

## WP 6 Project Management

### Project Management and Communication Plan

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REVISION SHEET

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0.2	19/05/2018	Pisut Koomsap	Second draft that adds adjusted work plans and puts the document in format
0.3	21/07/2018	Pisut Koomsap	Third draft that reorganises the document and incorporates Section 6: Project Internal Communication and Section 7: Project Risk Management
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2.0	12/04/2019	Pisut Koomsap	Revised work plan after the 3 <sup>rd</sup> meeting at CMU, updated the information about the leader and co-leader of WP1 and co-leader of WP2 and adjusted roles, responsibility and resource allocation accordingly



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# ERASMUS+ CBHE PROJECT

## Curriculum Development of Master’s Degree Program in Industrial Engineering for Thailand Sustainable Smart Industry

Co-funded by the Erasmus+ Programme of the European Union



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## 1 Executive Summary

This Project Management and Communication Plan (PCMP) aims to provide key information about the project and guidelines for the implementation of the MSIE4.0 project so that all stakeholders have a common understanding on what has to be achieved, what has to be delivered, who will involve, when to deliver, and how to communicate during the project term.

MSIE4.0 is a three-year joint capacity building project between six universities in Thailand and three EU partner universities on curriculum development project of Master's Degree Program in Industrial Engineering to support Thailand Sustainable Smart Industry. MSIE4.0 has six work packages categorized into three management levels:

- Operation Level: WP1 Gap Analysis, WP2 Curriculum Development I: Curriculum Structure and Courses, WP3 Curriculum Development II: Modernisation of Teaching Methods and Tools for Innovative MSc Programmes and WP5 Dissemination and Exploitation of Project Results,
- Monitoring and Control Level: WP4 Quality Control and Monitoring
- Management Level: WP6 Management

Contained in this document are

- MSIE4.0 Consortium covering list of partners, organization structure, and roles and responsibilities,
- Project Operations Management outlining tasks, deliverables, resource allocations, work plans and operations procedure,
- Project Financial Management providing general provision, financial reporting, eligible costs, procedures and supporting document for reimbursement and budget transfer,
- Project Internal Communications listing channels for internal communication and documentation,
- Project Risk Management highlighting risk management procedure and risk assessment form.

This document is prepared based on information obtained from the following documents:

1. Erasmus+ CBHE Project Proposal for Curriculum Development of Master's Degree Program in Industrial Engineering for Thailand Sustainable Smart Industry,
2. Partnership Agreement,
3. Guideline for the Use of the Grant for Grants Awarded in 2017 under Call EAC/A03/2016.

## 2 Introduction

### 2.1 Purpose of Project Management and Communication Plan

The main purpose of this MSIE4.0 Project Management and Communication Plan is to create a common understanding on what has to be achieved, what has to be delivered, who will involve, when to deliver, and how to communicate during the project term. The intended audience of this document is all project stakeholders including the project team members, Education, Audiovisual and Culture Executive Agency (EACEA), and the associated partners.

## 2.2 Project Introduction

MSIE4.0 is a curriculum development project of Master's Degree Program in Industrial Engineering to Support Thailand Sustainable Smart Industry. MSIE4.0 is a three-year joint capacity building project between six universities in Thailand and three EU partner universities. It is one of 149 selected from 756 eligible applications for 2017 EU co-funding for Erasmus+ Capacity Building in Higher Education.

In line with European 2020, the Thailand government has foreseen the need for change from the production-based economy (Thailand 3.0) to a value-based economy (Thailand 4.0) for Thai industries to be competitive in today open market. Technology and creativity will be new driving forces for Thailand economy. Instead of trying to produce commodity products in mass effectively or of being OEM, the Thai companies are asked to focus more on producing innovative products and services which require high potential and skilled knowledge staffs. According to Bureau of Supporting Industries Development of Thailand from one public seminar, the majority of companies, however, are not ready for Industry 4.0. In fact, many of them are still below Industry 3.0. Many aspects will need to be improved and prepared, including capacity building of qualified graduates. Human resource development for all levels is indispensable for the realization of this change. Unfortunately, existing curricula in both undergraduate and postgraduate levels, including in industrial engineering discipline, cannot effectively upkeep this change.

MSIE4.0 is expected to support capacity building of qualified graduates who can support the move towards Industry 4.0 and achieve Thailand 4.0. Upon completion, MSIE4.0 will deliver a modernized MSIE curriculum containing 15 new courses that will be developed for student-centred learning and equipped with teaching and learning materials. The course will also be prepared for online learning. Laboratory with remote access will be built to support student learning. More importantly, teaching and technical staffs will be trained by experts in the areas from EU partners.

## 2.3 Project Objectives

The objective of MSIE 4.0 is to enhance the capacity and ability of universities in Thailand for the delivery of a high quality competence-based curriculum for Master's degree in industrial engineering that supports sustainable smart industry (Industry 4.0), conforms to European Qualifications Framework (EQF) and is applicable to EU partner universities. Besides, it is expected that the close collaboration will also strengthen a partnership between participating European and Thai universities.

## 2.4 Project Focus

In order to achieve these objectives, the project will be specifically focused on

- Modernization of the education of industrial engineering discipline in Thailand by the development of a curriculum for Master's degree in Industrial Engineering to Support Sustainable Smart Industry,
- Development of courses, learning and teaching tools, delivery processes and platform for student-centered learning of the curriculum,
- Implementation of modern ICT tools and methodologies for effective student-centered learning of the curriculum,
- Introductions of quality assurance and of the EQF approach for the delivery of the curriculum meeting international accepted education requirements,



- Establishment and continuation of partnerships among partner universities.

### **3 MSIE4.0 Consortium**

#### **3.1 Consortium Members**

The MSIE 4.0 Consortium consists of 9 partners of whom 6 are from Thailand and 3 are from EU partner universities. The 9 partners, in the same order as in the Annex IV of the Grant Agreement, are as follows:

- P1: Chiang Mai University - CMU (Partner)
- P2: Khon Kaen University - KKU (Partner)
- P3: King Mongkut's University of Technology North Bangkok - KMUTNB (Partner)
- P4: Czestochowa University of Technology, Poland - CUT (Partner)
- P5: Prince of Songkla University - PSU (Partner)
- P6: Thammasat University - TU (Partner)
- P7: University of Minho, Portugal - UMinho (Partner)
- P8: University Politechnica of Bucharest, Romania - UPB (Partner)
- P9: Asian Institute of Technology - AIT (Project Coordinator)

Besides, there are also associated partners from various sectors including government agency, non-profit organization, private companies, associations and foundation.

#### **3.2 Organisation Structure**

The consortium is structured as illustrated in Figure 1. It composes of PEC, PC, WPLs, and WP members.

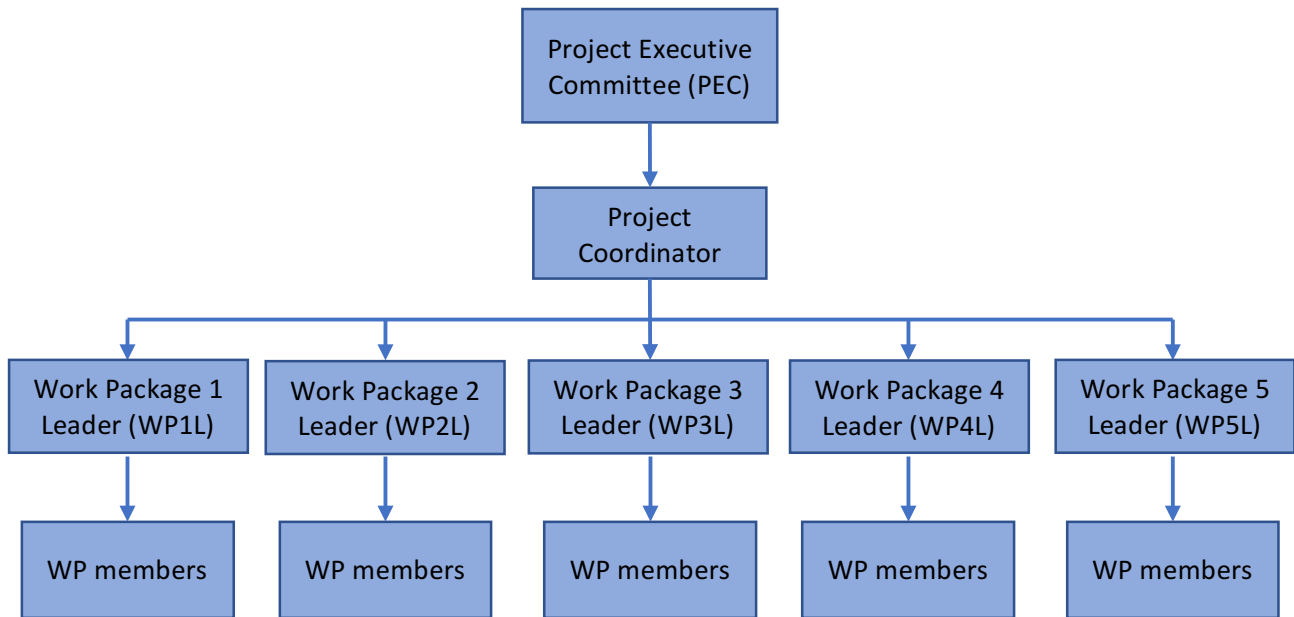


Figure 1. Organization Structure

### 3.3 Roles and Responsibilities

#### 3.3.1 Project Executive Committee (PEC)

The Project Executive Committee is the highest and ultimate decision making board and its main task is project governance. This body is composed of one representative from each project partner (i.e., partner leader or PL) and will work under the supervision of the project coordinator (PC). The PEC will meet at the kick-off meeting and there will be 6 other meetings afterward for making intermediate decisions and for project closure. The PEC will monitor and assess the actual progress of the project and decide on amendments if necessary. In particular, the PEC will be responsible for the following tasks:

#### General Functions

- Establishing Quality Control and Monitoring Board (QCMB);
- Analysing reports, communication issues, and dissemination of the project results among the partners and external project partners;
- Resolving problems and taking corrective actions;
- Resolving conflicts that may arise among the consortium members, when these conflicts cannot be solved by the lower management bodies;
- Approving of any changes in the consortium agreement and recommending acceptance of changes to management board or partners;
- Deciding on withdrawal of partnership.

#### Planning Phase

- Approving a Project Management and Communication Plan (PMCP);
- Approving a Quality Control and Monitoring Plan (QCMP);

- Approving a Dissemination, Exploitation and Sustainable Plan (DESP);
- Approving a Gap Analysis Working Plan
- Approving a procurement plan;
- Approving a budget plan.

### *Managing Phase*

- Reviewing project at regular Project Executive Committee Meetings;
- Approving changes to the project plan;
- Reviewing risk-mitigation plans;
- Reviewing/approving changes in contract commitments;
- Reviewing/approving project deliverables;
- Approving project/phase completion.

### *Closeout Phase*

- Ensuring EU COMMISSION acceptance;
- Signing-off on Project Closure document;
- Ensuring closing of accounting/financial files;
- Participating in the final conference.

### **3.3.2 Project Coordinator (PC)**

The project coordinator is responsible for coordination of activities in compliance with the contract with the EU-Commission, and interacts with the ECEA and third parties in relation to the project.

The PC has total responsibility for the overall project and its successful completion. To succeed in this responsibility, the PC must work closely with EACEA and its assigned project officer to ensure that adequate resources are applied. The PC also has responsibility for planning and ensuring that the project is successfully completed on time, within budget, and at an acceptable level of quality.

The PC will be in charge of fulfilling the following duties:

#### *General Functions*

- Being a contact person between the Project and the EU Commission;
- Formalizing Partnership Agreements, legal activities, tasks and networking among the project partners;
- Establishing Project Executive Committee (PEC);
- Creating a consortium structure with the assistance of the project team;
- Monitoring the compliance of the Grant Agreement, assessment and control of any deviation in the progress of the project;
- Monitoring the executions of the project plans;
- Academic coordination: this task will mainly focus on various aspects of the academic activities within the project, including making academic choices, resolving conflicts of interest, putting in place corrective actions whenever required, managing risks by identifying and classifying them and by putting them in contingency plans, establishing and assessing academic success criteria.;
- Planning management meetings for the project;
- Preparing and submitting mid-term and final project reports;



- Implementing project policies and procedures;
- Acquiring resources required to accomplish project tasks;
- Managing the project team;
- Maintaining excellent communication with all project partners.

### *Planning Phase*

- Developing a project management and communications plan covering project management, execution, communications, resource allocation, budget and risk management with the assistance of the project team;
- Ensuring that the plan is approved and baselined.

### *Managing Phase*

- Managing day-to-day tasks and provide direction to team members performing work on the project.
- Reviewing regularly the project status, comparing budgeted to actual values.
- Reviewing regularly the project schedule, comparing baseline schedules to actual work completed.
- Ensuring that the project plan is updated and signed-off as needed.
- Tracking budget expenses and making recommendations as needed.
- Reviewing the results of quality assurance reviews.
- Participating in PEC meetings to approve product/project changes.
- Reviewing project risks and establishing mitigation procedures.

### *Closeout Phase*

- Developing an action plan for any product deficiencies, open issues, etc.
- Obtaining EACEA and management approval of completed project.
- Closing-out open action items.
- Preparing Project Closure document
- Closing-out any financial accounts or charge codes.
- Conducting Outcomes Assessment Meeting
- Creating Outcomes Assessment Report
- Assisting as needed with any post-project delivery audits.
- Assisting purchasing contract administrator(s) in contract closeout.
- Archiving all project data.
- Celebrating success with project partners and the project team.

### **3.3.3 Work Package Leaders (WPLs) and Co Work Package Leaders (Co-WPLs)**

Work package leaders and co- work package leaders are responsible for the proper execution of WP activities and of the delivery of the WP outputs as promised in the awarded proposal on time. WPLs and Co-WPLs will work closely with the PC and other WPLs.

Each WPL or Co-WPL will be responsible for reporting the progress of their WP to the PC and in the PEC meetings, and will be responsible for:



### *General Functions*

- Being a contact person between the WP and the PC and other WP leaders;
- Establishing WP team composing of all representatives from all partners;
- Participating in the detailed planning, monitoring and reporting of each task in the WP;
- Managing tasks in individual WP to ensure that output performance, costs and deadlines are met.
- Monitoring and being responsible for academic and technical progress of the tasks in the WP;
- Collecting and submitting the required academic, technical, financial and administrative data.
- Preparing and submitting WP monthly reports;
- Managing the WP as a self-contained entity to ensure that the involved partner will commit to use the required resources to carry out the tasks in the WP;
- Supporting the PC for preparations of mid-term and final project reports;
- Acquiring resources required to accomplish project tasks;
- Managing the WP team;
- Maintaining excellent communication within the WP and with the PC and other WP leaders.

### *Planning Phase*

- Developing a plan for WP covering WP management, execution, communications, and risk management with the assistance of the project team;
- Ensuring that the plan is approved and baselined.

### *Managing Phase*

- Managing day-to-day tasks and provide direction to team members performing work on the WP.
- Reviewing regularly the WP schedule, comparing baseline schedules to actual work completed.
- Ensuring that the WP Plan is updated and signed-off as needed.
- Tracking budget expenses and making recommendations as needed.
- Reviewing WP risks and establishing mitigation procedures.

### *Closeout Phase*

- Developing an action plan for any product deficiencies, open issues, etc.
- Closing-out open action items.
- Preparing WP Closure document
- Conducting Outcomes Assessment meeting
- Creating WP Outcomes Assessment Report
- Assisting as needed with any post-project delivery audits.
- Archiving all project data.
- Celebrating success with project partners and the WP team.

#### **3.3.4 Project Members**

Project members have responsibility for conducting project activities. The members, as necessary, assist the PC and WP Leaders in planning the development effort and help construct commitments to complete the project within established schedule and budget constraints.



### 3.3.5 Project Administrative Team

The technical and administrative activities of the project will be assured by the PC with the help of the administrative team from AIT. The duties are as follows:

- Daily administrative/financial management of the project, reporting, financial accounting/cost claiming and budgeting.
- Establishment of a budget and schedule-controlling system.
- Collection and storage of data for monitoring
- Control of the use of resources and budgetary execution.

### 3.4 Lists of PEC and Administrative Members

**Table 1. Project Executive Committee**

Partner	Role	Name	Email
AIT	Chair	Pisut Koomsap	pisut@ait.asia
CMU	Member	Wichai Chattinnawat	chattinw@gmail.com
KMUTNB	Member	Athakorn Kengpol	athakorn.kengpol@gmail.com
TU	Member	Apiwat Muttamara	mapiwat@engr.tu.ac.th
KKU	Member	Kanchana Sethanan	ksethanan@gmail.com
PSU	Member	Thanate Ratanawilai	thanate.r@psu.ac.th
UPB	Member	Tom SAVU	tomsavu@gmail.com
UMinho	Member	Rui M. Lima	rml@dps.uminho.pt
CUT	Member	Tomasz Nitkiewicz	tomasz.nitkiewicz@wz.pcz.pl



**Table 2. Administrative Members**

WP	Role	Name	Partner	Email
6	PC	Pisut Koomsap	AIT	pisut@ait.asia
1	WPL	Rui M. Lima	UMinho	rml@dps.uminho.pt
	Co-WPL	Wichai Chattinnawat	CMU	chattinw@gmail.com
2	WPL	Tomasz Nitkiewicz	CUT	tomasz.nitkiewicz@wz.pcz.pl
	Co-WPL	Pisut Koomsap	AIT	pisut@ait.asia
3	WPL	Huynh T. Luong	AIT	luong@ait.asia
	Co-WPL	Rui M. Lima	UMinho	rml@dps.uminho.pt
4	WPL	Livia Lazar	UPB	livia_veronica_lazar@yahoo.com
	Co-WPL	Supapan Chaiprapat	PSU	supapan.s@psu.ac.th
5	WPL	Kanchana Sethanan	KKU	ksethanan@gmail.com
	Co-WPL	Andrei Dumitrescu	UPB	dumitrescu.andrei@yahoo.co.uk

### 3.5 Decision Making

All main project decisions will be made in PEC regular meetings. PEC decisions will be consensual, but if it is necessary, a voting procedure will be applied. All PEC members will have one vote. However, there may be urgent cases that need immediate decisions to move the project forward. In such the cases, PC will communicate with all PEC members via email and/or WhatsApp messaging application to reach the decisions. If it is necessary, a voting procedure will be applied via the Doodle application. Operational decisions will be made in line with PMCP by the PC, and by the WPLs for the work package level. Country-level decisions, when applicable, will be made by the partners with informing the PC, when necessary. All decisions will be documented and saved in a project archive.

For all cases and at all levels that are communicated via email and/ or WhatsApp, related members have five working days to respond. An absence of a response will be interpreted as support the case. If voting is needed, the members have two days to cast his or her vote. An absence of a response will be interpreted as a vote for the case.

### 3.6 Member Identification Numbers

For documentation purpose, all project members will have identification numbers assigned by their team leaders. These numbers will be used in staff convention, financial reports and member access. The members will also have reference numbers for travel reports. Details are as follows:

- ID number for staff convention: PX-C-ID.
  - “PX” is partner id according to the order in annex IV of the Grant Agreement.
  - “C” is staff categories: Manager (M), Teacher/Researcher (R), Technical staff (T) and Administrative staff (A)
  - “ID” is staff id for the project partner (e.g., 01, 02, ...)



- For example, P9-M-01 is a ref no. of Pisut for reporting as a manager and P9-R-01 is a ref no. of Pisut for reporting as a teacher.
- Reference number for travel report: PX-ID-XX.
  - "PX" is partner id according to the order in annex IV of the Grant Agreement.
  - "ID" is staff id for the project partner (e.g., 01, 02, ...)
  - "XX" is the two digits order of the travel that an individual member reports
  - For example, P9-01-02 is a ref no. of Pisut for reporting a second trip.

## 4 Project Operations Management

### 4.1 Project Activities and Deliverables

MSIE4.0 contains six work packages (WPs) focusing on five different aspects: preparation, development, quality, dissemination and exploitation, and management. Gap Analysis (WP1) will focus on the comparative analysis of the actual situation concerning the MSc curricula in Industrial Engineering offered in Thai and EU partner countries universities, the identification of the gaps between the real needs of the industry, the student needs and the actual offered curricula, and the recommendations for the new curriculum development. WP2 and WP3 will focus on curriculum development. Student-centered learning will be the focus for teaching and learning methods. In addition to content improvement, knowledge delivery will also be designed carefully to ensure effective learning so that the students will be able to apply it in practice after graduation. In order for successful implementation of the curriculum, workshops and seminars will be organized to upkeep teacher and staffs with innovative teaching techniques and tools as well as advanced knowledge on product development, advanced processes and smart production. Quality Control and Monitoring (WP4) including external audits will be conducted to ensure the project quality. Dissemination and exploitation of the project results (WP5) will also be done throughout the project lifetime. WP6 is for management. The six WPs can also be classified into three levels: operation (WP1, WP2, WP3, and WP5), monitoring and control (WP4) and management (WP6). The activities and deliverable for all six work packages are listed in the following subsections.

#### 4.1.1 WP1 Gap Analysis

WP1 will start with the development of a Gap Analysis Working Plan. It will be done by the WP1 leader and co-leader with the participation of the project coordinator and with the consultation of the other members of the consortium. The Gap Analysis Working Plan will be presented to PEC for approval. Comprehensive analysis of MSIE curricula along with the assessment of teaching and learning methods being offered in Thailand and partners countries will be conducted during the first half of the first project's year. Regarding the comprehensive analysis of needs of industry and students, all partners will conduct a survey with companies assigned in their regions in the list and with the help of the associated partners. They will also conduct survey with prospective students in their regions. The outcomes of these activities will be presented to the project executive committee in the first regular meeting and will be available for identifying competitive factors for the curriculum. The development of recommendations for the specifications and areas of specialization for the curriculum will be conducted during the last quarter of the first project's year. The WP1 leader will be responsible for preparing and submitting two WP1 progress reports before the two regular meetings of the first year. A press conference will be arranged to introduce the project and to report the outcome of WP1 during the week of the second regular meeting.





### WP1 Tasks

- Task 1.1 Developing a Gap Analysis Working Plan
- Task 1.2 Analysing of MSIE curricula & of learning and teaching methods
- Task 1.3 Assessing needs of industry and students
- Task 1.4 Identifying gaps
- Task 1.5 Identifying competitive factors for the curriculum
- Task 1.6 Developing recommendations for the curriculum

### WP1 Deliverables

- WP1-1.1 Gap Analysis Working Plan
- WP1-1.2 Comprehensive analysis of MSIE curricula in Thailand and in EU partner countries
- WP1-1.3 Assessment of learning and teaching tools and methods in Thailand and in EU partner countries
- WP1-1.4 Analysis of needs of industry and students
- WP1-1.5 Gaps between the needs and graduates' competences
- WP1-1.6 Competitive factors for the curriculum
- WP1-1.7 Recommendations for specifications and areas of specialization for the curriculum

### 4.1.2 WP2 Curriculum Development I: Curriculum Structure and Courses

Curriculum development will be the main focus of the second project year after the delivery of gap analysis and recommendations for the curriculum at the end of the first year. WP2 is the first of the two parts of curriculum development and the overall objective of WP2 is to deliver ready to implement curriculum for MSc in Industrial Engineering MSc program together with its outcomes catalogue, courses structure and matrix.

The ambitious plan for curriculum is to provide well prepared and flexible managerial and engineering personnel for Thai industry in order to steer it towards sustainable performance and smart business strategies. This curriculum will focus on improving the contents regarding product, process and production that are the three pillars for engineering successful products to be in line with sustainable smart industry.

The border conditions for curriculum development will address the following issues:

- Co-created product design,
- Advanced manufacturing processes,
- Smart production priorities,
- Industry sustainability measures,
- Student-centred learning,
- Innovative teaching methods.

The set of outcomes and the structure of curriculum would be defined with participation of all project partners. The structure will be developed in an adjustable mode with possibilities to modify its content and moving courses due to the specificity of universities implementing it, and the outcomes will cover all the conditions listed above. The curriculum and its outcomes will be mapped as course / outcomes matrix. Additionally, courses will be prescribed with teaching and learning methods and will be realized with the use of double review procedure. WP2 leader and co-leader will propose the structure / outcomes set / course matrix to all project partners. Partners will submit their own proposals of changes and remarks that would be discussed individually and collectively. Leaders will prepare modified proposal and present it to all the partners, and would be reviewed once again. The procedure will use different information exchange channels: e-mailed documents and skype calls for individual discussions and electronically reviewed documents and webinar for collective discussion. Pilot test will be conducted. Selected courses will be separately tested by partnering universities in order to get feedback from academics and students and improve them before the actual launch of the program. According to the assessment of launched courses, the curriculum will be finalized and proceeded with legal accreditation of Industrial Engineering program and obtaining ready-to-enrol status in Thai universities.

#### WP2 Tasks

- Task 2.1 Developing curriculum structure & academic program learning outcomes
- Task 2.2 Developing courses & course learning outcomes
- Task 2.3 Conducting pilot test of the key courses
- Task 2.4 Assessment of pilot test & finalize the curriculum
- Task 2.5 Preparation for accreditation of the curriculum
- Task 2.6 Accreditation of the curriculum by the national accreditation institution in Thailand

## WP2 Deliverables

- WP2-2.1 A modernized curriculum for Master's degree in IE
- WP2-2.2 Syllabuses for all courses in the curriculum
- WP2-2.3 Pilot teaching in modernized MSc at partner universities
- WP2-2.4 Assessment of pilot test of the key courses and improved courses
- WP2-2.5 Accreditation of the curriculum submitted

### 4.1.3 WP3 Curriculum Development II: Modernisation of Teaching Methods and Tools for Innovative MSc Programmes

This work package will focus on the development of teaching materials for all courses in the curriculum, of platform for supporting online learning and of a remotely accessible laboratory. In each course, the course content will be developed to cover some student learning outcomes so that the whole curriculum will fulfil all learning outcomes of the program. For dissemination purpose in the later phase of the project, all teaching/learning materials will be developed with two versions, i.e., English and Thai. A platform for supporting online learning will be developed. Class materials will be adapted for online learning. Training of instructors and staffs on the use of online innovative teaching tools and methods will be conducted. Teaching and technical staffs from Thailand will be introduced to remote teaching technologies/tools, eLearning systems, and data acquisition techniques with the help of partner universities from EU.

Technical design for a remotely accessible laboratory will be devised based on the result of gap analysis carried out in WP1 with consideration of future trends and needs of the industries. Remote access and online learning facility will be designed and the necessary equipment will be purchased. The laboratory will be built at the AIT in such a way that on-line remote access can be done by all partner institutions for online teaching/learning purpose. A network infrastructure for accessing this laboratory from the partner universities will also be established. All the tasks in this work package will be communicated regularly among the partners and the progress will be kept track on the project webpage.

## WP3 Tasks

- Task 3.1 Developing teaching materials
- Task 3.2 Translating teaching materials
- Task 3.3 Developing a web-portal for online learning
- Task 3.4 Training of staffs
- Task 3.5 Adapting learning materials to the online learning
- Task 3.6 Purchasing and installing of teaching equipment
- Task 3.7 Developing a laboratory and on line remote access of the laboratory works

## WP3 Deliverables

- WP3-3.1 Teaching materials for instructors
- WP3-3.2 Learning materials for students
- WP3-3.3 A platform for online learning
- WP3-3.4 Trained instructors and staffs on new teaching tools and methods. Three workshop will be organised when the three meetings organised in EU and seminars will be organised when the meetings organized in Thailand.



- WP3-3.5 Online learning materials
- WP3-3.6 Installed hardware and software
- WP3-3.7 Laboratory equipped with online remote access from partner locations

#### 4.1.4 WP4 Quality Control and Monitoring

The European Standards & Guidelines (ESG) - standards and guidelines for quality assurance in the European Higher Education Area (EHEA) - will provide the basis for quality assurance in the project as well as the key quality assurance principles of continuous improvement. Proactive planning and corrective measures will be employed in order to help mitigate the identified risks and to monitor/evaluate the progress of the project. Quality control and monitoring will be done continuously during the project realization. Throughout the implementation of the project, four main procedures are applied in order to ensure quality of the project: 1) Planning and re-planning; 2) Monitoring; 3) Reporting; 4) Evaluation.

A Quality Control Monitoring Board (QCMB) established during Kick-off Meeting, which consists of persons from consortium universities, will be responsible for: a) elaboration of a Quality Control and Monitoring Plan (QCMP) that defines evaluation criteria and mechanisms as well as structure of QCM reports; b) realization of internal QCM of project activities and results and for delivering QCM reports to PEC before their regular meetings; c) realization of the external QCM and of the external financial audit in collaboration with the PEC. The QCMB will review each project activity in consultation with the PEC.

#### WP4 Tasks

- Task 4.1 Developing a Quality Control & Monitoring System (QCMS)
- Task 4.2 Implementing the internal quality control & monitoring of the project
- Task 4.3 Inviting external evaluation of the project results
- Task 4.4 Inviting external financial audit

#### WP4 Deliverables

- WP4-4.1 Quality Control & Monitoring System
- WP4-4.2 Internal quality control & monitoring conducted
- WP4-4.3 External quality control & monitoring
- WP4-4.4 External financial audit

#### 4.1.5 WP5 Dissemination and Exploitation of Project Results

The WP5's main objective is to promote the visibility of the project, its outputs and products, beyond the members of the consortium to the main target groups and key stakeholders. This will be done through the use of various dissemination channels and means.

A Dissemination Exploitation and Sustainability Plan (DESP) will be developed by the WP5 leader and co-leader with the participation of the project coordinator and with the consultation of other members of the consortium. In the DESP the partner institutions will establish the strategy for dissemination, exploitation and sustainability of special designed activities and outcomes; the target groups; dissemination channels; promotional materials; dissemination, exploitation and sustainability detailed plan.



The website MSIE4.0 will serve as a platform for a) Disseminating project information related to the project activities and their results to the main target groups and key stakeholders; b) Internal communication tool of the project.

Newsletters will be created and delivered online to target groups twice a year. The letters will be in an easy-to-read format with key project results, information regarding the project process and the training sessions as the main messages. The promotion in media will assume advertising of the project major events, like workshops, seminars and final conference, as well as publishing information on the project results. Dissemination in term of printed materials will be conducted in forms of flyers and posters, brochures, presentation on events, etc.

The consortium members will regularly disseminate project outputs achieved at each stage of the project in professional and scientific Industrial Engineering conferences and will publish the project results in relevant professional journals, conference proceedings, and media.

Exploitation of learning materials developed under WP3 in the form of training materials for short professional training courses will be developed in cooperation with the associated partners to assist in opening up opportunities for continuous professional development with regard to the needs of the labour market.

Five dissemination events (workshops and info days) will be organised at each Thai partner universities to disseminate project objectives, activities and results and to promote the idea of the new study programs.

At the end of the project, a final conference will be organised at AIT. The conference will have two aims: dissemination of the project results and presentation of the sustainability measures in order to develop the project achievements after the ending of the EU financing. Two representatives from all participating institutions will make presentation in the conference, as well as all relevant stakeholders from Thailand.

A cooperation network between the project partners and the enterprises will be created and a cooperation agreement will be signed in the third project year. The network will persist after the project ending and the project sustainability will be partly ensured through the network.

### WP5 Tasks

- Task 5.1 Development of a Dissemination, Exploitation & Sustainable Plan,
- Task 5.2 Creating a project website to support the dissemination strategy, and communication and collaboration among partners,
- Task 5.3 Production of dissemination materials,
- Task 5.4 Publications in journals, etc.,
- Task 5.5 Developing joint short-term courses,
- Task 5.6 Organising dissemination events with relevant stakeholders,
- Task 5.7 Organising the final dissemination-sustainability conference.

### WP5 Deliverables

- WP5-5.1 A Dissemination, Exploitation and Sustainable Plan
- WP5-5.2 A project website
- WP5-5.3 Dissemination materials
- WP5-5.4 Publications in professional journals, newspapers, magazines, brochures and social media

- WP5-5.5 Short-term courses in the field of Industrial Engineering for professionals
- WP5-5.6 Dissemination events organized
- WP5-5.7 A dissemination-sustainability conference
- WP5-5.8 Sustainable network between project partners & IE enterprise

#### **4.1.6 WP6 Project Management**

The aim of WP6 is to facilitate, support, monitor and control the operations of all aforementioned WPs to ensure the smooth execution and successful delivery of the project as promised in the awarded proposal. Project Executive Committee (PEC) composing of all project partner leaders will be formed at the beginning of the project and led by the project coordinator (PC). The PEC will have regular meetings to manage and monitor the progress of the project according to this Project Management and Communication Plan (PMCP) and with respect to the QCMS, and DESP. A special attention will be accorded to progress reports of the project, and to mid-term and closing reports of the project to the agency by ensuring external quality assessments and an external final financial audit. Besides being the point of contact for the project, PC will be responsible for overall administration, for all decisions on the project and exploitation strategies, for monitoring of the progress of the different WPs and of the achievement.

#### **WP6 Tasks**

- Task 6.1 Finalizing management structure
- Task 6.2 Organizing kick-off & regular consortium meetings
- Task 6.3 Monitoring & controlling the project
- Task 6.4 Closing the project

#### **WP6 Deliverables**

- WP6-6.1 Project Management & Communication Plan
- WP6-6.2 Kick-off & regular consortium meetings
- WP6-6.3 Documents on daily project administration and coordination
- WP6-6.4 Project reports
- WP6-6.5 Documentation for mid-term reporting and project closing

### **4.2 Responsibilities and Resources Allocations of Partners**

The distribution of responsibilities and tasks is clear, appropriate, and according to the specific expertise and capacity, the commitment and active contribution of project partners. There are 6 work packages in this project. For the first five WPs, two partners: one EU and one Thai have been appointed as leading partners taking into account their skills, previous experience. They will be responsible for managing the WPs and delivery of the results. The project coordination is assured by the PC as the leader of WP6 and participation of all partners.

- WP1 Gap Analysis (Leader: UMinho; Co-leader: CMU)
- WP2 Curriculum Development I: Curriculum Structure and Courses (Leader: CUT; Co-leader: AIT)
- WP3 Curriculum Development II: Modernization of Teaching Methods and Tools for Innovative MSc Programmes (Leader: AIT; Co-leader: UMinho)
- WP4 Quality Control and Monitoring (Leader: UPB; Co-leader: PSU)



- WP5 Dissemination and Exploitation of Project Results (Leader: KKU; Co-leader: UPB)
- WP6 Project Management (Leader: AIT)

16% of workload is dedicated to WP1, 16% for WP2, 28% for WP3, 11% for WP4, 13% for WP5 and 15% for WP6. Teachers/trainers contribute about 58% of workload, Technical staffs contribute about 26%, especially in WP3 for preparing laboratory, Administrative and management supports are 8% and 8% respectively.

Key roles and responsibilities of all partners are as follows:

- P1-CMU will be WP1 co-leader, and task leader for 1.1
- P2-KKU will be WP5 leader, and task leader for 2.5, 2.6, 5.3, 5.6
- P3-KMUTNB will be task leader for 5.5
- P4-CUT will be WP2 leader and task leader for 2.1, 2.2, 2.4
- P5-PSU will be WP4 co-leader and task leader for 4.3, 4.4
- P6-TU will be task leader for 3.2
- P7-UMinho will be WP1 leader and WP3 co-leader, and task leader for 1.2, 1.3, 1.4, 1.5, 1.6, 3.1, 3.4, 5.4
- P8-UPB will be WP4 leader, co-lead WP5 and task leader for 4.1, 4.2, 5.1
- P9-AIT will be WP 3&6 leaders, co-lead WP2, and task leader for 2.3, 3.3, 3.5-3.7, 5.2., 5.7, 6.1-6.4.

The details of human resource allocated to different categories are presented in Table 3.


**Table 3. Consortium partners involved and resources required to complete the work package**

Work Package Ref.nr	Partner nr	Partner acronym	Country	Number of staff days <sup>1</sup>					Role and tasks in the work package
				Manager	Teacher	Technical Staff	Admin Staff	Total	
WP1 Gap Analysis	P1	CMU	Thailand	15	87	58	15	175	Work package co-leader: lead for Tasks 1.1, participation and supporting in Tasks 1.2, 1.4
	P2	KKU	Thailand	0	40	30	0	70	Participation and supporting in Tasks 1.1-1.6
	P3	KMUTNB	Thailand	0	40	30	0	70	Participation and supporting in Tasks 1.1-1.6
	P4	CUT	Poland	0	50	30	0	80	Participation and supporting in Tasks 1.1-1.6
	P5	PSU	Thailand	0	40	30	0	70	Participation and supporting in Tasks 1.1-1.6
	P6	TU	Thailand	0	40	30	0	70	Participation and supporting in Tasks 1.1-1.6
	P7	UMinho	Portugal	15	88	55	19	177	Work package leader: lead for Tasks 1.2, 1.3, 1.4, 1.5, 1.6, participation and supporting in Tasks 1.1, 1.3, 1.5-1.6
	P8	UPB	Romania	0	50	30	0	80	Participation and supporting in Tasks 1.1-1.6
	P9	AIT	Thailand	0	20	12	4	36	Participation and supporting in Tasks 1.1-1.6
<b>SUBTOTAL</b>				<b>30</b>	<b>455</b>	<b>305</b>	<b>38</b>	<b>828</b>	
WP2	P1	CMU	Thailand	0	60	10	0	70	Participation and supporting in Tasks 2.1-2.5
	P2	KKU	Thailand	0	68	35	0	103	Task leader for Tasks 2.5-2.6, participation and supporting in Tasks 2.1-2.4
	P3	KMUTNB	Thailand	0	60	10	0	70	Participation and supporting in Tasks 2.1-2.5
	P4	CUT	Poland	20	111	15	28	174	Work package leader: lead for Tasks 2.1, 2.2, 2.4, participation and supporting in Tasks 2.3
	P5	PSU	Thailand	0	60	10	0	70	Participation and supporting in Tasks 2.1-2.5





<b>WP2 Curriculum Development I: Curriculum Structure and Courses</b>	P6	TU	Thailand	0	60	10	0	70	Participation and supporting in Tasks 2.1-2.5
	P7	UMinho	Portugal	0	65	5	0	70	Participation and supporting in Tasks 2.1-2.4
	P8	UPB	Romania	0	80	10	0	90	Participation and supporting in Tasks 2.1-2.4
	P9	AIT	Thailand	10	70	5	10	95	Work package co-leader: lead for Tasks 2.3, participation and supporting in Tasks 2.1-2.2, 2.4-2.5
<b>SUBTOTAL</b>				<b>30</b>	<b>634</b>	<b>110</b>	<b>38</b>	<b>812</b>	
<b>WP3 Curriculum Development II: Modernisation of teaching methods and tools for innovative MSc programmes</b>	P1	CMU	Thailand	0	82	40	0	122	Participation and supporting in Tasks 3.1-3.7
	P2	KKU	Thailand	0	72	30	0	102	Participation and supporting in Tasks 3.1-3.2, 3.4-3.7
	P3	KMUTNB	Thailand	0	72	30	0	102	Participation and supporting in Tasks 3.1-3.2, 3.4-3.7
	P4	CUT	Poland	0	115	30	0	145	Participation and supporting in Tasks 3.1, 3.3-3.5, 3.7
	P5	PSU	Thailand	0	72	30	0	102	Participation and supporting in Tasks 3.1-3.2, 3.4-3.7
	P6	TU	Thailand	0	82	30	0	112	Task leader for Tasks 3.2, participation and supporting in Tasks 3.1, 3.4-3.7
	P7	UMinho	Portugal	15	115	40	19	189	Work package co-leader: lead for Tasks 3.1, 3.4, participation and supporting in Tasks 3.3, 3.5, 3.7
	P8	UPB	Romania	0	125	40	0	165	Participation and supporting in Tasks 3.1, 3.3-3.5, 3.7
	P9	AIT	Thailand	15	125	235	19	394	Work package leader: lead for Tasks 3.3, 3.5-3.7, participation and supporting in Tasks 3.1, 3.4
<b>SUBTOTAL</b>				<b>30</b>	<b>860</b>	<b>505</b>	<b>38</b>	<b>1433</b>	
<b>WP4 Quality Control and Monitoring</b>	P1	CMU	Thailand	0	23	10	0	33	Participation and supporting in Tasks 4.1-4.2
	P2	KKU	Thailand	0	23	10	0	33	Participation and supporting in Tasks 4.1-4.2
	P3	KMUTNB	Thailand	0	23	10	0	33	Participation and supporting in Tasks 4.1-4.2
	P4	CUT	Poland	0	23	10	0	33	Participation and supporting in Tasks 4.1-4.2



	P5	PSU	Thailand	10	68	20	14	112	Work package co-leader: lead for Tasks 4.3-4.4, participation and supporting in Tasks 4.1-4.2
	P6	TU	Thailand	0	23	10	0	33	Participation and supporting in Tasks 4.1-4.2
	P7	UMinho	Portugal	0	23	10	0	33	Participation and supporting in Tasks 4.1-4.2
	P8	UPB	Romania	20	113	40	24	197	Work package leader: lead for Tasks 4.1-4.2
	P9	AIT	Thailand	0	23	10	0	33	Participation and supporting in Tasks 4.1-4.2
<b>SUBTOTAL</b>				<b>30</b>	<b>342</b>	<b>130</b>	<b>38</b>	<b>540</b>	
<b>WP5 Dissemination and Exploitation of Project Results</b>	P1	CMU	Thailand	0	63	5	0	68	Participation and supporting in Tasks 5.1, 5.3-5.7
	P2	KKU	Thailand	20	75	50	24	169	Work package leader: lead for Tasks 5.3, 5.6, participation and supporting in Tasks 5.1, 5.4-5.5, 5.7
	P3	KMUTNB	Thailand	0	68	5	0	73	Task leader for Tasks 5.5, participation and supporting in Tasks 5.1, 5.3,5.4, 5.6,5.7
	P4	CUT	Poland	0	36	17	0	53	Participation and supporting in Tasks 5.1, 5.3,5.4, 5.6,5.7
	P5	PSU	Thailand	0	58	5	0	63	Participation and supporting in Tasks 5.1, 5.3-5.7
	P6	TU	Thailand	0	63	5	0	68	Participation and supporting in Tasks 5.1, 5.3-5.7
	P7	UMinho	Portugal	0	16	2	0	18	Task leader for Tasks 5.4, participation and supporting in Tasks 5.1,5.3, 5.6-5.7
	P8	UPB	Romania	10	36	7	14	67	Work package co-leader: lead for Tasks 5.1, participation and supporting in Tasks 5.2-5.4, 5.6-5.7
	P9	AIT	Thailand	0	41	62	0	103	Task leader for Tasks 5.2,5.7, participation and supporting in Tasks 5.1, 5.3-5.6
<b>SUBTOTAL</b>				<b>30</b>	<b>456</b>	<b>158</b>	<b>38</b>	<b>682</b>	
<b>WP6 Project Management</b>	P1	CMU	Thailand	14	19	10	10	53	Participation and supporting in Tasks 6.1- 6.4
	P2	KKU	Thailand	14	19	10	10	53	Participation and supporting in Tasks 6.1- 6.4
	P3	KMUTNB	Thailand	14	19	5	10	48	Participation and supporting in Tasks 6.1- 6.4
	P4	CUT	Poland	14	19	10	10	53	Participation and supporting in Tasks 6.1- 6.4



	P5	PSU	Thailand	14	19	5	10	48	Participation and supporting in Tasks 6.1- 6.4
	P6	TU	Thailand	14	19	5	10	48	Participation and supporting in Tasks 6.1- 6.4
	P7	UMinho	Portugal	14	19	10	10	53	Participation and supporting in Tasks 6.1- 6.4
	P8	UPB	Romania	14	19	10	10	53	Participation and supporting in Tasks 6.1- 6.4
	P9	AIT	Thailand	120	44	75	152	391	Work package leader: lead for Tasks 6.1-6.4
<b>SUBTOTAL</b>				232	196	140	232	800	
<b>TOTAL</b>				382	2943	1348	422	5095	



### *4.3 Project Work Plan*

The project work plan document serves as the main control mechanism, both by specifying project phases and by decomposing these phases into specific tasks with associated timeframes, resources, dependencies, and deliverables. During project implementation, it also serves as a status tool by showing completion progress.



**Table 4. Initial Work Plan for Project Year 1**

Activities		Total duration (number of weeks)	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Ref.nr/ Sub-ref nr	Title													
Task 1.1	Develop a gap analysis work plan	3	3=,3X											
Task 1.2	Analysing of MSIE curricula being offered, and of learning and teaching methods being applied	10		2=,2x	2=,2x	2=,2x	2=,2x	2=,2x						
Task 1.3	Assessing needs of industry and students	10					2=,2x	2=,2x	2=,2x	2=,2x	2=,2x			
Task 1.4	Identifying gaps	3									=,x	2=,2x		
Task 1.5	Identifying competitive factors for the curriculum	3										2=,2x	=,x	
Task 1.6	Developing recommendations for the specifications and areas of specialization for the curriculum	4											2=,2x	2=,2x
Task 3.3	Developing a web-portal for online learning	12						2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	
Task 4.1	Developing a quality control and monitoring system	7	2=,2x	2=,2x	2=,2x	=,x								
Task 4.2	Implementing the internal quality control and monitoring of the project	5				=,x		=,x		=,x		=,x		=,x
Task 5.1	Development of a Dissemination, Exploitation and Sustainable plan	6	2=,2x	2=,2x	2=,2x									
Task 5.2	Creating a project website and maintaining it throughout the project lifetime to support the dissemination strategy, and communication and collaboration among partners	14	=,2x	=,2x	x	x	x	x	x	x	x	x	x	x
Task 5.3	Production and dissemination of project materials,	6						=,2x	=,2x					=,2x
Task 5.6	Organizing dissemination events with relevant stakeholders	2												=,2x
Task 6.1	Finalizing management structure	3	3=,3x											
Task 6.2	Organizing kick-off and regular consortium meetings	6	2=,2x					2=,2x						2=,2x
Task 6.3	Monitoring and controlling the project	12	x	x	x	x	x	x	x	x	x	x	x	x



Table 5. Adjusted Work Plan for Project Year 1

Activities		Total duration (number of weeks)	M1 Oct 17	M2 Nov 17	M3 Dec 17	M4 Jan 18	M5 Feb 18	M6 Mar 18	M7 Apr 18	M8 May18	M9 Jun 18	M10 Jul 18	M11 Aug 18	M12 Sep 18
Ref.nr/ Sub-ref nr	Title													
Task 1.1	Develop a gap analysis work plan	3				=,X	=,X	=,X						
Task 1.2	Analysing of MSIE curricula being offered, and of learning and teaching methods being applied	9						=,x	2=,2x	2=,2x	2=,2x	2=,2x		
Task 1.3	Assessing needs of industry and students	10							=,x	2=,2x	2=,2x	2=,2x	2=,2x	=,x
Task 1.4	Identifying gaps	3											2=,2x	=,x
Task 1.5	Identifying competitive factors for the curriculum	3											2=,2x	=,x
Task 1.6	Developing recommendations for the specifications and areas of specialization for the curriculum	2												2=,2x
Task 3.3	Developing a web-portal for online learning	6							=,x	=,x	=,x	=,x	=,x	=,x
Task 3.4*	Training of staff on new tools and best practice exchange on modern teaching techniques	3					=,x							2=,x
Task 4.1	Developing a quality control and monitoring system	7					3=,3x	2=,2x	2=,2x					
Task 4.2	Implementing the internal quality control and monitoring of the project	2												2=,x
Task 5.1	Development of a Dissemination, Exploitation and Sustainable plan	6				2=,2x	2=,2x	2=,2x						
Task 5.2	Creating a project website and maintaining it throughout the project lifetime to support the dissemination strategy, and communication and collaboration among partners	12				2x	2x	x	x	x	x	x	x	x
Task 5.3	Production and dissemination of project materials,	6						=,2x	=,2x					=,2x
Task 5.6	Organizing dissemination events with relevant stakeholders	2												=,2x
Task 6.1	Finalizing management structure	6		=,x			=,x	=,2x	=,x	=,x				
Task 6.2	Organizing kick-off and regular consortium meetings	4					=,2x							2=,x
Task 6.3	Monitoring and controlling the project	10			x	x	x	x	x	x	x	x	x	x

\*it was supposed to be appeared in the proposal also for the activities in the first project year.


**Table 6. Initial Work Plan for Project Year 2**

Activities		Total duration (number of weeks)	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Ref.nr/ Sub-ref nr	Title													
Task 2.1	Developing curriculum structure and academic program learning outcomes	3	3=,3x											
Task 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,	10		2=,2x	2=,2x	2=,2x	2=,2x	2=,2x						
Task 2.3	Conducting pilot test of the key courses	8									2=,2x	2=,2x	2=,2x	2=,2x
Task 3.1	Developing teaching materials	20			2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x
Task 3.2	Translating teaching materials between English and Thai	16					=,2x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x
Task 3.4	Training of staff on new tools and best practice exchange on modern teaching techniques	2						2=,x						
Task 3.5	Adapting learning materials developed to the online learning	12							2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x
Task 3.6	Purchasing and installing of teaching equipment	16				=,x	=,x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x
Task 4.2	Implementing the internal quality control and monitoring of the project	6		=,x		=,x		=,x		=,x		=,x		=,x
Task 4.3	Inviting independent external evaluation of the project results	3						3x						
Task 5.2	Creating a project website and maintaining it throughout the project lifetime to support the dissemination strategy, and communication and collaboration among partners,	12	x	x	x	x	x	x	x	x	x	x	x	x
Task 5.3	Production and dissemination of project materials,	8	=,2x					=,2x	=,2x					=,2x
Task 5.4	Publications in professional journals, newspapers, magazines, brochures and social media,	8					2=,2x	2=,2x					2=,2x	2=,2x
Task 5.6	Organizing dissemination events with relevant stakeholders	4						2=,2x						2=,2x
Task 6.2	Organizing kick-off and regular consortium meetings	4						2=,x						=,2x
Task 6.3	Monitoring and controlling the project	12	x	x	x	x	x	x	x	x	x	x	x	x


**Table 7. Adjusted Work Plan for Project Year 2**

Activities		Total duration (number of weeks)	M1 Oct 18	M2 Nov18	M3 Dec 18	M4 Jan 19	M5 Feb 19	M6 Mar 19	M7 Apr 19	M8 May19	M9 Jun 19	M10 Jul 19	M11 Aug 19	M12 Sep19
Ref.nr/ Sub-ref nr	Title													
Task 1.6	Developing recommendations for the specifications and areas of specialization for the curriculum	2	2=,2x											
Task 2.1	Developing curriculum structure and academic program learning outcomes	5				1=,1x	2=,2x	2=,2x						
Task 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,	10					2=,2x	2=,2x	2=,2x	2=,2x	2=,2x			
Task 2.3	Conducting pilot test of the key courses	3											1=,1x	2=,2x
Task 3.1	Developing teaching materials	10								2=,2x	2=,2x	2=,2x	2=,2x	2=,2x
Task 3.2	Translating teaching materials between English and Thai	8									=,2x	=,2x	=,2x	=,2x
Task 3.3	Developing a web-portal for online learning	6	=,x	=,x			=,x	=,x	=,x	=,x				
Task 3.4	Training of staff on new tools and best practice exchange on modern teaching techniques	3				=,x					2=,x			
Task 3.5	Adapting learning materials developed to the online learning	6										2=,2x	2=,2x	2=,2x
Task 3.6	Purchasing and installing of teaching equipment	16				=,x	=,x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x
Task 4.2	Implementing the internal quality control and monitoring of the project	7			=,3x			=,x		=,x		=,x		=,x
Task 4.3	Inviting independent external evaluation of the project results	3									3x			
Task 5.2	Creating a project website and maintaining it throughout the project lifetime to support the dissemination strategy, and communication and collaboration among partners,	12	x	x	x	x	x	x	x	x	x	x	x	x
Task 5.3	Production and dissemination of project materials,	8	=,2x					=,2x	=,2x					=,2x
Task 5.4	Publications in professional journals, newspapers, magazines, brochures and social media,	8					2=,2x	2=,2x					2=,2x	2=,2x
Task 5.6	Organizing dissemination events with relevant stakeholders	4						2=,2x						2=,2x
Task 6.2	Organizing kick-off and regular consortium meetings	4				=,2x					2=,x			
Task 6.3	Monitoring and controlling the project	12	x	x	x	x	x	x	x	x	x	x	x	x




**Table 8. Initial Work Plan for Project Year 3**

Activities		Total duration (number of weeks)	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Ref.nr/ Sub-ref nr	Title													
Task 2.3	Conducting pilot test of the key courses	10	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x							
Task 2.4	Assessment of pilot test of the key courses and finalize the curriculum and the courses	2						=,2x						
Task 2.5	Preparation for accreditation of the curriculum	14	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x					
Task 2.6	Accreditation of the curriculum by the national accreditation institution in Thailand	8							=,2x	=,2x	x	x	x	x
Task 3.1	Developing teaching materials	4	2=,2x	2=,2x										
Task 3.2	Translating teaching materials between English and Thai	10	=,2x	=,2x	=,2x	=,2x	=,2x							
Task 3.4	Training of staff on new tools and best practice exchange on modern teaching techniques	4						2=,x				2=,x		
Task 3.5	Adapting learning materials developed to the online learning	10	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x							
Task 3.7	Developing a laboratory and of on line remote access of the laboratory works	11	=,2x	=,2x	=,2x	=,2x	=,2x	=,3x						
Task 4.2	Implementing the internal quality control and monitoring of the project	7		=,x		=,x		=,x		=,x		=,x		2=,2,x
Task 4.3	Inviting independent external evaluation of the project results	3											3x	
Task 4.4	Inviting independent external financial audit of the financial part of the final report- "Audit Certificate on Final Financial Report"	5											3x	2x
Task 5.3	Production and dissemination of project materials,	10	=,2x					=,2x	=,2x				=,2x	=,2x
Task 5.4	Publications in professional journals, newspapers, magazines, brochures and social media,	8					2=,2x	2=,2x				2=,2x	2=,2x	
Task 5.5	Developing joint short-term courses in the field of Industrial Engineering in cooperation with industry for professionals,	9	=,3x					=,3x				=,3x		
Task 5.6	Organizing dissemination events with relevant stakeholders,	7						x	x	x	x	x	2=,2x	
Task 5.7	Organizing the final dissemination-sustainability conference	2											2=,2x	
Task 6.2	Organizing kick-off and regular consortium meetings	4						2=,x					=,2x	
Task 6.3	Monitoring and controlling the project	12	x	x	x	x	x	x	x	x	x	x	x	x
Task 6.4	Closing the project and final reporting	7										2=,2x	2=,2x	2=,3x



**Table 9. Adjusted Work Plan for Project Year 3**

Ref.nr/ Sub-ref nr	Activities Title	Total duration (number of weeks)	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
			Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May20	Jun 20	Jul 20	Aug 20	Sep 20
Task 2.3	Conducting pilot test of the key courses	15	2=,2x	2=,2x	2=,2x	1=,1x	2=,2x	2=,2x	2=,2x	2=,2x				
Task 2.4	Assessment of pilot test of the key courses and finalize the curriculum and the courses	2								2=,2x				
Task 2.5	Preparation for accreditation of the curriculum	14		=,2x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x				
Task 2.6	Accreditation of the curriculum by the national accreditation institution in Thailand	8							=,2x	=,2x	x	x	x	x
Task 3.1	Developing teaching materials	14	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x					
Task 3.2	Translating teaching materials between English and Thai	18	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x	=,2x			
Task 3.4	Training of staff on new tools and best practice exchange on modern teaching techniques	3		=,x						2=,x				
Task 3.5	Adapting learning materials developed to the online learning	16	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x	2=,2x				
Task 3.7	Developing a laboratory and of on line remote access of the laboratory works	11	=,2x	=,2x	=,2x	=,2x	=,2x	=,3x						
Task 4.2	Implementing the internal quality control and monitoring of the project	7		=,x		=,2x		=,x		=,x		=,x		2=,2x
Task 4.3	Inviting independent external evaluation of the project results	3											3x	
Task 4.4	Inviting independent external financial audit of the financial part of the final report- "Audit Certificate on Final Financial Report"	5											3x	2x
Task 5.2**	Creating a project website and maintaining it throughout the project lifetime to support the dissemination strategy, and communication and collaboration among partners,	12	x	x	x	x	x	x	x	x	x	x	x	x
Task 5.3	Production and dissemination of project materials,	10	=,2x					=,2x	=,2x				=,2x	=,2x
Task 5.4	Publications in professional journals, newspapers, magazines, brochures and social media,	8					2=,2x	2=,2x				2=,2x	2=,2x	
Task 5.5	Developing joint short-term courses in the field of Industrial Engineering in cooperation with industry for professionals,	9	=,3x					=,3x				=,3x		
Task 5.6	Organizing dissemination events with relevant stakeholders,	7						x	x	x	x	x	2=,2x	
Task 5.7	Organizing the final dissemination-sustainability conference	2											2=,2x	
Task 6.2	Organizing kick-off and regular consortium meetings	6			=,2x					2=,x			=,2x	
Task 6.3	Monitoring and controlling the project	12	x	x	x	x	x	x	x	x	x	x	x	x
Task 6.4	Closing the project and final reporting	7										2=,2x	2=,2x	2=,3x

\*\* It was supposed to appeared in the proposal also for the activities in the third project year.



#### 4.4 Project Operations Management Flow

The project is managed in three levels: operation (WP1, WP2, WP3, and WP5), monitoring and control (WP4), and management (WP6). Work package leaders (WPLs) manage and are accountable for their work packages (WPs). Figure 2 illustrates the project management flow. All operational tasks are initiated by WPLs who allocate the tasks to the task members nominated by the partner leaders (PLs). WPLs are responsible for updating PC the status of ongoing tasks on a monthly basis by the 21<sup>st</sup> of the month. For each completed task, the responsible WPL will submit deliverable to his/her representative in QCMB for initial evaluation. The deliverable will be sent to QCMB for endorsement. The deliverable will then be submitted to PEC via PC for final approval. In case that the deliverable get rejected at any stage, the WPL will be informed immediately. According to the monthly reports from the WPLs, PC will submit a progress report to PEC and inform QCMB. For WP4 tasks, the chair of QCMB will initiate all tasks. With the endorsement of QCMB, the chair submits the deliverables to PEC via PC for final approval. Please be noted that the appointments of external audits require PEC approvals. For WP6 tasks, PC will submit progress reports to PEC directly for approval and inform QCMB.

Work Package Monthly Report (WMR) is available at “Resources/ WP6/WP6 Forms/ Work Package Monthly Report”.

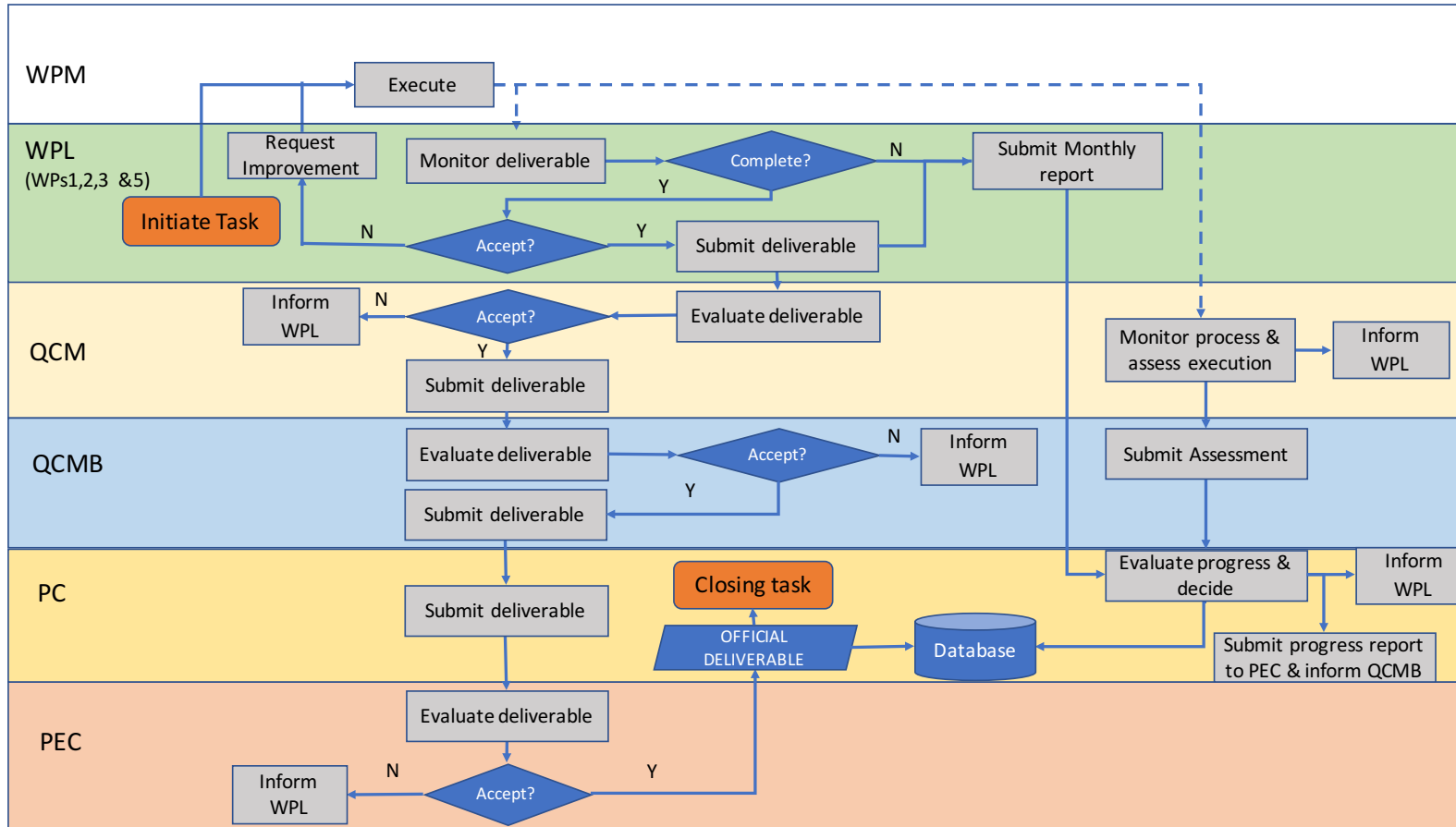


Figure 2. Project Operations Management Flow

## 5 Project Financial Management

This section describes the financial rules for the management of the grant to provide support to the project partners so that they can perform the local financial management in an efficient and successful way and provide all documents necessary for financial monitoring, reporting, and audits. It offers the detailed definitions of eligible and ineligible costs, instructions for preparing financial tables, a list of required supporting documents to justify incurred costs, etc. Some definitions and rules are taken in the original forms from the EU COMMISSION Guidelines for the Use of the Grant, in order to avoid any misinterpretation.

### 5.1 General Provisions

- The grant is calculated on the basis of actual costs for budget headings Equipment and Subcontracting, and on the basis of Unit costs for budget headings Staff costs, Travel costs and Costs of stay.
- For actual costs, financial reporting will be based on the principle of the expenses actually incurred which will need to be duly documented.
- For unit costs, financial reporting will be based on the principle of the triggering event. Prove is required that the activities have been actually and properly implemented and/or that the expected output(s) have been produced. The level of spending will not have to be justified.
- All partners agree to adopt the rates suggested in the Erasmus+ Programme Guide for of Unit costs for budget headings Staff costs, Travel costs and Costs of stay.
- It is important to note that not all the activities and the costs planned under the awarded maximum project budget are automatically approved by the Agency.
- The Agency reserves the right to re-evaluate the justification provided if the declared activities or outputs are questionable and if it is not accepted, no corresponding unit costs will be granted.
- Original supporting documents must be kept at the partner institutes. Readable copies must be sent to the PC with the project documentation and submitted with the final report and financial statement when specifically requested.
  - The list of supporting documents to be kept are available under each budget heading.
  - Submitting the required supporting documents is an integral part of the Agreement obligation.
- The PC may adjust the estimated budget by transfers between budget headings, provided that:
  - this adjustment of expenditure does not affect the implementation of the action,
  - the adjusted amount for one or more headings is not increased by more than 10% of the amount initially proposed, and
  - the total awarded grant is not exceeded.
- The PC will receive the total budget in three payments and will transfer to all partners in five payments.
  - For the first pre-financing, the actual exchange rate is 38.8 THB per 1 EUR. Thai partners and AIT will receive their budgets for the first two payments in Thai Baht at this rate. European partners will receive their budgets in Euro.
- Equipment costs is applicable to Thai partners only.

### 5.2 Financial Reporting

In order to provide adequate information on the local financial management, continuous financial reporting on a monthly basis is highly recommended. The advantage of regular reporting is the possibility for checking the eligibility of reported costs and implementing corrective actions if necessary. Please be noted that a



financial report accompanied with corresponding supporting documents, which proves that a certain percentage of the budget is spent, is the basis for the transfer of next instalment to the partner institution. When preparing the financial report, the project partners will use the financial statement template (Excel file) provided by the EU COMMISSION. This Excel table contains the following sheets, among others:

- Staff Costs
- Travel Costs & Costs of Stay
- Equipment Costs
- Co-Financing.

Necessary forms to be completed and submitted along with the monthly financial statements will be made available on the project website under "Resources/ WP6/WP6 Forms".

For submission, please save the file in the following format "(month)(year)(financial\_statements for)(abbreviation of the partner name)". For example, a financial statement for CUT for April 2018 is "April18 financial\_statement for CUT".

### 5.3 Exchange Rates

If the partner institution is from a country which has not adopted the Euro as its currency, all expenses expressed in local currency will be converted into the Euro. During the project implementation, only two exchange rates for the conversion of currencies into the euro will be used:

- a) from the start of the eligibility period until the date when the second pre-financing will be received from EU COMMISSION, the exchange rate of January 2018 (the month of the first pre-financing payment) will be applied. The rate to be applied is the monthly accounting rate established by the Commission and published on its website: <http://ec.europa.eu/budget/infocuro> .

For reporting, exchange rates are as follows:

Thailand:	1 EUR = 38.929 THB
Romania:	1 EUR = 4.652 RON
Poland:	1 EUR = 4.1808 PLN

- b) from the date when the second pre-financing is received from EU COMMISSION until the end of the eligibility period, the rate of the month of the second pre-financing will be applied.

### 5.4 Staff Costs

#### 5.4.1 Eligible Staff Costs

Eligible staff costs are costs of the staff when they perform any of the four different PROJECT-RELATED types of tasks (listed in the Table 10 below) which are directly necessary for the achievement of the objective of the project. Staff costs will be calculated on the basis of the task performed and not on the status of the person.

The applicable staff categories to be applied are the following:

- Managers (including legislators, senior officials and managers) carry out top managerial activities related to the administration and coordination of project activities.



- Researchers, teachers and trainers (RTT) typically carry out academic activities related to curriculum/training programme development, development and adaptation of teaching/training materials, preparation and teaching of courses or trainings.
- Technical staff (including technicians and associate professionals) carries out technical tasks such as book-keeping, accountancy, in-house translation activities.
- Administrative staff (including office and customer service clerks) carries out administrative tasks such as secretarial duties. Students can work for the project and can be considered as administrative staff, provided that they have signed a work contract with a consortium beneficiary institution.

5.4.2 Unit Costs for Eligible Staff Costs

Table 10. Unit costs for daily staff costs (EUR)

Country	Manager	Researcher / Teacher	Technical Staffs	Administrative Staffs
Thailand	108	80	57	45
Romania	88	74	55	39
Portugal	164	137	102	78
Poland	88	74	55	39

5.4.3 Supporting Documents for Staff Costs

**A Staff Convention (SC)** is for all members employed in the project. An individual member is asked to complete this Staff Convention form right after the completion of his/her duty and to submit it to his/her team leader. The conventions must be signed by the person concerned, then signed and stamped by the person responsible in the institution where this person is engaged to work on the project. For staff performing different tasks (for instance 2, 3 or all 4 out of the 4 listed task types), a separate convention must be signed for each task type. The staff convention template can be found on MSIE4.0 website under “Resources/ WP6/WP6 Forms/Staff Convention”.

**A Monthly Time Sheet (MTS)** (“diary of activities within the project for each task type”) is for all members. An individual member is asked to complete this form for a month that he/she works on the project and to submit to his/her team leader by the 7th of the following month. One sheet is for one role. For example, Pisut works as a manager for WP6 and a teacher for WP 5 and WP6 in March. He will submit two time sheets by April 7. Please be noted that there should not be more than 20 days reported for one month and a full day of work on the project is not expected except for regular meetings or trainings. This is because all members are expected to have their regular workloads.

The time-sheets must be signed by the person concerned and countersigned by the person responsible in the partner institution where this person is normally employed. They may be used for audit purposes, in order to verify that the number of hours worked is appropriate and compatible with the other activities of the staff member concerned. The number of working days given in the Time-sheet for any given task type must correspond exactly to the “duration in days” expressed in the corresponding Staff Convention.

The Monthly Time Sheet can be found on MSIE4.0 website under “Resources/ WP6/WP6 Forms/Monthly Time Sheet”. Please use the most updated one.

**A Project Time Sheet** is for all members. An individual member is asked to download this time sheet and keep updating at the end of each months that he/she works on the project. The input for this time sheet can be



obtained from the last line of a monthly time sheet. One project sheet is for one role. For example, Pisut has two roles: manager and teacher in this project. He will have two project time sheets. For the month of March, he works 1 days as a manager for WP6, and 2 days and 3 days as a teacher for WP5 and WP6 respectively. The project time sheets will be submitted along with the staff convention form right after the completion of his/her duty. The Project Time Sheet can be found on MSIE4.0 website under "Resources/ WP6/WP6 Forms/Template for Timesheet version 2017 - 2 for MSIE4".

For audits and to justify salary rates for staff costs, the following documents will also be made available:

A. If staff is remunerated by the project directly (full-time, part-time, occasional or top-up of regular salary):

- Employment contract
- Proof of payment (i.e. bank statement)

B. If staff is remunerated through its normal salary (i.e. ERASMUS PLUS-CBHE related tasks are part of the regular assignment at the university):

- Employment contract
- Proof that the task is part of regular assignment
- Salary slips
- Proof of payment (i.e. bank statement)

Additional supporting documents depending on national and / or institutional regulations may also be required.

### 5.5 Travel Costs and Costs of Stay

Eligible travel costs and costs of stay cover **the costs of travel and subsistence allowances** of staff and students participating in activities directly related to the achievement of the project.

Travels are intended for the following activities:

1. teaching/training assignments,
2. training and retraining purpose,
3. updating programme and courses,
4. practical placements in companies, industries and institutions
5. Project management related meetings,
6. Workshops and visits for result dissemination purposes.

**Please be noted that Thai members are eligible for all activities but EU members are eligible only for activities 1,3, 5 and 6.** Furthermore, travel for research activities is not eligible.

#### 5.5.1 Eligible Travel Costs

The grant contributes to the travel of staff and students involved in the project from their place of origin (home institution) to the venue of the activity and return. It includes visa fee and related obligatory insurance, travel insurance and cancellation costs if justified. If a travel is necessary to obtain a visa, the relevant unit costs for travel and, if applicable, costs of stay can be claimed.

The travel costs is calculated based on the travel distance of a one-way travel from their home institution to the venue of the activity. The distance can be determined at [http://ec.europa.eu/programmes/erasmus-plus/tools/distance\\_en.htm](http://ec.europa.eu/programmes/erasmus-plus/tools/distance_en.htm).





In the context of a circular travel (e.g., a member departs from city A to attend a project meeting at city B and then departs from city B immediately to attend a project meeting at city C), the travel costs will be the sum of the unit costs for travel from city A to city B and for travel from city B to city C. The distance between city A and city C will not be used in the calculation because the unit costs provided cover also return trips. Stopover(s) is not applicable.

**5.5.2 Unit Costs for Travel Costs**

**Table 11. Unit costs for travel costs**

Distance	Travel Costs (EUR)
0km - 9km	0
10km - 99km	20
100km – 499km	180
500km – 1999km	275
2000km – 2999km	360
3000km – 3999km	530
4000km – 7999km	820
8000km or longer	1100

**5.5.3 Costs of Stay**

This budget heading is meant to provide each person participating in a mobility with a daily allowance to cover costs for subsistence, accommodation, local and public transport such as bus and taxi, personal or optional health insurance etc.

**5.5.4 Unit Costs for Costs of Stay**

**Table 12. Unit costs for costs of stay**

	Unit cost per day per participant for staff	Unit cost per day per participant for student
Up to the 14 <sup>th</sup> day of activity	120 EUR	55 EUR

**5.5.5 Supporting Documents for Travel Costs and Costs of Stay**

*Individual Travel Report* is for members who have travelled on the mission of the project. For each trip, an individual member is asked to complete this form and submit to his/her team leader along with the invitation letter, boarding passes, hotel receipts to reimburse for travel costs and costs of stay.

The form for travel report can be found on MSIE4.0 website under “Resources/ WP6/WP6 Forms/individual-travel-report”

**5.6 Equipment Costs**

**5.6.1 Eligible Equipment Costs**

Only the purchase of equipment which is directly relevant to the objectives of the project can be considered as eligible expenditure.

The equipment must:



- be exclusively for the Partner Country Higher Education Institutions indicated in the partnership agreement,
- be for teaching purposes, not for research purposes
- be recorded in the inventory of the institution where it is installed; this institution/university is the sole owner of the equipment,
- comply with the rule of origin.

#### 5.6.2 Supporting Documents for Equipment Costs

- Invoice(s) and bank statement(s) for all purchased equipment
- Proofs of tendering procedure and three quotations from different suppliers for purchases above EUR 25.000 but below EUR 134.000
- Proofs of tendering procedure applied according to national legislation for purchases above EUR 134.000
- Certificate of origin for equipment of a unit cost above EUR 5.000
- Proof that VAT is not deductible (if VAT exemption is not obtained and VAT costs are charged to the project budget)
- Proof of payment

**The purchase cannot be split into smaller contracts below the threshold.**

### 5.7 Subcontracting Costs

#### 5.7.1 Eligible Subcontracting Costs

Subcontracting refers to the implementation of specific tasks being part of the action by a third party to which a service contract has been awarded by one or several partners. It is intended for specific, time-bound, project-related tasks which cannot be performed by the members. Subcontracting costs will be reimbursed on the basis of the eligible costs actually incurred.

#### 5.7.2 Supporting Documents for Equipment Costs

- Invoice(s), subcontract(s) and bank statement(s)
- In the case of travel activities of subcontracted service provider, copies of travel tickets, boarding passes, invoices and receipts are required to demonstrate that the activities took place.
- Proofs of tendering procedure and three quotations from different subcontractors for a subcontract above EUR 25.000 but below EUR 134.000
- Proofs of tendering procedure applied according to national legislation for a subcontract above EUR 134.000
- Tangible outputs

### 5.8 Procedures for Reimbursement and Budget Transfer

#### 5.8.1 Reimbursement

Figure 3 illustrates the flow for reimbursement for costs incurred on the project activities. An individual member is responsible for initiating his/her own payment requests by submitting monthly timesheets and/or travel reports to his/her PL who will check, approve the requests, and process internal payments for the approved requests. PLs are responsible for keeping records locally and submitting their financial report along with the copy of supporting document on a monthly basis to PC. Unless correction is needed, PC will record all received financial reports and document. PC is responsible for preparing six-month financial



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reports for PEC, and midway and final financial reports for EACEA which also require PEC approval prior to submissions.

### 5.8.2 Budget Transfer

Figure 4 illustrates the flow for budget transfer. There are five payments that AIT (P9) will transfer to each partner. For each payment, a PL will initiate the payment request by filling a payment request form (Annex IV in Partnership Agreement) and obtain the signature of the partner's legal representative. The signed request form will be submitted to PC along with supporting documentation. Unless the correction is required, PC will process the payment and inform PEC.

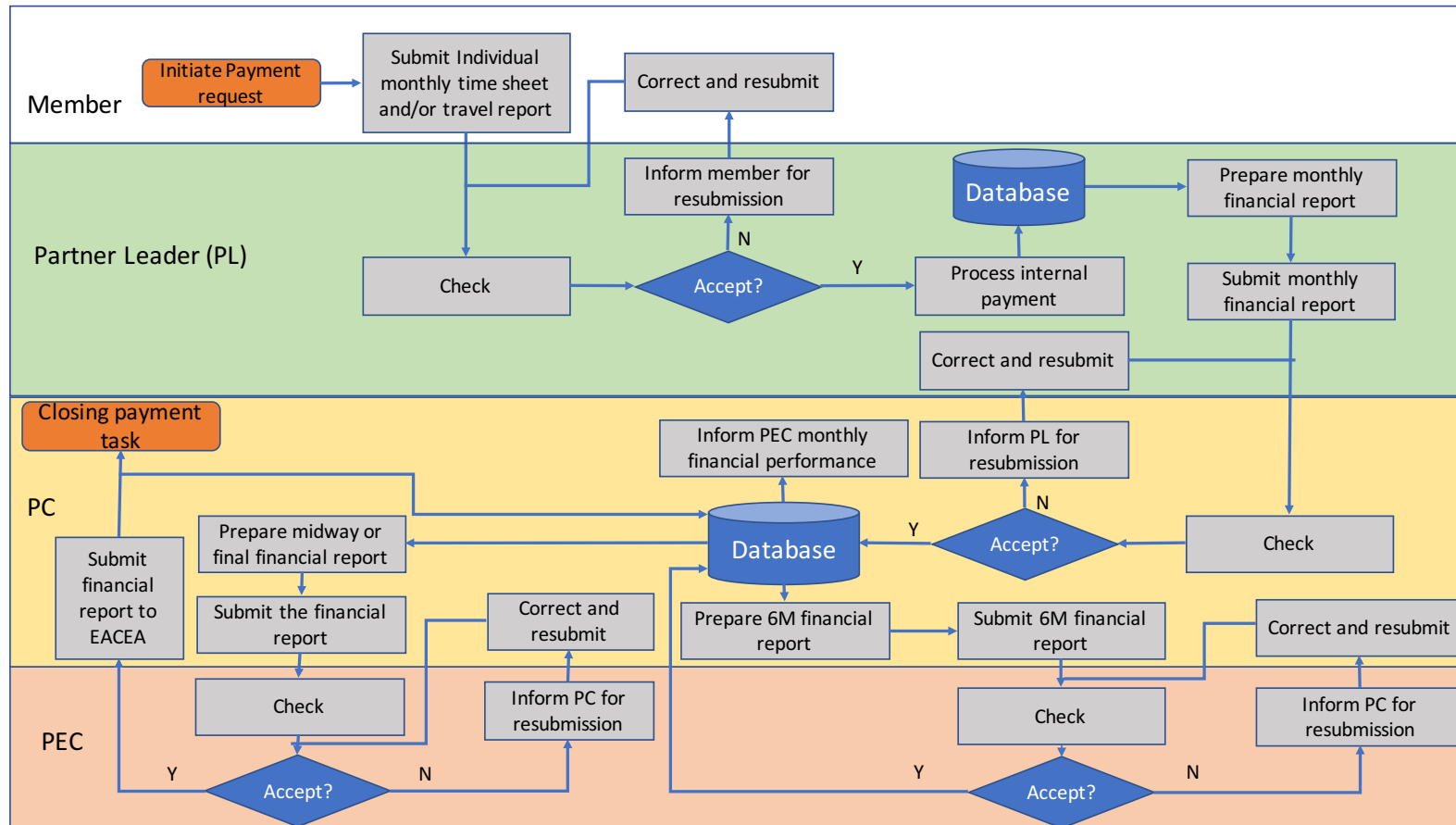


Figure 3. Project Reimbursement Procedure

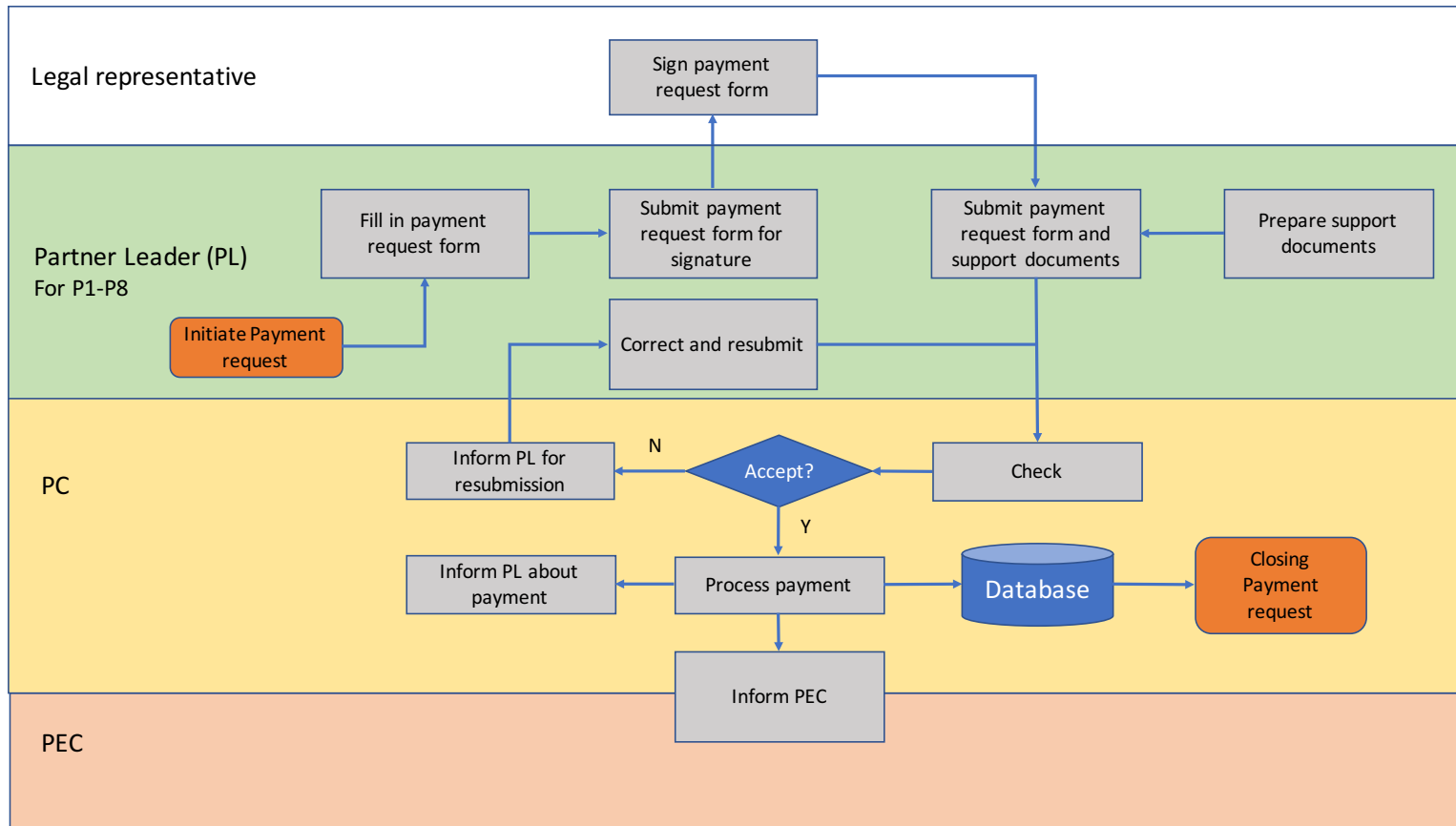


Figure 4. Budget Transfer Procedure

## 6 Project Internal Communication

Communication is highly encouraged among members at all levels. For internal communication, PC will initiate and manage the activities necessary to ensure an efficient internal information flow. A regular, frequent and simultaneous communication will be assured for all team members of partner institutions. The internal communication can be ensured by virtual way and by periodic face-to-face meetings. Various channels will be exploited to make communication effective.

### 6.1 *Periods for Response and Casting a Vote*

As aforementioned in section 3.5, all main project decisions will be made during the regular face-to-face meetings, but there may be urgent cases that need immediate decisions to move the project forward. In such the cases, PC, WPLs or Co-WPLs will communicate with related members via email and/or WhatsApp messaging application for discussion and reach the decisions. If it is necessary, a voting procedure will be applied via the Doodle application. The members have five working days to respond. An absence of a response will be interpreted as support the case. If voting is needed, the members have two days to cast his or her vote. An absence of a response will be interpreted as a vote for the case.

### 6.2 *Channels for Communication*

#### 6.2.1 Meetings

A Face-to-face meeting is the most effective way of communication. Seven regular meetings have been scheduled about six months apart throughout the three years. Each meeting is three days long cover the PEC meeting, QCMB meeting and WP meeting (optional). The PEC meeting is for making main decisions concerning the management, analysing the progress of the project, approving the intermediate or final outputs and results of the project, assigning actions and also for budgetary analysis. A QCMB meeting is for discussing quality issues. WP meetings may be held as well for WPLs and individual contributors to share status and results as well as discuss relevant technical issues in greater detail. Therefore, each partner will participate with at least three staff members: PL or representative, QCMB member or representative, and another project member(s). After each PEC meeting, the host organization will prepare and submit the meeting minutes to PEC for approval. The report will be made available on the project website to all members and the public. Similarly, the meeting minutes will be made available on the project website by WPLs and QCMB chair. WPLs can also call their subgroup face-to-face meetings at other times.

Another important tool for maintaining strong communication between the partners is holding occasionally teleconferences to evaluate progress against project plans, identify major problems and co-ordinate project-related interactions among the WP Leaders.

Meeting Minutes Template is available at “Resources/ WP6/WP6 Form/Meeting Minutes Report (MF-MMR-V2)”.

Meeting Attendance Sheet is available at “Resources/ WP6/WP6 Form/Meeting Attendance Sheet (MF-MAS-V1)”.

#### 6.2.2 Electronic Channels

Email is a primary mean for communication when a face-to-face meeting cannot be done. PC will prepare a worksheet entitled “MSIE4.0 Contact Information.xlsx” on Google drive for PLs to update their members and



contact information. This contact information will be made available to all members at “Resources/ WP6/WP6 Gallery/MSIE4.0 Contact Information”

WPLs are also encouraged to create a chat group for their WP on WhatsApp. The existing groups are:

1. MSIE4.0 PEC
2. WP1

### 6.2.3 Written Message

Reports will be written by PC and WPLs to report the progress of the project. They will be made available to public on the project website. The members will also be informed via emails.

### 6.2.4 Project Website

The official project website (<http://msie4.ait.ac.th/>) has been created from the beginning to facilitate the project management, the exchange of project documentation, and for dissemination and exploitation of the project results. It provides a structured central document repository for meeting minutes and presentations, deliverable drafts, dissemination material drafts, project-internal documentation and other relevant information including links to relevant articles, blogs and papers. It will be maintained by P9 (AIT) with the consultation from P8 (UPB) and the provision of materials from all other partners.

The website has a password-protected area for internal communication. PLs are responsible to request access for their project members to Mr. Clifford M. Gasillos, AIT technical staff, at [cmgasillos@ait.asia](mailto:cmgasillos@ait.asia). The password-protected area will appear under the tap “Resources” allowing the members to access as well as share document internally under different categories: forms, gallery, presentation, and reports. The members can also choose to share no confidential document to public. If the members have a doubt on sharing document to public, please contact related WPL or PC for clarification.

## 6.3 Documentation

There are three types of documents for the time being: plan, form and document. For documentation purpose, codes for the six work packages and how the three types of documents are named are as follows:

- Codes for the six work packages:
  - 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
- For project plan, the code will be XXXP-VY. “XXX” is three initial capital letters of the plan follow by “P” (e.g., QCMP is for Quality Control and Monitoring Plan, and PMCP is for Project Management and Communication Plan). VY is a version of the document.

For example, QCMP-V1 is a Quality Control and Monitoring Plan version 1.



- For project form: the code will be AF-XXX-VY. “A” is a WP code, “F” means form and “XXX” is three initial capital letters of a form (e.g., QF-QFT is for Quality Form Template, and MF- WMR is for Work Package Monthly Report). VY is a version of the document.

For example, QF-QFT-V1 is a quality form template version 1.

- For project document: the code will be AD-XXX-VY. “A” is a WP code, “D” means a document and “XXX” is three initial capital letters of a document. VY is a version of the document.

For example, MD-PMR-V1 is the first PEC meeting minutes report.

## 7 Project Risk Management

Project risk is defined as an event or a condition that has a potential to affect the achievement of the project negatively. It is important to develop a risk management plan to identify potential threats in the early stage to prepare corrective actions properly to prevent them from happening or mitigate their impact. All WPLs will be asked to identify potential risks to his or her WP and mitigation measures according to the stipulated procedures presented in the next subsection. All identified risks and mitigation measures will be gathered for developing a risk management plan. During the project, the identified risks will be monitored and the mitigation measures will be considered. In general, the decisions are expected to be adopted unanimously; however, if there exist split opinions voting procedure will be employed in which each partner will have one vote. As risk management is an ongoing process over the life of the project, the plan will be updated annually. WPLs must inform PC immediately if a potential risk arises so that the solution can be implemented early. PC is also responsible to report to PEC on the progress and on any possible conflict that might arise.

### 7.1 Risk Management Committee(RMC)

A risk management committee (RMC) composes of all WPLs or Co-WPLs, chairs by PC.

### 7.2 Risk Assessment Form

All RMC members are asked to consult with his or her WP members to perform risk assessment on an annual basis and complete this risk assessment form. The form should be submitted to PC by the end of October.

**Table 13. Risk Assessment Form**

Risk No.	Descriptions	WP	Risk Assessment			Mitigation Measures	Risk Owner
			Likelihood	Impact	Level		

The risk assessment form will be available at “Resources/ WP6/WP6 Form/Risk Assessment Form (MF-RAF-V1)”.





### 7.3 Risk Management Procedure

#### 7.3.1 Risk Identification

All events, conditions, and conflict that have a potential to delay the delivery of deliverables, and to lower the quality of the deliverables are considered to be project risks. They all must be identified and recorded in the risk assessment form.

#### 7.3.2 Risk Assessment

After the risks are identified, each individual must be assessed on how likely it will occur and how much impact it will have on the success of the project. Generally, the impact of the risk can be realised from one or combinations of the following consequences:

- Project outcomes (benefits) are delayed or reduced,
- Project output quality is reduced,
- Timeframes are extended,
- Costs are increased.

Likelihood of occurring can be categorized into three levels:

- Most likely – Greater than <70%> probability of occurrence
- Likely – Between <30%> and <70%> probability of occurrence
- Unlikely – Below <30%> probability of occurrence

Impact can also be categorized into three levels:

- High – Risk that has the potential to greatly impact project cost, project schedule or performance
- Medium – Risk that has the potential to slightly impact project cost, project schedule or performance.
- Low – Risk that has relatively little impact on cost, schedule or performance

According to likelihood and impact, risk level can be determined from the risk assessment matrix below. Risks that fall in critical, significant and moderate levels will require risk response planning which may include both a risk mitigation and a risk contingency plan. Priority is given to the critical and significant risks.

**Table 14. Risk Assessment Matrix**

Likelihood	Impact		
	Low	Medium	High
Unlikely	Mild	Mild	Moderate
Likely	Mild	Moderate	Significant
Most Likely	Moderate	Significant	Critical

#### 7.3.3 Risk Response Planning

Each major risk (those falling in the Red & Yellow zones) will be assigned to a project team member for monitoring purposes to ensure that the risk will not “fall through the cracks”.

For each major risk, one of the following approaches will be selected to address it:

- Avoid – eliminate the threat by eliminating the cause
- Mitigate – Identify ways to reduce the probability or the impact of the risk



- Accept – Nothing will be done
- Transfer – Make another party responsible for the risk

For each risk that will be mitigated, the project team will identify ways to prevent the risk from occurring or reduce its impact or probability of occurring. This may include prototyping, adding tasks to the project schedule, adding resources, etc.

For each major risk that is to be mitigated or that is accepted, a course of action will be outlined for the event that the risk does materialize in order to minimize its impact.

## 8 The Deliverable Templates

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

**Table 15. List of Document**

<b>Abbreviation</b>	<b>Full name of document</b>	<b>Annex no.</b>
MF-WMR-V3	Work Package Monthly Report	Annex I
MF-SC-V1	Staff Convention (CBHE Joint Declaration)	Annex II
MF-MTS-V3	Monthly Time Sheet	Annex III
MF-PTS-V1	Project Time Sheet	Annex IV
MF-ITR-V1	Individual Travel Report	Annex V
MF-MMR-V2	Meeting Minutes Report	Annex VI
MF-MAS-V1	Meeting Attendance Sheet	Annex VII
MF-RAF-V1	Risk Assessment Form	Annex VIII

## Annexes



# Annex I: Work Package Monthly Report (MF-WMR-V3)

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## Work Package Monthly Report

<b>Title and reference number of the work package (WP)</b>			
<b>WPL:</b>	<b>Reporting period:</b>	<b>Completion date:</b>	

Activities carried out since last report to date:

Task No*	Task Description	Start date	Due date	Place/ Partners involved	Description of the activity carried out	Specific and measurable indicators of achievement	Implementing status (done, partially-? [%])
Task x.x							
Sub Task x.x.y							

\*If a task contains several activities, please divide it to subtasks and report the progress of both the task and its subtasks.

Corrective Actions \*\*

Task No*	Task Description	Details
Task x.x		
Sub Task x.x.y		

\*If a task contains several activities, please divide it to subtasks and report the progress of both the task and its subtasks.

\*\*Only when corrective actions are needed.



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### Activities to be carried out for the next month:

Task No	Task Description	Start date	Due date	Place/ Partners involved	Description of the activity to be carried out	Specific and measurable indicators of achievement	Expected completion (done, partially-? [%])
Task x.x							
Sub Task x.x.y							

\*If a task contains several activities, please divide it to subtasks and report the progress of both the task and its subtasks.

### Complete Activities to date:

Task No**	Task Description	Start date	Due date	Place/ Partners involved	Description of the activity carried out	Specific and measurable indicators of achievement
Task x.x						

\*\* For a completed task containing subtasks, please report only the task.

### Progress of Deliverables

Deliverable No	Deliverable Description	Status (Y/N)			
		Prepare	Submit to QCMB	Submit to PEC	Officially Complete



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### Indicators

<b><u>Indicator of achievement and or/performance as indicated in the project proposal</u></b>	<b>Target</b>	<b>Sources of information on indicators</b>	<b>Measured Results</b>	<b>Measured Date</b>	<b>Observation</b>

### **Changes that have occurred in this result since the original proposal:**



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## Annex II: Staff Convention (MF-SC-V1)

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ANNEX II

JOINT DECLARATION

Ref. No.....

Project No. ....

The reference number must correspond to the progressive numbering indicated in the financial statements of the final report

FROM ..... Hereinafter "the Institution"\*

AND Name: ..... Address: ..... Hereinafter "the Staff member"\*

THE INSTITUTION AND THE STAFF MEMBER HEREBY CERTIFY THAT:

- 1. The Institution is a member of the partnership for the above-mentioned project.
2. The Staff member is either: - employed by the Institution and is part of its payroll system YES/NO or - a natural person \*\* assigned to the project on the basis of a contract against payment YES/NO
3. The Institution and Staff member agree that the Staff member has worked on this project and performed the following duties during the project’s eligibility period.

Table with 4 columns: FROM, dd/mm/yy, TO, dd/mm/yy

Please describe the outputs produced (short overall indication since detailed information has to be given in the accompanying time-sheet):

.....

4. Please complete the following information.

Table with 2 columns: Information (Staff category, Country, Days worked) and empty response cells

5. This declaration does not alter in any way the employment conditions/assignment already existing between the Institution and the Staff member and is established solely for the purpose of justifying the Staff costs that the Institution will charge to the Erasmus+ Capacity Building in Higher Education grant.

Done in ..... Date .....

Name.....

Function.....

Institution ..... Staff member name.....





---

Signature and Stamp of the Institution

Signature of the Staff member

*\*The declaration must be signed by the person concerned, then signed and stamped by the person responsible in the Institution where this person worked for the project. The Institution must be a member of the partnership.*

*\*\* A natural person (individual) can be assigned to the action also on the basis of e.g. a civil contract, a free-lance contract, an expert contract, a service contract with self-employed person ("in house consultant) or a secondment to the Institution against payment. The costs of such natural persons working under the action may be assimilated to the costs of personnel, if:*

- (i) the person works under conditions similar to those of an employee (in particular regarding the way the work is organised, the tasks that are performed and the premises where they are performed); and*
- (ii) the result of the work belongs to the Institution (unless exceptionally agreed otherwise); and*
- (iii) the costs are not significantly different from the costs of staff performing similar tasks under an employment contract within the institution*



## Annex III: Monthly Time Sheet (MF-MTS-V3)



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<b>Monthly Time Sheet</b>					
Year:				Month:	
Name:					
Institution:					
Staff Category*:					
No.	Date	WP No.	Number of Hours	Description of Task Performed	Description of Output Produced
1				Your explanation...	Your explanation...
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
Number of Hours for WP 1				Please insert or delete rows in the table as seen appropriate. *Please refer to Section 3.3.1.1 (Staff costs) of the Guidelines for the Use of the Grant. Time-Sheets have to be attached to each Joint Declaration. These numbers of hours will be reported in the project time sheet of the member.	
Number of Hours for WP 2					
Number of Hours for WP 3					
Number of Hours for WP 4					
Number of Hours for WP 5					
Number of Hours for WP 6					
<b>Total Hours</b>			<b>0.00</b>		
Signature of the staff member :				Signature of the person responsible in the institution (where the staff members is employed) :	
Name:				Name:	
Position:				Position:	



## Annex IV: Project Time Sheet (MF-PTS-V1)

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# Annex V: Individual Travel Report (MF-ITR-V1)

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**ANNEX III - INDIVIDUAL TRAVEL REPORT for travel costs and costs of stay**

To be filled in by *each* participant

In case of circular/multiple travels, please fill in separate Individual Travel Reports.

**Ref. No.....Project No. 586137-EPP-1-2017-1-TH-EPPKA2-CBHE-JP**

The reference number must correspond to the progressive numbering indicated in the financial statements in the final report

**(1) PERSONAL DATA**

Surname: ..... Forename: .....

Nationality: .....

Home institution: .....

Staff position/student year of study at home institution: .....

**(2) TYPE OF ACTIVITY (Tick as appropriate)**

**STAFF**

- Teaching/training assignment
- Training and retraining purposes
- Updating programmes and courses
- Practical placements in companies, industries and institutions
- Project management related meetings
- Workshops and visits for result dissemination purposes

**STUDENTS**

- Study period
- Participation in intensive courses
- Practical placements, internships in companies, industries or institutions
- Participation in short term activities linked to the management of the project

**(3) DETAILS OF THE TRAVEL**

<b>PERIOD*</b>	From (Depart date) <i>(dd/mm/yy)</i>	To (Return date) <i>(dd/mm/yy)</i>
<b>PLACE OF DEPARTURE**</b>	HOME INSTITUTION .....	
	COUNTRY..... CITY.....	
<b>PLACE OF DESTINATION/ LOCATION OF ACTIVITY</b>	HOST INSTITUTION .....	
	COUNTRY..... CITY.....	
<b>TRAVEL DISTANCE***</b>	Km .....	

\*Please indicate period of travel from departure to return to place of origin  
 \*\* If different from Home institution please enclose authorisation from the Agency  
 \*\*\* Travel distance in Km (One-way travel using distance calculator: [http://ec.europa.eu/programmes/erasmus-plus/tools/distance\\_en.htm](http://ec.europa.eu/programmes/erasmus-plus/tools/distance_en.htm)) from place of departure to location of activities

**(4) DETAILS OF THE ACTIVITY**

<b>DATES (excluding travel)</b>	<b>From (date):</b> ..... <b>To (date):</b> .....
<b>DESCRIPTION OF ACTIVITY(IES) PERFORMED (brief description of the activities performed)</b>	
.....	
.....	
.....	



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..... ..... .....
-------------------------

**SIGNATURE OF THE PARTICIPANT**

**I hereby declare that I have been carrying out the above-mentioned activities.**

Date:.....

Signature: .....





---

## Annex VI: Meeting Minutes Report (MF-MMR-V2)

---



## Meeting Minutes Report

<b>Meeting Subject:</b>			
<b>Date of Meeting:</b>		<b>Time:</b>	
<b>Minutes Prepared by:</b>		<b>Location:</b>	
<b>1. Attendance at Meeting</b>			
	<b>Name</b>		<b>University</b>
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
<b>2. Purpose of Meeting</b>			
<b>3. Meeting Agenda</b>			
<b>4. Meeting Notes, Decisions, Issues</b>			



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### 5. Action Items

Action	Assigned to	Due Date

### 6. Attachments (documents/handouts to bring, reading material, etc.)

Description	Prepared by

### 6. Next Scheduled Meeting

<b>Date:</b>		<b>Time:</b>	
<b>Location:</b>			



---

# Annex VII: Meeting Attendance Sheet (MF-MAS-V1)

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## Meeting Attendance Sheet

<b>Meeting Subject:</b>			
<b>Date of Meeting:</b>		<b>Time:</b>	
<b>Location:</b>			

Name	University/Institution	Signature
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		



# Annex VIII: Risk Assessment Form (MF-RAF-V1)

---



## RISK ASSESSMENT FORM

<b>Prepared by</b>	
<b>Date of Report</b>	

Risk No.	Descriptions	WP	Risk Assessment			Mitigation Measures	Risk Owner
			Likelihood	Impact	Level		

Likelihood of occurring can be categorized into three levels:

- Most likely – Greater than <70%> probability of occurrence
- Likely – Between <30%> and <70%> probability of occurrence
- Unlikely – Below <30%> probability of occurrence

Impact can also be categorized into three levels:

- High – Risk that has the potential to greatly impact project cost, project schedule or performance
- Medium – Risk that has the potential to slightly impact project cost, project schedule or performance.
- Low – Risk that has relatively little impact on cost, schedule or performance

Likelihood	Impact		
	Low	Medium	High
Unlikely	Mild	Mild	Moderate
Likely	Mild	Moderate	Significant
Most Likely	Moderate	Significant	Critical