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# EU best practices-based education in Radiation Protection and Nuclear Safety Culture for the Belarusian Academia/ RADIUM

## Quality Assurance Plan

**Prepared by:**

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	UPV

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<b>Control of Reviews</b>	
Iryna Kimlenka	February 7, 2021
Natalia Valko	February 13, 2021
Ulrich W. Scherer	February 24, 2021
Sonja Schreurs	February 26, 2021
Pavel Hliatsevich	March 3, 2021
Paola Di Marzo	March 4, 2021
Domiziano Mostacci	March 5, 2021
Sebastian Martorell	March 10, 2021

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# 1. Introduction

This document presents the Quality Assurance Plan (QAP) for Erasmus + 609721 project "EU best practices-based education in Radiation Protection and Nuclear Safety Culture for the Belarusian Academia" (RADIUM). It is developed in the scope of the WP 6 (Quality Plan) of the Project in compliance with the Project description and all applicable rules & guidelines.

Quality Assurance Plan (QAP) is an integral part of the project and aims to ensure that objectives are met in the most effective way. The QAP defines the general approach to quality control, internal and external evaluation, and the procedures to be followed by the partners for effective communication as well as production and documentation of the Project deliverables.

The QAP addresses the project activities and their objectives, and contains a set of scheduled tasks designed to monitor quality indicators of the level of progress in achieving the project objectives as proposed in the Logical Framework Matrix (LFM) of the detailed project description. These indicators focus on the quality of project outputs and deliverables, cooperation mechanism, administrative management, communications flows and the level of satisfaction of target groups.

For each quality assurance task, the QAP determines the responsible partner(s), the timeframe, the procedures and the tools for implementation, the expected outputs or products, as well as the respective quality criteria to measure the level of progress.

It is important to stress that along with project partnership comes a set of responsibilities described in the Grant Agreement, the project application and the Partnership Agreement. It is expected that all project partners have good knowledge and understanding of these documents.

## 2. Quality control and monitoring strategy

The basis for quality control and monitoring of the project implementation is introduced in section E of the detailed project description (Figure 1). The project foresees two types of evaluation: formative (step by step) and summative (at the end of the project), both of which are carried out at both internal and external level and coordinated by the Quality Assurance Committee (QAC). The aim is a continuous improvement, according to the PDCA cycle: a. PLAN – establish the objectives and processes necessary, b. DO – implement the processes, c. CHECK – monitor and evaluate, d. ACT – apply actions for necessary improvements

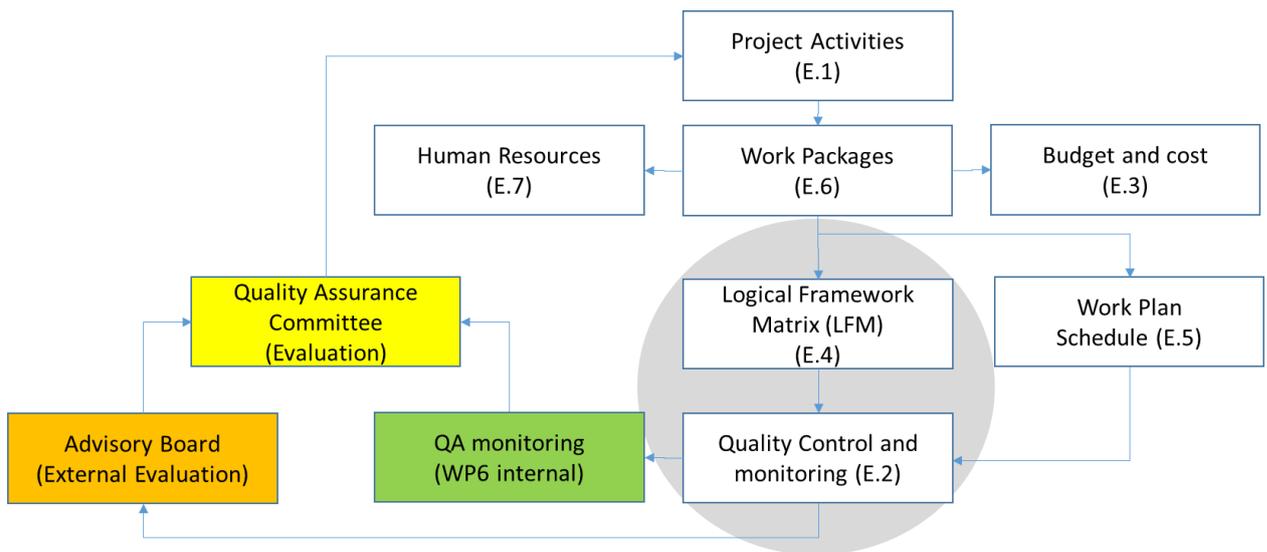


Figure 1. Quality control and monitoring of the project.

The strategy of the project quality evaluation is based on the pillars introduced in the following sections.

## 2.1 Internal formative evaluation

The Internal Formative Evaluation (IFE) presupposes the feedback from all staff involved in the project, with the aim to provide a step-by-step internal evaluation of the project to highlight issues and problems emerged and to validate completed tasks. The IFE will take into consideration:

- the respect of deadlines and project timetable;
- the delivery of products and reports in accordance with the project plan;
- the respect of the tasks distributed,
- the quality in the organization of the events and trainings,
- the quality and effectiveness of the internal and external communication;
- the respect of budget limitations and, in general, efficient and effective use of resources.

The QAC will evaluate all these aspects using ad-hoc forms and questionnaires to obtain qualitative data (i.e. the meeting of specified deadlines, achievement of targets and indicators) and quantitative data (i.e. answer to questionnaires and reports). Data will be gathered from all project partners in WP6 and UPV will report on the quality of the project development to the QAC on a six-monthly basis. In addition, the UPV will make available to the QAC the information required to conduct its meetings on the basis of the data available prior to the meeting.

## **2.2 External formative evaluation**

The External Formative Evaluation (EFE) will be subcontracted by the Consortium. The University of Bologna will subcontract 2 external evaluators for a step-by-step evaluation. The 2 evaluators will have different and relevant competencies in the areas of expertise with regard to the project: Radiation protection, nuclear physics, nuclear chemistry, nuclear engineering, and nuclear safety. External evaluators have also the responsibility to suggest corrective actions if specific outcomes are not produced according to the set indicators and quality standards. The 2 evaluators will compose the Advisory Board (AB). The external evaluators will collect the necessary data and report on the quality of the project development to the QAC on a six-monthly basis.

## **2.3 Students and teachers' feedback**

At the end of WP4, the students and teachers will provide an overall feedback of the new MS courses and internship programs by means of questionnaires.

## **2.4 Summative evaluation**

A Summative Evaluation meeting will take place at the end of the project and it will involve the entire staff of the project and the AB. The aim is to produce a conclusive evaluation of the overall project, highlighting both positive and negative aspects; the evaluation will be disseminated widely (to external stakeholders and policy makers in the first place) as a proof of the project achievements and hence build sustainability. The final evaluation will help the project partners in focusing possible follow-up and replication activities.

# **3. Quality assurance monitoring methodology**

This section presents the methodology for conducting project quality monitoring. It addresses the main RADIUM project processes depicted in Figure 2.

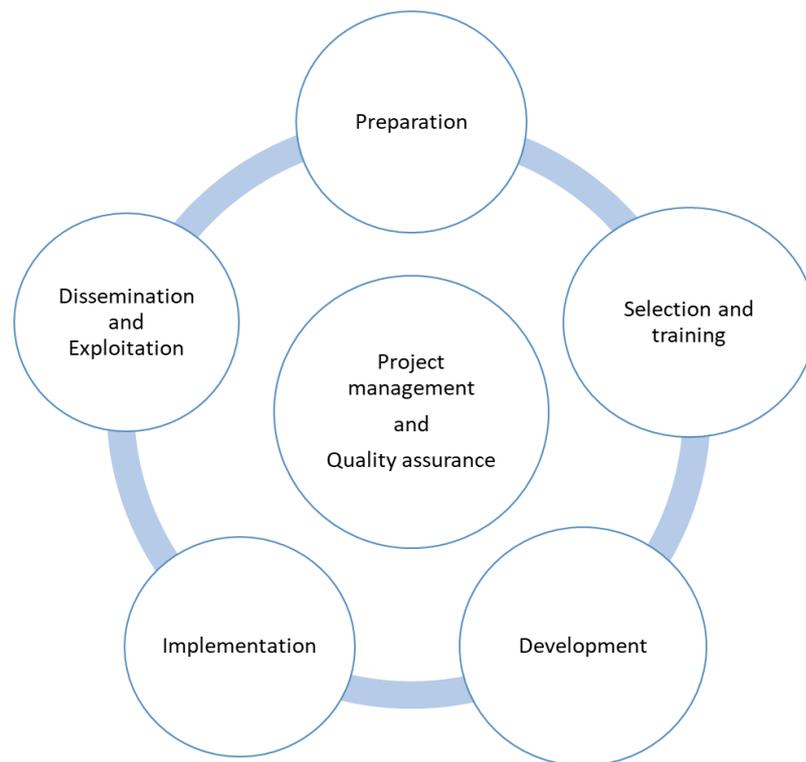


Figure 2. Main RADIUM project processes

The methodology consists of several elements outlined in Figure 3 and described in the following sections. In summary, the methodology considers the project activities, their objectives, and the indicators of the level of progress in achieving such objectives, as proposed in the Logical Framework Matrix (LFM). A matrix of QA procedures, tools, and forms (when necessary) is proposed, to be used to collect data as input to the monitoring process. Next, quality assurance tasks must be conducted by the responsible partner along the project duration following the corresponding procedures, tools and forms of implementation to produce such inputs according to the schedule timeframe. The respective quality criteria to measure the level of progress must be indicated, depending on the type of quality indicator and the activity being monitored. A QAIM matrix should summarize the main results of QA monitoring to facilitate the internal formative evaluation and the QAC decision-making.

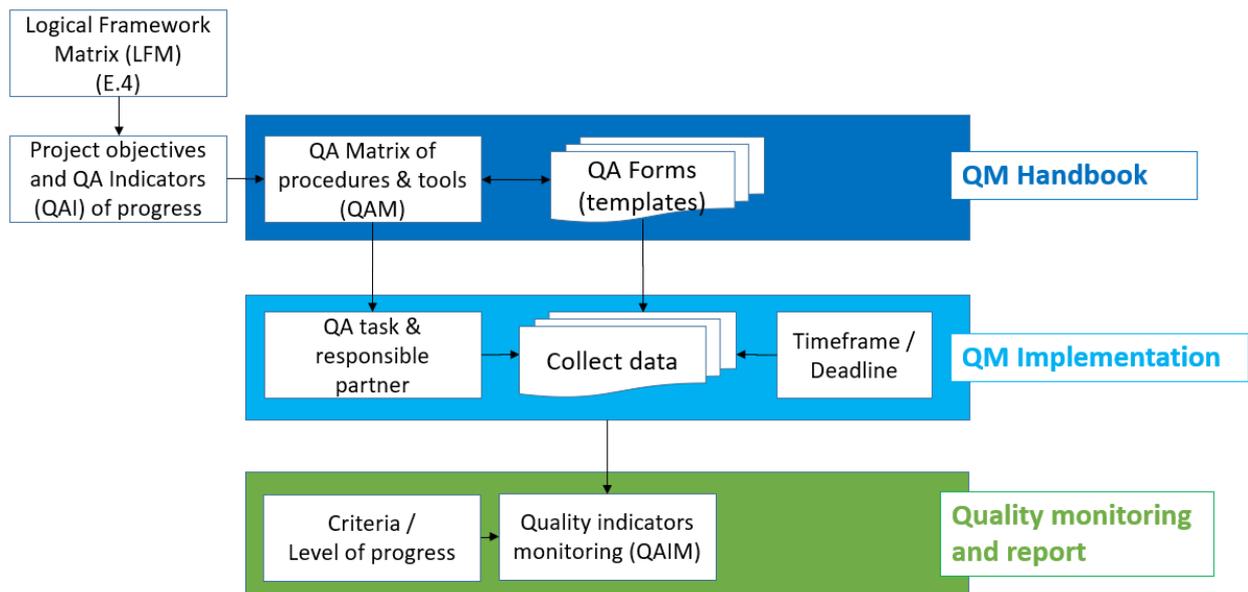


Figure 3. Overview of the quality monitoring methodology

### 3.1 RADIUM quality assurance indicators

Quality assurance indicators (QAI) are included in the official project Logical Framework Matrix (see E4) for each project activity.

### 3.2 RADIUM quality assurance matrix and tools

The Quality Assurance Matrix (QAM) describes the quality standards, procedures, and tools for monitoring the above indicators depending on the process considered of the RADIUM project (Table 1). The following QA tools (QAT) have been considered:

- Guidelines
- Standard templates, such as:
  - SC meeting reports
  - Feedback forms for internal evaluation (level of satisfaction, challenges faced, recommendations for improvement)
  - Travel reports
  - Financial reporting (timesheets + staff declarations + tender and quotes for equipment, etc.)
  - Work Package Reports
- Questionnaires
- Evaluation forms
- External evaluations / reports



Table 1. Quality Assurance Matrix of standards and tools for the main processes of the RADIUM project.

<b>Project Process</b>	<b>QA objective</b>	<b>QA Standard</b>	<b>Type of Input (for quality assurance)</b>
Project report Management	Verification that project schedule activities are performed via a documented process	<ul style="list-style-type: none"> <li>- Review meetings occurs</li> <li>- Review meetings are well attended</li> <li>- Modifications to the project are approved and tracked</li> <li>- Roles and responsibilities are well defined</li> <li>- Action items from review meetings are documented and tracked to completion</li> </ul>	<ul style="list-style-type: none"> <li>- SC meeting agendas</li> <li>- SC meeting minutes</li> <li>- SC meetings participants list</li> <li>- RADIUM project website</li> <li>- E-mails and communications of each update in the project</li> <li>- Progress reports</li> <li>- Final report</li> </ul>
Preparation process	Verification that preparation process activities are performed via a documented process	<ul style="list-style-type: none"> <li>- Round tables summary report</li> <li>- Attendees questionnaires</li> <li>- Policy Paper</li> </ul>	<ul style="list-style-type: none"> <li>- Detailed map</li> <li>- Round tables minutes</li> <li>- List of conference participants</li> <li>- Questionnaires for conference attendees</li> <li>- Policy report</li> <li>- Stakeholder/authorities approval</li> </ul>
Selection and Training process	Verification that selection and training process activities are performed via a documented process	<ul style="list-style-type: none"> <li>- Conference reports</li> <li>- Participant questionnaires</li> <li>- Training weeks reports</li> <li>- Training Programs</li> </ul>	<ul style="list-style-type: none"> <li>- National conference participant list</li> <li>- Conference proceedings (hard copy + e-copy)</li> <li>- Questionnaires for conference participants</li> <li>- Training weeks presentations</li> <li>- Training weeks materials</li> <li>- Training weeks list of trainees and trainers</li> <li>- Questionnaires for trainees and trainers</li> </ul>
Development process	Verification that development process activities are performed via a documented process	<ul style="list-style-type: none"> <li>- Education curricula</li> <li>- Accreditation documents</li> <li>- Modules task force reports</li> <li>- Task force questionnaires</li> <li>- Laboratory equipment reports</li> <li>- Teaching and learning material</li> </ul>	<ul style="list-style-type: none"> <li>- RP&amp;NSC Curricula schemes</li> <li>- Accreditation documents</li> <li>- Courses material (hard copy + e-learning modules)</li> <li>- Questionnaires for developers/participants</li> <li>- Tender documentation and inventory record</li> <li>- Report Records on equipment usage</li> </ul>



		<ul style="list-style-type: none"> <li>- Participant's questionnaires</li> <li>- Summer schools' feedback: students and professors' questionnaires</li> <li>- Formal MS accreditation report</li> </ul>	<ul style="list-style-type: none"> <li>- Summer school programs and enrolments</li> <li>- Questionnaires for seminars participants</li> <li>- Questionnaires for students</li> <li>- Questionnaires for professors</li> <li>- Official accreditation documentation</li> </ul>
Implementation process	Verification that implementation process activities are performed via a documented process	<ul style="list-style-type: none"> <li>- Students' enrolment</li> <li>- Students' progress report</li> <li>- Traineeship's proposals</li> <li>- Winter schools reports and feedback (WP 6.3)</li> </ul>	<ul style="list-style-type: none"> <li>- List of students registered</li> <li>- Students' evaluation records and credit attests delivered</li> <li>- List of traineeships offered</li> <li>- List of winter school participants</li> <li>- Winter school participants presentations</li> <li>- Questionnaires for WS participants</li> <li>- Questionnaires for WS visiting professors</li> <li>- Questionnaires for WS EU students</li> </ul>
Dissemination and exploitation	Verification that dissemination and exploitation process activities are performed via a documented process	<ul style="list-style-type: none"> <li>- Dissemination plan</li> <li>- Web site</li> <li>- Social media campaign</li> <li>- Dissemination material</li> <li>- Dissemination events and reports</li> <li>- Dissemination of trainees, summer, and winter schools</li> <li>- Collaboration documents</li> <li>- Final conference and report</li> </ul>	<ul style="list-style-type: none"> <li>- Project web site creation</li> <li>- Web portal and social media traffic statistics report</li> <li>- Dissemination material (logo, templates, ...)</li> <li>- MS course brochures (all types of courses)</li> <li>- MoUs and collaboration documents HEIs/partners</li> </ul>
Quality Assurance	Verification that quality assurance process activities are performed via a documented process	<ul style="list-style-type: none"> <li>- Quality Assurance Plan</li> <li>- Monitor to steer project</li> <li>- Students and teachers' questionnaires</li> <li>- Quality Assurance final report</li> </ul>	<ul style="list-style-type: none"> <li>- QA handbook</li> <li>- Monitoring reports</li> <li>- QAC meeting minutes</li> <li>- QAC evaluation reports</li> <li>- External evaluators' reports</li> <li>- MS evaluation (based on questionnaires)</li> <li>- Final report of QAC and external evaluators</li> </ul>

### **3.3 RADIUM quality assurance matrix implementation**

Implementation of the QA matrix is necessary for close monitoring of the RADIUM quality indicators at different stages of project implementation, to improve where necessary and possible.

A handbook of quality management procedures (QM handbook) has been developed to simplify the process of collecting QA data for the RADIUM project. These procedures cover the whole project activities.

Responsible partner of each project activity will use QM procedures (handbook) along the activity duration according to the schedule to produce QA data.

### **3.4 RADIUM quality monitoring and report**

A matrix of quality indicators will be prepared in WP6 that summarizes the information provided by the QA data collected. The QA indicators matrix will support quality control and monitoring and the QAC decision-making.

## **4. QAC workflow**

The QAC will meet and evaluate bimonthly the implementation of the project. QAC members will meet, with teleconferencing means, and examine any issue that may have been brought to their attention, or answers to questions they may have posed.

External evaluators will work independently and deliver their assessments every six months. They can use the data collected but acting as external observers, and given their expertise, they should focus on the content of educational material.

The QAC will then produce a synthesis of the evaluations (internal and external) and report to the steering committee (SC), at least every six months.

The QAC in close collaboration with the external evaluators will prepare various types of questionnaires to be distributed in due time to students, teachers and all parties involved.

Formative Evaluations will be issued by the QAC every 6 months, compounding internal and external evaluation, while a conclusive Summative Evaluations (SE) will be provided by the QAC, always in collaboration with the external reviewers, at the end of the project. One of the formative evaluation reports will be issued by the QAC at the end of July, close to the mid-term evaluation of the project, in order to support the preparation of the intermediate report for EACEA.

Different types of meetings will be organized according to a specific timeline during the entire project period. The QAC will coordinate the following groups of meetings:

- Internal formative evaluation meetings (IFE): they take place during all general meetings (conference, coordination meetings) and involve the whole EU and Belarusian



staff. During these meetings specific issues emerged during the project will be discussed, completed tasks will be evaluated.

- External formative evaluation meetings (EFE): They take place at all general meetings, and anyhow every six months. During these meetings specific issues emerged during the project will be discussed, WP activities will be evaluated.
- Summative evaluation meeting: it takes place at the end of the project and involves the QAC and the AB. Their conclusions are presented to the whole partnership on occasion of the
- final coordination meeting. After gathering the feedback from the assembly, the QAC and AB will jointly write up the conclusive Quality Assurance document to be included in the final report.