emerging challenges promptly.

VII Continue to develop school-level databases on employers and quality indicators

Schools should continue to expand and update systematic records on employer performance, student satisfaction, mentor cooperation, compliance with training obligations and keep active contact with graduated students. These data should inform placement decisions and feed into national employer registries to strengthen overall system coordination.

5.2.3 Recommendations for the Chamber of Commerce of Montenegro

I Strengthen the Chamber's role as an intermediary body for employer engagement

The Chamber should continue to strengthen its coordinating role in employer recruitment and mediation between schools and companies. This strengthened role would reduce administrative burdens on schools and facilitate more consistent employer participation.

II Continue to lead and expand mentor training programmes

The Chamber should continue to advance its role in organising and supporting mentor training programmes. Working closely with the VET Centre, it should strengthen and institutionalise a structured training package as a standard requirement for participation in dual education.

III Strengthen and maintain a national registry of employers involved in practical and dual training

The Chamber should continue to maintain and regularly update a comprehensive employer registry that includes quality ratings and compliance indicators. This registry must be widely accessible to schools and national institutions.

IV Strengthen sector-based cooperation mechanisms

The Chamber should continue to support and expand sector councils to ensure timely curriculum updates, alignment with labour-market needs, and regular revision of occupational standards.

5.2.4 Recommendations for the Employer's Union of Montenegro

I Continue to advocate for financial and structural incentives for employers

The Union should strengthen its advocacy efforts for tax incentives, subsidies, and support mechanisms that enhance employer readiness to participate in practical and dual education. Attention to SME needs should remain a central priority.

II Strengthen awareness-raising activities on the benefits of dual education

The Union should continue to lead and expand campaigns that highlight the benefits of dual VET, promoting stronger employer engagement and better understanding of long-term recruitment advantages.

III Continue to support the development of employer networks

The Union should strengthen support for employer clusters or networks that allow companies to share resources, mentors, or equipment, especially in regions with limited employer availability.

IV Strengthen employer contributions to quality assurance processes

Employers should continue to play an active role by providing structured feedback to schools and the VET Centre on curriculum relevance, student preparedness, and workplace training challenges.

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