ERASMUS+ CBHE PROJECT

**Curriculum Development of Master's Degree Program in
Industrial Engineering for Thailand Sustainable Smart Industry**

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Meeting Minutes Report

Meeting Subject:	WP1 Meeting		
Date of Meeting:	February 12, 2018	**Time:**	13:00-16:00
Minutes Prepared by:	Wichai Chattinnawat	**Location:**	Room219, ISE Bldg., AIT

1. Attendance at Meeting

Name	University
1. Dr.Pisut Koomsap (Project Coordinator)	Asian Institute of Technology
2. Dr. Huynh Trung Luong	
3. Dr. A.M. Harsha S. Abeykoon	
4. Dr. Wichai Chattinnawat	Chiang Mai University
5. Dr. Uttapol Smutkupt	
6. Dr. Komkrit Pitiruek	Khon Kaen University
7. Prof. Athakorn Kengpol	King Mongkut's University of Technology North Bangkok
8. Dr. Thanate Ratanawilai	Prince of Songkla University
9. Dr. Wuttinan Nunkaew	Thammasat University
10. Prof. Tom Savu	University Politechnica of Bucharest
11. Prof. Cristian Vasile Doicin	
12. Prof. Rui Manuel de Sá Pereira de Lima	University of Minho
13. Prof. Tomasz Nitkiewicz	Częstochowa University of Technology

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2. Purpose of Meeting

To discuss the overall plan of analysis of WP1
To define the time frame of analysis of WP1
To discuss the methodology of analysis used for Task1.2, 1.3, 1.4
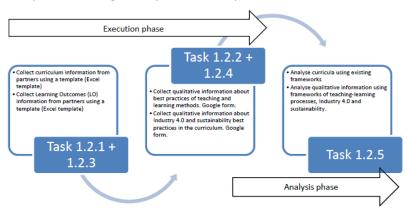
3. Meeting Agenda

13.45-15.00
Report the overall plan of analysis of WP1
Report the time frame of analysis of WP1
Report the methodology of analysis used for Task1.2, 1.3, 1.4

15.00-16.30
Discussion on the overall plan and time frame of analysis of WP1
Discussion on the methodology of analysis used for Task1.2, 1.3, 1.4

4. Meeting Notes, Decisions, Issues

1) In order to identify the strengths and weaknesses , the common points, the differences and the good practices concerning curricula, teaching methods and tools in Thai and EU universities, all partner are agreed upon the competence model as follows.

1.1 Reviewing MSIE curricula (tasks 1.2.1 and 1.2.3) will be based on data collected from partners, using an Excel file as a template. First, we collect information from the courses, class types, hours of contact, credits and number of enrolled students.

1.2 The collection of data about best practices on learning methods, industry 4.0 and sustainability (tasks 1.2.2 and 1.2.4) will be done in a qualitative way, asking partners to fill a form for each best practice. These best practices can be related to student
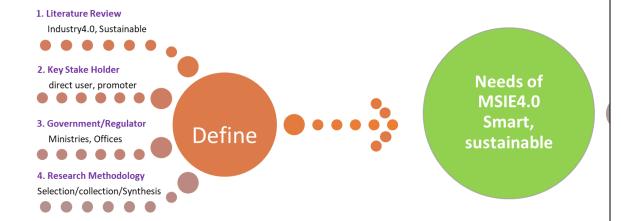
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centred learning strategies (active learning), Industry 4.0 or sustainability. We expect that each project partner can fill in at least two best practices by teaching-learning strategies and two by I4.0 and sustainability. This means 4 entries by project partner.

1.3 Finally, the data will be analysed using a mixed approach between a quantitative approach (descriptive statistics) and qualitative data analysis procedures. A final report will be developed.

2) to identify the gap between the needs of industry, for being ready for Thailand 4.0, especially in capacity building, and the competence of MSc graduates from current curricula offered by Thai and EU universities , all the partner agreed to use the following concepts of the following to define the needs

1. Literature Review
Industry4.0, Sustainable

2. Key Stake Holder
direct user, promoter

3. Government/Regulator
Ministries, Offices

4. Research Methodology
Selection/collection/Synthesis

Define

Needs of MSIE4.0 Smart, sustainable

2.1 The finding of statistics for SME company in Thailand shows that there are more than 30,000 SME. By assuming that the high impact SME in Thailand is at least 1,000, the sampling table of YAMANE indicates that the minimum of 91 companies shall be listed based on the 10% error.

2.2 The WP1 leader searches for the first and the new S-curves or new country competitive. Also the classification the specific names of the companies for all study group in Thailand were created and given to all partners for approval. The total of 80 companies are listed by the following clusters:

Tourism	Seafood Processing	Electronic
Agro Processing	Textile Industry	Construction/Manufacturing
Aerospace	Automotives	Logistic and Transport
Packaging and Commerce	PetroChemical	Automation
IT Wood/furniture		

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2.3 The questionnaires will be developed from the following sources of "Industry 4.0 Readiness" by the IMPULS Foundation of the German Engineering Federation (VDMA) and the Institute for Industrial Management (FIR) at RWTH Aachen University.

2.4 Data collection shall be carried during the first 6 months including the need of students and industry.

3) For WP1-1.5: Identifying competitive factors for the curriculum
An analysis of gaps between the actual competence of MSc graduates in Industrial Engineering and the real needs of industry for Thailand 4.0 and Industry 4.0 and in EU countries referring to Europe 2020 goals will be made and presented in a form of a report and it will be a part of the second WP1 progress report.

4) For WP1-1.6: Developing recommendations for the specifications and areas of specialization for the curriculum
Based on a wide analyse of the target group needs, the identified gaps and on world trends and developments in the Industrial Engineering, the factors that will provide competitive advantage to the curriculum will be identified and presented in a form of a report who will be a part of the second WP1 progress report.

5. Action Items

Action	Assigned to	Due Date
Task 1.2 Excel Data Template for Curriculum collection	UMinho	April 2018
Task 1.3 Questionnaire Design and feedback	CMU	Mid of May 2018
Task 1.2 collect information from the courses, class types, hours of contact, credits and number of enrolled students	All partners	May 2018
Task 1.3 collect information from the industry needs and student needs	All partners	May 2018

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

Description	Prepared by
WP1 Over all presentation plan	Dr. Wichai chattinnawat

6. Next Scheduled Meeting

Date:	**26th June 2018**	Time:	**9.00-17.00**
Location:	Chiang Mai University		