| Project: | Boosting the telecommunications engineer profile to meet modern society and industry needs [BENEFIT] |
|---|---|
| Project ID: | 585716-EPP-1-2017-1-AT-EPPKA2-CBHE-JP |
| Work Package 5: | Quality Control and Monitoring |
| Title: | D5.3 Reports on project implementation. |
| Leading organizations: | UL, UNI-KLU |
| Contributors: | F. Marcuzzi, N.A. Letizia, U. Burnik, N. Males-Ilic, D. Boskovic, D. Zagar, D. Huljenic |

| Revision History | | | | |
|---|---|---|---|---|
| Version | Date | Author(s) | Organization(s) | Brief description of change |
| 1 | 20-Apr-2020 | F. Marcuzzi | UNI-KLU | Draft |
| 2 | 12-Jun-2020 | F. Marcuzzi | UNI-KLU | Updated until last 6-month report provided (5th overall) |
| 3 | 29-Sep-2020 | F. Marcuzzi | UNI-KLU | Included table with links to material and conclusions |
| 4 | 27-Jan-2021 | U. Burnik | UL | Added last 6-month and extension reports |
| 5 | 10-Feb-2021 | F. Marcuzzi | UNI-KLU | Addition of meeting with external advisor in section 7 + Minor corrections on Sections 7,8,9 |
| 6 | 15-Feb-2021 | F. Marcuzzi | UNI-KLU | Correction after review |

# Table of Contents

# 1 Introduction

This document concerns the overall implementation of the project from the point of view of the Quality Board activities, and specifically in the reporting related to milestone MS5.3 "Activity report delivered by Quality Control and Monitoring Board to the Management Board twice a year". Activities were reported in six different reports for each semester of the three year project (Sep 2017 – Sep 2020).

The BENEFIT project is a carried out by a consortium consisting of 15 regular partners (9 academia and 6 industry partners) and 4 industry collateral partners. The project relates to improvement and modernization of the telecom engineer profile in the Western Balkan countries toward the industry needs in order to form job-ready professionals and attract a higher number of students.

This document, meant for dissemination, summarizes the activities carried out by the QCM board throughout the duration of the project (15.10.2017 – 14.10.2020). The main key activities regarded the following:

- Establishment and structure definition of the QCM board
- Development of guidelines for quality control
- Development of indicators for quality monitoring
- Visits to partners for quality control
- Implementation of surveys and questionnaires to retrieve data regarding:
    - Quality of organized meetings
    - Reached of organized events
    - Quality of generated materials
    - Satisfaction and outreach of stakeholders
    - Employment of graduates in the WB region

In the following, we report the contents of the generated reports regarding the activities of the QCM board.

# 2 QB activities in six months project period M1 – M6

## 2.1 INTRODUCTION

The document presents main activities performed by Quality Control and Monitoring Board (QB) on the Quality Control and Monitoring (QCM) actions during the six months period. The milestone MS5.3 predicted by the project "Activity report delivered by Quality Control and Monitoring Board to the Management Board twice a year" reports the activities performed by the QB during a semester of activities.

The BENEFIT project is a carried out by a consortium consisting of 15 regular partners (9 academia and 6 industry partners) and 4 industry collateral partners. The project is related to improvement and modernization of the telecom engineer profile in the Western Balkan countries toward the industry needs in order to form job-ready professionals and attract a higher number of students.

This document, meant for internal dissemination, summarizes the activities carried out by the QCM board in the first six months of the project (M1 – M6, 15.10.2017 – 15.4.2018). The main key activities regarded the following:

- Establishment of QB and appointment of external experts
- Development of QC guidelines
- Development of Questionnaires
- Defining of Progress indicators
- Preparation of quality reporting guidelines and documentation

## 2.2 QB ACTIVITIES IN SIX MONTHS PROJECT PERIOD M1 – M6

The main activities carried out by the QB during the six months are reported in detail in the following sections.

### 2.2.1 Establishment of QB and appointment of external experts

Deliverable 5.1 "Establishment of Quality Control and Management Board (QB) and appointment of external experts for Quality control -QC" activities are specified in the project proposal as follows: "the QB will consist of a QB president elected from the UL management staff, the project manager from UNI-KLU, the dean of FERIT from FERIT, an academia member from UNSA, an academia member from UNI, an industry member from ENT, two student representatives from  the WB HEIs and one external auditor."

The names of the people inside the consortium partaking in the QB are established on the kickoff meeting held in Klagenfurt on the 29th of November of 2017, and are explicitly reported in the minutes of the meeting:

- Urban Burnik, UL (**CHAIR**)
- Drago Zagar, FERIT
- Natasa Males-Ilic, UNI
- Francesco Marcuzzi, UNI-KLU
- Darko Huljenic, ENT
- Dusanka Boskovic, UNSA

This is also in line with the QB personnel listed on the Confluence portal. The two student representatives still need to be chosen and their role is connected to evaluation of later deliverables, such as the development of new courses or joint training in industry/academia. The QB envisions the participation of three external experts. The people that were identified for this role were chosen based on their experiences, resume and the proposal of activities they would carry out based on the consortium needs and budget. The external experts are:

- Federico Ciani, ARCO LAB
- Ignac Lovrek, University of Zagreb
- Zmago Brezocnik, University of Maribor

The activities that external experts are supposed to carry out for the consortium are specified in Quality control guidelines and also can be found on the Confluence platform as shown in Table 1 (minutes of the 4th QB meeting). These experts official nomination were approved on 5th QB meeting.

### 2.2.2 Development of QC guidelines

The QB developed the guidelines for quality plan to evaluate the activities of the consortium that ate to be performed for project Quality control and Monitoring in a standardized manner, through the use of shared practices, documents and the Confluence platform. Development of the document is considered in every board meeting (minutes can be found on confluence) and the final document is posted on the mentioned platform. The document provides detailed description of the QCM procedures, responsibilities and reporting schedules, as it is specified in the Application form. The document of QC guidelines is to be formalized by the MB; this procedure was proposed by the QB and accepted by the Project Coordinator (PC) during the 5th QB meeting.

The document has an amendment built-in strategy that enables future upgrading of the document, might these be needed for quicker and/or more effective action of the QB. The Process of deliverable reviewing and approval was also specified and included into the document of QC guidelines.

Other related support documents, such as templates for deliverable reporting and questionnaires, were developed in the framework of this task and can be found on the project platform.

### 2.2.3 Development of Questionnaires

The QB was established various forms of questionnaires for monitoring and control of project progress and outcomes. Also, the QB developed the procedure for performing the surveys:

- During/after each project-related meeting;
- Periodically regarding the website implementation;

### 2.2.4 Defining of Progress indicators

The activities of establishing the progress indicators are relative to milestone 5.2 and are led by UNSA. It is possible to find a page on confluence reporting a number of different quantitative indicators that mirror the progress of the project, the link is listed in Table 1. The document contains a thorough list of elements to track progress that should be amended and improved during the first year of development activities in order to arrange them in the best adoptable manner for the consortium needs.

### 2.3  INTERNAL CONSORTIUM DOCUMENTS AND REPORTS RELATED TO ACTIVITY PROGRESS/COMPLETION

*Table 1*

| Name of the file/reseource | Mentioned in section | Found on the Confluence platform (link) |
|---|---|---|
| Project Proposal file | 2.1 | https://intranet.aau.at/pages/viewpage.action?pageId=256639036 |
| Minutes of the kickoff meeting | 2.1 | https://intranet.aau.at/display/projbenefit/Meetings |
| QB personnel list | 2.1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 1st QB meeting | 2.2 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |

| Minutes of the 2nd QB meeting | 2.2 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
|---|---|---|
| Minutes of the 3rd QB meeting | 2.2 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 4th QB meeting | 2.1, 2.2 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 5th QB meeting | 2.1, 2.2 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Development of guidelines for QC and Quality Plan draft (to be approved by MB) | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
| Quality Control document List | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
| Templates | 2.2 | https://intranet.aau.at/display/projbenefit/Templates |
| Indicators of Progress | 2.4 | https://intranet.aau.at/display/projbenefit/Indicators |

## 2.4   Conclusions

This document reports in details the activities carried out by the QB board in the framework of the BENEFIT project in the first semester of its run (M1 – M6).

The reported activities are mainly focused on defining the structure of the board and its personnel as well as the tasks of internal and external members. The great effort is devoted to development of QC guidelines that formalizes the activities for Quality control and monitoring. Additionally, various questionnaires for project progress control were deployed and the progress indicators were defined.

It should be mentioned that QB performed successfully the planned activities even though there is a space for some improvement, especially in the area of coordination and awareness of the due tasks.

# 3 QB activities in six months project period M7 – M12

## 3.1 Introduction

The document presents main activities performed by Quality Control and Monitoring Board (QB) on the Quality Control and Monitoring (QCM) actions during the second six months period. The milestone MS5.3 "Activity report delivered by Quality Control and Monitoring Board to the Management Board twice a year", which is predicted by the project, reports the activities performed by the QB during a semester of activities.

The BENEFIT project is a carried out by a consortium consisting of 15 regular partners (9 academia and 6 industry partners) and 4 industry collateral partners. The project relates to improvement and modernization of the telecom engineer profile in the Western Balkan countries toward the industry needs in order to form job-ready professionals and attract a higher number of students.

This document, meant for internal dissemination, summarizes the activities carried out by the QCM board in the second six months of the project (M7 – M12, 15.4.2017 – 14.10.2018). The main key activities regarded the following:

- Appointment and contracting of external QB experts
- Review and implementation of QC guidelines
- Implementation of event surveys
- Implementation of Progress indicators
- Approval of Deliverables

There were 5 monthly QB meetings organised online via Skype. The activities can be tracked in detail via the QB meeting minutes.

## 3.2 QB activities in six months project period M7 – M12

The main activities carried out by the QB during the second six month period are reported in detail in the following sections.

### 3.2.1 Appointment of external QB members

The Deliverable 5.1 "Establishment of Quality Control and Management Board (QB)" has been amended by Annex to D5.1 "Resolution of the appointment of QCM external members". The proposed external experts
- Federico Ciani, ARCO LAB
- Ignac Lovrek, University of Zagreb
- Zmago Brezocnik, University of Maribor

have been officially appointed on 5th QB meeting. The appointed members have also signed contracts based on individual lists of activities.

### 3.2.2 Review and implementation of QC guidelines

The QB has reviewed and amended the "Guidelines for QC" which now serve to evaluate the activities of the consortium. The entire procedure of approval of this document has been guided via the Confluence intranet web site, which is available to all project participants. The content of the document is considered in every board meeting (minutes can be found on confluence) and the actual document is updated on the Confluence platform. The document provides detailed description of the QCM procedures, responsibilities and reporting schedules, as it is specified in the Application form.

An Annex to the document has been prepared which specifies the templates and procedures for Deliverable and Milestone verification and approval in detail. These were developed in the framework of this task and can be found on the project platform.

The entire procedure has been reviewed and amended by QB members and Mr Federico Ciani (external evaluator).

### 3.2.3 Implementation of event surveys

A collection of various forms of questionnaires for monitoring and control of project progress and outcomes has been introduced. Since surveys cannot be performed in Confluence, a procedure for performing the surveys using Lime survey tool has been introduced. The surveys have to be performed at the following occasions:

- During/after each project-related meeting;
- Periodically regarding the website implementation;

The survey responses have been collected

### 3.2.4 Implementation of Progress indicators

The activities of establishing the progress indicators are relative to milestone 5.2 and are led by UNSA. It is possible to find a page on confluence reporting a number of different quantitative indicators that mirror the progress of the project. The document contains a thorough list of elements to track progress that should be amended and improved during the first year of indicator development activities (M6 –M18), in order to arrange them in the best adoptable manner for the consortium needs. The current list version is shared on Confluence at https://intranet.aau.at/display/projbenefit/Indicators. The full implementation of indicators requires quantitative methods which are to be defined in the next 6-months period (M12-18).

### 3.2.5 Approval of Deliverables

Following the procedure specified in D5.2 Development of guidelines for QC and Annex to D5.2: Templates and procedures for Deliverable and Milestone verification and approval, the deliverables due in first year of project duration have been evaluated and approved. Each individual Deliverable has been evaluated by one of the QB members for adequacy, format and language assurance points. The Deliverables approved and published so far include:

- D1.1 Consolidated ex-ante analysis and guidelines aimed at boosting the telecommunications engineer profile including a projection of needs for ICT engineers in the future.
- D1.2 Consolidated project plan of implementation actions.
- D5.1 Establishment of Quality Control (QC) board
- Annex to D5.1 Appointment of external experts for QC
- D5.2 Development of guidelines for QC
- Annex to D5.2 Templates and procedures for Deliverable and Milestone verification and approval
- D6.2 Report on exploitation and dissemination plan.
- D6.3.1 Preparation and delivery of dissemination and informative material (first part)
- D7.1 Report on the project management (PM) board and its establishment.
- D7.2 Report on the project management (PM) e-platform for sharing documentation.

The QB considers that all approved deliverables are of a high quality and very instructive and supporting for further project activities.

A complete track of deliverable approval is available in Confluence under the "Deliverable approval log".

The delay experienced by the consortium in the approval of the early deliverables of the project was due to the fact that the approval procedure itself was one of these deliverables. Further activities will achieve the approved/published status much more quickly from now on, as the procedure is stable.

## 3.3 INTERNAL CONSORTIUM DOCUMENTS AND REPORTS RELATED TO ACTIVITY PROGRESS/COMPLETION

*Table 2*

| Name of the file/resource | Mentioned in section | Found on the Confluence platform (link) |
|---|---|---|
| Minutes of the 5<sup>th</sup> QB meeting | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 6<sup>th</sup> QB meeting | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 7<sup>th</sup> QB meeting | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 8<sup>th</sup> QB meeting | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 9<sup>th</sup> QB meeting | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Resolution of the appointment of QCM external members | 2.1 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
| D5.2 Development of guidelines for QC | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
| Annex to D5.2: Templates and procedures for Deliverable and Milestone verification and approval | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
| Deliverable approval procedure | 2.2 | https://intranet.aau.at/display/projbenefit/Deliverable+approval+procedure |
| Implementation of Progress indicators | 2.4 | https://intranet.aau.at/display/projbenefit/Indicators |
| Approval of Deliverables | 2.5 | https://intranet.aau.at/display/projbenefit/Deliverable+approval+log |

## 3.4 CONCLUSIONS

This document reports in details the activities carried out by the QB board in the framework of the BENEFIT project in the first semester of its run (M7 – M12).
The reported activities are mainly focused on finalization and implementation of the quality management and control procedures. External QB members have officially been appointed and contracted. QB has performed evaluation of project deliverables.
It should be mentioned that QB performed the planned activities successfully even though there is a space for some improvement, especially in the area of coordination and deadlines.

# 4 QB activities in six months period M13 – M18

## 4.1 INTRODUCTION

The document presents main activities performed by Quality Control and Monitoring Board (QB) on the Quality Control and Monitoring (QCM) actions during the third six months period. The milestone MS5.3 "Activity report delivered by Quality Control and Monitoring Board to the Management Board twice a year", which is predicted by the project, reports the activities performed by the QB during a semester of activities.

The BENEFIT project is a carried out by a consortium consisting of 15 regular partners (9 academia and 6 industry partners) and 4 industry collateral partners. The project relates to improvement and modernization of the telecom engineer profile in the Western Balkan countries toward the industry needs in order to form job-ready professionals and attract a higher number of students.

This document, meant for internal dissemination, summarizes the activities carried out by the QCM board in the third six months of the project (M13 – M18, 15.10.2018 – 14.04.2019). The main key activities regarded the following:

- Further development of the indicators of progress,
- Appointment of the student representatives in QB,
- Activities related to Tasks 5.4, 5.7 and 5.8,
- Finalization and approval of amended quality plan
- Preparation of the mid-term report

There were four QB meetings, three were organised online via Skype and one at Faculty of Electrical Engineering, University of Banja Luka. The detailed meeting activities can be followed via the QB meeting minutes.

## 4.2 QB ACTIVITIES IN SIX MONTHS PROJECT PERIOD M13 – M18

The main activities carried out by the QB during the third six month period are reported in detail in the following sections.

### 4.2.1 Further development of the indicators of progress

The activities of establishing the progress indicators related to milestone 5.2 are led by UNSA. The indicators that follow the progress of the project were defined in previous six months period. The most important task performed in third six months period was the finalization of the list of indicators and definition of quantitative methods for ubiquitous implementation of indicators in the most appropriate manner for the consortium requirements. The current list version comprises the Indicators of: progress, dissemination, quality, direct impact, training activities, modernized curricula, modernized teaching methodologies, industry co-operation, management and sustainability. The list is shared on Confluence at https://intranet.aau.at/display/projbenefit/Indicators (the link is also listed in Table 3). The established indicators of progress were used for Mid-term reporting. Additionally, the external QB member is auditing the current list of indicators and his opinion will be reflected on a final version. Since the indicator of progress statistics needs a constant rearrangement regarding quantitative and quality metrics important for project activities evaluation, the QB considered the solution that would enable project participants to update indicators dynamically. The board agreed to tentatively use an Excel master file to be stored for everybody on the Confluence page of the indicators of progress and to provide system for tracking changes of the values inserted and for linking documentation indicating the sources of numbers listed. This procedure will provide an immediate and clear view of the project activities by accessing Confluence, especially important for Reporting.

### 4.2.2 Appointment of the student representatives in QB

The Quality Control and Management Board (QB) was extended by two student representatives:

- Darko Zdjelar, University of Banja Luka and
- Tijana Živković, University of Belgrade

The student representatives should evaluate the impact on the student population of project activities that are predominantly influence academic path of students, such as approving deliverables that related to renovated courses, innovated teaching and training methodologies, the quality of the implemented joint industry-academic laboratories, the web repositories structure and content. They should influence the ongoing changes in the modernization of the curricula from the student perspective and asses and give a direct feedback on the developed teaching material.

### 4.2.3 Activities related to Tasks 5.4, 5.7 and 5.8

The task T5.4: Monitor graduates profile, improvements in the skills, correspondence to industry needs, is under supervision of ENT who is preparing a draft procedure for the evaluation of graduates' profiles together with other industry partners in the project. The outcomes of project deliverable D1.1, which relate to the industry needs for graduate competences at employment, are the inputs for the activities planned to improve existing study programs. Additionally, it is very important to evaluate students' opinion; therefore, this task compares all three stakeholders in the process: professors/programs that provide knowledge – students as most important participant, which will use learning objectives – industry as a user of the student work and knowledge. As a result, the student competences gained by modernized study programs should reflect the needs of the industry. The procedure should evaluate the skills of the students trying to enter the job market in correlation with the best practice experiences.

A monitoring system for employment statistics of graduates in telecommunications engineering (T5.7) is being established under coordination of UL. UL with WB partners from each country is evaluating possible methods to access national statistical information on employability of graduates in TC/ICT engineering, which can be used according to local availability. Each WB partner should investigate possible manner to access data of local employment statistics, specific to individual country, addressing University offices or acquiring the alumni lists and should perform adequate surveys for forming statistics. Existing employment statistics will not be able to include numbers of students that will be exposed to the renovated courses, since the courses will be available only one year before the end/ at the end of the project. Nevertheless, the project website is designed to outlive the development life of the project, so eventually, the improvement in employability of students will be available as a sustainable results of BENEFIT project.

FERIT is a leading partner in managing task T5.8: Establish a monitoring system for entrepreneur attitude and newcos created by graduates in telecommunications engineering (by means of surveys, databases, etc.). FERIT in collaboration with the clusters involved in the project (ICT Cluster, NiCat, Bit Center) is preparing a draft procedure for evaluation of entrepreneurship attitude of graduates based on clusters' current practices. Open-source online survey tools will tentatively be used in evaluation of the students behaveour in the business world generaly, when they create their own companies etc.

### 4.2.4 Finalization and approval of amended quality plan

Document-the guidelines for QC (D5.2) was amended according to the project coordinator request and Mid-term report completion. The document was changed regarding the title (from "The guidelines for QC" to "Quality plan") and its content is now integrated with former supplements to form a single document. The additions include the LFM from project proposal, the list of indicators of progress with description, targeted metrics and responsible persons, the templates for deliverable and milestone approval and the survey template for upcoming activities. The QB approved the amended document.

### 4.2.5  Preparation of the mid-term report

Following the procedure specified within T7.4: Maintain flow of information between partners and the funding agency, the coordinator in collaboration with project partners prepared the Mid-term Report as deliverable D7.4: Periodical reports on status between the project coordinator (PC) and the funding agency. The Report includes the project progress actions and results achieved in the period of eighteen months of project duration. The mid-term report contains the analysis of Project relevance, Quality of the project implementation, Impact and sustainability, Quality of the cooperation and Horizontal issues of project. Also, the report comprises the Indicators of progress with statistics, the comparison of planned and achieved results as well as financial report. The mid-term report was delivered to Education, Audiovisual & Culture Executive Agency (EACEA). According to the coordinator opinion and all partners' attitude, the QB may infer that all planned activities have been carried out highly successful and in accordance to timeline even though the consortium could not request the second funding distribution, since the expenses required has not been reached so far. However, the request for the second funding distribution will be submitted as soon as the requested condition is fulfilled.

### 4.3  INTERNAL CONSORTIUM DOCUMENTS AND REPORTS RELATED TO ACTIVITY PROGRESS/COMPLETION

*Table 3*

| Name of the file/resource | Mentioned in section | Found on the Confluence platform (link) |
|---|---|---|
| Minutes of the 10th QB meeting | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 11th QB meeting | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 12th QB meeting | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 13th QB meeting held in Banja Luka | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| D5.2 Quality Plan | 2.4 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
| Mid-term report | 2.5 | |

### 4.4  CONCLUSIONS

This document reports in details the activities carried out by the QB board in the framework of the BENEFIT project in the third semester of its run (M13 – M18). The reported activities are mainly focused on development of the indicators of progress and finalization and approval of this process for Mid-term reporting. Also, in this period the student representatives were appointed in QB, which is very important for students' inclusion into project activities evaluation. Moreover, activities related to Tasks 5.4, 5.7 and 5.8 were followed to enable statistics related to graduates' profile improvements, employability and entrepreneurship competences. The guidelines for QC were amended into the Quality plan that includes more information for Quality process control and also for Mid-term reporting – these are activities that the project coordinator and consortium were preparing and finalizing during this period. It should be mentioned that QB performed the planned activities successfully.

# 5 QB activities in six months project period M19 – M24

## 5.1 INTRODUCTION

The document presents main activities performed by Quality Control and Monitoring Board (QB) on the Quality Control and Monitoring (QCM) actions during the fourth six months period. The milestone MS5.3 "Activity report delivered by Quality Control and Monitoring Board to the Management Board twice a year", which is predicted by the project, reports the activities performed by the QB during a semester of activities.

The BENEFIT project is a carried out by a consortium consisting of 15 regular partners (9 academia and 6 industry partners) and 4 industry collateral partners. The project relates to improvement and modernization of the telecom engineer profile in the Western Balkan countries toward the industry needs in order to form job-ready professionals and attract a higher number of students.

This document, meant for internal dissemination, summarizes the activities carried out by the QCM board in the fourth six months of the project (M19 – M24, 15.04.2019 – 14.10.2019). The main key activities regarded the following:

- Further development of the indicators of progress
- Monitoring of the indicators values and progress
- Activities related to Tasks 5.4, 5.7 and 5.8,
- QB site visit to UNI Tuzla

There were two QB meetings, organised online via Skype and through mail. The detailed meeting activities are reported in the QB meeting minutes.

## 5.2 QB ACTIVITIES IN SIX MONTHS PROJECT PERIOD M13 – M18

The main activities carried out by the QB during the fourth six month period are reported in detail in the following sections.

### 5.2.1 Further development of the indicators of progress

During this semester, further development of the indicators of progress was focused on revisiting target values, in order to provide feedback received from the EC representatives on midterm report, drafting the answer to comments and amendment of the quality plan accordingly.

The remarks from the EC representatives were regarding unspecified quantitative indicators mentioned in our Quality Assurance Plan, Appendix B, pp 52-56. According to the plan, we have deliberately omitted exact specification of certain target values where these could not be strictly identified from the proposal (eg. number of visits to project public website).

We have agreed that the missing indicators should be provided in cooperation with WP leaders, which was conducted through mail consultations and during the MB and QB online meetings.

The target values for the indicators that follow the progress of the project were defined, including the Indicators of: progress, dissemination, quality, direct impact, training activities, modernized curricula, modernized teaching methodologies, industry co-operation, management and sustainability. The list of indicators with target values is shared on Confluence at https://intranet.aau.at/display/projbenefit/Indicators.

Additionally, the external QB member was auditing the current list of indicators and his opinion was presented on the consortium meeting in Osijek and reflected on a final version.

### 5.2.2 Monitoring of the indicators values and progress

The QB checked if the values for the indicators were regularly updated and if the values were in compliance with the project documents, and also compared the inserted tracking values with the

target ones for progress evaluation. Few omissions and ambiguities were communicated with the WP leaders and updated and a complete list was shared on Confluence at https://intranet.aau.at/display/projbenefit/Indicators and prepared for the consortium meeting in Osijek.

### 5.2.3  Activities related to Tasks 5.4, 5.7 and 5.8

Preparation for the activities related to tasks 5.4, 5.7 and 5.8 continued, and detailed plan for the activities were drafted and disseminated among the QB members:

- The task T5.4: Monitor graduates profile, improvements in the skills, correspondence to industry needs, is under supervision of ENT and initial version of monitoring process is prepared.
- The task T5.7: Monitoring system for employment statistics of graduates in telecommunications engineering has been established under coordination of UL.
- The task T5.8: Establish a monitoring system for entrepreneur attitude and newcos created by graduates in telecommunications engineering (by means of surveys, databases, etc.) has been managed by FERIT.

### 5.2.4  QB site visit to UNI Tuzla

On June 10th and 11th, 2019 QB performed a visit to University of Tuzla. The visit took place in conjunction with ICT Symposium Intsikt 2019. The QB was represented by chair Urban Burnik. Four members of the University were present during the site visit. It was established that the activities in Tuzla were performed mostly according to the plans. In addition, positive influence of the Benefit project was identified among staff and students.

### 5.3  INTERNAL CONSORTIUM DOCUMENTS AND REPORTS RELATED TO ACTIVITY PROGRESS/COMPLETION

*Table 4*

| Name of the file/resource and date | Mentioned in section | Found on the Confluence platform (link) |
|---|---|---|
| Minutes of the 14th QB meeting (26 Jun 2019) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 15th QB meeting (9 Sep 2019) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| D5.2: integrated and updated to Quality Assurance Plan | 2.1 | https://intranet.aau.at/download/attachments/250347810/D5_2_rev2019_September.pdf |
| Indicators list | 2.1, 2.2 | https://intranet.aau.at/display/projbenefit/Indicators+of+progress https://intranet.aau.at/display/projbenefit/Technical+Implementation+Report%3A+Statistics |
| Report on QB site visit to Tuzla | 2.4 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |

### 5.4  CONCLUSIONS

This document reports in details the activities carried out by the QB board in the framework of the BENEFIT project in the fourth semester of its run (M19 – M24). The reported activities are mainly focused on development of the indicators of progress and finalization and approval of this process to answer the comments on the Mid-term reporting. Also, activities related to Tasks 5.4, 5.7 and 5.8 were followed to enable statistics related to graduates' profile improvements, employability and entrepreneurship competences. It should be mentioned that QB performed the planned activities successfully.

# 6 QB Activities in six months project period M25 – M30

## 6.1 INTRODUCTION

The document presents main activities performed by Quality Control and Monitoring Board (QB) on the Quality Control and Monitoring (QCM) actions during the fifth six months period. The milestone MS5.3 "Activity report delivered by Quality Control and Monitoring Board to the Management Board twice a year", which is predicted by the project, reports the activities performed by the QB during a semester of activities.

The BENEFIT project is a carried out by a consortium consisting of 15 regular partners (9 academia and 6 industry partners) and 4 industry collateral partners. The project relates to improvement and modernization of the telecom engineer profile in the Western Balkan countries toward the industry needs in order to form job-ready professionals and attract a higher number of students.

This document, meant for internal dissemination, summarizes the activities carried out by the QCM board in the fifth six months of the project (M25 – M30, 15.10.2019 – 15.04.2020). The main key activities regarded the following:

- Involvement of external experts
- Monitoring of the indicators of progress
- Visibility of the project in social networks (task T5.5)
- Establishing relevant monitoring systems for enrolment and employment statistics and for entrepreneurs attitude

The QCB activities in the reporting period were mainly related to Tasks 5.4, 5.5, 5.7 and 5.8, for the reference:

- T5.4 Monitor graduates profile, improvements in the skills, correspondence to industry needs
- T5.5 Collect questionnaires and surveys via social networks
- T5.7 Establish a monitoring system for employment statistics of graduates in telecommunications engineering (Task leader: UL) (SOURCE national statistics or alumni surveys – no immediate results are expected, only a system).
- T5.8 Establish a monitoring system for entrepreneur attitude and newcos created by graduates in telecommunications engineering (by means of surveys, data bases, etc.)

There were six QB meetings, one face-to-face and others organised online via Skype. The detailed meeting activities can be followed via the QB meeting minutes. QB members started to work on Deliverable D5.3 - the redaction of 6 6-month reports on quality board activities, at the end of the reporting period.

## 6.2 QB ACTIVITIES IN SIX MONTHS PROJECT PERIOD M25 – M30

The main activities carried out by the QB during the fifth six month period are reported in detail in the following sections.

### 6.2.1 Involvement of external experts

At the beginning of the third project year external experts joined the Project consortium meeting in Osijek, and QCB meeting that was co-hosted. Prof. Dr. Brezočnik and Prof. Dr. Lovrek were present at the meeting, and Prof. Dr. Ciani were present online.

The external experts presented comments on D5.2 including the Indicators list (this is Activity 1 on their list). Activity 2 of external experts is to provide comments on the Questionnaires linked to undergoing T 5.4, 5.5, 5.7, 5.8. Once the Questionnaires are ready they will be invited to give their comments and suggestions.

Activity 3 will be performed on project results in M34-M36.

### 6.2.2 Monitoring of the indicators of progress

During this semester QCB members checked if the values for the indicators were regularly updated and if the values are in compliance with the project documents, and also compared the values with the target values for progress evaluation. The monitoring activities were focused in indicators for WP2, WP3 and WP6, related to new modernized courses, new didactic methods and publishing on the project e-platform. The QCB members were reviewing the e-platform specifically checking inclusion of the ERASMUS programme and the BENEFIT project logos and the disclaimer, and identifying the documents that need to be corrected.

Complete list of indicators with current and target values is shared on the Confluence platform at https://intranet.aau.at/display/projbenefit/Indicators.

### 6.2.3 Visibility of the project in social networks

The Facebook page for the BENEFIT project was designed and it is in the development. QCB members in possession of a Facebook profile have editor roles of the BENEFIT project Facebook page, and additional colleagues from other partner universities joined. The administrator posted information about the project and links to the project web site and e-platform, and editors started posting material on project activities and events. Facebook page link: (https://www.facebook.com/Benefit-Erasmus-Project-104684454391822/?modal=admin_todo_tour)

Visibility of the project in social networks contributes to the activities related to Task T5.5 Collect questionnaires and surveys via social networks. Statistics on Facebook page visibility is monitored and discussed. The Facebook page will be useful not only for questionnaire dissemination, but also for outreach to stakeholders. We expect consistent higher participation in the Facebook page to make its use viable.

### 6.2.4 Establishing relevant monitoring systems

Preparation for the activities related to tasks 5.4, 5.7 and 5.8 continued, and detailed plan for the activities were drafted and disseminated among the QB members:

- The task T5.4: Monitor graduates profile, improvements in the skills, correspondence to industry needs, is under supervision of ENT
- The task T5.7: Monitoring system for employment statistics of graduates in telecommunications engineering is being established under coordination of UL.
- The task T5.8: Establish a monitoring system for entrepreneur attitude and newcos created by graduates in telecommunications engineering (by means of surveys, databases, etc.) is managed by FERIT.

During the reporting period student satisfaction survey is prepared and it is ready for dissemination and collecting the comments on modernized courses and newly developed materials.

Template for monitoring the students' enrolment statistics was proposed by partners from the University of Niš and will be distributed among the partners from Serbia and Bosnia and Herzegovina.

### 6.3 INTERNAL CONSORTIUM DOCUMENTS AND REPORTS RELATED TO ACTIVITY PROGRESS/COMPLETION

*Table 5*

| Name of the file/resource and date | Mentioned in section | Found on the Confluence platform or external link |
|---|---|---|
| Minutes of the 16th QB meeting (5 Nov 2019) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 17th QB meeting (16 Dec 2019) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 18th QB meeting (17 Jan 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 19th QB | 1 | https://intranet.aau.at/display/projbenefit/Quality+Cont |

| | | |
|---|---|---|
| meeting (19 Feb 2020) | | rol+and+Monitoring+Board |
| Minutes of the 20th QB meeting (24 Mar 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 21st QB meeting (20 Apr 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| D5.3 Reports on project implementation. | 1 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
| Indicators list | 2.2 | https://intranet.aau.at/display/projbenefit/Indicators. https://intranet.aau.at/display/projbenefit/Technical+Implementation+Report%3A+Statistics |
| BENEFIT project Facebook page | 2.3 | https://www.facebook.com/Benefit-Erasmus-Project-104684454391822/?modal=admin_todo_tour |
| D5.4 Reports on graduates profile improvements and correspondence to industry needs. | 2.4 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring?preview=/250347810/576487680/BENEFT%20D5.4.%20draft_17042020.docx |
| D5.5 Report on tools for monitoring students enrollment and employability/employment/entrepreneurial statistics of graduates | 2.4 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |

## 6.4 CONCLUSIONS

This document reports in details the activities carried out by the QB board in the framework of the BENEFIT project in the fifth semester of its run (M25 – M30). The reported activities are mainly focused on monitoring of progress indicators and project visibility in social media. Also, activities related to the Tasks 5.4, 5.7 and 5.8 were followed to enable statistics related to graduates' profile improvements, employability and entrepreneurship competences. It should be mentioned that QB performed the planned activities successfully.

# 7 QB Activities in six months project period M31 – M36

## 7.1 INTRODUCTION

This document presents main activities performed by Quality Control and Monitoring Board (QB) on the Quality Control and Monitoring (QCM) actions during the sixth semester of the project. The milestone MS5.3 "Activity report delivered by Quality Control and Monitoring Board to the Management Board twice a year", which is envisioned in the project proposal, reports the activities performed by the QB during a semester of activities.

The BENEFIT project is a carried out by a consortium consisting of 15 regular partners (9 academia and 6 industry partners) and 4 collateral industry partners. The project relates to improvement and modernization of the telecom engineer profile in the Western Balkan countries toward the industry needs in order to form job-ready professionals and attract a higher number of students.

This document, meant for internal dissemination, summarizes the activities carried out by the QCM board in the sixth six months of the project (M30 – M36, 15.04.2020 – 15.10.2020). The main key activities regarded the following:

- Facebook page statistics monitoring and improvement
- Development of WP5-related deliverables: D5.3, D5.4, D5.5 and D5.6
- Establishing relevant monitoring systems for enrolment and employment statistics and for entrepreneurial attitude of graduates
- Organizing Quality Board visits (control) in the conditions of the COVID-19 pandemic
- Preparing a paper and participation at Conference ERK in Portoroz in the special BENEFIT session
- Performing approval procedures on deliverables prepared for publication on the internal project management website Confluence
- Preparation of the 6th periodic QB activity report

The QCB activities in the reporting period were mainly related to Tasks 5.4, 5.5, 5.7 and 5.8, defined as:

- T5.4 Monitor graduates profile, improvements in the skills, correspondence to industry needs
- T5.5 Collect questionnaires and surveys via social networks
- T5.7 Establish a monitoring system for employment statistics of graduates in telecommunications engineering (Task leader: UL)
- T5.8 Establish a monitoring system for entrepreneur attitude and newcos created by graduates in telecommunications engineering (by means of surveys, data bases, etc.)

There were ten QB meetings, organised online via Skype. The detailed meeting activities can be followed via the QB meeting minutes, which can be retrieved on Confluence on the Quality Board subpage.

## 7.2 QB ACTIVITIES IN SIX MONTHS PROJECT PERIOD M30 – M36 AND EXTENDED PERIOD

The main activities carried out by the QB during the sixth six-month period are reported in detail in the following sections.

### 7.2.1 Facebook page statistics monitoring and improvement

The Facebook page for the BENEFIT project (a link is provided in the table below), which was previously designed as described in 6.2.3, was populated by posting material on project activities and events. Every partner delegated at least one person as administrator of the Facebook page for the project to add material related to their activities. QB monitored the statistics related to Facebook page visibility and proposed solutions for improvement of popularity. The project website was updated with a link to the project's Facebook page to increase the amount of traffic and outreach the

stakeholders outside the Consortium. Visibility of the project in social networks contributed to the activities related to project tasks, especially in dissemination of questionnaires and surveys and their collection for the completion of tasks such as T5.5.

### 7.2.2 Development of Deliverables of WP5-D5.3, D5.4, D5.5 and D5.6

During this semester QB members have been actively working on the development of Deliverables D5.3, D5.4, D5.5 and D5.6. QB started to work on Deliverable D5.3 (Reports on project implementation), which summarizes all quality board activities carried out during the project duration at the end of the reporting period. The work on the fifth six-month report drafted by Dušanka Boskovic and commented by other QB members was completed and applied to the D5.3 document. Information from five 6-month reports are compiled into this document and the content of this sixth six months QB report is to be added when it is available.

Deliverable D5.4 (Reports on graduates profile improvements and correspondence to industry needs) managed by QB member Darko Huljenić from ENT was finished, reviewed and verified by partners.

Within WP5 activities, a survey was developed for the purpose of evaluation of the quality of the upgraded course material - Survey for student evaluation of course material. Also, in order to analyse the project results from the universities and industry perspectives regarding changing of courses, which carried out within the scope of the project according to industry needs, three separate surveys were developed and implemented: 1. Questionnaire for universities that implement changes in curricula, 2. Preliminary questionnaire for the industry about changed curricula, and 3. Survey for employers containing detailed questions for the employers to assess the changes relating to the graduated students who finished classes processed within the project BENEFIT. All surveys were prepared by Darko Huljenic with the cooperation of ENT project members and other QB members and were available on LimeSurvey.

Deliverable D5.5 (Report on tools for monitoring student's enrolment and employability/employment/entrepreneurial statistics of graduates) was managed by UL.

QB members Nataša Maleš Ilić and Dušanka Bošković collected the data relating to six Universities from Serbia and Bosnia and Herzegovina, (UB, UNS, UNI, UNSA, UBL and UNTZ) providing the enrolment statistics data for the Bachelor academic study and Master academic study. The Administrative office at the faculty of each member University developed procedures for data collection and processing referred to the student enrolment statistics, updating the relevant information every year, which are available for the interested subjects. The enrolment information included in D5.5 covers the period between the academic years 2016/17 and 2019/20. The aforementioned data were synthesized as Figures and Tables that provide comparative analysis of the enrolment statistics for each university. Some universities were also able to include data for the academic year 2020/21.

Official employment statistics for participating Universities do not follow a standardized format and are based on regional specifics, due to the fact that universities obtain official statistical data on graduates' employment using their own procedure. QB members worked on finding the best solutions for collecting required data and implemented them into D5.5. For Serbia, employment statistics data were obtained from National employment agency. For Bosnia and Herzegovina, adequately detailed employment statistics at national level does not exist and relevant data were collected at regional administrative level for each University. University of Sarajevo monitors the employment statistics of the graduates through the assistance of the Institute for statistics of Federation BH, which have information for each canton. For University of Tuzla, the unemployment statistics is collected and analysed at cantonal level using the data registered by "Employment service of Tuzla Canton" agency. For the University of Banja Luka, information on registered unemployed engineers in the domain of Telecommunications and ICT is unavailable. Also, QB member Urban Burnik prepared a survey on employment for graduates/alumni, which can be promoted via social networks.

Relevant monitoring systems for enrolment and employment statistics as well as entrepreneurial attitude were established by the realization of Deliverable D5.5.

Deliverable 5.6 that relates to Reports on stakeholders reached beyond the project consortium was managed by UL. The relevant information were collected and gathered by QB members- Dušanka Boskovic provided information related to UNSA, UNTZ and UBL, whereas Nataša Males-Ilic prepared information from Serbian partners, UNS, UB, UNI and their industrial partners. Matej Zajc and Urban Burnik from UL coordinated the realization of deliverable D5.6.

### 7.2.3 Organizing Quality Board visits (control) in the conditions of pandemic Covid19

Quality Board visits were performed remotely via online tools. Regardless, overall consortium and QB hoped that restrictions due to the COVID-19 pandemic might have been lowered before the end of the project and that travelling might have been allowed in summer time, QB considered that any travel and visits with the aim to organize QB control was stressful, complicated due to closed borders and increased risk for health, so that QB arranged remote quality checks to Beograd and Novi Sad.

### 7.2.4 Preparing paper and participation at Conference ERK in Portoroz in special BENEFIT session

QB members, under the direction of QB chair Urban Burnik from UL, prepared a paper under the title **Quality management of Erasmus+ BENEFIT project** and presented it on a special session *Didactics* in the ERK 2020 conference organized on September 22, 2020 in Portorož for the purpose of project BENEFIT results dissemination. The BENEFIT team contributed by 9 conference papers that are available in the conference proceedings. All conference papers were presented online due to the COVID-19 pandemic.

### 7.2.5 Approval of Consortium deliverables

All QB members participated in evaluation and acknowledgment of Consortium deliverables prepared for publication on project Confluence website according to the established procedure. For the purpose to represent all BENEFIT team members that participated and contributed to the certain tasks that led to realization of appropriate deliverables, a table, which allows for cross compliance check between timesheets and deliverable contributors was created on Confluence by Urban Burnik (https://intranet.aau.at/pages/viewpage.action?pageId=648118529).

Internal consortium documents and reports related to activity progress/completion

*Table 6*

| Name of the file/resource and date | Mentioned in section | Found on the Confluence platform or external link |
|---|---|---|
| Minutes of the 21st QB meeting (20 April 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 22nd QB meeting (18 May 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 23rd QB meeting (15 Jun 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 24th QB meeting (13 July 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 25th QB meeting (24 Aug 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 26th QB meeting (24 Sept 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| BENEFIT project Facebook page | 2.1 | https://www.facebook.com/Benefit-Erasmus-Project-104684454391822/?modal=admin_todo_tour |

| D5.3 Reports on project implementation. | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
|---|---|---|
| D5.4 Reports on graduates profile improvements and correspondence to industry needs. | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring?preview=/250347810/576487680/BENEFT%20D5.4.%20draft_17042020.docx |
| D5.5 Report on tools for monitoring students enrollment and employability/employment/entrepreneurial statistics of graduates | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
| D5.6: Reports on stakeholders reached beyond the project consortium. | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |

## 7.3 CONCLUSIONS

This document reports in details the activities carried out by the QB board in the framework of the BENEFIT project in the sixth semester of its run (M30 – M36). Also, activities performed in the extended period of project were included in this report. The reported activities are related to monitoring Facebook page statistics and their improvement. Also, this report is focused on activities of establishing relevant monitoring systems for enrolment and employment statistics and for entrepreneurs' attitude required for realization of Deliverables of D5.5. Moreover, the report described main activities of QB for finishing D5.3, D5.4, and D5.6 deliverables, Organization of QB control in the conditions of pandemic Covid19, realization of approval procedures for Consortium deliverables, as well as participation with QB paper at Conference ERK in Portoroz in special BENEFIT session. It should be mentioned that QB performed the planned activities successfully.

# 8 QB Activities in project extension period M37 – M40

## 8.1 INTRODUCTION

This document presents the main activities performed by the Quality Control and Monitoring Board (QB) on the Quality Control and Monitoring (QCM) actions during the four-month extension period, allowed due to the COVID-19 pandemic. The milestone MS5.3 "Activity report delivered by Quality Control and Monitoring Board to the Management Board twice a year", which is envisioned in the project proposal, reports the activities performed by the QB during a semester of activities.

The BENEFIT project is a carried out by a consortium consisting of 15 regular partners (9 academia and 6 industry partners) and 4 industry collateral partners. The project relates to improvement and modernization of the telecom engineer profile in the Western Balkan countries toward the industry needs in order to form job-ready professionals and attract a higher number of students.

This document, meant for internal dissemination, summarizes the activities carried out by the QCM board in the last four months of the project (project extension due to COVID-19, 15.10.2020 – 14.02.2021). The main key activities regarded the following:

- Work on Deliverables of WP5-D5.3, D5.4, D5.5 and D5.6
- Remote quality monitoring activities in the conditions of the COVID-19 pandemic
- Performing approval procedures for Consortium deliverables prepared for publication on project Confluence website
- Preparation of last periodic QB activity report
- Coordination with external advisor Federico Ciani for concluding activities

There were five QB meetings, organised online via Skype. The detailed meeting activities can be followed via the QB meeting minutes.

## 8.2 QB ACTIVITIES IN FOUR MONTHS PROJECT EXTENSION PERIOD

The main activities carried out by the QB during the four months project extension period are reported in detail in the following sections.

### 8.2.1 Development of Deliverables of WP5-D5.3, D5.4, D5.5 and D5.6

During this period QB members have been finalizing Deliverables D5.3, D5.4, D5.5 and D5.6. QB continued activities on Deliverable D5.3 (Reports on project implementation), which summarizes reports on all quality board activities during the project BENEFIT at the end of the reporting period. The work on the fifth six-month report drafted by Dušanka and commented by other QB members was completed and applied to the D5.3 document. Information from five 6-month reports are compiled into this document and the content of this sixth six months QB report is to be added when is available. Deliverable D5.4 (Reports on graduates profile improvements and correspondence to industry needs) managed by QB member Darko Huljenić from ENT was finished, reviewed and verified by partners in November 2020. Within WP5 activities, a survey was collected and analysed for the purpose of quality evaluation of the upgraded course material. The results will be available through Deliverable D5.5. Deliverable D5.5 (Report on tools for monitoring student's enrolment and employability/employment/entrepreneurial statistics of graduates) was managed by UL. QB members Nataša Maleš Ilić and Dušanka Bošković updated the enrolment statistics data for the Bachelor academic study and Master academic study for the study year 2020/21. QB members tried to find the best solutions for collecting employment data as there is no unique method for all participating regions. Relevant monitoring systems for enrolment and employment statistics as well as entrepreneurial attitude were established by the realization of Deliverable D5.5. Deliverable 5.6 that relates to Reports on stakeholders reached beyond the project consortium was finalized by UL. The relevant information was collected and gathered by QB members- Dušanka Bošković provided information related to UNSA, UNTZ and UBL, whereas Nataša Maleš Ilić prepared information from

Serbian partners, UNS, UB, UNI and their industrial partners. Matej Zajc and Urban Burnik from UL finalized Deliverable D5.6 using other available resources.

### 8.2.2   Approval of Consortium deliverables

All QB members participated in evaluation and acknowledgment of Consortium deliverables prepared for publication on project Confluence website according to the established procedure. Special care is to be given that all actively reported persons also appear on Deliverables as contributors.

Internal consortium documents and reports related to activity progress/completion
*Table 7*

| Name of the file/resource and date | Mentioned in section | Found on the Confluence platform or external link |
|---|---|---|
| Minutes of the 27th QB meeting (19 Oct 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 28th QB meeting (16 Nov 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 29th QB meeting (14 Dec 2020) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 30th QB meeting (11 Jan 2021) | 1 | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board |
| Minutes of the 31th QB meeting (1 Feb 2021) | 1 | |
| D5.3 Reports on project implementation. | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
| D5.4 Reports on graduates profile improvements and correspondence to industry needs. | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring?preview=/250347810/576487680/BENEFT%20D5.4.%20draft_17042020.docx |
| D5.5 Report on tools for monitoring students enrollment and employability/employment/entrepreneurial statistics of graduates | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |
| D5.6: Reports on stakeholders reached beyond the project consortium. | 2.2 | https://intranet.aau.at/display/projbenefit/WP5+-+Quality+Control+and+Monitoring |

### 8.2.3   Concluding activities of external expert

On the 3rd of February 2021, the Project Coordinator Andrea Tonello, QB representative Francesco Marcuzzi and operative contact Nunzio Letizia from UNI-KLU met remotely via Skype with external advisor Federico Ciani to discuss and define final activities related to his contribution.
From the original contract drafted in cooperation with Ciani, the activities for the final leg of the project were defined as:

- Workflow: The partners from the consortium collect surveys, evaluations, questionnaires and data throughout the duration of the project (as specified in the Project Proposal) and, halfway through it, the Quality Expert uses these

resources, integrated with interviews with key actors and discussion with the other M6E experts, to provide an analysis on performance, impact and possible correction strategies.

- <u>Output</u>: Final report on quality of project progress

In line with these definitions, the contribution from mr Ciani was discussed and eventually concretely defined in the following points:

- Review of the final report of the project with an emphasis on QCM activities, reporting and presentation;
- Critical assessment of indicators of progress presentation.

The final project report will be drafted after the official end of the project (14th February 2021) and a good draft is expected to be ready around the first or second week of March. In this period, the material will be shared with the external advisor and contributions will be provided in a time frame such that corrections will be easily applied before the end of the reporting period, ending on the 14th April 2021.

## 8.3 CONCLUSIONS

This document reports in details the activities performed in the extended period of project. The report presents main activities of QB for finishing D5.3, D5.4, and D5.6 deliverables and realization of approval procedures for Consortium deliverables. It should be mentioned that QB performed the planned activities successfully.

# 9    Main activities and links to online material

*Table 8*

| Content | Link | Description |
|---|---|---|
| **Pages** | | |
| Minutes of meetings | https://intranet.aau.at/display/projbenefit/Quality+Control+and+Monitoring+Board | Contains records of all the QCM Board meetings done throughout the project lifetime |
| Indicators of progress | https://intranet.aau.at/display/projbenefit/Indicators | The numbers here reported tracked milestone and deliverable completion and serve as an at-a-glance progress status of project activities |
| **WP5 Page contents** | | |
| T5.1 Establishment of the QCM Board and appointment of an external expert for QC (1 QC expert and 2 external advisors)<br><br>D5.1 Establishment of Quality Control (QC) board and appointment of external experts for QC.<br><br>M5.1 QCM Board establishment (M3). | https://intranet.aau.at/download/attachments/250347810/devision_form_QB_signed_scan.pdf?version=1&modificationDate=1539342697153&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/D5_1_Annex.pdf?version=1&modificationDate=1539342810381&api=v2 | The linked documents report on the consolidation of the main QCM Board group, specifying its members in the main body and the external assessors in the annex. |
| T5.2 Consolidation of areas to be monitored, indicators, and correction strategies both internal and external<br><br>M5.2 Quantitative indicator definition for project progress evaluation, as part of QCB duties (M3). | https://intranet.aau.at/display/projbenefit/Indicators | The second task regards the definition of indicators and implementation of a shared resource to report on the numbers. |
| D5.2 Development of guidelines for QC.<br><br>M5.4 Define QCM structure (M4). | https://intranet.aau.at/download/attachments/250347810/D5_2.pdf?version=1&modificationDate=1535615028618&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/D5_2_Amendment_1.pdf?version=1&modificationDate=1535615121565 | The documents here linked regard respectively:<br>• Initial development and definition of guidelines and good practices for quality assurance to be shared by the consortium;<br>• Templates and guides for |

| | | |
|---|---|---|
| | &api=v2<br><br>https://intranet.aau.at/display/projbenefit/D5.2?preview=/364904487/428474731/D5_2_rev2019.pdf<br><br>https://intranet.aau.at/download/attachments/250347810/D5_2_rev2019_September.pdf?version=1&modificationDate=1578407079518&api=v2 | both Deliverable and Milestone verification and approval;<br>• Midterm revision of quality guidelines;<br>• An amendment done in 9/2019, one year before the initially foreseen end of the project. |
| M5.3 Activity report delivered by QCM board to MB twice a year. | https://intranet.aau.at/download/attachments/250347810/WP5%201st%20six-months%20report.pdf?version=1&modificationDate=1535620011251&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/WP5%202nd%20six-months%20report.docx?version=1&modificationDate=1546018125238&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/WP5%203rd%20six-months%20report.pdf?version=2&modificationDate=1557747704244&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/WP5%204th%20six-months%20report.docx?version=1&modificationDate=1579691706415&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/WP5%205th%20six-months%20report.docx?version=1&modificationDate=1592228782063&api=v2 | These links point to the single documents that reported on each one of the six semesters of the project lifetime, which can also be found here in sections 2-7. |
| T5.4 Monitor graduates profile, improvements in the skills, correspondence to industry needs | https://intranet.aau.at/download/attachments/250347810/T5_4_MonitoringImplementationPlan.doc?version=1&modificationDate=1572354059220&api=v2<br><br>https://intranet.aau.at/rest/docu | |

| | | |
|---|---|---|
| | mentConversion/latest/conversion/thumbnail/596508896/3 | |
| T5.5 Collect questionnaires and surveys via social networks (LinkedIn, AngelList) | https://intranet.aau.at/download/attachments/250347810/statistic-survey515929.xls?version=1&modificationDate=1591968240659&api=v2 | |
| T5.6 Monitor student enrolment statistics in the region | https://intranet.aau.at/download/attachments/250347810/Enrollment%20statistic-UNI-english.docx?version=1&modificationDate=1589792868061&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/Enrollment%20statistic-UB-english.docx?version=1&modificationDate=1589792883052&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/Enrollment%20statistic-UNS-english.docx?version=1&modificationDate=1589792901429&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/Enrollment%20statistic-UNIBL.docx?version=1&modificationDate=1592227165624&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/Enrolmenr%20statistic-UNSA.docx?version=1&modificationDate=1592227195485&api=v2<br><br>https://intranet.aau.at/download/attachments/250347810/Enrollment%20statistic-UNTZ.docx?version=1&modificationDate=1592227211258&api=v2 | |
| T5.7 Establish a monitoring system for employment statistics of graduates in telecommunications engineering | https://intranet.aau.at/download/attachments/250347810/In%C5%BEenjeri%20elektronike%20-Republika%20Srbija%2031.12.2019..xlsx?version=1&modificationDate=1589792777480&api=v2 | |
| D5.5 Report on tools for | https://intranet.aau.at/download | |

| | | |
|---|---|---|
| monitoring students enrolment and employability/employment /entrepreneurial statistics of graduates. | /attachments/250347810/BENEFI T_D5_5_V0_1.docx?version=2&m odificationDate=1600944296894 &api=v2 | |
| T5.8 Establish a monitoring system for entrepreneur attitude and newcos created by graduates in telecommunications engineering (by means of surveys, data bases, etc.) | https://intranet.aau.at/download /attachments/250347810/Questi onnarie%20Report%20T5.8.pdf?v ersion=1&modificationDate=158 9537831479&api=v2<br><br>https://intranet.aau.at/download /attachments/250347810/Analys e%20of%20Questionnarie.pdf?ve rsion=1&modificationDate=1589 537829791&api=v2<br><br>https://intranet.aau.at/download /attachments/250347810/Results %201.pdf?version=1&modificatio nDate=1589537832181&api=v2<br><br>https://intranet.aau.at/download /attachments/250347810/Results %202.pdf?version=1&modificatio nDate=1589537832746&api=v2 | |
| D5.4 Reports on graduates profile improvements and correspondence to industry needs. | https://intranet.aau.at/download /attachments/250347810/BENEF T%20D5.4.%20draft_17042020.d ocx?version=4&modificationDate =1592220825877&api=v2 | |
| M5.5 QCM Board meeting in Banja Luka (M18) | https://intranet.aau.at/download /attachments/250347810/2019_ 04_08%20wp5%20Minutes%20of %20the%20Meeting_color.pdf?v ersion=1&modificationDate=155 5078378018&api=v2<br><br>https://intranet.aau.at/download /attachments/250347810/Compil ed%20QCM_Manual_Template_9 _Milestone_Verification_M5.5.pd f?version=1&modificationDate=1 555078395521&api=v2 | Minutes of the meeting showing the actual development of the meeting.<br><br>Milestone verification as a necessary step for milestone completion. |

# 10 Conclusions

This document pertains the activities carried out by the Quality Control and Management (QCM) Board from the BENEFIT project throughout its lifetime. The document is meant to summarize the main activities carried out over a three-year period, and in order to do it, the following structure was chosen:

- An introduction (Section 1) to familiarize with the scope of the project and the structure of the consortium realizing it;
- A summary of all the activities carried out by the QCM Board in six non-overlapping six-month chunks (Sections 2-7);
- A Table with links to materials showing the main outcomes of the QCM Board endeavours and a synthetic description of the contents (Section 8);
- Conclusions (Section 9).

The aim of this document is to show that the joint and sustained effort of the QCM Board members enabled a successful completion of the project by facilitating communication between other groups and coordination of reporting activities.