



WP4 – Quality Plan for the Implementation of the Project

Quality Control and Monitoring Plan

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REVISION SHEET

Version	Date	Author (Partner/Person)	The revision reason
0.5	08.03.2018	UPB /Livia Lazăr	4.1 Quality of the project processes (page 5-6/21) 4.2.1 Quality evaluation (page 8/21) 4.2.1.1 Internal evaluation (page 8/21) 5.1 Document control (page 9-10/21) 5.1.4 Documents for public use (page 11/21) 5.2. Communication (page 11/21) 6 The QCMP templates (page 12/21) – to comply with QF-DTM
0.6	15.03.2018	PSU/ Supapan Chaiprapat	Grammar issues
0.7	10.09.2018	UPB /Livia Lazăr	Introduce the form QF-ECI and details about responsibilities for tasks evaluation, and internal quality control and monitoring
1	11.09.2018	QCMB	Introduce table 4- Internal procedure, QF_DES version 4, QF_QCM version 3
2	30.09.2018	UPB /Livia Lazăr	Review QCMP and QF_DES, in order to include the QCMB's suggestions from the deliverable evaluation
3	12.10.2018	UPB /Livia Lazăr	Review QCMP, in order to include the PEC's suggestions: -clarification of the term "partner" -details for deliverable evaluation and the internal quality control and monitoring -update the project website
4	3.12.2018	UPB /Livia Lazăr	-Review QF_DTM -version 3 (clarifications on: dissemination level, dissemination responsible, text style, abbreviation system) -Review QCMP (dissemination level, abbreviation system – subsection 5.1.3), -Review QF-QCM -version 4 (planned versus actual start/ end date)
5	09.07.2019	UPB /Livia Lazăr	-QCMB structure update - Introduce annexes: XI- QF_TEF, XII - QF-TEP and XIII - QF-EEP



DISTRIBUTION LIST

Project Partner	Acronym	Responsible (for dissemination)
University POLITEHNICA of Bucharest	UPB	Livia Lazar
Prince of Songkla University	PUS	Supapan Chaiprapat
Asian Institute of Technology	AIT	Huynh Trung Luong
Chiang Mai University	CMU	Wasawat Nakkiew
King Mongkut's University of Technology North Bangkok	KMUTNB	Athakorn Kengpol
Thammasat University	TU	Anintaya Khamkanya
Khon Kaen University	KKU	Sirorat Pattanapiroj
University of Minhho	UMinho	Diana Mesquita
Częstochowa University of Technology	CUT	Robert ULEWICZ

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1 Executive Summary

In the scope of the MSIE 4.0 project, and particularly according to what is foreseen in the WP4 Project assurance and efficiency, the consortium decided that it is to the benefit of the satisfaction of its quality objectives to prepare a Quality Control and Monitoring Plan (QCMP), to ensure the production of concrete and high-quality results in line with the project plans.



In this context, the main purpose of the QCMP is to define:

- the evaluation criteria and evaluation mechanisms for internal and external QCM as well as the number and structure of QCM reports
- the list of the methods that will be used to ensure the required level of quality, project quality policies and procedures, project standards/checklists for reviews, project metrics to measure deliverable or process quality and project quality goal.

2 Introduction

Quality control and monitoring is essential to ensure that project objectives and results defined in the project proposal can be achieved and delivered within the project implementation period at a high-quality level. Therefore, it is of utmost importance for the quality of the project as a whole, to set up quality control mechanisms and procedures to be followed throughout the whole project implementation and by all partners.

The WP leader, as defined in the project proposal, University POLITEHNICA of Bucharest (UPB), is responsible for outlining the first draft of the QCMP in cooperation with the Co-Work Package Leader Prince of Songkla University (PSU). After consultation with the Project Coordinator and other partners responsible for specific deliverables, additional procedures will be defined in the revised version of the QCMP.

The QCMP:

- defines the quality expectations for project deliverables (outcomes and outputs)
- defines the internal monitoring and quality management
- defines the content, format, review and approval process of the project deliverables;
- defines the responsibilities of the project partners regarding those deliverables.
- identifies all the different tools and means to be applied throughout the project duration
- provides guidelines for adequate implementation and thereby assure that certain quality standards in the performance of our tasks are fulfilled.
- defines the quality requirements that must be obtained throughout the project lifecycle, those that the deliverables, actions and results must conform to.

The QCMP constitutes a working document which can be adapted and revised throughout the implementation of the project upon agreement by all parties. This may apply in cases such as where e.g. the procedures laid out in the QCMP turn out to be not feasible for their purpose.

Note: Anywhere within this document, when the term “partner” is used, it is referring to the 9 universities mentioned in the project application: Asian Institute of Technology (AIT), Chiang Mai University (CMU), King Mongkut's University of Technology North Bangkok (KMUTNB), Thammasat University (TU), Khon Kaen University (KKU), Prince of Songkla University (PSU), University POLITEHNICA of Bucharest (UPB), University of Minho (UMinho) and Częstochowa University of Technology (CUT).

3 Quality Control Monitoring Board (QCMB)

In order to achieve the quality objectives of the project, a Quality Control and Monitoring Board (QCMB) was established during the Kick-off Meeting, which will consist of persons from consortium universities: 6 from the Kingdom of Thailand (PSU, AIT, CMU, KMUTNB, TU, KKU) and 3 from European Union (UPB, Uminho, CUT). UPB will chair the QCMB as WP4 Leader. The QCMB's members are presented in Table 1.

Table 1 QCMB members

Partner	Role	Name	Email
UPB	Chair	Livia Veronica Lazăr	livia_veronica_lazar@yahoo.com
PSU	Co-Chair	Supapan Chaiprapat	supapan.s@psu.ac.th
AIT	Com	Huynh Trung Luong	luong@ait.asia
CMU	Com	Wasawat Nakkiew	wasawat@eng.cmu.ac.th
KMUTNB	Com	Warapoj Meethom	warapoj.m@eng.kmutnb.ac.th
TU	Com	Anintaya Khamkanya	kanintay@engr.tu.ac.th
KKU	Com	Sirorat Pattanapairoj	siropa@kku.ac.th
UMinho	Com	Diana Mesquita	diana@dps.uminho.pt
CUT	Com	Robert ULEWICZ	robert.ulewicz@wz.pcz.pl

The duty of the QCMB is to monitor and evaluate the progress of the project and to ensure that all its activities are carried out properly according to European Standards and Guidelines for Quality Assurance and ensuring proper execution of the project to achieve its objective. The QCMB will design a proper evaluation process and be responsible for creating a set of indicators.

As such, the QCMB, through the QCMP, will define the following milestones:

- reports from partners on the quality of the implementation of work packages.
- each 2 months, QCM reports of the QCMB based on individual reports by consortium members who are responsible for internal monitoring and quality control of the implementation status of tangible results including recommendations and corrective measures related to the strategic project achievements and overall management of the grant.
- twice a year, QCM reports with achieved/planned outcomes, based on evaluation of each partner's QCM reports. The QCMB will also report to the PMB the outcome of the evaluation, the identification of deficiencies, and delays so that appropriate countermeasures can be taken.
- an impact report, as a part of final project report, on the broader impact and the relevance of the project in the national context towards the needs of major stakeholders, adopted at the end of the project life by the consortium members.

The QCMB will monitor the project at different points using different types of evaluation practices and tools, such as report analyses, surveys, questionnaires, checklists and QCM visits, devised to assess on an ongoing basis project relevance, efficiency and impact, to measure progress throughout its life cycle, to determine if the project responds to main target groups' needs, to measure the level of satisfaction of beneficiaries of project activities, and to evaluate unexpected results and control all processes. QCM activities will include evaluation of offered new courses, improved teaching and lab facilities, training of teaching staff, student feedback, achievement of objectives, and impact of the project at the single universities and at national level.

The monitoring and evaluation procedures will monitor the project execution through monitoring reports which will be edited every 6 months. Additional to the two-annual internal QCM reports elaborated by the QCMB, there will be two external reports delivered by sub-contracted external expert.

4 Project Quality Assurance

4.1 Quality of the project processes

The aim of the evaluation is to support project coordinator and WP leaders in ensuring highest quality of project outputs, activities and results, as well as in improving project performance. It should support decision making by delivering necessary evidence to introduce any significant changes, should they be needed. The evaluation will increase the quality of project activities and outputs and measures to what extent they reach the short-term project goals and results set in the application.

The quality of the project processes evaluation will be done through self-evaluation of the consortium according to QF-QCM, Internal Quality Controls and Monitoring (see Table 4 and 5). In case the WP4 Leader, upon processing the results, finds that one or more are below the expected performance, he/she must notify the PC to set forth problem-solving procedures.

Besides this evaluation, each WPL takes also into consideration the indicators and respective objectives that are described in the Logical Framework Matrix (LFM) as well as the qualitative and quantitative indicators listed in the chapter “Overview of short and long-term impact indicators” of the approved proposal. The result of this evaluation is maintained by the WPL according to MF-WMR– WP Monthly Report.

4.2 Quality of deliverables

The deliverables of MSIE 4.0 project consist of the results of the 6 Work Packages: 1 – Gap Analysis, 2- Curriculum Development I: Curriculum Structure and Courses, 3 – Curriculum Development II: Modernization of Teaching Methods and Tools for Msc Programmes, 4 – Quality Plan for the implementation of the Project, 5 – Dissemination and Exploitation of Project Results, 6 – Project Management. Each WP may contain one or more subtasks. The table 2 presents the project's work package leaders.

Table 2. The project's work package leaders

Work Package No.	Type of Work Package	Title of Work Package	WP Leader
WP1	Preparation	Gap Analysis	P2-CMU (Activities in Thailand), P8-UMinho (Activities in Europe)
WP2	Development	Curriculum Development I: Curriculum Structure And Courses	P9-CUT (Leader) P1-AIT (Co-Leader)
WP3	Development	Curriculum Development II: Modernisation of Teaching Methods and Tools for Msc Programmes	P1-AIT (Leader) P7-UMinho (Co-Leader)
WP4	Quality Plan	Quality Plan for The Implementation of The Project	P8-UPB (Leader) P6-PSU (Co-Leader)
WP5	Dissemination & Exploitation	Dissemination And Exploitation Of Project Results	P5-KKU (Leader) P7-UPB (Co-Leader)
WP6	Management	Project Management	P1-AIT

In order to assure a high level of quality regarding the results of the project, each deliverable is evaluated for its completion in due time as well as for its completeness, clarity and comprehensiveness.

Regarding the on-time completion and the monitoring of the WPs, the QCMB and PC use the QF-QCM: Internal Quality Control and Monitoring.

Having in mind the structure and objectives of the MAIN project, the main deliverables to be produced during its lifetime are:



- for WP1:
 - Gap Analysis working plan
 - Comprehensive analysis of MSIE curricula in Thailand and in EU partner countries
 - Assessment of learning and teaching tools and methods in Thailand and in EU partner countries
 - Analysis of needs of industry and students
 - Gaps between the needs and graduates' competences
 - Competitive factors for the curriculum
 - Recommendations for specifications and areas of specialization for the curriculum
- for WP2:
 - A modernized curriculum for Master's degree in IE
 - Syllabuses for all courses in the curriculum
 - Pilot teaching in modernized MSc at partner universities
 - Assessment of pilot test of the key courses and improved courses
 - Accreditation of the curriculum submitted
- for WP3:
 - Teaching materials for instructors
 - Learning materials for students
 - A platform for online learning
 - Trained Instructors and Staffs on New Teaching Tools and Methods
 - Online Learning Materials
 - Installed Hardware and Software
 - Laboratory equipped with online remote access from partner locations
- for WP4:
 - Quality control & monitoring system
 - Internal quality control & monitoring conducted
 - External quality control & monitoring
 - External financial audit
- for WP5:
 - A Dissemination, Exploitation and Sustainable Plan
 - A project website
 - Dissemination materials
 - Publications in professional journals, newspapers, magazines, brochures and social media
 - Short-term courses in the field of Industrial Engineering for professionals
 - Dissemination events organized
 - A dissemination-sustainability conference
 - Sustainable network between project partners & IE enterprise
- for WP6:
 - Project Management & Communication Plan
 - Kick-off & regular consortium meetings
 - Documents on daily project administration and coordination
 - Project reports
 - Documentation for mid-term reporting and project closing

General expectations for all deliverables regarding their quality are their relevance to the achievement of main and specific objectives of the project as well as the compliance with the time framework set in the main project Application Form.

Specific requirements are described in more details in the following sub-sections.

Depending on the nature of the activity implemented, for each WP and its subtask(s), the evaluation can be of two kinds: a. Internal or b. external. “Internal” means that responsible for the review of the document is one/ more than one of the members of the consortium and associated partners, while “external” means that the persons other than the partners and/or associated partners of the project (the public, participants, trainees, beneficiaries etc.) evaluate the result. The evaluation is made with the aid of specific documents according to the specificity of the work package.

Besides this evaluation, the monthly report will include information regarding the indicators and respective objectives that refer to the derivable, according to MF-WMR -WP Monthly Report (annex of PMCP – Project Management and Communication Plan).

In case the deliverable/ MF-WMR result is not considered as accepted, necessary corrective actions are initiated by the WPL according to the results of the evaluation.

4.2.1 Internal evaluation

Many of the deliverables of MSIE 4.0, like the analyzing for the identification of industry and students needs or the preparatory phases for the development of the curriculum structure, courses etc., are addressed to the partners of the consortium.

These deliverables of the WPs and tasks undergo an internal evaluation. Table 3 presents the responsible for identifying the evaluation criteria of the project’s deliverables.

Table 3. Evaluation criteria identification responsible

WP	Task no.	Description	QCM responsible
1	1.1	Developing a gap analysis working plan	Wichai Chattinnawat/ Wasawat Nakkiew
	1.2	Analysing of MSIE curricula being offered, and of learning and teaching methods being applied	Teresa Monteiro
	1.3	Assessing needs of industry and students	Wichai Chattinnawat/ Wasawat Nakkiew
	1.4	Identifying gaps	Teresa Monteiro
	1.5	Identifying competitive factors for the curriculum	Wichai Chattinnawat/ Wasawat Nakkiew
	1.6	Developing recommendations for the specifications and areas of specialization for the curriculum	Wichai Chattinnawat/ Wasawat Nakkiew
2	2.1	Developing curriculum structure and academic program learning outcomes	Robert ULEWICZ
	2.2	Developing courses and course learning outcomes based on a matrix that maps course learning outcomes with program learning outcomes, and also teaching and learning methods,	Robert ULEWICZ
	2.3	Conducting pilot test of the key courses	Huynh Trung Luong
	2.4	Assessment of pilot test of the key courses and finalize the curriculum and the courses	Robert ULEWICZ
	2.5	Preparation for accreditation of the curriculum	Sirorat Pattanapiroj
	2.6	Accreditation of the curriculum by the national accreditation institution in Thailand	Sirorat Pattanapiroj
3	3.1	Developing teaching materials	Diana Mesquita
	3.2	Translating teaching materials between English and Thai	Anintaya Khamkanya
	3.3	Developing a web-portal for online learning	Huynh Trung Luong
	3.4	Training of staff on new tools and best practice exchange on modern teaching techniques	Diana Mesquita

	3.5	Adapting learning materials developed to the online learning	Huynh Trung Luong
	3.6	Purchasing and installing of teaching equipment	Huynh Trung Luong
	3.7	Developing a laboratory and online remote access of the laboratory works	Huynh Trung Luong
4	4.1	Developing a quality control and monitoring system	Livia Veronica Lazar
	4.2	Implementing the internal quality control and monitoring of the project	Livia Veronica Lazar
	4.3	Inviting external evaluation of the project results	Supapan Chaiprapat
	4.4	Inviting external financial audit	Supapan Chaiprapat
5	5.1	Development of a Dissemination, Exploitation and Sustainable plan	Livia Veronica Lazar
	5.2	Creating a project website to support the dissemination strategy, and communication and collaboration among	Huynh Trung Luong
	5.3	Production and dissemination of project materials	Sirorat Pattanapairoj
	5.4	Publications in professional journals, newspapers, magazines, brochures, and social media	Diana Mesquita
	5.5	Developing joint short-term courses in the field of Industrial Engineering in cooperation with industry for professionals	Athakorn Kengpol
	5.6	Organizing dissemination events with relevant stakeholders	Wichai Chattinnawat/ Wasawat Nakkiew
	5.7	Organizing the final dissemination-sustainability conference	Huynh Trung Luong
6	6.1	Finalizing management structure	Tomasz NITKIEWICZ
	6.2	Organizing kick-off and regular consortium meetings	Apiwat Muttamara
	6.3	Monitoring and controlling the project	Thanate Ratanawilai
	6.4	Closing the project	Athakorn Kengpol

When a deliverable is finished, the WPL sends the “draft version” of the relevant deliverable to the QCMB for evaluation. The evaluation, depending on the nature of the deliverable is made primarily with the use of QF-DES document or other means as questionnaires, minutes of the meetings, contracts, lists of equipment, proof of purchase etc. (as described in QF-ECI, QF-QCM and Table 4). When the QF-DES document is used, it is filled in and sent by WP4 Leader to the WPL, with PC in cc. The WPL is responsible for amending the document according to the review results, if needed. The time for this amendment is agreed between the WPL and the PEC. The approved deliverable is sent to PC for final evaluation and approval, within PEC. For more information see Table 5 - Internal QC procedures and PCMP_ Project Management and Communication Plan (Fig.2 “Project Operation Management Flow”).

Once the deliverable is amended (if needed), it is uploaded on the intranet of the project website by the PC, that also have the responsibility to inform all the involved members of the consortium. This procedure can last two weeks maximum and the WPL is responsible for any changes or additions to the document.

In case the WPL considers the suggested improvements as not relevant he has to present his reasons and ask for the agreement.

If the deliverable is a document that is finally approved, it takes the status of “final version/version” and it is included by WP4 Leader in the Project Documents List, and further, by the PC in the formal progress report/s of the project.

According to the adjusted work plan for the project, QCM team conducts internal quality controls and monitoring the operational WPs’s progress. Table 4 presents the responsible for each partner. The results will be submitted according to QF-QCM, Internal Quality Controls and Monitoring (see also Table 5).

Table 4. Internal Quality controls and monitoring team (QCM team)

Partner	Role	Name
UPB	TL	Tom SAVU
AIT	CP	Huynh Trung Luong
CMU	CP	Wichai Chattinnawat
KMUTNB	CP	Athakorn Kengpol
TU	CP	Anintaya Khamkanya
KKU	CP	Sirorat Pattanapairoj
PSU	CP	Supapan Chaiprapat
UMinho	CP	Rui Sousa
CUT	CP	Anna WIŚNIEWSKA-SALEK

The table 5 presents the QC procedures, responsible with the planned results, destination and due dates in order for the WP 4 members to fulfill the work package expectations.

Table 5. Internal QC procedures

Task	Source	Responsible	Result	Destination	Due time
1. Establish the evaluation criteria for the starting task	Work Plan Detailed MSIE 4.0 Project (Logical Frame Matrix, WP deliverables)	Table 2. Evaluation criteria identification responsible, according to QCMP	QF-ECI, Evaluation criteria identification	QCMB	The 15 th day of the month, working day
2. Deliverable evaluation	WPL QF-ECI, Evaluation criteria identification Work Plan Detailed MSIE 4.0 Project (Logical Frame Matrix, WP deliverables)	QCMB Member	Deliverable Evaluation form With 3 options: -non applicable (for section B-content) (*) -improvement suggestions (**) -ok (* minimum 5 applicable (** if the assessment is “No”, or below “satisfactory”, the QCMB member must make suggestions/ observations	WP4 Leader	Within 5 days
	QCMB Member	WP4 Leader	Deliverable Evaluation results centralized (the “Deliverable” is accepted only if all the assessment is Y or at least “satisfactory”	WPL with CC to PC	Within 2 days
3. Internal Quality Control and Monitoring	Work Plan Detailed MSIE 4.0 Project (Logical Frame Matrix, WP deliverables) QF-ECI, Evaluation criteria identification	Table 3. Internal Quality controls and monitoring team, according to QCMP	QF-QCM-V3 Internal Quality Control and Monitoring	WPL 4 and co-WP4	The 15 th day of the month, working day -Jan.2019 -Mar.2019 - May.2019 and every 2 month
	QF-QCM-V3 Internal Quality Control and Monitoring x 9	WP4 Leader and Co-Leader	Centralized report (the format it will be established by the end of October)	QCMB	-within 1 week
	Centralized report	QCMB	Suggestions/ observations	WP4 Leader	-within 2 days from receiving

					the centralized report
	Centralized report Suggestions/ observations	WP4 Leader	Centralized report- final	PC, with CC to QCMB	-the end of the reporting month

4.2.2 External evaluation

MSIE 4.0 project includes several deliverables that are addressed to people out of the core of the consortium. These deliverables of the WPs and subtasks undergo an external evaluation. The specifics of the external evaluation, regarding to the tools used, the reviewer, the dates of review, the indicator(s) etc., are described in the QF-QCM.

The evaluators of these activities are: staff that will be trained; that will participate in the consultation activities; teaching staff; users of the project website, of the developed web-portal for online learning and of the new equipped laboratory, prospective employers of graduates of this project. In general, the evaluation is done by the beneficiaries of the activities, by answering specific questions accordingly to evaluations forms developed within the project documents (i.e. Event Evaluation, Website questionnaire, **Training Evaluation**).

External quality control and monitoring of the main project results will be assessed by individual external expert through his insight into project activities and results as well as during his two meetings with members of QCMB. An experienced person in the field of external project quality control and monitoring will be chosen by QCMB on the proposal of project coordinator. Two external QCM reports will be delivered by external expert, first at the middle of the project and second at the end of the project. The first external QCM report will be used for the project’s interim report and for making improvements in the second half of project timeline. The second external QCM report will be used for the project’s final report.

4.2.3 Elaboration of the questionnaires

The questionnaires consist mostly of questions that can be answered with the aid of:

- a) 5 points rating scale where 1 is poor and 5 is very good and
- b) 4 points rating scale (1 strongly disagree, 2 disagree, 3 agree, 4 strongly agree)

The elaboration of the answers to the questionnaires is made by the WP/subtask leader and circulated to the members of the consortium.

The formula for the evaluation of results rated with the 5 points scale is the following:

$$\text{Score} = \frac{\sum_{i=1}^5 (N_{Ri} \times p_i)}{N_R} \tag{1}$$

Where:

N_{Ri} - number of responses for i ($i=1\div5$)

p_i – i weight

N_R – total number of responses

The activity is considered successful if the percentage of satisfaction is more than 75%. In case the percentage of satisfaction is less than 75%, the WPL proposes proper corrective actions (repetition of activity, distribution of more training or informative material, improvements of the database and the website etc.) which should be agreed with the PC.

Regarding questions that are rated with 4 points rating scale, the threshold for a successful evaluation is 70% of answers with score ≥ 3 . Scores less than this will require corrective actions as above.



5 General Quality Issues

5.1 Document Control

This section describes the control system for preparing, reviewing, approving, distributing, revising and updating documents that are required within the MSIE 4.0 project. These documents include but are not limited to the following:

1. plans (i.e. QCMP);
2. forms (QF-DES, MF-MMR etc.)
3. documents
4. minutes of the meetings
5. reports on deliverables of WPs
6. progress reports
7. external documents like the Erasmus plus program guide or other instructions by the European Commission, the partnership agreements (PA) between the PC and the partners, The European Standards & Guidelines (ESG) - standards and guidelines for quality assurance in the European Higher Education Area (EHEA) etc.

The WP4 Leader with the contribution of the Quality Control and Monitoring Board is responsible for drafting and issuing the Quality Control and Monitoring Plan. The WPLs that draft and issue an internal document, must comply to QF-DTM (plan, procedure, work instruction etc.) or QF-QFT (forms).

Draft versions are numbered with x.1, x.2 ... in order to be distinguished from the released versions which are numbered with 1, 2 ..., when "x" represents the released version (x=0, for a new document).

The last approved version (controlled copy) of MSIE 4.0 documents is uploaded to the intranet of the project website by the WPL who is also responsible for its substitution in case of revision (new version) for informing all the involved members of the consortium by e-mail. WP4 Leader is responsible to update the Project Documents List accordingly.

A single copy of the obsolete internal documents withdrawn, is maintained in a different location identified as "Obsolete documents", under control of WP4 Leader.

External documents that are not available on the intranet of the project website shall be properly collected and maintained by the Management team.

5.1.1 Revision of documents

Regarding the changes of a document, the following rules apply:

- Any change in the document leads to increasing the version number by one unit (in the document footer and revision sheet).
- The modified text will be highlighted in yellow.
- The revision date, the reviewer and details about the revision will be mentioned in the revision sheet of the document (for itself and/or its annexes).

5.1.2 Document Archiving

The documents will be grouped according to the work package to which they belong.

Separate document groups will be created for:



- The application phase;
- The contractual phase;
- Project's results;
- Different reports.

If a document belongs to more than one group, for example a result belonging both to a work package and to the results group, copies of the document will be created in all the respective groups.

All the documents will be maintained by the partners for a period of 5 years, after the project completion.

5.1.3 Abbreviation System for the naming of documents

The abbreviation system for the naming of project documentation is as follows:

1. For plan, the code will be XXXP (VY)
2. For form, the code will be AF-XXX (VY)
3. For document, the code will be AD-XXX (VY),
When:
 - the letter "A" defines the work package:
 - G – documents from WP1: Gap Analysis
 - C - documents from WP2 & 3: Curriculum Development
 - Q – documents from WP4: Quality Control and Monitoring
 - D – documents from WP5: Dissemination and Exploitation of Project Results
 - M – documents from WP6: Project Management
 - XXX - three initial capital letters of the plan/form/ document, respectively
 - Tx.x_Ox.x, where x.x – number of task/ outcome
 - VY is a version of the document

For example, QCMP (V1) is a quality control and monitoring plan version 1, QF-QFT (V1) is a quality form template version 1, GD_T1.2_O1.2 (V5) is the gap document for Outcome 1.2 from Task 1.2, version 5.

All the documents of MSIE 4.0 are elaborated in MS Word™ format (or equivalent) for documents, MS Excel™ format (or equivalent) for spreadsheets and MS Power Point™ (or equivalent) format for presentations.

5.1.4 Documents for public use

Documents or other material that is addressed to the public (informative material, brochures, leaflets, posters, presentations, DVDs etc.) must bear:

- The logo of MSIE 4.0 project
- The logo of ERASMUS PLUS
- The title and reference number of the project
- The following disclaimer:

"This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

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The same logos and disclaimer shall be also mentioned in the website of the project.

5.2 Communication

Communication between the members of the consortium, between the PC and the National Agency for Erasmus+ and between the PC and the European Commission is very crucial for the successful implementation of MSIE 4.0 project.

Day by day communication is conducted by e-mail, telephone conversations and skype meetings when deemed necessary. For the avoidance of any confusion, special attention is paid to the clear drafting of the subject of the e-mail. All the contact details are maintained and updated, if the case, according to Contact Information Details, available on the project intranet.

In general, all information relevant to the project is sent to the PC, who then forwards it to the partners involved in the specific action(s). Also, every WPL/ CWPL has the responsibility to upload the information on <http://msie4.ait.ac.th/>.

Direct partner/partner communications flows will be set up in those cases where an increase in efficiency can be achieved.

If on the proposals made by the project management or WPLs, the partners do not respond within 5 days they are considered to agree with the respective proposal.

If partners are on annual leave or sick they should have a back-up plan in place to ensure queries are dealt with in their absence.

An intranet on the project website is implemented by the WP5 Leader. This facility is secured (access is permitted through user name and password) and enables the consortium to have a very efficient diffusion of the information connected to the release of minutes, deliverables, reports and exchanges between partners.

External communication regarding the European Commission is the responsibility of the PC. This communication takes place mainly by e-mail, telephone conversations and face-to-face discussions when it is needed. For electronic dissemination of the project results, the main channels of communication will be (but not limited to these): the project website - <http://msie4.ait.ac.th/> and the Facebook project page <https://www.facebook.com/MSIE4Thailand/>

6 The QCMP templates

The templates of the Quality forms that are described in the following table are annexed to this QCMP.

Table 6. List of documents

Abbreviation	Full name of document	
QCMP	Quality Control and Monitoring Plan	-
QF-DTM	Deriverable Template	Annex I
QF-QFT	Quality Form Template	Annex II
QF-QCM	Internal Quality Control and Monitoring	Annex III
QF-DES	Deliverable Evaluation	Annex IV



Abbreviation	Full name of document	
QF-PSM	Partner Slide Master	Annex V
QF-WSM	Work Package Slide Master	Annex VI
QF-PDL	Project Documents List	Annex VII
QF-ECI	Evaluation Criteria Identification	Annex VIII
QF-WEB	Website questionnaire	Annex IX
QF-EVE	Event Evaluation	Annex X
QF-TEF	Training Evaluation Form	Annex XI
QF-TEP	Training Evaluation Process	Annex XII
QF-EEP	Event Evaluation Process	Annex XIII



Annexes



Annex I: Deliverable template

(QF-DTM-V3)



WP Number & Title

Deliverable Title

Project Acronym:	MSIE 4.0
Project full title:	Curriculum Development of Master’s Degree Program in Industrial Engineering for Thailand Sustainable Smart Industry
Project No.:	586137-EPP-I-2017-I-TH-EPPKA2-CBHE-JP
Funding Scheme:	Erasmus + KA2 - Capacity Building in the field of Higher Education
Coordinator:	AIT
Work Package:	
WP Leader:	
Task Title:	
Task Leader:	
Last version date:	dd/mm/yyyy
Status:	Draft/Final
Dissemination Level:	In conformity with the detailed description of the project, section H1

Disclaimer

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REVISION SHEET

Version	Date	Author (Partner/Person)	The revision reason

DISTRIBUTION LIST

Project Partner	Acronym	Responsible (for dissemination)

The dissemination responsible refers to the team member of each partner involved in the task’s deliverable/ outcome, that must disseminate the data within the partner internal team)

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2 Introduction..... 21

3 Main Header 1 New..... 21

 3.1 Main Header 2 New..... 21

 3.1.1 Main Header 3 New..... 21

4 The Deliverable Templates 21

Annexes 21

List of Tables (remove, if not applicable)

Table 1. Table Title

List of Figures (remove, if not applicable)

Fig.1 Figure Title

List of Equations (remove, if not applicable)

(1) Equation



1 Executive Summary

This part of the document must contain a summarized version of the document in such a way that readers can quickly become acquainted with the material without having to read it all. It usually contains a brief statement of the problem or proposal covered in the main document, background information, concise analysis and main conclusions. **(USE Style for the MAIN Body Text – Normal, Theme font: Calibri, Font size: 11; Line spacing: 1 line with After: 6 pt.; Alignment: Justify)**

2 Introduction

This chapter includes background information, structure, involved partners, and context of the deliverable.

3 Main Header 1 New

3.1 Main Header 2 New

3.1.1 Main Header 3 New

The chapters must include, but are not limited to the following:

- a description of the deliverable and a definition of what the project aims to succeed with its fulfilment;
- a presentation of the responsible and their responsibilities according to the deliverable
- a description of the methodology used in order to obtain results for this deliverable.
- the obtained results and conclusions
- results dissemination.

4 The Deliverable Templates *(remove if not applicable)*

The templates developed for serving the purpose of the deliverable are described in the following table and can be found as annexes.

Abbreviation (*)	Full name of document	Annex no.

(*) In conformity with QCMP-Quality Control and Monitoring Plan, subsection 5.1.3.

Insert Annexes in different pages, in the following fashion:

Annex I: Title of Annex

Insert Annex text.



Annex II: Quality Form Template (QF-QFT-V1)



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Form Title



Annex III: Internal Quality Control and Monitoring (QF-QCM -V4)



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Responsible:	Evaluation period:	Completion date:
--------------	--------------------	------------------

(*) According to the Adjusted Work Plan for Project Year 1, 2 and 3 (see Project Management and Communication Plan)

Work Package	Task	Deliverables	Planned Start date (*)	Planned End date (*)	Actual Start date	Actual End date	Team members involved	Indicator(s)	Approaches, results	Status (open-draft/ on-going / done-final)	Observations, suggestions



Annex IV: Deliverable Evaluation

(QF-DES-V5)

Work Package	
Deliverable Name	

1. Assessment of Deliverables by the Reviewer

Mark with X the appropriate column (Y: Yes - N: No - NA: Not applicable)

A. Format				
	Y	N	NA	Comments
Does the document meet the commitments from Application Form? <i>(answer with Y/ N only)</i>				
Does the document contain: WP number, Deliverable name, Version, Author Name and Date?				
Does the document contain all the necessary official logos of the project and the program?				
Does the document include a Table of Contents?				
Does the document include a list of participants and reviewers (approvals)?				
Does the document use the fonts and paragraphs defined in the official template?				
Does the spelling, grammar etc. of the document is appropriate?				

Mark with X the appropriate column:

B. Contents	<input type="checkbox"/> Applicable		<input type="checkbox"/> Non Applicable		
	1-Poor	2-Average	3-Satisfactory	4-Good	5-Very Good
The clarity of the contents of the document is evaluated as...					
How does the content of the document match the description in the Application Form?					
How is the treatment of the contents of the document regarding the required depth?					
Does the document need the addition of sections to reach completeness (Yes/No)?					
Are there any sections in the document that should be removed (Yes/No)?					

2. Observation and suggested improvements (add rows as needed)

Page No.	Section	Observation and suggested improvement

3. Conclusion (Mark with X the appropriate line)

Document accepted, no changes required	
Document accepted but changes required	
Document not accepted, it must be reviewed after changes are implemented	

Date of Review	
Reviewer's Name & Organization (from QCMB)	



Annex V: Partner Slide Master

(QF-PSM-V1)



MSTE 4.0

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Click to add title

Click to add subtitle

Curriculum Development
of Master's Degree Program in
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MSTE 4.0

Click to add title

• Click to add text

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Annex VI: Work Package Slide Master (QF- WSM-V1)



MSE4.0

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MSE4.0

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Annex VII: Project Documents List (QF-PDL-V1)



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Filling date:

No.	Document title	WP	Abbreviation	EN/TH	Version no.	Issued by	Valid from	Purpose	users	Frequency	Link



Annex VIII: Evaluation Criteria Identification (QF-ECI-V1)



Evaluation Criteria Identification

This form is for Quality Control and Monitor member (QCMM) to identify criteria for task evaluation.

QCMM Name:

WP No.:

Task No.:

I. Objective(s) and Deliverable(s)

The main objective(s) of this task:

The deliverable(s) of this task:

II. Process Monitoring & Assessment

In your opinion, what should we look at in order to say that the task is done properly and met the objective?

Can we measure them and how do we measure them? If you can't measure it, please remove and find another one.

III. Deliverable Assessment

In your opinion, what should be the specifications of the deliverable(s)?

Please identify similar deliverable(s) elsewhere.

Please rate those deliverables according to your specifications.

What are the criteria or scales that you have used to rate those deliverables?

According to your criteria, please set the target specifications for our deliverables to claim that the objective is met?



Annex IX: Website Questionnaire (QF-WEB-V2)



EVALUATION FORM FOR MSIE 4.0 PROJECT’S WEBSITE

Please find the project website at address:

<http://ise-portal.ait.ac.th/>

After analyzing the website, please answer each question with an evaluation from 1 - 5, where 1 is Poor and 5 is Very Good.

	1	2	3	4	5
What is your opinion of the general user friendliness of the website?					
What is your opinion about the quality and sufficiency of the information provided by the database?					
Did you find the use of the website and the database useful?					
Evaluate the ease of navigation of project’s website.					
To which extent did the use of the database and website live up to your expectations?					
Evaluate the website aesthetics (graphics, colors, fonts, etc.).					
Evaluate the uniqueness of the project’s website.					
How valuable was your visit to the website for your professional growth?					
Would you recommend visiting the website to somebody else? YES/NO					

Comments and recommendations:

.....

.....

.....

.....

.....

.....

.....

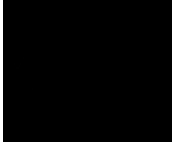
Optional, but recommended:

Name:

Age:

E-mail / tel:

Please send us back the filled form until



Annex X: Event Evaluation (QF-EVE-V1)

Dear Participant,

Thank you for attending this event/ workshop/ info day etc. In our effort to improve the organization and the impact of these events we invite you to complete the following questionnaire. In most of the questions you will be asked to rate your satisfaction on a scale by ticking the appropriate answer. In some of the questions you will be asked to describe your opinion in a few words and to give suggestions for future improvements of the content and overall organization of the event/ workshop/ info day etc.

We appreciate your valuable contribution and we thank you in advance!

General information

- a) Sex (Please tick the appropriate option): Female Male
- b) Your Age _____
- c) Country _____
- d) What is your present professional position? _____

OVERALL FEEDBACK

a) Overall, how satisfied were you with:

	Most satisfied	Satisfied	Moderately satisfied	Rather dissatisfied	Not at all satisfied
The event administration	5	4	3	2	1
The structure of the programme	5	4	3	2	1
The venue and facilities	5	4	3	2	1
The presentations	5	4	3	2	1
The discussions	5	4	3	2	1



b) Please indicate your agreement with the following statements by ticking the appropriate number:

	Most satisfied	Satisfied	Moderately satisfied	Rather dissatisfied	Not at all satisfied
The information I got will be of immediate use to me.	5	4	3	2	1
This event covered to a very high extent the topics I have expected.	5	4	3	2	1
I enjoyed the cooperation and interaction with the other participants.	5	4	3	2	1

STRENGTHS AND LIMITATIONS OF THE EVENT

a) Have you participated in similar events before? Yes No

b) Please illustrate any strengths of the event and contributions or activities you enjoyed:

c) Please indicate how you think the event could have been improved:

d) Any further comments?

WE THANK YOU FOR YOUR COOPERATION



Annex XI: Training Evaluation Form (QF-TEF-V1)

Dear Participant,

Thank you for attending the training activities carried out at [University], [local], [date]. In our effort to analyze the impact of the training, we invite you to complete the following questionnaire.

We appreciate your valuable contribution and we thank you in advance!

GENERAL INFORMATION

- e) Sex (Please tick the appropriate option): Female Male
- f) Your Age _____
- g) Teaching experience (in years) _____

OVERALL FEEDBACK

a) In a scale 1 to 5, please identify for each item your level of accordance.

	1 Totally Disagree	2 Disagree	3 I am not sure	4 Agree	5 Totally Agree
a) The training was useful and relevant for the project activities.					
b) I understood the concepts presented in the training.					
c) The themes / topics developed in the training were relevant for my teaching practice.					
d) I had an active participation during the training activities.					
e) The trainers had an effective approach during the activities developed.					
f) The training materials used were useful for the project activities.					
g) The training was valuable experience for professional growth.					
h) I will recommend this training to somebody else.					



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b) In my opinion, the positive aspects of the training were:

c) In my opinion, the less positive aspects of the training were:

d) Suggestions and other comments.

IMPACT OF THE TRAINING

In your opinion, what was the most meaningful experience carried out in the context of the training, taking into account the project activities to be developed and the challenges of your teaching practice? Please, justify your answer (including examples).

ANY FURTHER COMMENTS

Thank you for your cooperation.



Annex XII: Training Evaluation Process (QF-TEP-V1)



TRAINING EVALUATION PROCESS

	ACTIVITY	RESPONSIBLE
Preparation (before the training)	Set up the google forms - questionnaire.	Diana Mesquita – UMinho
	Send the link to the training organizer team.	Diana Mesquita - UMinho
Data Collection (after the training)	Send the link to the participants.	Training's organizer team
	Monitoring the process (number of replies).	1. Meeting 2018 @UMinho - Diana Mesquita
	Send a reminder (if necessary).	2. Meeting 2019 @CUT – Robert ULEWICZ
	Close data collection.	3. Meeting 2020 @UPB – Livia Lazăr
Data Analysis	Starting the data analysis.	Diana Mesquita – UMinho Livia Lazăr - UPB
	Develop a short report with the results.	Diana Mesquita – UMinho Livia Lazăr - UPB
	Submit the report to WP3 Leader, QCMB, PEC, with cc to the training organizer – to be analysed and provide feedback, if needed.	Diana Mesquita – UMinho Livia Lazăr - UPB
	Implement the suggestions (if any) and send the final report to PC.	Diana Mesquita – UMinho Livia Lazăr - UPB
Closing	Upload the report on the website.	Pisut Koomsap – AIT



Annex XIII: Event Evaluation Process (QF-EEP-V1)



EVENT EVALUATION PROCESS

	ACTIVITY	RESPONSIBLE
Preparation (before the event)	Print the Event Evaluation forms – QF_EVE, to the participants at their registration	Event's organizer team
	Hand in the form to the participants at their registration	
Data Collection (at the end of the event)	Kindly ask the participants to fill in the forms	Event's organizer team
	Collect the completed forms from the participants	
	Scan and send the collected forms by email to Andrei Dumitrescu -UPB (dumitrescu.andrei@yahoo.co.uk)	
Data Analysis	Centralize the results	Andrei Dumitrescu -UPB
	Develop a short report with the results.	Andrei Dumitrescu -UPB
	Submit the report to WP5 Leader, QCMB, PEC, with cc to the event organizer – to be analysed and provide feedback, if needed.	Andrei Dumitrescu -UPB
	Implement the suggestions (if any) and send the final report to PC.	Andrei Dumitrescu -UPB
	Upload the report on the website.	Pisut Koomsap – AIT