

D7.1 Project Quality Handbook

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Status table

Status	Author	Changes	Date	File name
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Draft	K. Kordas (UO)	References inserted	10-03-2021	QMP_10-03-2021
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The purpose of the Project Quality Handbook

The Project Quality Handbook (PQHB) lays down the main principles of quality assurance, which provides indicators and methods to assist the partners in the coherent execution of project tasks. The first PQHB is compiled at the beginning project by the **Quality Manager** and then updated at the aftermath of kick off meeting as well as later (every 12 months) if necessary. The handbook includes practical guidelines and recommendations for management, communication, good practices, conflict resolution, innovation management and project reporting, among others. The major tasks within the corresponding workpackage are as follows:

- 7.1. The Quality Manager (K. Kordas, UO) drafts the first version of PQH, which will be revised during the project kick-off meeting. (M3)
- 7.2. Selection of the External Expert Advisory Board (representatives of collaborating companies). (M3)
- 7.3. Revision and reporting of PQH, when needed. (M12, M24)

Note: The PQHB is a generic but important document, which is practically valid for monitoring the quality of any project (not only Erasmus+).¹ Therefore, it is advised that the participants of TACMEE familiarize themselves with its content, not only for the sake of the current project but also for utilizing its logical framework for subsequent efforts.

1. Partners and the Project Leader Board

Project partner	PI
P1 - University of Szeged (USZ) Coordinator	Prof. Zoltán Kónya
P2 - University of Oulu (UO)	Prof. Krisztian Kordas and Prof. Riitta Keiski
P3 - National University of Mongolia (NUM)	Dr. Enkhdul Tuuguu
P4 - German-Mongolian Institute for Resource and Technology (GMIT)	Prof. Gantuya G.
P5 - School of Agroecology and Business (SAB)	Prof. Mend-Amgalan P.

2. Management

The highest management body of the project is the **Project Leader Board** (PLB) having a delegate from each partner organisation. The members will be selected at the first project meeting. PLB monitors the overall progress of the project in reference to the main objectives. PLB conveys twice a year and as the main decision body steers the actions whenever necessary. Decision is made by voting (quorum is a necessary condition to be eligible for voting).

¹ <http://eu-mong.eu/Materials/Outcomes/EU-Mong%20Quality%20management%20plan.pdf>; https://silknow.eu/wp-content/uploads/SILKNOW_D1.1_m2.pdf; https://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/10/QCMP-Quality-Control-and-Monitoring-Plan-v3_2018.10.12.pdf; <https://www.nicopa.eu/images/downloads/documents/NICOPA%20QA%20Plan.pdf>; http://www.if4tm.kg.ac.rs/pub/download/14625247744429_qa_plan_if4tm_v.4.pdf

The **Coordinator** is responsible for overseeing the executive actions and for the financial management of the project. The communication between the project and the European Commission is carried out by the coordinator. Any changes in the workplan including tasks, deliverables, timing of actions, reallocation of budget or alike shall be communicated with the Coordinator on time (i.e. in advance), who can then deliver the message to the **Project officer (PO)** and work out the protocol for corrective actions (in cooperation with the PO and workpackage leaders involved).

Workpackage leaders (WPLs) are responsible for the proper and timely execution of the tasks described in the research plan. WPLs play the key role in practical arrangements of personnel and resources to ensure appropriate conditions for the researchers in accomplishing their work. WPLs can and shall organize meetings whenever they feel necessary to do so to make sure the project tasks are progressing according to the plan. It is recommended that in every 3 months, the WPLs compile an executive summary of actions carried out, and send that to the **Coordinator** with the purpose to help him to follow up the progress.

The **External Expert Advisory Board** (representatives of collaborating companies) is proposed at the kick off meeting. The major roles of the body are (i) to provide recommendations on the contents of the curricula developed in the project, and (ii) to suggest steering of the project if necessary.

The **Quality Manager (QM)** and the **Exploitation Manager** (Prof. Akos Kukovecz) help other management parties (i.e. project **Coordinator**, the **Project Leader Board**, the **Quality Control and Monitoring Board (QCMB)** and the **External Expert Advisory Board (EEAB)** in monitoring the project outcomes, their timing and overall quality (scientific, educational, ethical). The Quality Manager compiles and updates the project quality handbook.

To ensure the quality of the TACMEE project, following tasks are set to the QCMB:

- Help/support the work of QM throughout the project;
- Monitor the progress of the project execution based on the project meetings and received reports;
- Evaluate the development of both B.Sc. and M.Sc. degree programmes together with QM and EEAB;
- Decide whether any changes in the project Quality Handbook (PQHB) is necessary based on the progress reports and the project meetings;
- Prepare the midterm report together with QM based on progress reports and utilizing the survey done to the EEAB;
- Prepare the final report together with QM focusing especially on the sustainability of the project results.

Quality Control and Monitoring Board

Project partner	Board member
P1 - University of Szeged (USZ) Coordinator	Dr. Agnes Filep
P2 - University of Oulu (UO)	Dr. Satu Pitkääho (Chair)
P3 - National University of Mongolia (NUM)	Dr. Soyol Erdene
P4 - German-Mongolian Institute for Resource and Technology (GMIT)	Dr. Ariuntuya Tserendorj
P5 - School of Agroecology and Business (SAB)	Daginnas B.

Companies associated with the project, from which 3 delegate members are selected to the **External Expert Advisory Board (highlighted in the table with bold fonts)**

Name of organisation	Type of institution	Website	City, country	Representative
Kempeleen vesihuolto Ltd/ Lakeuden keskuspuhdistamo Ltd	Company	https://kempeleenvesihuolto.fi/	Kempele, FIN	CEO Hannu Roikola, hannu.roikola@kempeleenvesihuolto.fi
Csongrád Megyei Mérnöki Kamara	Government Agency	https://www.csmi-mernoki-kamara.hu/	Szeged, HUN	Dezső Bodor, bodor@szegedivizmu.hu
Mongolian Association of Environmental Engineer Professionals	NGO	Mseep.org	Ulaanbaatar, MGL	javkhlan.ariunbaatar@gmail.com

3. Communication

Multiple communication channels are used throughout the project. While the major pillar of communication is represented by the face-to-face regular meetings (planned originally twice a year) for the seamless execution of the practical tasks in the project, it is vital to have smaller meetings via phone and video conferences (in particular at the beginning of the project due to the ongoing COVID pandemic). According to previous experiences of USZ and UO in EU projects, it is highly recommended to practice the following actions:

- Monthly video conference of partners working on their WP to ensure nearly real-time monitoring of the progress. The **WPL** organizes the meetings.
- Compilation of quarterly executive summaries by each **WPL** about the actions carried out in their WP, which are then sent to the **Coordinator**, who can then decide whether the project is progressing as expected. If not, measures shall be taken to steer the project back to the original track.

- In case of delays in reporting or failing to complete any deliverable item is foreseen, the **WPL** shall inform the **Coordinator** in due course. It is very important, since any deviation from the research plan is expected to be communicated with the PO, who then either acknowledges the delay or requests an amendment of the Project Plan.

4. Conflict resolving actions

Each participant of TACMEE shall identify any conflicts that may come up in the course of the project, either personal, financial, scientific, ethical, legal or alike. While the Grant Agreement includes the major guideline for conflict resolution we amend those with the following items:

- Before starting any dispute, every researcher and project member shall follow common sense and think twice whether the conflict is real or just virtual
- Researchers shall inform their WPL (or the Coordinator) when any real conflict is foreseen or has already arisen
- The Coordinator shall mitigate the conflict by mediating the conversation between the parties. In case the conflict escalates, the next body to be involved is the PLB (and the PO, if necessary).
- Although conflicts shall be resolved within the consortium, if necessary the parties may find their right at the court as specified in the Grant Agreement (GA).

Very important: Whenever any problem occurs, always communicate with the WPL and (if needed to resolve the problem) with the Coordinator. Lack of proper communication can only postpone the problems but cannot resolve those, and will ultimately delay the project.

5. Data management plan

At the early stage of the project, it is recommended to collect information on the type and amount of data to be generated in our effort to find the best method for professional and safe archival e.g. on institutional backup servers and repositories (having permanent address) in an organized manner.² The way and location of storing, and accessibility rights of files and deliverables shall be decided at the first project meeting. It is important to note here, that not only the EU but also publishing houses expect transparent and publicly available data unless specified otherwise. In the practice it means, that any non-classified data (including raw and processed) shall be made publicly available, and publications shall be made open access (either green or gold).

Particular attention shall be placed on the proper use and distribution of copyrighted contents (e.g. in lecture slides) to avoid potential infringement and legal consequences. Furthermore, although any collection of personal data is not expected in the project, it is important to highlight here that collection, handling and use of such data is regulated very strictly by the recently introduced data privacy and security law (GDPR) in the EU.³

² As decided in the meeting 25 June 2021, the working files will be uploaded to a MS Teams project folder hosted by the University of Szeged, whereas the final files are going to be archived on a cloud server, NextCloud.

³ <https://gdpr.eu/what-is-gdpr/>

6. Innovation management

Although the project is neither a Research and Innovation Action nor Innovation Action, innovative solutions for teaching and education may arise during the execution of project tasks. The Coordinator, Workpackage Leaders and the Quality Manager will oversee and discuss if any protectable innovation occurs, and then contact the Innovation Office (or alike) at the corresponding University to seek for potential solutions to protect the innovation (e.g., by filing disclosures, and/or patents). Please note, that public dissemination either talk, newsletter, poster, scientific paper or alike prior filing disclosure/patent can greatly undermine the protection process.

7. Good practices

Each member of the consortium shall:

- Follow good scientific and ethical practices to ensure the integrity of research carried out in the project.⁴
- Adhere to the highest standards of equality including ethnicity, gender, religion, age, etc.⁵
- Protect our environment by limiting the use of natural resources, saving energy, etc.⁶

8. Project reporting

At the time of writing and submitting the proposal, the COVID-19 pandemic has not been seen, which turned out to be an influencing factor for the start of the project, and thus will cause a shift of the timing of deliverables. Accordingly, timings of deliverables (listed in the Appendix) and project meetings shall be confirmed (or modified if necessary) at the kickoff meeting to avoid any confusion later. Some practical hints for the proper timing of delivery items:

- It is useful to start organizing the personnel of each WP and task already several weeks before the eventual activity starts
- The work shall be continuously managed and executed during the particular action
- The deliverable shall be submitted at the end of the completion of action as scheduled to leave time for potential revisions/corrections (viz. the official submission deadline is 2 months after scheduled end of task).
- The Coordinator submits the checked and approved official reports to the European Commission according to the schedule agreed in the proposal (any delay shall be discussed already at the kickoff meeting).

Deliverable	Title	Month	Lead
1.1	Need analysis report	M5	P3
1.2	Learning outcomes	M6	P3

⁴ <https://allea.org/code-of-conduct/>

⁵ <https://www.un.org/ruleoflaw/thematic-areas/human-rights/equality-and-non-discrimination/>

⁶ <https://www.europarl.europa.eu/factsheets/en/sheet/71/environment-policy-general-principles-and-basic-framework>

2.1 ⁷	Drafting of the directions (B.Sc.)	M7-9	P1
2.2 ⁷	Syllabi and ppt slides presentations and practical exercises	M18, M24, M30	P1
3.1 ⁸	Drafting of the directions (M.Sc.)	M9	P1
3.2 ⁸	Syllabi and ppt slides presentations and practical exercises	M18, M24, M30	P1
4.1	Thematics, requirements and outcomes as well as syllabi and practical questions of the environmental engineering laboratory	M30	P1
4.2	Improving and Purchasing and installing new environmental engineering units into the labs of all 3 Mongolian institutes	M30	P1
5.1 ⁹	Training of the Academic staff of Mongolia	M13, M24, M30	P2
6.1 ¹⁰	Massive Open Online course (MOOC) packages	M30	P1
7.1	Project Quality Handbook v1	M3	P2
7.2	Project Quality Handbook v2	M12	P2
7.3	Project Quality Handbook v3	M24	P2
8.1	Project website and social media appearance	M3	P3
8.2	Project brochure	M3	P3
8.3	Workshops	M12, M24, M36	P3
8.4	Exploitation management	M18, M36	P3
8.5	Open access publishing	M3	P3
9.1 ¹¹	Project reports		P1

⁷ See Appendix I

⁸ See Appendix II

⁹ A5.1. 3-5 days long training in Oulu for courses of Finnish BSc and MSc as well the laboratory courses, MOOC packages (combined with dissemination workshops to optimize travel costs)

A5.2. 3-5 days long training in Mongolia for teachers, MOOC packages (combined with dissemination workshops to optimize travel costs)

A5.3. 3-5 days long training in Hungary for MSc and BSc courses including laboratories, MOOC packages (combined with dissemination workshops to optimize travel costs)

¹⁰ Massive Open Online courses (MOOC) with 4 packages including 7-14 pieces of 30-90 min video lectures of the courses, monitoring check questions for each video, 7-14 pieces of presentation with 20-80 slides, with 20-100 exam questions

¹¹ Progress report and final project reports with: all project deliverables, learning environment and materials development, evaluation, dissemination and exploitation; and financial reports.

Appendix I: Courses to be delivered for the B.Sc. programme

Course title	Lead	Date ¹²
Environmental Engineering	USZ	
Solid Waste treatment and technologies	USZ	
Water and wastewater treatment	USZ	
Alternative Energy Resources	USZ	
Environmental chemistry and ecology	UO	
Microsensors and controllers	UO	
Air pollution control engineering	NUM	
Engineering data analysis	NUM	
Water and wastewater treatment	NUM	
Hydrology and water resources	NUM	
Material recovery technology and computer aided design and engineering application	NUM	
Climate change- carbon capture and storage	GMIT	
Tailing management	GMIT	
Alternative energy resources	GMIT	
Sustainable development and green theory	SAB	
Rangeland management and technology	SAB	
Environmental monitoring and assessment	SAB	

¹² To be defined more accurately, what is needed for the accreditation and when the actual elements of the courses are due.

Appendix II: Courses to be delivered for the M.Sc. programme

Course title	Lead	Date ¹³
Life cycle analysis	USZ	
Environmental biotechnology	USZ	
Modelling and simulation	USZ	
Environmental operation units	USZ	
Process and environmental catalysis	UO	
Industry and environment	UO	
Air pollution control engineering	UO	
Materials in environmental engineering	UO	
Micro and nanotechnologies	UO	
Mitigation and adaptation technologies	NUM	
Waste treatment technology	SAB	
Climate change Modelling and simulation technology	SAB	

¹³ To be defined more accurately, what is needed for the accreditation and when the actual elements of the courses are due.

Appendix III: Laboratory Stations to be delivered

Laboratory Stations	Lead	Date ¹⁴
Life cycle analysis	USZ	
Environmental biotechnology	USZ	
Modelling and simulation	USZ	
Environmental operation units	USZ	
Process and environmental catalysis	UO	
Industry and environment	UO	
Air pollution control engineering	UO	
Materials in environmental engineering	UO	
Micro and nanotechnologies	UO	
Mitigation and adaptation technologies	NUM	
Waste treatment technology	SAB	
Climate change Modelling and simulation technology	SAB	

Appendix IV: MS Word template to be used for reporting

The MS Word template follows the same style as this document.

On the first page (i.e. title page) of the document, use project information and logos, add the title of document/report, then a table of contents and finally the table describing the status of the document:



Capacity building in the field of higher education
2020 – EAC/A02/2019

Tackling the Climate change
through Modernizing Environmental
Engineering program – TACMEE

<https://tacmee.eu/>



DX.Y Title of Report

Table of contents

Status table

Status	Author	Changes	Date	File name
Draft	X.Y. (UO)	Major changes compared to the previous document	DD-MM-YYYY	DX_Y_DD-MM-YYYY
Draft	X.Y. (USZ)	Major changes compared to the previous document	DD-MM-YYYY	DX_Y_DD-MM-YYYY

¹⁴ To be defined more accurately, what is needed for the accreditation and when the actual elements of the courses are due.

Final	X.Y. (NUM)	Major changes compared to the previous document	DD-MM-YYYY	DXV_DD-MM-YYYY
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The main contents of the document start from page 2 and formatted as this document, i.e.:

- Heading 1 for chapters and Heading 2 styles for sub-chapters
- Normal text: Calibri, font 12, line Justified, paragraph spacing 0 pt before and 8 pt after, line spacing Multiple 1,08
- Add page numbers
- Add references and footnotes¹⁵
- (Use track changes function of the MS Word processor in the preparation phase of the draft)

- Table and its caption formatting:

Table X Caption text comes here

	Column title 1	Column title 2
Row title 1		
Row title 2		

- Figure and its caption formatting

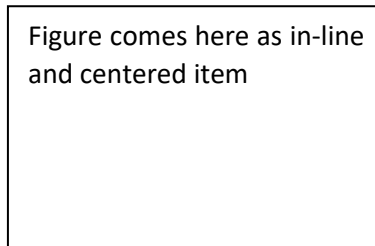


Figure Y Caption text comes here

Appendix IV: MS Power Point template to be used for reporting/presentation

On each slide of the presentation, use project information and logos



Erasmus+

Capacity building in the field of higher education
2020 – EAC/A02/2019

Tackling the Climate change
through Modernizing Environmental
Engineering program – TACMEE

<https://tacmee.eu/>



On the first slide, add the following items:

DX.Y Title of Presentation/Report

Add names and corresponding institutes

Table of contents (optional)

Status table:

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Draft	X.Y. (UO)	Major changes compared to the previous document	DD-MM-YYYY	DX_Y_DD-MM-YYYY
Draft	X.Y. (USZ)	Major changes compared to the previous document	DD-MM-YYYY	DX_Y_DD-MM-YYYY
Final	X.Y. (NUM)	Major changes compared to the previous document	DD-MM-YYYY	DX_Y_DD-MM-YYYY

The main contents of the document start from slide 2 and formatted as follows:

- **Calibri, size 20 bold fonts in slide titles**
- **Calibri, size 18 bold in subtitles**
- Calibri, size 16 normal fonts in text (including tables).
- Table and figure captions also use fonts with size 16 (see examples below)
- Add page numbers
- Add references and links wherever appropriate

Table X Caption text comes here

	Column title 1	Column title 2
Row title 1		
Row title 2		

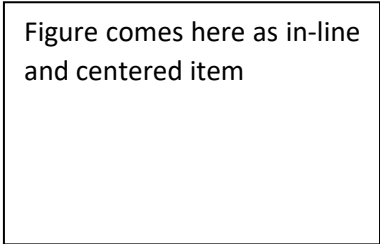


Figure Y Caption text comes here