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MULE

# Quality Control and Monitoring Plan (QCMP)

Title of Deliverable: D1.1

Grant Agreement No.: 2023-1-DE02-KA220-VET-000159775

Project Title: Multimedia Learning Environment for Work-Based Learning Tasks for VET-Students in the Sector of Applied Informatics

Beneficiary Organisation Information: Universitaet Bremen (UBremen)

Programme: Erasmus+

Key Action: Cooperation among organisations and institutions

Action Type: Cooperation partnerships in vocational education and training

Type of action: ERASMUS Lump Sum Grants

Granting authority: National Agency DE02 - Nationale Agentur Bildung für Europa beim Bundesinstitut für Berufsbildung

Project starting date: 01/11/2023

Project end date: 31/10/2026

Project duration: 36 months

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## Partners

1 – Universitaet Bremen, Germany

2 – Visoka Poslovna Strukovnih Skola Stdija u Novom Sadu, Serbia

3 – San Jose Maristak, Spain

4 – Universita degli Studi di Bergamo, Italy

5 – Engim - Ente Nazionale Giuseppini Del Murialdo, Italy

6 – Poslovni Inkubator Novi Sad – Business Incubator Novi Sad Drustvo Sa Ogranicenom Odgovornoscu Novi Sad, Serbia

7 – EKIN, S. COOP., Spain

# 1 Introduction

The “Quality Control and Monitoring Plan” of MULE Project” (here in after only QCMP) is a deliverable within WP 1, namely “Project Management” It establishes procedures for both the planning and execution of project tasks to guarantee the highest quality standards. Within this QCMP, it introduces basic principles, along with the necessary requirements and processes, to put into action a robust quality assurance and control system. The goal is to enable efficient and accountable project management, consistent with the outlined Work plan, activities, and objectives of this project.

The QCMP will formalize the approach followed by project partners to ensure the highest quality of project activities, outputs, and management. It will encompass both the deliverables and activities, ensuring quality is integrated into every aspect of the project. The plan will detail the involved staff, their responsibilities, and the timing and frequency of monitoring activities, providing a comprehensive overview of the project's quality assurance processes

The Quality Control and Monitoring Plan (QCMP) will focus extensively on assessing quality assurance, monitoring, and evaluating various aspects of project management, including communication, dissemination strategies, working meetings, and Steering Committee (SC) meetings. This will involve a range of monitoring tools such as meetings, expert workshops, user stories, evaluation sheets, questionnaires, and feedback sheets, tailored to the needs of each Work Package (WP) and stakeholder.

The QCMP begins with an introduction, offering a concise summary of the MULE project in chapter 2, followed by a comprehensive timeline, detailing each work package, their durations, and associated milestones within the project's total timeframe in chapter 3.

Chapter 4 delves into project reporting, detailing both continuous and periodic reporting methods over the project's lifespan.

The main focus of this document is on chapter 5, which is Quality Management. It describes the intended evaluation methods; quality responsibilities and introduces two key committees within the project: The Steering Committee and the Advisory board. These committees will oversee project process and result quality, as well as monitor indicators.

Financial management and project budgeting, including report and payment schedules, are elaborated in Chapter 6.

Chapter 7 addresses risk management, outlining critical risks and proposed mitigation strategies. The QCMP will also track the progress of work package activities, providing a comprehensive overview for project partners and the Steering Committee. Quality assurance protocols will complement this coordination. All partners, drawing on their experience, are jointly responsible for ensuring the highest quality outcomes throughout the project's implementation and resulting outputs.

## 2 Project Summary

In MULE it is intended to improve the cooperation of VET-schools and industry, whereby current trends in the field of applied informatics can easily flow into the school curricula. This transfer takes place by defining professional spheres of activity, which are the base for subsequent learning and work tasks in a multimedia learning environment aiming to improve transversal and occupational competences of students. The foreseen transnational sector qualification frame aims at better comparability.

In order to reach these goals, a sector study, curricula analysis as well as expert-workshops take place in order to identify professional spheres of activity in all countries. Based on the definition of mutual spheres of activity, for selected ones work-processes, competences (based on a competence model) and typical tasks will be analysed. They form the cornerstone for designing learning and work tasks (LWT) in the multimedia learning environment and evaluate them in the pilot at VET-schools in a DBR-approach.

Results will be 13 LWT tasks in a barrier-free multimedia learning environment based on rapid e-learning and an evaluated didactical concept. Tasks are available for all interested actors in VET as the learning environment is free of charge. The project strengthens the collaboration of all actors and combines theory and practice in Europe. The sector qualification framework is a valuable step towards better transparency, recognition and as a blueprint for qualifications, sectors and companies.

The project is subdivided into 5 working packages:

- WP1: Project Management
- WP2: Identification and Description of Spheres of Activities (SoA) in Applied Informatics
- WP3: Development of Learning and Work Tasks (LWT) in a Multimedia Learning Environment
- WP4: Piloting: Testing, Evaluation, (Re-Design) of LWT in VET-schools
- WP5: Defining a Sector Qualification Frame (SQF)

This structured approach ensures a comprehensive and systematic execution of the project's goals.

## 3 Project Time Table and Work Packages

This chapter on "Project Timetable and Work Packages" lays the foundational structure for the operational planning and execution phases of the project. It serves as a blueprint for the project's lifecycle, detailing the chronological order of activities, their respective timelines, and the allocation of tasks into coherent work packages, which together ensure the achievement of the project's objectives within the stipulated timeframe and budget.

The importance of a meticulously planned project timetable cannot be overstated (Figure 1). It not only provides a clear roadmap for project execution but also facilitates the efficient management of resources, including time, finances, and human capital. By outlining the specific start and end dates of each activity, it enables project coordinators and partners to monitor progress, anticipate potential bottlenecks, and make timely adjustments to keep the project on track. This proactive approach to project management is crucial for mitigating risks, optimizing performance, and ensuring the timely delivery of expected outputs and results.

The integration of the project timetable with work packages forms the backbone of the Quality Management and Control Plan. This integration ensures that quality standards are not only defined but are also consistently applied and monitored throughout the project's lifecycle. It emphasizes the commitment to excellence, stakeholder satisfaction, and the attainment of sustainable impacts beyond the lifespan of the project. The project time table will be updated during the lifetime of the project in consultation with the project partners and, if necessary, with NABIBB, it can be found in the annex as well (Figure 1).

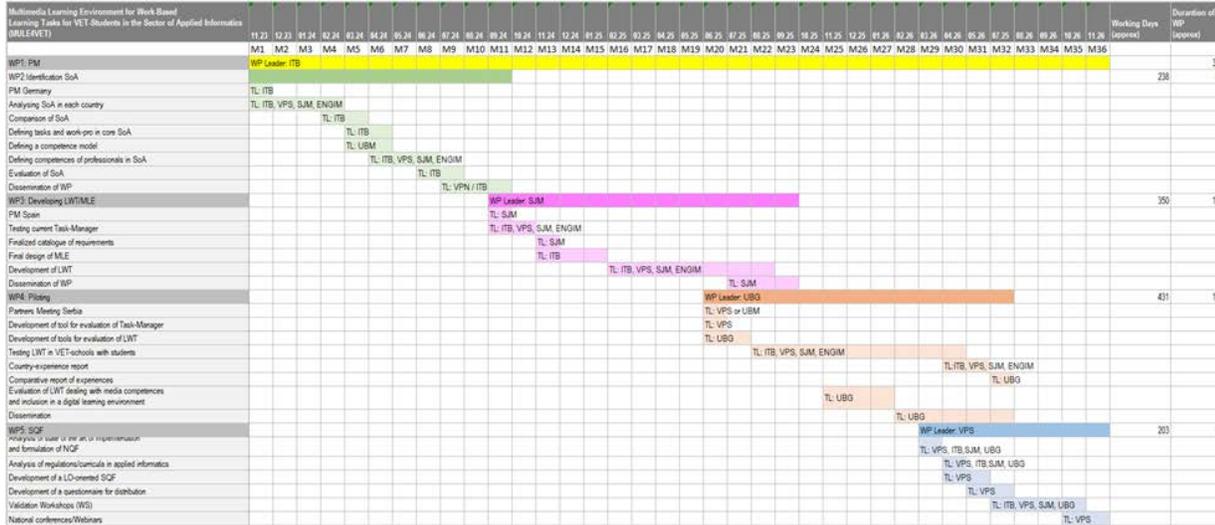


Figure 1: Gantt-Chart for MULE

Work packages, on the other hand, represent the division of the project into manageable segments, each with a defined scope, objectives, tasks, deliverables, and allocated resources. This segmentation enhances clarity and focus, enabling team members to concentrate on specific aspects of the project while maintaining an overview of its holistic progression. Work packages facilitate the assignment of responsibilities, fostering accountability among partners and stakeholders. They also serve as a basis for monitoring and evaluating the project's performance, as each package is designed to contribute tangibly towards achieving the overall project goal.

## 4 Quality Management

This chapter will delineate the processes, methodologies, and tools that the project will employ to uphold quality in every facet of its implementation. It is designed to be a living document, adaptable to the dynamic nature of the project, while providing a steadfast commitment to quality. The heart of our Quality Management system is a structured, systematic process that encompasses planning, control, assurance, and improvement – collectively these elements form a cyclical process of continuous enhancement.

The importance of Quality Management in this project is twofold. First, it serves as a blueprint that guides the project consortium through the various phases of the project, providing clear benchmarks and quality criteria against which all activities and outputs will be measured. Second, it acts as a reassurance to stakeholders, including the funding body, project partners, and end-users, that the project will deliver value and achieve its intended impact.

In the upcoming sections, we will explore the Quality Management structure tailored specifically to the unique demands of our project. This includes the identification and management of risks, the establishment of quality objectives, the implementation of quality control mechanisms, and the assurance of quality across all deliverables. We will outline the roles and responsibilities within the project team to manage and monitor quality, as well as the procedures for quality assessment and the tools for ensuring continuous quality improvement.

## 4.1 Internal Monitoring

### 4.1.1 Meeting Evaluation

In any collaborative venture, especially one as dynamic and multifaceted as an Erasmus+ project, the calibration of teamwork is critical. Regular and systematic evaluations of meetings are a cornerstone of effective project management, ensuring not only the productivity of the time spent together but also fostering a culture of continuous improvement and engagement. This chapter focuses on the implementation of a standardized meeting evaluation form—an instrument designed to measure the effectiveness, participation, and decision-making prowess within project meetings.

The rationale for introducing such a tool is clear: it allows the project coordinator and all partners to gain objective insights into the performance and dynamics of their interactions. By reflecting on the feedback from these evaluations, the consortium can identify areas of strength to build upon and pinpoint aspects that require attention or improvement. This ongoing process of assessment and reflection is crucial to maintaining the project's momentum and aligning it with the overarching goals of the Erasmus+ framework.

The project coordinator provides a standardized meeting evaluation form to assess effectiveness, participation, and decision-making in project meetings (Figure 2). Figure 2 is a carefully structured questionnaire divided into four key sections: Project Performance, Cooperation and Communication within the Project Partnership, Responsibility and Commitment, and Feedback on the Organization of the Meeting. Each section is designed to capture a specific dimension of the meeting's efficacy.

- **Project Performance:** This section, with its six probing questions, is intended to assess how the meeting has contributed to the project's progression. It addresses whether the meeting's outcomes align with the project's strategic objectives and deliverables.
- **Cooperation and Communication within the Project Partnership:** Nine questions here are dedicated to evaluating the interpersonal and inter-institutional dynamics at play. This involves the extent to which partners collaborate, share information, and support one another in the pursuit of common goals.
- **Responsibility and Commitment:** This section's four questions scrutinize the individual and collective commitment of the participants, gauging their accountability and dedication to the project's responsibilities.
- **Feedback on the Organization of the Meeting:** The organization of a meeting can significantly influence its outcome. The six questions in this section allow participants to provide feedback on the logistical and structural aspects of the meeting, including time management, technology use, and clarity of the agenda.

The form is disseminated using Google Forms for its user-friendly interface and analytical capabilities. Following each monthly online project jour fixe, joint online meetings with the advisory board, and in-person meetings, the form is sent out to gather timely and pertinent feedback.

Fragen Antworten **2** Einstellungen

## Evaluation Questionnaire MULE JF 30.01.24

Please be kind enough to fill out this evaluation questionnaire. The information will be used to assess the structure and processes of our project and, if necessary, to identify indications for improvement. The analyses of the questionnaires will be presented and discussed during next partner meeting.

### 1. Project Performance

In the following, you find some statements on the project works that were carried out so far. You are kindly asked to indicate how strong you agree or disagree to the statements by marking the appropriate.

The project works are realizable within the given time frame.

I strongly disagree    1    2    3    4    5    I strongly agree

The project is on a good track and will achieve its goals.

I strongly disagree    1    2    3    4    5    I strongly agree

The project consortium is collaborating very good.

Figure 2: Extract of a meeting evaluation form

The responses are then compiled and translated into bar charts, providing a visual and intuitive representation of the feedback. These charts serve as a valuable reference point for assessing the evolution of the project's meetings over time. They enable the project coordinator to maintain an accurate overview of meeting progress and to take informed actions to optimize the efficacy of future interactions. By institutionalizing this evaluation process, the project commits to a transparent and data-driven approach to quality management, ensuring that each meeting is not just a procedural necessity but a substantive step towards achieving the project's ambitious goals.

#### 4.1.2 Evaluation of the Project process

The thorough evaluation of the project process is an indispensable component of any structured endeavor, particularly in the context of an Erasmus+ project. It serves as the barometer by which the project's health is measured, ensuring that every phase, from conception to completion, aligns with the defined goals and objectives. In this chapter, we will expound on the mechanisms and methodologies employed to monitor, assess, and steer the project process towards its successful realization.

The Project Coordinator (PC), Steering Committee (SC), and Advisory Board (AB) will orchestrate the general project monitoring, underpinned by biannual meetings that serve as strategic touchpoints for evaluation and course correction. This collaborative effort aims to maintain the project trajectory through vigilant oversight and adaptive management.

To concretize the evaluation of the project process, a multi-faceted mechanism is established, intertwining communication, coordination, and technological tools to create a cohesive operational framework.

- **Regular Communication Channels:** Vital to the project's success is the establishment of regular communication channels. These include email, video conferencing, and instant messaging platforms. Such channels are not merely for the exchange of information; they are lifelines that connect the consortium, facilitating a real-time exchange of updates, feedback, and concerns, ensuring that all stakeholders remain synchronized with the project's pulse.
- **Coordination Meetings:** The PC is tasked with scheduling coordination meetings with the SC. These sessions are critical for discussing the project's progression, sharing updates, and collaboratively planning future steps. They are opportunities for collective problem-solving and decision-making, ensuring that all participants have a voice in the project's direction. These meetings will alternate between physical presence and virtual platforms, providing flexibility and continuous engagement.
- **Project Management Tool:** An integral part of the evaluation mechanism is a project management tool, such as OpenProject. This tool serves as the central repository for all project-related information, tracking progress, task assignments, and monitoring deadlines. While it centralizes information for supervisory purposes, all sensitive data will be stored on the secure central server of the University of Bremen, ensuring data integrity and protection against unauthorized access.
- **Joint Partners Meetings:** To foster a collaborative environment, joint partners meetings will be organized, bringing together all participating organizations, associated partners, and the AB. These workshops are designed to be brainstorming sessions where partners can collaborate, share ideas, and address challenges. They will be held three times throughout the project lifecycle and will offer both in-person and hybrid participation formats to accommodate all partners.

The evaluation approach outlined in this chapter is crafted to ensure the project not only adheres to its schedule and objectives but also evolves in response to the insights gained from these evaluative practices. The result is a project that is resilient, responsive, and aligned with the needs and expectations of all stakeholders.

### 4.1.3 Work Package Evaluation

The evaluation of work packages within any project, especially one as collaborative and innovative as an Erasmus+ project, is a critical activity that ensures the project's goals are met with precision and efficacy. Work Package 2 (WP2) – the Identification and Description of Spheres of Activity (SoA) in Applied Informatics – is particularly vital as it lays the groundwork for understanding and defining the competencies and skills required in the IT sector across partner countries. This chapter aims to outline the evaluation methods of WP2, ensuring that its objectives are achieved, and results are quantifiable and qualitatively superior.

#### 4.1.3.1 WP2 – Identification and Description of Spheres of Activity (SoA) in Applied Informatics

WP2's specific objectives are geared towards designing work-process oriented tasks within applied informatics, analyzing the IT sector in partner countries to establish a common understanding of typical responsibilities, dovetailing strengths of process orientation with subject systematics, and considering the inclusion of green technologies within the SoA. The methods employed are curriculum analysis, case studies, and workshops, which will collectively assess the spheres of activity

##### a) Specific objectives for WP2

- To design work-process oriented tasks in the field of applied informatics.
- Analysis of the IT sector in all partner countries in order to gain a common understanding of the typical areas of activity.
- Based on the concept of professional fields of action, different strengths of process orientation and the specialist system are to be dovetailed.
- The topic of green technologies is also taken into account in WP-2
- Methods involved: Curriculum Analysis, Case Study, Workshop - Assessment of spheres of activity

##### b) Main results of WP2

- The main results of WP2 will be defined common core spheres of activity in all participating countries as well as country specific.
- A comparative report is published and made known to the project partners and associated companies.

##### c) Qualitative and quantitative indicators of WP2

- Development of a common template for a field of activity and quality criteria for the inclusion of content.
- Development and application of a competence model.
- In each country, an expert workshop is held with at least 3 experts from the sector to define the areas of activity.
- The results from WP2 are presented to the advisory board members for validation or, if necessary, modification.

*Table 1: Performance Indicators for WP2*

Category	Indicator	Responsibility	Deadline
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Quality Assessment	Development of a common template of a sphere of activity based on research results as well as quality criteria (developed together) for including content	ITB	31.01.2024
Definition of core spheres of activities and peripheral spheres of activities	Workshops were held to analyze areas of activity and to conduct an expert workshop in all partner countries	UNIVERSITAET BREMEN  VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU  SAN JOSE-MARISTAK  ENGIM - ENTE NAZIONALE GIUSEPPINI DEL MURIALDO	29/02/2024
Comparative report on findings	Comparative report which includes the finding as well as the procedure is published	VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU	29/03/2024
Defined work processes and typical tasks linked to each of the chosen spheres of activities	In every country there will be executed an expert workshop with at least 3 experts from the sector for defining the spheres of activity	UNIVERSITAET BREMEN  VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU  SAN JOSE-MARISTAK  ENGIM - ENTE NAZIONALE GIUSEPPINI DEL MURIALDO	30/04/2024
Competence model for the project (including transversal competences) and finalized spheres of activity	Competence model is developed including transversal ones in each of the selected spheres of activity on which all partners agree	University of Bremen	15/04/2024
Defining competences of professionals in each sphere of activity	Selected spheres of activities (also in English) with description of needed occupational competences for the further development of work-process oriented tasks for apprentices	UNIVERSITAET BREMEN  VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU  SAN JOSE-MARISTAK  ENGIM - ENTE NAZIONALE GIUSEPPINI	10/06/2024

		DEL MURIALDO	
Dissemination of the results to the networks	Project dissemination at a conference and distribution of results in partners and EU networks/ Webinars of partners on Spheres of Activities in Applied Informatics and Competence Profiles	University of Bremen	30/09/2024

#### 4.1.3.2 WP3 – Development of Learning and Work Tasks (LWT) in a Multimedia Learning Environment

The evaluation of Work Package 3 (WP3) is a critical step in the journey of enhancing vocational education and training through innovative methodologies and tools. WP3 centers on the development of Learning and Work Tasks (LWT) within a Multimedia Learning Environment (MLE), aimed at bolstering occupational, transversal, and media competences among trainees. This chapter will outline the evaluation process, ensuring the specific objectives of WP3 align with the overarching goals of the project and contribute substantively to its success.

WP3 is dedicated to creating work-process oriented LWTs, fostering a didactic approach that integrates theoretical knowledge with practical application. This method signifies a paradigm shift from passive learning to an active, problem-solving educational experience that resonates with the operational realities of the workplace. The objectives are carefully crafted to support the acquisition of specialist occupational content, enhance transversal and media competences, and provide learners with the autonomy necessary for self-organized, responsible learning

##### a) Specific objectives for WP3

- The objective is to design LWT.
- Support the acquisition of specialist occupational content and skills. It also gives targeted support to the development of transversal and media competences (special LWT with focusses on them)
- LWT are going to be displayed and designed in a MLE called “Task-Manager”. In WP3 it is going to be adapted to project needs e.g. content, including competence assessment, work process orientation and languages.

##### b) Main results of WP3

- Main results are 3 LWT created in each country, which are going to be translated and evaluated also by the partners with selected students, associated partners and the advisory board.
- The developed and tested multimedia learning environment (Task-Manager) is open source for partners and interested parties during and after the project phase and will be available in all partner languages.
- The taskmanager will be implemented in the new portal for training and examination staff of the Federal Institute for Vocational Education and Training starting in November.

c) **Qualitative and quantitative indicators of WP3**

- A set of criteria will be developed to ensure equal and high quality of all LWTs developed in all partner countries.
- In addition, a set of requirements will be defined before launch, which will be a living document and will be adapted based on feedback and experience during the development process.
- Feedback tables for partners and people and people involved in testing will be created in each step of this work package and complemented by interviews with the testers, as well as system usability questionnaires to ensure user satisfaction and targeted usability.
- After the participating schools have tested the LWT for their country, a cross-comparison with an LWT from the partner countries will also be carried out to ensure the transnational usefulness of the results in line with the Erasmus idea.

*Table 2: Performance Indicators for WP3*

Category	Indicators	Responsibility	Deadline
Partners Meeting in Spain	Minutes, Workshop participation “Task Manager” and “Learning and Work Tasks”	SAN JOSE-MARISTAK	12/09/2024
Developed and tested multimedia learning environment (Task-Manager)	Quality measures such as testing, a catalog of criteria/requirements for the development of the Task Manager were developed and applied by all partners	UNIVERSITAET BREMEN	31/01/2025
3 Learning and Work Tasks (LWT) created in each country	Three developed LWT in chosen spheres of activities and displayed the task-manager	UNIVERSITAET BREMEN  VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU  SAN JOSE-MARISTAK  ENGIM - ENTE NAZIONALE GIUSEPPINI DEL MURIALDO	15/09/2025
Dissemination of the results to the networks	Presentation of results in a scientific conference as well as contributing to the conference proceedings/ Scientific	SAN JOSE-MARISTAK	31/10/2025

	contributions in EPALE and EDEhub and posts in partner networks/ Webinars from partners on the Task-Manager and development of LWT		
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#### 4.1.3.3 WP-4 – Piloting: Testing, Evaluation, (Re-design) of LWT in VET-Schools

Work Package 4 (WP4) stands as a critical phase in the project, centered around the practical application and validation of the Learning and Work Tasks (LWT) within the vocational education and training (VET) school setting. The objectives of WP4 are instrumental in assessing the effectiveness of the multimedia learning environment (MLE) and its suitability as a didactic-methodical concept for VET schools across the European Union. This chapter will discuss the evaluation methodology, tools, and activities designed to critically assess and enhance the quality of the LWTs developed in the project.

The specific objectives of WP4 include the integration of LWT into VET-school classes to evaluate the multimedia learning environment's performance and the suitability of LWT for work-process-oriented, project-based, and cross-learning vocational training. Additionally, WP4 aims to ascertain whether the LWT lead to an observable increase in vocational and interdisciplinary competence among trainees, as measured by self-assessments and external evaluations. The formative research design used in this work package utilizes a design-based research (DBR) approach. This approach begins with a prototype intervention developed from insights gained in WP2, which is then iteratively tested, evaluated, and modified based on feedback and performance

##### a) Specific objectives for WP4

- A pilot of integrating LWT in VET-school classes in order to see, if the multimedia learning environment meets the requirements of VET schools and to check whether learning and work tasks (LWT) are suitable as a proven didactic-methodical concept for work-process-oriented, project-based and possibly also cross-learning location vocational training in EU countries.
- Check whether an increase in the vocational and interdisciplinary competence of the trainees can be determined on the basis of self-assessments and external assessments.
- Based on the insights gained (WP2), a prototype intervention is already developed during an initiation process.
- A prototype will be developed and tested, evaluated and modified in WP4 in an iterativecyclical design process.

##### b) Main results of WP4

- Testing of twelve (also transnational) LWTs of high quality, with interested parties from applied computer science.
- An experience report as an obvious good practice for future users of the Task Manager and a comparative report on the experience with LWT in an MLE (including student assessment results) in all countries will be produced.

c) **Qualitative and quantitative indicators of WP4**

- DBR in WP4 will include interviews, System-Usability-Scale Questionnaire, Cross-Country Testing (each country also will test LWT from partner countries) as well as self- and third party assessment in order to guarantee a high quality of the LWT.
- System-Usability-Scale questionnaire
- Semi-structured qualitative interview guide
- Catalog of requirements for use within the DBR cycles
- Competence assessment

*Table 3: Performance Indicators for WP4*

Category	Indicators	Responsibility	Deadline
Partners Meeting Serbia	Minutes, evaluation and quality control measures for the pilot	VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU	04/06/2025
Evaluation of high quality and cross-country LWT in the field of applied informatics (public)	Testing of the LWTs twelve trials (also transnational) of the LWTs have taken place	UNIVERSITAET BREMEN  VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU  SAN JOSE-MARISTAK  ENGIM - ENTE NAZIONALE GIUSEPPINI DEL MURIALDO	01/04/2026
Evaluation of LWT dealing with media competences and inclusion in a digital learning environment	Evaluation of media competences and inclusion within LWTs in a MLE	UNIVERSITA' DEGLI STUDI DI BERGAMO	31/01/2026
Submission National country experience report	Submission of the content of country experience report (including English version)	UNIVERSITA' DEGLI STUDI DI BERGAMO  UNIVERSITAET BREMEN  VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU	31/05/2026

		SAN JOSE-MARISTAK	
Comparative report of experiences	Comparative report of pilot experiences	UNIVERSITA' DEGLI STUDI DI BERGAMO	30/06/2026
Dissemination of the results to the networks	Presentation of results in a scientific conference as well as contributing to the conference proceedings/ Scientific contributions in EPALE and EDEhub and posts in partner networks/ Webinars from partners on the Task-Manager and development of LWT	UNIVERSITA' DEGLI STUDI DI BERGAMO	01/07/2026

#### 4.1.3.4 WP5 – Defining a Sector Qualification Frame (SQF)

Work Package 5 (WP5) is a strategic component of the project, targeting the establishment of a Sector Qualification Framework (SQF) for applied informatics. This chapter will provide a comprehensive overview of the evaluation process for WP5, underscoring its alignment with the project's broader aim of enhancing transparency, comparability, and recognition of qualifications across the European Union. The specific objectives, evaluation mechanisms, and anticipated outcomes related to the SQF will be thoroughly examined, establishing the framework's critical role in facilitating skilled worker mobility and supporting investment across national borders.

The central ambition of WP5 is to create a Sector Qualification Framework that has not yet been established for the applied informatics sector. This framework is expected to significantly enhance the comparability of qualifications from participating countries, thereby increasing the transfer potential of these qualifications. The SQF will serve as a practical tool for both individuals and companies, tailored to the specific needs of the applied informatics sector, respecting national regulations and cultural considerations. The underlying rationale of WP5 revolves around fostering transnational transparency, comparability, and recognition of existing qualifications to aid in the mobility of skilled workers and to support companies looking to invest in other countries

In summary, this chapter will detail the systematic approach to the creation, evaluation, and dissemination of the SQF, highlighting its potential impact on the European labor market and its contribution to the project's overarching goals. The SQF stands as a testament to the project's commitment to addressing the critical need for a qualified workforce in applied informatics, thereby supporting economic growth and integration within the European educational and occupational frameworks.

##### a) Specific objectives for WP5

- Objectives of WP5 is transnational transparency, comparability and recognition options of existing qualifications in the sector applied informatics for the sake of skilled workers mobility and for companies, who want to invest in other countries.

**b) Main results of WP5**

- Output will be a Sector Qualification Framework (SQF) in all languages plus English for applied informatics including the referencing of existing national qualifications from Germany, Serbia, Spain and Italy.
- All project partners have a stringent network in the field of applied informatics in Europe, which will be used to improve the situation of both employees and companies in this fast-moving sector by facilitating the recruitment of skilled workers from abroad and opening up career paths in Europe.
- The partners will promote the sector qualification framework especially also in European networks, aiming that more countries will position themselves here.

**c) Qualitative and quantitative indicators of WP5**

- At the end of the work package validation workshops with approximately 8 experts from the sector will take place in order to validate the results.
- Furthermore, a questionnaire for experts from the sector will be designed and send out together with the developed SQF by -Email in order to distribute it for evaluation to a broader audience.
- After evaluating the results, the SQF will be published on the project website, the websites of each partner, in partner networks as well as in European networks like EPALE/EDEhub.
- The project will finish with national conferences on the project results executed in national language in order to attract a broad range of actors in applied informatics and VET.

*Table 4: Performance Indicators for WP5*

Category	Indicator	Responsibility	Deadline
Product: Report on NQFs	Sector-independent, approx. 15 pages	VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU	01/04/2026
Analysis of Regulations/Curricula	Short comparative report on qualifications in the sector, incl. linkage of the qualifications to NQFs and EQF.	VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU	17/04/2026
SQF draft	Drafted (transnational) SQF, including detailed examples for LO on the levels covered by the relevant qualifications in DE, ES, RS and IT	VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU	31/05/2026
Online-questionnaire	Evaluating the drafted SQR within the sector of applied informatics	VISOKA POSLOVNA STRUKOVNIH SKOLA	12/06/2026

		STDIJA U NOVOM SADU	
Product: transnational validated SQF	including referencing all relevant qualifications from DE, ES, RS, IT	UNIVERSITA' DEGLI STUDI DI BERGAMO  UNIVERSITAET BREMEN  VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU  SAN JOSE-MARISTAK	12/09/2026
Final Conferences	In national languages on the results/ Webinar in ENG for a broad European Audience. Dissemination activities in European and own networks as well as handing in a proposal at a appropriate conference of all partners	VISOKA POSLOVNA STRUKOVNIH SKOLA STDIJA U NOVOM SADU	10/10/2025

#### 4.1.4 Annual evaluation

Within our Erasmus+ project, the annual evaluation serves as a pivotal moment to reflect on our journey towards creating a transformative educational experience in applied informatics. By employing a SWOT analysis, we aim to dissect our project's internal dynamics and external influences comprehensively. This process is vital for assessing our strides in developing innovative Learning and Work Tasks (LWT), adapting the multimedia learning environment to VET schools' needs, and establishing a Sector Qualification Framework (SQF) to facilitate skilled worker mobility across Europe.

#### **SWOT Analysis in the Context of the Project**

##### Strengths:

- Evaluate the internal positive attributes of the project.
- Analyze the robust aspects of the project management processes, partnerships, and resource allocations that contributed to successes.

##### Weaknesses:

- Critically assess areas where the project did not perform as expected.
- Identify any shortcomings in communication, coordination, or execution within the project framework.

##### Opportunities:

- Investigate external factors that the project could exploit to its advantage.
- Consider trends within the Erasmus+ programme, potential funding opportunities, emerging educational technologies, and partnerships that could be strengthened or initiated.

Threats:

- Anticipate challenges that could hinder project progress.
- Analyze risks associated with policy changes, funding, partner dynamics, and broader socio-economic factors.

## **Process and Implementation**

Facilitated by the Project Coordinator, the annual SWOT analysis will engage stakeholders in a structured reflection process. This inclusive approach ensures that every voice is heard, from the technical developers of the multimedia learning environment to educators directly implementing LWT in their classrooms. The synthesis of these diverse perspectives will culminate in a report that not only outlines our findings but also charts a path forward, directly influencing our strategies for the upcoming year.

## **Integration with Broader Project Activities**

The insights from our annual SWOT analysis will directly inform the iterative development processes of our LWT and the multimedia learning environment. Furthermore, the evaluation will play a crucial role in refining the SQF, ensuring it remains responsive to the dynamic needs of the applied informatics sector and the broader European labor market.

Concluding with a strategic session, the annual SWOT analysis reaffirms our commitment to adaptive growth and continuous improvement. This dedicated chapter underscores the importance of reflective evaluation in steering our project towards achieving its ambitious goals, enhancing vocational education and training across Europe, and fostering an environment where skilled workers and companies in applied informatics can thrive in an interconnected world.

## **4.2 External Monitoring**

In the dynamic and collaborative landscape of an Erasmus+ project, external monitoring stands as a crucial pillar ensuring the project's alignment with its intended goals and the broader educational ecosystem. This chapter delves into the structured mechanisms established for external review and feedback, underpinning the project's commitment to excellence, relevance, and impact. Through the establishment of an Advisory Board and the rigorous evaluation of events and webinars, the project embraces a transparent, accountable approach to quality assurance and stakeholder engagement. These mechanisms not only foster a culture of continuous improvement but also ensure that the project remains responsive to the needs of its diverse audience and stakeholders. By prioritizing external input and data-driven insights, the project solidifies its foundation for delivering innovative, impactful outcomes in vocational education and training.

### **4.2.1 Advisory Board**

The project leverages the expertise of an external Advisory Board (AB), comprising esteemed industry experts and academics. This board plays a pivotal role in the project's strategic direction and quality assurance. Regular reviews and feedback sessions are scheduled every quarter to scrutinize project

activities and relevant documents. This structured engagement ensures that the project remains aligned with the latest industry standards and educational frameworks, incorporating a broad spectrum of perspectives into its evolution. The AB's insights are invaluable, offering a blend of critical oversight and constructive feedback that informs the project's continuous improvement.

#### 4.2.2 Evaluation of events and webinars

Events and webinars serve as critical platforms for disseminating knowledge, fostering collaboration, and engaging with a wider audience. The project adopts a dual-faceted approach to evaluate these activities:

##### **Participant Surveys**

Immediately following each event or webinar, surveys are distributed to participants. These surveys are designed to capture feedback on the content, delivery, and overall effectiveness of the session. Key metrics such as participant engagement, clarity of presentation, and applicability of the information shared are assessed through this feedback.

##### **Analytics Tools**

For webinars, advanced analytics tools are utilized to gain insights into participation rates, viewer duration, interaction levels, and replay engagements. These metrics offer a quantitative measure of the event's reach and impact.

The synthesis of qualitative feedback from surveys and quantitative data from analytics allows for a comprehensive evaluation of each event and webinar. This process not only highlights areas of success but also identifies opportunities for enhancement. Insights gleaned from these evaluations are crucial for refining future events, ensuring they meet the needs and expectations of the target audience effectively.

## 5 Financial reporting

The financial administration of the project and its funds will be managed by the ITB (Institute of Technology and Education at the University of Bremen), in close and transparent cooperation with the financial managers of each partner. This will ensure proper budget control and time management throughout the project.

##### **Payments**

- 1st advanced payment (40 %) will be transferred after signing of the consortium agreement
- 2nd advanced payment (40 %) will be transferred after approval of continuous report
- Final Payment (20 %) will be transferred after approval of final report

##### **Changes in the budget**

- In general, the budget is not flexible (grant agreement § 5.5)
- The budget is assigned to Work Packages (WP) and Activities (activities are listed in Annex 1) of the amendment and in the calculation)
- Changes require amendments in grant agreement
- Shifts between WPs are only possible if the affected WPs are not completed and if they are justified by the technical operation of the project

## Reporting

- Continuous Reporting includes technical report and financial report
- 1st reporting period 01.11.23 - 31.07.25
- 1st report due 30.09.25 (in order to get second advanced payment)

## Financial Documentation

- Consortium obliged to provide all information and documents the EU asks for (grant agreement § 19)
- Consortium are obliged to keep all records for 5 years after the final payment (§ 20.1)

Consortium provides to coordinator:

- Timesheets workdays to activities
- Copies of Contract
- Proof of Payment
- Travel: (receipt of hotel, flight tickets etc.)
- Others (only VPS and SJM): Invoices/Receipts for catering, rent etc. for project meetings

## 6 Risk Management

Risk management within the MULE project is a critical component that ensures its smooth execution and successful outcome. The project employs a proactive approach to identify potential risks and implement strategic measures to mitigate them. This chapter outlines the comprehensive risk management strategies devise Risk Mitigation Strategies:

### Low Quality of Project Deliverables

A Quality Assurance Committee is integral to the project management structure, tasked with overseeing the quality of all project deliverables. This committee's creation ensures a consistent, high-quality standard across all outputs.

Additionally, a partner is assigned the responsibility of developing a Quality and Evaluation Assurance Plan. This plan is dedicated to maintaining high-quality standards in both the project's implementation phase and its outputs. The probability of encountering quality issues is deemed low due to these preemptive measures.

### Lack of Communication Between the Partnership/Conflicts

To foster an environment of open and continuous communication, the project partners have set various objectives. These include the establishment of project management structures and the scheduling of regular partnership meetings.

These meetings, coupled with a structured reporting phase that covers both activities and finances, are designed to ensure the seamless execution of project activities. A Steering Committee will also be established, meeting regularly to discuss progress and address any issues. The likelihood of communication problems or conflicts arising is considered low.

**Problem in Understanding and Defining Project Schedule/Delays**

At the project's onset, the project plan will be expanded to include a more detailed outline of the forthcoming activities, deadlines, and tasks allocated to each partner. This plan will be regularly updated following partner meetings to mitigate any risks related to scheduling misunderstandings or delays. The probability of this risk is low.

**Lack of Availability of Key Staff**

Recognizing the potential impact of key staff unavailability, each partner has prepared a team capable of covering for one another. This collective approach across the partnership ensures that project activities can proceed without interruption, even in the absence of key personnel. The risk associated with staff availability is rated as medium.

**New Pandemic Restrictions**

In response to the ongoing uncertainty posed by the global pandemic, all consortium partners are well-versed in utilizing technology for both meetings and collaborative work. Many have experience in organizing online programs and events, which positions the project to adapt swiftly should new restrictions be imposed. This flexibility ensures that project actions can transition online, maintaining momentum despite external challenges. The probability of this risk affecting the project's progress is medium.

The MULE project's risk management strategies are designed to preemptively address potential challenges, ensuring the project's resilience against internal and external uncertainties. Through the establishment of dedicated committees, the implementation of comprehensive plans, and the flexibility to adapt to changing circumstances, the project is well-positioned to achieve its objectives while maintaining high standards of quality and collaboration to address various challenges that may arise during the project lifecycle.



Co-funded by  
the European Union

Multimedia Learning Environment for Work-Based Learning Tasks for VET-Students in the Sector of Applied Informatics (MULE4VET)	11.23	12.23	01.24	02.24	03.24	04.24	05.24	06.24	07.24	08.24	09.24	10.24	11.24	12.24	01.25	02.25	03.25	04.25	05.25	06.25	07.25	08.25	09.25	10.25	11.25	12.25	01.26	02.26	03.26	04.26	05.26	07.25	08.26	09.26	10.26	11.26	Working Days (approx)	Duration of WP (approx)
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33	M34	M35	M36		
WP1: PM	WP Leader: ITB																																				36	
WP2: Identification SoA	TL: ITB																																				238	8
PM Germany	TL: ITB, VPS, SJM, ENGM																																					
Analysing SoA in each country	TL: ITB																																					
Comparison of SoA	TL: ITB																																					
Defining tasks and work-pro in core SoA	TL: ITB																																					
Defining a competence model	TL: UBM																																					
Defining competences of professionals in SoA	TL: ITB, VPS, SJM, ENGM																																					
Evaluation of SoA	TL: ITB																																					
Dissemination of WP	TL: VPN / ITB																																					
WP3: Developing LWT/MLE	WP Leader: SJM																																				350	11
PM Spain	TL: SJM																																					
Testing current Task-Manager	TL: ITB, VPS, SJM, ENGM																																					
Finalized catalogue of requirements	TL: SJM																																					
Final design of MLE	TL: ITB																																					
Development of LWT	TL: ITB, VPS, SJM, ENGM																																					
Dissemination of WP	TL: SJM																																					
WP4: Piloting	WP Leader: UBG																																				431	13
Partners Meeting Serbia	TL: VPS or UBM																																					
Development of tool for evaluation of Task-Manager	TL: VPS																																					
Development of tools for evaluation of LWT	TL: UBG																																					
Testing LWT in VET-schools with students	TL: ITB, VPS, SJM, ENGM																																					
Country-experience report	TL: ITB, VPS, SJM, ENGM																																					
Comparative report of experiences	TL: UBG																																					
Evaluation of LWT dealing with media competences and inclusion in a digital learning environment	TL: UBG																																					
Dissemination	TL: UBG																																					
WP5: SQF	WP Leader: VPS																																				203	6
Analysis of state of the art or implementation and formulation of NOF	TL: VPS, ITB, SJM, UBG																																					
Analysis of regulations/curricula in applied informatics	TL: VPS, ITB, SJM, UBG																																					
Development of a LO-oriented SQF	TL: VPS																																					
Development of a questionnaire for distribution	TL: VPS																																					
Validation Workshops (WS)	TL: ITB, VPS, SJM, UBG																																					
National conferences/Webinars	TL: VPS																																					

Annex 1: Gantt of MULE

# Evaluation Questionnaire MULE JF

Please be kind enough to fill out this evaluation questionnaire. The information will be used to assess the structure and processes of our project and, if necessary, to identify indications for improvement. The analyses of the questionnaires will be presented and discussed during next partner meeting.

## 1. Project Performance

In the following, you find some statements on the project works that were carried out so far. You are kindly asked to indicate how strong you agree or disagree to the statements by marking the appropriate.

1. The project works are realizable within the given time frame.

*Markieren Sie nur ein Oval.*

1   2   3   4   5

I str      I strongly agree

2. The project is on a good track and will achieve its goals.

*Markieren Sie nur ein Oval.*

1   2   3   4   5

I str      I strongly agree

3. The project consortium is collaborating very good.

*Markieren Sie nur ein Oval.*

1   2   3   4   5

I str      I strongly agree

4. The project progression is transparent.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

5. The project management & administration is implemented well.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

6. I am sufficiently involved in the project activities.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

## 2. Cooperation and communication within the project partnership

In the following some statements on the general structure of cooperation within our project are given. Please indicate how strongly you agree or disagree to the statements by marking the appropriate!

7. We all share a common understanding of what the project is about.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

8. We have a common understanding how to get things done.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

9. The roles within the project consortium are clear.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

10. Our consortium has developed rules and norms that guide our cooperation and social interaction in the team.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

11. The planned communication channels are sufficient to achieve excellent project results.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

12. The planned communication channels are sufficient to achieve excellent project results.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

13. Project partners maintain an open communication.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

14. The communication among the consortium is very good.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

15. There is a free sharing of information in the partnership.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

### 3. Responsibility and commitment

Please give your estimation of the project partners' responsibilities and commitment by indicating how strongly you agree or disagree to the statements below.

16. All members of the consortium put much effort in their tasks.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

17. There is a high level of accountability within the partnership.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

18. The partners are acknowledging skills and expertise of other team members.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

19. The partners' responsiveness is excellent.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

#### **4. Feedback on the organization of the meeting**

Please give feedback on the organization and management of the meeting by indicating how strongly you agree or disagree to the statements by marking the appropriate!

20. The meeting was well structured.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

21. The meeting addressed all necessary aspects that I needed for carrying out the project.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

22. The meeting provided enough opportunities to discuss and exchange ideas.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

23. The meeting prepared me well for the next steps of the project work.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

24. The agenda covered all relevant subjects.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

25. Information on travel and accommodation was appropriate.

*Markieren Sie nur ein Oval.*

1 2 3 4 5

I str      I strongly agree

26. General Comments / Suggestions

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