



Erasmus+

Cooperation for innovation and the exchange of good practices sub-programme

TECHNICAL REPORT form

Programme	Erasmus+
Sub-Programme	Cooperation for innovation and the exchange of good practices
Action	Capacity Building in higher education
Sub-Action	Structural Projects
Call for Proposal	EAC-A02-2019-CBHE
Project number	617392-EPP-1-2020-1-RS-EPPKA2-CBHE-SP
Agreement/decision number	
Project Title	Strengthening capacities for the implementation of dual education in Montenegro higher education

Contractual Data

Dates and Beneficiaries

Dates

Project Start: 15/01/2021	Project End: 14/01/2024
Activities Start:	Activities End:
Project Duration(months): 36	

Beneficiary Data

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Project Summary and Horizontal Issues

Project Description

English - 1	<p>In Montenegro university – enterprise cooperation is still weak. The market has low level of trust in HEI as serious partner in solving technical and technological or any work-related problems but also cannot see their role in the creation of skill and knowledgeable graduates, who are fit for employment. The main aim of the project is to improve the competences of higher education graduates in Montenegro, through the development of generic model of dual education (DUALMON model) and legal framework for introduction of dual education in order to support different needs and interests of students, companies, higher education institutions (HEIs) in the country and to provide recommendations to HEIs for implementation of dual education in the entire HE system. The model will be implemented, as a pilot test, at four faculties of University of Montenegro, from different fields: Faculty of Economics, Faculty of Electrical Engineering, Faculty of Tourism and Hospitality and Faculty of Maritime Studies.</p> <p>The overall aims of the project are:</p> <ul style="list-style-type: none">• Improvement of the competencies of higher education graduates in Montenegro, according to the needs of employers,• Increase motivation to study as well as to improve the employability of graduate students,• Enable students from lower income families to access higher education, and• Improvement of legal framework and accreditation standards in Montenegro in order to adapt to dual education with long-term goal to motivate introduction of dual education in other HEIs in Montenegro.
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Horizontal Issues

Previous recommendations/follow-up

The NEO in Montenegro carried out a field-monitoring visit to the project on June 30, 2021. This is the list of recommendations:

Comments drawn from evaluator's side, discussed thoroughly during FMV should be taken into consideration as valuable guidelines; It would be important to involve, to the extent possible, all Montenegrin HEIs and other relevant stakeholders, which are not formally part of the consortium; It is necessary to intensify the dissemination activities; The support of the Ministry of Education, Science, Culture and Sports is a must, and of crucial importance for the successful realization of the project activities; It would be important to secure presence of Rectorate representative(s) in the future monitoring visits; The working group from the Rectorate level has sent the proposal for the amendment of the Law on HE to the Ministry. Adopting this proposal that would regulate dual education at a policy level would be of pivotal importance for successful implementation of this project; It is very positive that the Ministry of Public Administration, Digital Society and Media has expressed its interest about the project, even though it is not an official partner in the consortia; Adoption of Law on Dual HE model is highly recommended, as it will strengthen the significance of this important issue; Creating synergy with similar projects, e.g. projects which are dealing with university-enterprise cooperation is highly recommended; Special attention should be paid to the involvement of various vulnerable groups of students in the project activities; To re-establish cooperation within international credit mobility projects, with programme countries; Active role of non-academic partners in the project implementation would be highly appreciated.

DUALMON project team has implemented the recommendations in the following way:

The consortium took the comments drawn from the evaluator's side into consideration as valuable guidelines, especially in the case of "similar interventions elsewhere in the Western Balkans"; HEIs and other relevant HE stakeholders, which are not formally part of the consortium, but are important for the overall implementation of dual education concept, are covered mostly through intensive dissemination activities; Dissemination plan predicts active participation of all project partners, especially Montenegrin partner institutions; Ministry of Education, Science, Culture and Sports in 2022 went through significant structural changes, but the communication with the ministry was regular. Project team is paying special attention towards constant and non-interrupted communication with the ministry; DUALMON team is regularly informing the UoM rectorate about the project activities, and inviting them to meetings. The consortium has nominated one team member for direct communication and cooperation with the Ministry of Public Administration, Digital Society and Media; DUALMON consortium has nominated a project team member for creation of synergy effect with other projects; DUALMON consortium has underlined the inclusion of vulnerable groups through dissemination, and we are collecting data about participation of vulnerable groups in study program; International credit mobility is not in the focus of DUALMON project, but through creation of synergy effects, we are reflecting on the possibility of internal credit mobility; Non-academic partners are the significant part of the DUALMON consortium and they have demonstrated already dedication to project goals and active role in the project implementation.

Transversal issues

The project addresses several transversal (crosscutting) issues relevant for the EU and its partner countries, especially unemployment and gender balance.

DUALMON project is motivated by needs for competent professionals in the different branches of economy in Montenegro. There are several strategic documents that supports the goals of DUALMON project. Document "Strategy of Higher Education in Montenegro (2016-2020)" (there is no new strategy) is underlying several priorities:

1. Harmonization of education with labour market needs, where system of HE in Montenegro must provide students with competences for future occupations, and acquirement of practical knowledge for the work in real working environment. The Strategy is mentioning high unemployment rate of graduates, where graduates with previous working experiences are able to find jobs easier.
2. Article 2.2 is stressing the importance of implementation of practical teaching into curriculums in order to improve learning outcomes. "Implementation of practical teaching can be conducted inside HEI, or at the company where agreement about practical teaching exists." (pp. 23).

Ultimately, therefore, this project will result in increase of employment of newly graduates on labour market in the country. Dedication of DUALMON consortium to develop newly designed dual studies will contribute to the achievement of the project final goals:

- Improvement of the competencies of higher education graduates in Montenegro according to the needs of employers,
- Increase of the employability of graduates and their motivation to study,
- Improvement of accessibility to higher education of students from lower income families.

Second issue is related to gender balance. Position of women is unfavourable when it comes to their employment in companies across Montenegro. Having that in mind, DUALMON consortium is trying to improve the position of women through continuous dialogue with stakeholders and promotion of gender balance on the labour market.

DUALMON project is in line with several priorities of the Erasmus+ Programme:

Inclusion and Diversity: The project seeks to promote equal opportunities and access, inclusion, diversity and fairness in higher education. Students with fewer opportunities themselves are at the heart of dual education and with these in mind, the project puts mechanisms and resources at their disposal. When designing dual study programs, HEIs should have an inclusive approach, making them accessible to a diverse range of participants, fighting various barriers, like disabilities, health problems, cultural differences, social barriers, economic barriers, barriers linked to discrimination, and geographical barriers.

Digital transformation: DUALMON is emphasizing the increased need to harness the potential of digital technologies for teaching and learning and to develop digital skills for all stakeholders in higher education. Through dual study programs, we are building capacity and critical understanding in various fields of education and training institutions on how to exploit the opportunities offered by digital technologies for teaching and learning at all levels.

Environment and fight against climate change: Dual study programs can be developed in various green sectors, with future-oriented curricula and planned approaches regarding environmental sustainability. Dual education supports innovative practices to make students and teaching staff true actors of change, in order to enable behavioural changes for individual preferences, cultural values, awareness, and more generally support active engagement for sustainable development.

Involvement of people with fewer opportunities

One of the important challenges observed on the labour market in Montenegro relates to the employment of young people who are on the margins of society - unemployed, young people outside the education system and those who do not have the skills necessary for employment in the 21st century. According to the Erasmus+ programme, these people are defined as 'Young people with fewer opportunities'. This group includes people who face one or more of the seven exclusion factors: disability, health problems, educational difficulties, cultural differences, economic obstacles, social obstacles or geographic obstacles. Bearing in mind this challenge observed in the Montenegrin labour market, the DUALMON project was designed in a way to promote inclusion and diversity. In other words, one of the goals of this structural project, among the others, is to promote equal opportunities, access and fairness across all interested parties, including students who belong to the category of people with fewer opportunities. With this regard, the project will support all stakeholders from Montenegro to address the challenges facing their higher education institutions, HE system and economy, like labour mismatch and employability, improvement of quality of teaching and quality of learning outcomes, relevance for the labour market, and equity of access through better opportunities for socioeconomically disadvantaged groups. In other words, the DUALMON project is designed in a way to promote inclusive dual education, i.e. education that offers opportunity to disadvantaged groups of students to find the employment quickly through improved match between skills supply and labour force demand. Bearing in mind previously stated goals, a generic model of dual study programs was developed within this project, based on which each of involved faculties at University of Montenegro developed specific dual education model for their field of education. Each of these models were developed in a way to contribute to alignment of employees' requirements and practical skills of dual students. Through inclusion of students who belong to group of people with fewer opportunities, this project enables them to acquire practical knowledge in the real business environment, which strengthens their competitiveness on the labour market and creates direct contact of these students with potential employers, which significantly increases the opportunities of people with fewer opportunities to be actively involved in the labour market. Additionally, dual education will bring better and more intensive cooperation between industry and higher education and it will contribute towards increase of innovation capacities. Students on dual education, including those with fewer opportunities, will be the channel for transferring knowledge and ideas from companies to academia and vice versa. The expected results of the project will impact HEIs in Montenegro by making significant improvement of the competencies of higher education graduates, including those with fewer opportunities, according to the needs of employers, since dual education brings together theoretical knowledge but also practical skills and abilities for young educated people, and improvement of legal framework and accreditation standards in Montenegro in order to adapt to dual education.

Award Criteria

Assessment Criteria

Relevance of the project

Relevance to the objectives

The overarching aim of our joint project DUALMON is to strengthen the Higher Education System of Montenegro by introducing a Generic Model of Dual HE and a legal framework accordingly. We finally aim for creating several pilot undergraduate study programmes meeting the needs of companies or institutions, which play an essential role in the economy as well as for the whole society of Montenegro. One of the core concepts is the co-operation between the corporate sector and academia for facilitating Dual Higher Education (DHE). However, there are several further stakeholders involved, who are essential for the development of a sustainable Generic Dual Study Model, e.g. Ministries, Policy makers, Chambers of Commerce and Industry associations.

It is evident that the development and establishment of a dual framework in HE will provide for advancement of human capacity by implementing future oriented teaching and learning methodologies according to the rapid development in the 21st century's industries and markets. The DUALMON consortium works hard towards a trustful relation of industrial and academic stakeholders. Regular meetings emphasise the role of suitable communication to find out about the needs of the labour market. This approach follows the basic line of several strategic documents by the Government of Montenegro.

Unemployment rate in Montenegro in 2020 was 17,9%, and in 2021 it was 18,49%, predominantly owed to the dramatic impact of the pandemic. Postponed investments, mainly in infrastructure, are expected to be realised in near-term. Altogether, this indicates the demand for highly qualified professionals in economically relevant industries, which can be met by establishing tailored dual study programs. The DUALMON project aims for enabling young people to enter a learning process at the interface of theory and practise, which will lead to a viable degree within a short study period. Employability will be enhanced by demand-driven curricula-design, preparing graduates for a changing technological and economic environment. As the Generic Model of Dual HE includes the opportunity to get a small salary from co-operating companies, or a scholarship, students from lower income families are provided for easier access to higher education. The motivation to study is encouraged by the perspective of getting a sustainable job after a Dual Study course having acquired relevant competences.

The generic Dual Study Model for Montenegro will eventually need alignment with the EQF, to enhance international integration. Our project of course strongly supports this aim. However, first of all, we have to create coherence within Montenegro, which will grow from the Generic Model of Dual HE. DUALMON's focus on 'Modernisation of curriculum by developing new and innovative courses and methodologies' will facilitate progress by introducing up-to-date methodologies of teaching and learning, adequate pedagogical approaches and ICT-based practises as well as by defining learning outcomes which support employability and life-long learning.

Additionally, we address the need to clarify the role of the respective companies in providing for an adequate practise-learning environment and also somehow recognise and remunerate the students' contribution.

At large, the high relevance of the DUALMON project encourages the consortium to continue strenuously on track, however adapt solutions to existing preconditions in Montenegro.

EU Education, Cooperation & Development policies

The DUALMON project contributes significantly to EU Cooperation & Development policies as well as to dissemination of EU Higher Education policies. We strive for promoting the tools used in EHEA network in the partner country Montenegro and thus create visibility of and interest in EU Higher Education concepts. As the Montenegrin ministries of Education eventually aim for coherence with the Bologna Process in all levels of the country's future education system, we are confident that our project will contribute for a big step towards this aim. DUALMON targets the main issues concerning the employability of students and graduates which is in line with the national planning for socio-economic development. Our project aims for modernising and advancing access to HE, as well as strengthening the relations between HE and the wider economic and social environment. In the end, one of the main goals is to increase the employment rate of young citizens in the partner country. The project directly corresponds to relevant CBHE EU policies (e.g. ET 2020) and national priorities for HE in Montenegro, expressed in Development Strategy of Higher Education in Montenegro (2016-2020), and Development Strategy of University of Montenegro (2019-2024): Improvement of the quality of HE, where the accent is on the quality of knowledge and learning outcomes, and compatibility with European Higher Education Area (Goal 1), and Harmonization of education with labour market needs, where system of HE in Montenegro must provide students with competences for future occupations, and acquirement of practical knowledge for the work in real working environment (Goal 2).

Companies, professionals, policy makers and other non-academic stakeholders are involved into DUALMON project activities mainly through the existing networks of HE institutions in Montenegro as well as by involvement of the Ministry of Education, Agency for Control and Quality Assurance of Higher Education, and Chamber of Commerce. The inclusion of an IT company provides for appropriate implementation of new processes and methods in the respective Universities. In order to take into account labour market needs, the project team, within WP1.3, has organised survey and roundtable discussions with representatives of employers. Unfortunately, the intended study visits were organized with certain delay – due to Covid travel restrictions. However, this activity will be essential for refining the Generic Model of Dual HE as well as for the internationalisation of HE in Montenegro. The creation and modernisation of curricula for Dual HE in Montenegro is shaped by the requirements of contemporary and future developments in the industrial and societal ecosystem of the EU, including various aspects of digitisation. Learning outcomes largely comply with EU standards and student mobility is encouraged by setting up national and international networks. This will, in the end, contribute to a closer connection of Montenegro with universities and companies in the EU.

In the second half of the project, further study visits and trainings in EU partner countries as well as the amendment of national HE policies in Montenegro for establishing Pilot Bachelor programs according to the Generic Model of Dual HE will be the next steps. The main objective of setting up several Dual Study programs as lighthouse projects, combined with the ambitious dissemination activities of the DUALMON consortium, is a solid basement for an EU-wide impact our DUALMON project.

Quality of the project implementation

Description of the implemented activities

The project officially started in January 2021. Due to pandemic, we had to postpone some of our activities and to switch to online mode of operation. The major part of activities in the first half of the project were successfully finished.

In WP1, Research and needs analysis, we have finished all activities except the Transfer of knowledge and skills from programme countries due to pandemic, but in October 2021, the first visit was conducted in Slovenia, and in April 2022 the second visit to Austria. Study visit to Serbia is postponed for the second half of our project due to lack of financial funds for travel. All other activities are finished: Analysis of practices and experiences in program countries and Survey of companies needs for DHE.

In WP2, Generic Dual HE Model, for the development of generic model and legal frameworks, we have formed the Working group for the development of generic model and legal framework with 13 members, including the representatives from the Ministry of Education, Science, Culture and Sports in June 2021. The Generic model for DE in HE for Montenegro is developed and conference and discussion forum about the proposed model was successfully organized in the first half of the project.

In WP3, Creation of Legal and Quality Assurance Conditions for Implementation of dual HE, development of legal framework is going as planned, although there were some delays because we were waiting for the new government to be established in Montenegro during the first half of 2022. Activity 3.1 Amendments to the law on HE and creating of draft law on dual education is finished and the proposal of the new Law on HE is in the parliament. Article about the introduction of dual education into HE is the part of the new law. Discussion and recognition of the new Law on HE in parliament is planned for the autumn 2022.

The working group concluded that amendments to the Labour Law are not necessary for the implementation of dual education, while amendments to the Accreditation Standards will be developed after new Law on HE steps into power.

In WP4, the specific dual models of HEIs were developed and the piloting will start in October 2022. HEIs from Montenegro are closely cooperating with companies. The plan is to pilot dual education at four study programs, at faculties of Electrical Engineering, Economics, Tourism and Hotel Management, and Maritime Studies. Now we are finishing the planning of pilot testing of specific dual models.

The joint public procurement of equipment was finished on time at the University of Montenegro. The installation of equipment was finalized in December 2021, and conditions for implementation of pilot study programs are provided. Material for specific DE pilot testing will be finished by December 2022.

WP5 Quality control and monitoring is also going according to plan, with developed plan for QA and set of indicators for measuring quality of pilot dual study programs and the project as a whole. Internal project control and monitoring is a constant activity at the project.

WP6 D&E is going according to plan, where dissemination plan was developed, project website launched in May 2021 and constantly updated with news and reports. We have also made profiles on social networks with the purpose of constant raising of awareness among stakeholders. We have also created a significant synergy effect by organizing joint meetings with representatives of other similar projects: DUALSCI (Strengthening capacities for the implementation of dual education in BH HE) and DUALEDU (introduction of DE in Serbia).

In WP7, Project management, we have intensified the communication among partners, through organization of three SC meetings, one LC meeting, meetings with companies, workshops and bilateral meetings.

Quality assurance

The quality control and monitoring process is performed following the conditions and requirements of the project, especially relying on the experience of partners from program countries with successfully implemented dual education. Quality control of the project is done through a series of evaluation meetings, all organized and linked to other project events, for the reasons of cost-effectiveness. At these meetings the project directions can be discussed, and eventual corrections can be initiated.

Quality and monitoring activities include:

Under 5.1 the defined plan for project quality control. Within this plan partners are acquainted with the quality standards. Also, the plan defines: quality of the project implementation, quality of deliverables, quality of events, quality of promotional materials, quality of website, quality feedback by the target groups, project risk management, external monitoring, metrics for project goal conversions and its strategy for succession, hierarchy of project responsibility, communication flows and decision making, PR strategy and communication with external environment, and project processes and partners' technical and financial reporting. Set of metrics is established, which includes: operation of the study program, number of contacts with companies, number of engaged students, employability of students, etc. Special set of metrics will be defined through system of learning analytics for measurement of students' performance at study program and courses individually.

The point 5.2 Internal quality control and monitoring. Quality control is regular. Quality report will include preventive and corrective measures taken in order to achieve project goals. According to the internal monitoring and quality control, the project management team, if necessary, will take measures to improve the quality of the project realization. Special focus will be given on project key performance indicator evaluation, project goal success rate evaluation, and partner evaluation through interviews.

The quality of the project is also assured by external evaluation: two external experts will be engaged in order to evaluate the quality of the developed outputs. Their report will be publically available, and on the basis of the report, consortium will correct the critical elements, if necessary.

The partners from Montenegro are also acquainted with the metrics that includes the basic prerequisites for Dual Study Program, the definition of „Dual Study Programs” and the calculation of the workload for the students. All the tasks, activities and meetings are being completed due to the plan and are regularly discussed in the zoom meetings or asynchronous via mail contact. Study visits were organized and conducted in agreement with all partners. They were successful, well conducted, gave a lot of useful information and insights due to the visits to the companies, organized workshops, and interviews with teachers/mentors/experts in dual education. Partners are familiar with the Metrics for DUALMON, as qualitative and quantitative indicators have to be monitored, e.g., curricula in development, organization of dual study programs, and after the implementation feedback from stakeholders in the process gathered.

Visibility

In order to provide adequate visibility of the project, all necessary actions and elements were undertaken. First Steering Committee meeting was held on 23rd of April 2021, when first draft of the website was presented. By the end of 2021, dissemination plan, project logo and website were fully developed by team effort of University of Montenegro (UOM) and University of Novi Sad (UNS). All activities and actions undertaken in this context could be found at www.dualmon.ucg.ac.me.

The project website is developed after arranging initial details on project logo, collecting all logos of project partners and developing templates for project materials and presentations. Project web site is developed by UOM - Faculty of Tourism and Hotel Management (FTHM) using analysis of previous Erasmus+ project websites, in order to have all necessary and obligatory chapters. Using own resources and abilities, FTHM developed, uploaded and hosted the project website. Only one person is dedicated for development, support, upload and design of the project web site. Web site is developed using WordPress, the most popular open-source platform for website design and set-up. All project partners are responsible for dissemination and it is centralized in manner that all data, reports, materials and documents are sent to one e-mail address, which are then uploaded to webpage. Uploading documents and development of web-page is constantly improved. Website is completely covered in English language, especially news, events and activities.

The website contains a menu, with links to the most important details of the project, such as Events and Activities (with all project-related activities, including study visits, promotional events - both with photo galleries, significant achievements, etc.), Project description (with details on its objectives, work packages and participants), Results and reports (where all developed project deliverables are presented in electronic form and can be accessed and downloaded), etc. Central part of the website homepage presents the most recent project events and activities, while at the bottom of the page logos of all project partners, hyperlinked to their websites, are presented. The project website is regularly updated and maintained by FTHM. The website is registered to Google Analytics, in order to monitor website traffic statistics. Additionally, Google Drive is used for the file sharing and distribution of all necessary materials (e.g. minutes of meetings, reports, surveys, draft deliverables, etc.) and collaborative work. It also holds necessary project templates: PowerPoint presentations, Deliverables/Reports, Agendas, Attendance lists, Participant Feedback Form, Event Report, Internal Report, Risk Monitoring Sheet, etc. As interests in social network trend among students, professors and other stakeholders of the project is growing, project consortium developed a Facebook page, Instagram and Twitter account for the project. Although UOM was responsible for developing the account, the administration role is given to representatives of all project partners where they can publish news, info's etc.

All project partners also promote DUALMON project on their own websites, social network profiles etc.

It is important to point out that all project publications and results, including project website, follow the project visibility recommendations of EACEA. FTHM, as a project work package leader for dissemination and exploitation of project results, continually coordinates visibility and project dissemination activity.

Equipment

The University of Montenegro (UOM) as the holder of the DUALMON project was in charge of the equipment procurement process. After the initial meeting, all four faculty units that participated in the project submitted their proposals for equipment. On February 18th, 2021, the list of equipment was sent for EACEA approval. The initial approval for the equipment was received by the project officer on February 25th, 2021, and after several changes, the final list of equipment was approved on March 10th, 2021. After examining the market and distributing the equipment according to the University of Montenegro (UOM) chart of accounts, the competent services from the UOM have defined the technical specifications and started the process of public procurement of equipment. The procurement, with the approval of the competent persons, and in accordance with positive legislation in Montenegro, was carried out in two iterations.

Namely, in the first iteration, simple procurement worth 14,750.00 euros for the procurement of office equipment, other equipment, inventory of small value and laboratory equipment was launched on July 06th, 2021. The contracts were also signed successively in July 2021, when the goods were delivered along with the accompanying documentation (records of receipt of goods), except for laboratory equipment where, due to specifics, the deadline was slightly longer, so the goods arrived in September 2021.

During second iteration, the open procedure with an estimated value of 105,250.00 euros for the purchase of equipment from 300-1000 euros, equipment over 1000 euros and the purchase of membership fees and subscriptions to databases was launched on June 09th, 2021. The decision on the selection of the most favourable offer was announced on July 22nd, 2021. The contracts were signed at the end of July 2021. Due to the global shortage of chips caused by the COVID-19 pandemic, on September 30th, 2021, the supplier for Parties I and II informed University of Montenegro that there will be a delay in the delivery of the equipment and that the new deadline will be mid-January 2022 instead of October 2021. Bearing in mind the situation on the global market and a positive business policy, the competent services for public procurement of the University of Montenegro and the project management, with the consent of the project coordinator from Novi Sad, accepted the change in the delivery deadline. The equipment, along with accompanying documentation, arrived at all four faculties of the University at the end of January 2022, while the payment was made in February 2022.

Purchased equipment is installed and is being actively used by professors and students.

The project includes activities relating to curriculum development

Yes

HIGHER EDUCATION: Promoting internationalisation, recognition and mobility, supporting changes in line with Bologna principles and tools.

DUALMON takes into account the principles set out in the Bologna process completely (integration in the 3 cycles, definition of learning outcomes in accordance with a national and European Qualification Framework EQF, application of student-centred approaches, compatibility with European Credit Transfer System ECTS and with the European Standards and Guidelines ESGs for QA). The developed dual study programs are based on the EQF and ECTS set standards as the feedback to the models of changed curricula in the partner universities stands on the dual program in Austria, Slovenia and Serbia. It is a challenge to pass the idea of the dual principle, make it understandable and bring it to life at the partner universities, but always with the high level of enthusiasm, dedication, support and hard-invested time and work from all involved project partner institutions. International orientation of Dual study program is also one very important aspect. The project wants to boost the international cooperation by organizing study visits to the partner countries for teachers who will teach at new courses and responsible staff who will be in charge of changing the curricula and setting a new educational environment at the universities.

The project team already took the opportunity to promote the project idea and the development of the dual study programs. Furthermore, study visits to program countries in the project: Serbia, Slovenia and Austria could be successfully conducted. The visits were also the opportunity for partners to meet and discuss new ideas, obstacles and opportunities which lie in the dual study programs, but also to expand the knowledge and acquaintances in other EU and non-EU countries with the vision of further cooperation.

New/updated courses

Based on the generic model of dual education, developed by the Faculty of Economics, UOM, each of the faculties participating in the project developed their own specific models adapted to their field of education.

Faculty of Economics will implement DE in the third year of bachelor studies, in VI semester, within the module Microeconomics. Students will do the DE in company during May and June 2023, approximately 200 hours. This model also includes a time for individual learning of dual student, which is scheduled during the examination periods. The selection of students who will be included in the DE program will be conducted by selecting approximately 5 students for each subject from the module, based on pre-defined criteria. The model Microeconomics includes six subjects. The syllabuses of all subjects from the module are adjusted to dual students.

The model at the Faculty of Electrical Engineering is planned to be implemented at the sixth semester, program Electronics, Telecommunications and Computer Engineering, module Computer Engineering. The Faculty made crucial changes of curricula, so that the majority of subject with high practical importance are held in the sixth semester: Databases, Information systems, Expert systems, Programming of internet applications and Multimedia systems. Students will go through DE in May, year 2023, in duration of at least 100 hours, under the supervision of mentors from practice. Having in mind the connection between the areas studied in the mentioned courses, students can do DE in one company. They will be able to go through all cycles of work on the development of intelligent systems, with user behavior based recommendations, and with application of modern information systems based on relational databases, and various techniques for processing multimedia data, through participation in one larger project. All courses will be updated.

The pilot DE model at the Faculty of Tourism and Hotel Management is planned to be implemented at the sixth semester, program Tourism and Hotel Management, module Hotel Management and International Hotel Industry. FTHM made crucial changes of curricula at this module, so that the majority of subject with high practical importance are held in the sixth semester: Hotel Management, Financial Management, Food Trends, Tour Guiding and Animation in Tourism and Tourism and Cultural Resources. Students will start working through DE in May, year 2023, at least 100 hours, under the supervision of mentors from practice. Having in mind the connection between the areas studied in the mentioned courses, students can do DE in one company. All courses will be updated.

The pilot DE model at the Faculty of Maritime Studies Kotor is planned to be implemented at the sixth semester, within the study program Marine Engineering, Module - Inspection of Marine Engineering Systems. During the last reaccreditation process, the Faculty made crucial changes of curricula to this module in order to adapt the subjects to the content of the work in shipping companies and ship repair companies. This module consists of the following subjects: Safety and risk management in shipping, Organization of work and ship management, Technical survey and classification, Economics of ship's exploitation and Elective subject (chosen from program Maritime Management or Logistics). Students will start working through practical work in May and June, year 2023, approximately 300 hours, under the supervision of mentors from practice. Having in mind the connection between the areas studied in the mentioned courses, students will carry out DE at the CRNOGORSKA PLOVIDBA AD Kotor. All courses from the study program will be updated and adjusted to the dual students.

No

Teaching / Training Activities

Yes

Mobility for Teaching, Training and/or project research activities

Since the beginning of the project, the project team has participated in two international mobilities, which were very important for strengthening skills and knowledge needed for successful implementation of the project. Namely, first mobility was organized in Slovenia, in October 2021, by Academia College Maribor. The aim of the study visit to Slovenia was to analyse practices and exchange experiences regarding the application of dual higher education. The working team had the opportunity to visit several institutions in the field of tertiary education, which are recognized as successful examples of the implementation of dual education in Slovenia. At the meetings with the representatives of these institutions, the members of the working group had the opportunity to discuss the ways in which partners from Slovenia implemented dual education, and about their positive experiences and practices that can be applied in Montenegro as well. During these meetings, special attention was also paid to the legislative framework, the adjustment of which is necessary in order to implement dual higher education in Montenegro.

Second study visit was organized in Austria, in April 2022, by FH Joanneum. This study visit is particularly significant considering the fact that the dual education model in Austria is recognized as one of the best in Europe. On this occasion, the members of the working team had the opportunity to visit several companies within which dual students successfully complete work placements. During the study visit, a workshop was held for members of the working team and DE students from Austria. During the discussion, the members of the working group had the opportunity to see all the advantages and disadvantages of this model of education from the perspective of students. Besides, of these international mobilities, it is important to mention that the DUALMON project was presented at several other events, such as the second Fair of European Projects in Podgorica, held on May 28th, 2022, organized by the Chamber of Commerce of Montenegro and the Ministry of European Affairs.

In addition, in mid-April 2022, a cluster meeting was held between representatives of the National Erasmus+ Office, the Ministry of Education and working groups in charge of implementing four structural projects that are initiated at the UOM. On this occasion, DUALMON was presented, as one of the four structural projects that is of great importance not only for the faculty units involved in its implementation, but also for the reform of the entire HE. During the meeting, the project representatives presented the results of the efforts made so far in the implementation of the DUALMON project, main outcomes of these activities were recognized, as well as potential barriers that may arise in the forthcoming period, and suggestions on how to overcome potential obstacles were given.

In addition, The DUALMON project was presented at the International Staff Week, organized in the July 2022 by the University of Alba Iulia (Romania). On this occasion, knowledge and experience regarding dual higher education were exchanged with representatives of the University of Alba Iulia, Bosnia and Herzegovina, Bulgaria and Kazakhstan, and useful practices that could be implemented in Montenegro in the future, through the implementation of the DUALMON project, were discussed. This project was also presented at the International Staff Week organized by the UOM, in cooperation with two universities from Spain – University of Jaén and University of Cadiz, in July 2022. It was an opportunity to highlight the steps that have been realized within the project so far and to discuss the planned activities and potential challenges that are expected in the forthcoming period.

No

Quality of cooperation

Project management

Project management is carried out at the overall (consortium) level and at the local level including only Montenegrin partners. All aspects of project implementation are followed and managed through reporting system. All consortium partners participate in project management.

The process for finalizing the Partnership Agreement was conducted in time with all partners. The process of signing the partnership agreement was organized by the project coordinator. Each partner has received a draft of PA, where all responsibilities of the partner according to the Project Description were added. The partners had an opportunity to communicate these responsibilities before signing PA.

The major decision-making body of the project is Steering Committee (SC), which consists of representatives from program countries and Montenegro partner organizations. It monitors all project activities, evaluate deliverables, produce detailed reports on implementation and suggests further activities. The Steering Committee coordinates the creation of quality and evaluation strategy, dissemination and exploitation plan, and provides an input into strategic and organizational issues and define the project standards and agree on all project policies that must be formally and explicitly stated. Tasks assigned to consortium partners are becoming contractual obligations. The Steering Committee has met three times so far. The kick of meeting was organized in Podgorica as combination of online and face-to-face session, during Covid19 pandemic, while other meetings were organized as face-to-face meetings in Maribor and Graz.

The responsibilities of the SC are to: (1) Review project progress and control the activities; (2) Ensure that the project maintains its relevance; (3) Be aware of relevant activities in other projects; (4) Resolve any technical administrative or contractual issues, which have not been resolved by other means within the project; (5) Be the overall quality manager of the project. Decisions are taken on a consensual basis. In case of disagreement, the Steering Committee is making the final decision.

The internal communication is conducted by emails, phone, Zoom, Skype, Doodle pool, etc. For collecting information, a shared folder with predefined structure in Google Drive was organized by the project coordinator. The folder structure consists of project documents, reporting documents, deliverables, study visits, SC and LC meetings, and documents and templates related to visual identity of DUALMON project. Each partner has full access to each folder.

For the internal project communication, a mailing list and Zoom are widely used by all partners. The consortium meetings are conducted in English. English also is used for the mailing lists announcements.

Local Committee (LC) monitors implementation and organization of activities in Montenegro, and actively participate in dissemination of project results. Six LC meetings in total are planned during the project realization. So far, LC meetings were organized jointly with SC meetings, and one separate LC meetings, in Podgorica in December 2021.

A detailed allocation of resources and distribution of tasks within the project is carried out equally between the partners and in accordance with the requirements for the implementation of each working package. All partners are engaged in certain activities of each WP. The issue of the ownership of the project results is discussed at the Consortium meeting and it is defined in the Consortium Agreement.

Involvement of partners and stakeholders

The established organizational structure of the project consortium includes HEIs and partners from the industry, which makes it competent to implement all project activities. Each project team from HEIs and other institutions has defined tasks in the domain of filling in all the necessary documents, providing relevant information to the partners and dissemination of activities.

European partners actively participated in the dissemination of knowledge to partners from Montenegro in the field of DE. Partners from Austria and Slovenia made significant contribution through collecting the information regarding best practices in dual education from other European countries, such as Spain, Slovenia, Austria and Germany. Besides of that, partner from Slovenia, in cooperation with the Chamber of Commerce from Montenegro, conducted a survey of companies related to their needs and expectations from dual HE. 62 organisations from Montenegro took part in the research. Out of those 17 were micro companies, 18 small businesses, 13 medium businesses, and 14 big businesses (based on the number of employed people). The results were collected and statistically processed by the Chamber of Commerce from Montenegro, and the obtained results were disseminated to all partners in the project, which served as a basis for developing generic and specific models of DE.

The next step in the piloting of the project was creating a generic model of DE in which all partners from Montenegro took active participation. The development of the final version of the generic model was preceded by several meetings of members of the working group with representatives of partner institutions, whose comments contributed to the development of generic model, which further served as a good starting point for the development of specific models for each HEI, according to the needs of different stakeholder groups. By now, each of the HEIs has developed their specific models, which are aligned with comments of companies and ACQAHE. The next step in this process refers to the signing of the contracts between the companies and the HEIs, in order to send dual students to work in the company. All HEIs have already started this process and its successful completion is expected in a short period of time.

It is important to note that in this period very important partner was also Ministry of Education, whose role was significant for developing the legal framework for the implementation of dual HE in Montenegro. Although the changes in the legal framework are not necessary for piloting this projects, it is necessary for the introduction of DE programs at HEIs after the completion of the project. Hence, the representatives of the UOM participated in the creating of a proposal for a new Law on HE in Montenegro, as well as in the public debate on the draft of the mentioned law. This resulted in adding a new article of the Law on HE, which recognizes the dual HE model. The aforementioned law recognizes the dual model of HE as a model of teaching in study programs, in which, through theoretical teaching and exercises at a higher education institution and practical training at the employer (learning through work), knowledge, skills, abilities and the views of students are being gained and/or mastered. The conditions and a way of realizing the dual model of HE should be further regulated by special regulations of the Ministry of Education.

Greater involvement of both students and business entities is expected during the implementation of the dual model in study programs where the participation of students and mentors from companies will be mandatory.

Management of the grant

The budget for DUALMON project is balanced, harmonized among partners and among work packages. The timely and cost-effective accomplishment of outcomes is secured primarily by efficient management within the work packages and by the strict control of performed activities and of the financial flow. To secure the timely realization of outcomes, the Steering Committee (SC) and the coordinator closely monitor the performance of partners during the project realization. The transfer of funds to the partners depend on their delivery of expected outcomes and submitted reports. On every SC and Local Committee meeting, the project management team defines measures for overcoming problems or obstacles in realization of the project and revise the work plan if necessary, to ensure timely realization of the project. All equipment purchases for the purpose of project realization, regardless of the equipment value, are done through tendering and finished by December 2021, in the first year of the project. Mobility in the project are defined in a way that guarantees performing multiple tasks whenever possible (study visit + SC + LC meeting). The financial management of the grant is conducted according to the defined Quality and Assessment Plan, where the contents of all documents and forms are defined. Furthermore, the universities in Montenegro apply strict policies in order to make legal decisions to regulate the financial management within the institutions. Project co-financing will be provided by additional work of project staff members for obtaining desired outcomes. If the right conditions are fulfilled, the organization of the final conference, banking fees and cost of money transfer will be co-financed also. The total budget (EU grant) of the project is 616,518.00 EUR. The total staff cost (232,253.00 EUR) is planned according to the distribution of activities to all project partners and necessary work to be done. The planned travel costs are 54,745.00 EUR and costs of stay equals 164,520.00 EUR. Equipment costs (120,000.00 EUR) are needed for starting and running pilot dual study programs at four faculties of University of Montenegro. According to project proposal, dual education will be piloted in, software engineering, business administration, tourism and hotel management, and maritime studies.

This equipment will allow HEIs to provide students with appropriate lab conditions for practical work in different study programs, similar to the equipment used by companies where students realize their practical part of education. Subcontracting costs (45,000.00 EUR) are planned for each partner according to the planned WP activities of the partner. The subcontracting costs cover project auditing, accreditation cost, printing dissemination products, conference proceedings, translation services etc. Roughly, there are three groups of partners having the balanced budget:

- a) University of Montenegro: total budget 251,370.00 EUR
- b) Partners from EU countries: total budgets ranging from 42,045.00 to 59,838.00 EUR
- c) Non-HEI partners (ministries, chambers of commerce and companies) from Montenegro: total budgets ranging from 11,270.00 to 23,310.00 EUR.

So far, partner institutions from Montenegro have spent their budget predominantly on the equipment, travel and costs of stay budget lines – and the staff costs will be compensated after the second pre-financing. The detailed summary of the current state of the Projects' finances is presented in the Financial Statement accompanying this Report.

IMPACT AND SUSTAINABILITY

Awareness raising, dissemination, sustainability and exploitation of the project results

Project activities are continually undertaken: as agreed on first SC meeting on 23/04/2021 in Podgorica, developed Dissemination and Exploitation plan was accepted by all partners, project logo is developed, and project web site and social network accounts (Facebook, Instagram and Twitter) are developed. With the main goal of the project, it is important to emphasize that many dissemination activities are conducted with third parties (companies, various groups, unions, associations etc.). Project partners are participating in meetings, events, workshops, media events, even publish papers on findings about the DUALMON project, with the main goal to raise awareness about this project. It is important to note that, due the pandemic restrictions and COVID-19 situation, some of dissemination activities are conducted on specific way using online tools like ZOOM, Google Classroom, Teams etc., but with main purpose to disseminate information. Intensive promotional activities are done with the companies that will be included in dual higher education, and that will conduct the process during the project lifetime.

Dissemination is organized also at level of HEIs and other project partners through informing teachers, students and policy makers and organizing various meetings, seminars, workshops, educational activities (such as 1st KIMC Conference in Kotor in November 2021, Workshop about Maritime Education in Montenegro in June 2022, European project day in Podgorica May 2022, International Staff Week in Romania etc.). The project is disseminated among students by publishing DUALMON related news on web page of each faculty, putting information regarding DUALMON on flyer prepared for Open days of Montenegro and through formal and informal meetings with students. Using study trips and study visits to potential partners in future project activities, project results achievements and deliverables are not just disseminated, but this also provides aspect of project sustainability. Good option is that all stakeholders, companies' managers and other people can have access to information about the project results, not just trough the web site but also trough peer – to – peer presentation that is published on website. HEIs and other partners involved in project are not just locally oriented. Many of them look for partners outside Montenegro in order to develop the good model of dual education, with the aim to ensure project sustainability.

An important step forward related to ensuring sustainability of the project was made by introducing an article in the draft version of new Law on Higher Education, which recognizes dual higher education. In this way, it will be allowed to HEIs to implement the model of higher dual education in the future, while the conditions and a way of realizing the dual model of higher education will be further regulated by special regulations of the Ministry of Education.

Statistics and Indicators

Type of equipment:

- books and pedagogic material
- audio-visual equipment
- Computers and software
- lab material
- Other

For Curriculum Development projects

Yes

Level of new/updated courses:

- Short cycle
- 1st Cycle (e.g. Bachelor)
- 2nd Cycle (e.g. Master)

- 3rd Cycle (e.g. Doctoral)
- Vocational Education and Training

Type of recognition:

- HEI Degree
- National degree
- Multiple Degree
- Joint Degree

Volume (in ECTS) of new/updated courses **160**

The new study programme includes:

- Placements/internships for students
- Career orientation service
- Career development measures

Number of learners / trainees enrolled (per intake / course delivery) **40**

Type of skills/competence developed:

- Transversal/behavioural skills
- Technical /academic /scientific / research skills
- Linguistic competences

% of the new curriculum taught in foreign language of the the total of new curriculum developed by the project **0**

For Training/Mobility Activities

Number of partner country "HEIs' students" trained **40**

Number of partner country "HEIs' academic staff" trained

16

Number of partner country "HEIs' administrative staff" trained

4

Number of partner country "non-HEI individuals" trained (priv. sector, NGOs, civil servants, etc.)

8

IMPACT AND SUSTAINABILITY

Impact at individual level

Extent of attention given to vulnerable groups

totally accomplished

Number of direct beneficiaries in the Partner country(ies) per year: academic staff from HEIs

16

Number of direct beneficiaries in the PCs (/year): administrative staff from HEIs

4

Number of direct beneficiaries in the PCs (/year): HE students

40

Number of direct beneficiaries in the PCs (/year): non HE individuals

8

Impact at institutional level

Extent of impact at institutional level: for instance new courses / strategies (policies, regulations) / services (units, centres)

totally accomplished

Potential of planned project measures to contribute to new national cooperation activities in the Partner countries HEIs as a result of the project (Memorandum of Understanding /research projects / joint publications /participation in networks or associations etc.)

totally accomplished

Potential of project to contribute to new international cooperation activities in the Partner countries HEIs as a result of the project (international agreements / Memorandum of Understanding / research projects / joint publications / participation in networks or associations, etc.)

totally accomplished

Impact on the HE Sector

Potential of project to contribute to

totally accomplished

new (/updated) national or regional policies / laws / regulations in HE

Potential of project to contribute to the establishment (/ further development) of external bodies (/associations /agencies)

not applicable

Potential of project to contribute to improve the excellence / competitiveness / attractiveness of the Higher Education institutions

totally accomplished

Innovative character of the planned results (i.e. the courses developed; the new tools, services, procedures delivered; the strategies implemented for reaching the target groups; etc.)

totally accomplished

Impact on the society as a whole

Potential of the project to pay particular attention to least developed countries

totally accomplished

Potential of the project to engage Partner Countries HEIs in new means of cooperation with employers and other stakeholders (e.g. NGOs, associations, etc.)

totally accomplished

Measures contributing to improving lifelong learning approaches in the Partner Country HEIs

to a very high extent

Sustainability

Institutional support for Partner Country HEIs to sustain project results

totally accomplished

Measures to collect Sources of financial (/logistic) support for sustaining the project results from:

- Partner HEIs
- Public authorities in Partner countries
- NGOs
- Private sector
- European Union
- Other

QUALITY OF PARTNERSHIP & COOPERATION

Involvement of students in the project implementation

totally accomplished

Involvement of non-educational stakeholders in the project implementation

totally accomplished

RELEVANCE in relation to project objectives

To what extent the project contributes to the policy objectives of the Partner Countries

totally accomplished

Project potential to promote EU's horizontal policies

- Agriculture, fisheries and foods
- Business
- Climate action
- Cross-cutting policies
- Culture, education and youth
- Economy, finance and tax
- Employment and social rights
- Energy and natural resources
- Environment, consumers and health
- External relations and foreign affairs
- Justice, home affairs and citizens' rights
- Regions and local development
- Science and technology
- Transport and travel

Meetings, Training and Mobilities

Meetings, Trainings and Mobilities

Estimated dates of consortium meetings until the end of the projects

Venue country	Venue city	Date of Meeting
Serbia	Novi Sad	12/12/2022

Training and Mobilities

Event	Purpose	Type of participants	Gender	Number	Country of Origin	Country of destination	Duration (in weeks)	%compared to objectives
2	Training	Academic staff – teaching	Number Female	10	Montenegro	Austria	1	100
2	Training	Academic staff – teaching	Number Male	9	Montenegro	Austria	1	100
1	Training	Academic staff – teaching	Number Male	8	Montenegro	Slovenia	1	100
1	Training	Academic staff – teaching	Number Female	12	Montenegro	Slovenia	1	100

Attachments

Type of File	Name of the File
Budget Table	2022 11 FS DUALMON.xlsm
Declaration of Honour	Declaration of Honour.pdf
Table of achieved results	DUALMON Table_of_achieved_planned_results.pdf
Dissemination/Exploitation Plan	6.1 Dissemination and exploitation plan.pdf
Quality Assurance Plan	5 1 Plan for project quality control.pdf
Request for Payment	Request for the 2nd financing.pdf

Draft