

## WP 3 – Curriculum Development II: Modernisation of Teaching Methods and Tools for MSC Programmes

### Outcome 3.4 - Training of staff on new tools and best practice exchange on modern teaching techniques

|                             |   |
|-----------------------------|---|
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| <b>Task Title:</b>          | Task 3.4. Training of staff on new tools and best practice exchange on modern teaching techniques                   |
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**REVISION SHEET**

| Version | Date       | Author (Partner/Person)   | The revision reason                                      |
|---------|------------|---------------------------|--|
| 1       | 26/05/2020 | Diana Mesquita            | Preliminary Analysis Report                              |
| 2       | 08/06/2020 | Diana Mesquita            | Updated Analysis Report                                  |
| 3       | 14/10/2020 | Rui Lima / Diana Mesquita | Final Report (collection of the all training activities) |
| 4       | 19/10/2020 | Rui Lima                  | Revision based on the QCMB feedback                      |

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## 1 Executive Summary

This document presents an overview of the training activities carried out throughout the project. This includes two type of activities: 1) a list of the seminars delivered during the project meetings in Thailand; 2) the training workshops conducted during the study visits to EU partner universities. The materials of the all activities are available in this document, as well as the results of the training evaluation, considering the participants' feedback collected by a questionnaire.

## 2 Overview of the Seminars

In Table 1 an overview of the six seminars carried out within the context of the MSIE4.0 project is presented. For each meeting conducted in Thailand between 2018 and 2020, a seminar was organized two times in each meeting conducted in Thailand: one in Bangkok and another one at CMU, PSU or KKU (a total of six seminars in three years). The seminars were deliver by EU partners and AIT, concerning topics related to the scope of the project. The target group were not only the all partners involved in the project, but also other instructors and staff, as well as students.

*Table 1. Overview of the MSIE 4.0 Seminars (2018-2020)*

| N. | Date       | Venue        | Seminar Title  | Material  | Speakers                |
|----|------------|--------------|--|---|-------------------------|
| 1  | 13/02/2018 | Bangkok @AIT | Smart Development of Competences for Smart Industries  | <a href="http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/02/Smart-Development-of-Competences-for-Smart-Industries.pdf">http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/02/Smart-Development-of-Competences-for-Smart-Industries.pdf</a>           | Rui M. Lima (UMinho)    |
|    |            |              | Industry 4.0's Challenges for the Industrial Engineering Curricula in the Politechnica University of Bucharest | <a href="http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/Politehnica.pdf">http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/Politehnica.pdf</a>   | Tom Savu (UPB)          |
|    |            |              | Industry 4.0: Implication to Higher Education  | <a href="http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/02/Industry-4.0-Implication-to-Education-copy.pdf">http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/02/Industry-4.0-Implication-to-Education-copy.pdf</a>                                 | Pisut Koomsap (AIT)     |
|    |            |              | Identifying key criteria in development of Industrial Engineering education                                    | <a href="http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/TNitkiewiczMSIE4.pdf">http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/TNitkiewiczMSIE4.pdf</a>   | Tomasz Nitkiewicz (CUT) |
|    |            |              | Building up quality assurance system on university - perspective of Industrial Engineering Master Program      | <a href="http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/Building-up-quality-assurance-system-on-university-Ulewicz.pdf">http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/Building-up-quality-assurance-system-on-university-Ulewicz.pdf</a> | Robert Ulewicz (CUT)    |
| 2  | 15/02/2018 | PSU          | Smart Development of Competences for Smart Industries  | <a href="http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/02/Smart-Development-of-Competences-for-Smart-Industries.pdf">http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/02/Smart-Development-of-Competences-for-Smart-Industries.pdf</a>           | Rui M. Lima (UMinho)    |
|    |            |              | Industry 4.0's Challenges for the Industrial Engineering Curricula   | <a href="http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/Politehnica.pdf">http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/Politehnica.pdf</a>   | Tom Savu (UPB)          |

|   |            |                 |   |   |   |
|---|------------|-----------------|---|---|---|
|   |            |                 | in the Politechnica University of Bucharest   |   |   |
|   |            |                 | Industry 4.0: Implication to Higher Education   | <a href="http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/02/Industry-4.0-Implication-to-Education-copy.pdf">http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/02/Industry-4.0-Implication-to-Education-copy.pdf</a>                                   | Pisut Koomsap (AIT)                               |
|   |            |                 | Identifying key criteria in development of Industrial Engineering education                               | <a href="http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/TNitkiewiczMSIE4.pdf">http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/TNitkiewiczMSIE4.pdf</a>   | Tomasz Nitkiewicz (CUT)                           |
|   |            |                 | Building up quality assurance system on university - perspective of Industrial Engineering Master Program | <a href="http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/Building-up-quality-assurance-system-on-university-Ulewicz.pdf">http://msie4.ait.ac.th/wp-content/uploads/sites/5/2018/03/Building-up-quality-assurance-system-on-university-Ulewicz.pdf</a>   | Robert Ulewicz (CUT)                              |
| 3 | 28/01/2019 | Bangkok @KMUTNB | Industry 4.0 in Practice  | <a href="https://msie4.ait.ac.th/industry-4-0-in-practice/">https://msie4.ait.ac.th/industry-4-0-in-practice/</a>   | Duangthida Hussadintorn Na Ayutthaya (AIT)        |
|   |            |                 | Innovation and evolution towards ideality in Industry 4.0   | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Presentation-for-MSIE-4.0-Seminar_Ionescu-Dumitrescu_2.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Presentation-for-MSIE-4.0-Seminar_Ionescu-Dumitrescu_2.pdf</a> | Nicolae Ionescu and Andrei Dumitrescu (UPB)       |
|   |            |                 | Sustainability of Industry 4.0  | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/CMU19Sustainability-of-Industry-4.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/CMU19Sustainability-of-Industry-4.pdf</a>   | Tomasz Nitkiewicz and Anna Wisniewska-Salek (CUT) |
|   |            |                 | Master level competences according to EQF and employer satisfaction                                       | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Presentation-for-MSIE-4.0-Seminar_Ionescu-Catana-1.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Presentation-for-MSIE-4.0-Seminar_Ionescu-Catana-1.pdf</a>         | Nicolae Ionescu and Madalin Catana (UPB)          |
|   |            |                 | The role of transversal competences for Industrial Engineering in the context of Industry 4.0             | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2019_MSIE4.0_competences_RLima-and-DMesquita.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2019_MSIE4.0_competences_RLima-and-DMesquita.pdf</a>                             | Rui M. Lima and Diana Mesquita (UMinho)           |
|   |            |                 | Project-Based Learning (PBL) models: the integrated development of competences                            | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2019_MSIE4.0_PBL_RLima-and-DMesquita.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2019_MSIE4.0_PBL_RLima-and-DMesquita.pdf</a>   | Rui M. Lima and Diana Mesquita (UMinho)           |
|   |            |                 | Learning Experience in Engineering Education: Present and Future  | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/Learning-in-Engineering-Education..Present-and-Future.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/Learning-in-Engineering-Education..Present-and-Future.pdf</a>           | Pisut Koomsap (AIT)                               |
| 4 | 29/01/2019 | CMU             | Industry 4.0 in Practice  | <a href="https://msie4.ait.ac.th/industry-4-0-in-practice/">https://msie4.ait.ac.th/industry-4-0-in-practice/</a>   | Duangthida Hussadintorn Na Ayutthaya (AIT)        |
|   |            |                 | Innovation and evolution towards ideality in Industry 4.0   | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Presentation-for-MSIE-4.0-Seminar_Ionescu-Dumitrescu_2.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Presentation-for-MSIE-4.0-Seminar_Ionescu-Dumitrescu_2.pdf</a> | Nicolae Ionescu and Andrei                        |

|   |            |            |   |   |   |
|---|------------|------------|---|---|---|
|   |            |            |   |   | Dumitrescu (UPB)                                  |
|   |            |            | Sustainability of Industry 4.0  | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/CMU19Sustainability-of-Industry-4.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/CMU19Sustainability-of-Industry-4.pdf</a>   | Tomasz Nitkiewicz and Anna Wisniewska-Salek (CUT) |
|   |            |            | Master level competences according to EQF and employer satisfaction                           | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Presentation-for-MSIE-4.0-Seminar_Ionescu-Catana-1.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Presentation-for-MSIE-4.0-Seminar_Ionescu-Catana-1.pdf</a> | Nicolae Ionescu and Madalin Catana (UPB)          |
|   |            |            | The role of transversal competences for Industrial Engineering in the context of Industry 4.0 | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2019_MSIE4.0_competences_RLima-and-DMesquita.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2019_MSIE4.0_competences_RLima-and-DMesquita.pdf</a>                     | Rui M. Lima and Diana Mesquita (UMinho)           |
|   |            |            | Project-Based Learning (PBL) models: the integrated development of competences                | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2019_MSIE4.0_PBL_RLima-and-DMesquita.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2019_MSIE4.0_PBL_RLima-and-DMesquita.pdf</a>                                     | Rui M. Lima and Diana Mesquita (UMinho)           |
|   |            |            | Learning Experience in Engineering Education: Present and Future                              | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/Learning-in-Engineering-Education..Present-and-Future.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/Learning-in-Engineering-Education..Present-and-Future.pdf</a>   | Pisut Koomsap (AIT)                               |
| 5 | 20/01/2020 | Bangkok@TU | MSIE 4.0 at a Glance  | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/MSIE-4.0-at-a-Glance.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/MSIE-4.0-at-a-Glance.pdf</a>   | Pisut Koomsap (AIT)                               |
|   |            |            | Enterprise Management in Digital Economy  | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/TNITkiewiczTUKKUJan2020.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/TNITkiewiczTUKKUJan2020.pdf</a>   | Tomasz Nitkiewicz (CUT)                           |
|   |            |            | Project Management for Industry 4.0   | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2020_MSIE4.0_PM4I4.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2020_MSIE4.0_PM4I4.pdf</a>   | Rui M. Lima (UMinho)                              |
|   |            |            | Cyber Physical Industrial System  | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Cyber-Physical-Industrial-Systems.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Cyber-Physical-Industrial-Systems.pdf</a>                                   | Tom Savu (UPB)                                    |
|   |            |            | Unlock Personalized Customer Experience with Customer's PIE                                   | <a href="https://msie4.ait.ac.th/unlock-personalized-customer-experience-with-customers-pie/">https://msie4.ait.ac.th/unlock-personalized-customer-experience-with-customers-pie/</a>   | Duangthida Hussadintorn Na Ayutthaya (AIT)        |
| 6 | 24/01/2020 | KKU        | MSIE 4.0 at a Glance  | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/MSIE-4.0-at-a-Glance.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/MSIE-4.0-at-a-Glance.pdf</a>   | Pisut Koomsap (AIT)                               |
|   |            |            | Enterprise Management in Digital Economy  | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/TNITkiewiczTUKKUJan2020.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/TNITkiewiczTUKKUJan2020.pdf</a>   | Tomasz Nitkiewicz (CUT)                           |
|   |            |            | Project Management for Industry 4.0   | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2020_MSIE4.0_PM4I4.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2020_MSIE4.0_PM4I4.pdf</a>   | Rui M. Lima (UMinho)                              |
|   |            |            | Cyber Physical Industrial System  | <a href="https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Cyber-Physical-Industrial-Systems.pdf">https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/UPB_Cyber-Physical-Industrial-Systems.pdf</a>                                   | Tom Savu (UPB)                                    |

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|--|--|--|---|---|--|
|  |  |  | Unlock Personalized Customer Experience with Customer's PIE | <a href="https://msie4.ait.ac.th/unlock-personalized-customer-experience-with-customers-pie/">https://msie4.ait.ac.th/unlock-personalized-customer-experience-with-customers-pie/</a> | Duangthida<br>Hussadintorn<br>Na<br>Ayutthaya<br>(AIT) |
|--|--|--|---|---|--|

### 3 Results of the Training Workshops

The training workshops were expected to be conducted during the study visits to EU partner universities. The first workshop was about innovative teaching methods (Project-Based Learning) and it was delivered in September 2018 (Portugal - UMinho). The second workshop was about experiences on eLearning systems and it was delivered in June 2019 (Poland – CUT). Due the COVID19 outbreak, the third workshop was not possible to be delivered in May 2020 (Bucharest – UPB).

In this regard, this section will provide the results of the two training workshops, taking into account (A12\_QF-TEP-V1 - Training Evaluation Process)

the feedback of the participants (Thai partners). The data were collected based on the form (QF-TEF-V1-Training Evaluation Form) organized in closed and open questions.

#### 3.1 Training Workshop @UMinho, Portugal

The training workshop carried out at UMinho, Portugal, between 12-15 September 2018, included two activities, namely: a session regarding “analyzing Engineering competences’ needs”, delivered in the context of the industry visit in which projects related to Industry 4.0 are being conducted; and a Project Based Learning training, in which themes as active learning, curriculum design, assessment and evaluation were explored in order to provide inputs for the participants develop a PBL proposal.

The training materials can be consulted here:

- [https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2018\\_MSIE4.0\\_PBL\\_WKS1.1-PBL.pdf](https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2018_MSIE4.0_PBL_WKS1.1-PBL.pdf)
- [https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2018\\_MSIE4.0\\_PBL\\_WKS2-Curriculum.pdf](https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2018_MSIE4.0_PBL_WKS2-Curriculum.pdf)
- [https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2018\\_MSIE4.0\\_PBL\\_WKS2-LO-and-Assessment.pdf](https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2018_MSIE4.0_PBL_WKS2-LO-and-Assessment.pdf)
- [https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2018\\_MSIE4.0\\_PBL\\_WKS4-simulation.pdf](https://msie4.ait.ac.th/wp-content/uploads/sites/5/2019/04/2018_MSIE4.0_PBL_WKS4-simulation.pdf)

The training workshop had a total of 25 participants. A total of 16 participants answered to the evaluation form (75% male and 25% female). The teaching experience of the participants varies between 3 to 25 years.

The Figure 1 presents the perspective of the participants regarding to the overall experience of the training workshop in innovative teaching methods (Project-Based Learning). According to a Likert scale (1 to 5) the participants were invited to identify for a total of 8 items the level of accordance:

- A** - The training was useful and relevant for the project activities.
- B** - I understood the concepts presented in the training.
- C** - The themes / topics developed in the training were relevant for my teaching practice.
- D** - I had an active participation during the training activities.

**E** - The trainers had an effective approach during the activities developed.

**F** - The training materials used were useful for the project activities.

**G** - The training was valuable experience for professional growth.

**H** - I will recommend this training to somebody else

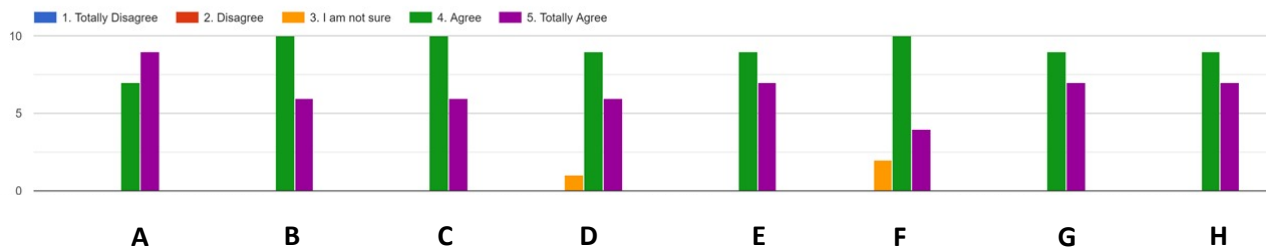


Figure 1. Overall feedback of the training workshop at UMinho, Portugal

It is possible to identify that the workshops provided a positive experience to the participants, which was reinforced by the positive aspects mentioned by the participants:

- *It is useful for my teaching.*
- *Case Studies.*
- *To gain more understanding how to develop new curriculum.*
- *The trainers have a lot of experiences and gave quite useful information about PBL teaching and learning approach.*
- *Teaching method and knowledge.*
- *Experiences.*
- *Have good attitude for teaching.*
- *Active participation.*
- *Clarify the concept and practice how to use the learning method.*
- *It offers introduction to the Active Learning techniques, and how to design a curriculum in such a way that it will be well structured and developed.*

Nevertheless, there were some less positive aspects to be considered as topics of improvement:

- *Some technique is very hard to apply to the university.*
- *None.*
- *Theoretical content.*
- *There are too many programs were set in each day.*
- *Need more time.*
- *More practical workshop related to IE.*

Regarding to the impact of the training, the participants mentioned a set of ideas concerning to acquire new knowledge and experience about active learning, project based learning, curriculum design and



development (specifically how to design the learning outcomes), and also about the relevance of teachers' role in the curriculum innovation.

- *The teaching paradigm has been changed to student oriented approach. The teaching methods that I learned have been adopted to my class; for example, the advanced operation management course.*
- *Presenting active learning and project based learning approaches that could become building blocks for T&L approach within curriculum*
- *Improve the teaching method.*
- *Knowledge about how to apply the concept of outcome-based education and bloom's taxonomy.*
- *Built up the concept how to create the new project by collecting all related data to support the structure of the new project.*
- *The way to introduce PBL into the teaching and learning approach are quite useful to me.*
- *Create the teaching method of my course.*
- *The experience as the trainee being trained like student is what make me understand the role of teacher. So we should add more training mechanisms into our teaching styles.*
- *Participation activities make me feel involving in specific topics.*
- *It is important to understand how to implement the learning method in actual environment or actual constrains; each subject has different output or outcome. The evaluation process must be creative so that we can endure the expected outputs, outcomes from our students have been achieved.*
- *The experiences that I have gained from the training are very useful in curriculum development as I'll be responsible for doing that job. I have been introduced to Bloom's taxonomy that will help in construction of PLO and CLO.*

### 3.2 Training Workshop @CUT, Poland

The training workshop carried out at CUT, Poland, between 6-8 June 2019, included activities related to eLearning systems.

The training materials can be consulted here:

<https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/CUT19TrainingIntroduction-to-e-learning-and-Moodle-2019.pdf>

<https://msie4.ait.ac.th/wp-content/uploads/sites/5/2020/10/Data-analysis-and-visualization-with-Power-BI.pdf>

The training workshop had a total of 25 participants. A total of 15 participants answered to the evaluation form. (73.3% male and 26.7% female). The teaching experience of the participants varies between 1 to 25 years.

The Figure 2 presents the perspective of the participants regarding to the overall experience of the training workshop in eLearning systems. According to a Likert scale (1 to 5) the participants were invited to identify for a total of 8 items the level of accordance:

- A - The training was useful and relevant for the project activities.
- B - I understood the concepts presented in the training.
- C - The themes / topics developed in the training were relevant for my teaching practice.
- D - I had an active participation during the training activities.
- E - The trainers had an effective approach during the activities developed.
- F - The training materials used were useful for the project activities.
- G - The training was valuable experience for professional growth.
- H - I will recommend this training to somebody else

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

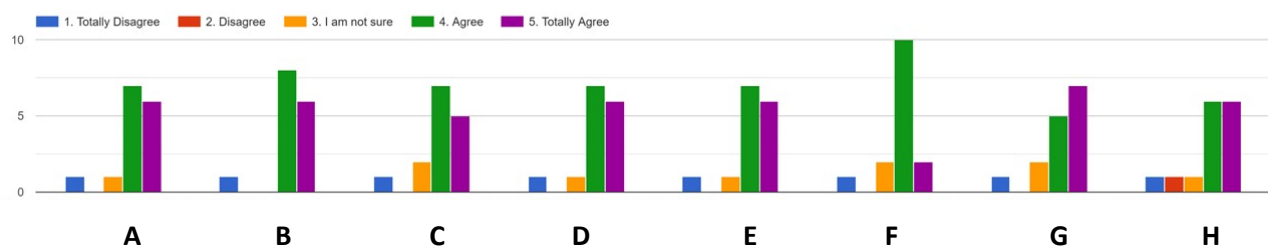


Figure 2. Overall feedback of the training workshop at CUT, Poland

It is possible to identify that the workshops provided a positive experience to the participants, which was reinforced by the positive aspects mentioned by the participants:

- *To me, it the first time I was introduced to Power B.*
- *Understanding about e-learning.*
- *Identifying needed courses in industry 4.0.*
- *The application of teaching approach.*
- *Learn to create the online course.*
- *Teamwork for academic working, we had time for discussion.*
- *My knowledge and the resource for develop my teaching method.*
- *The analytical part in data science.*
- *The trainers have experiences and gave quite useful examples about the use of Power BI software and Moodle at CUT.*

Nevertheless, there were some less positive aspects to be considered as topics of improvement:

- *The platform that was in the training program have been used for many years in my university.*
- *It is a kind of a general example for using application program, more conceptual idea related to the project should be provided.*
- *Need more time.*
- *If the training materials are provided in advance, the effect might be better.*



- *The organizer should conduct a survey regarding background of the project members before designing a training course.*
- *Should be trained for Example case study in subject.*

Regarding to the impact of the training, the participants mentioned a set of ideas concerning to learning new tools in order to develop an online teaching approach.

- *Power B application would be among the most the meaningful experiences I have gained from the training.*
- *I was learning and practicing about how to create e-learning platform then I could adopt to my teaching course.*
- *Online class platform. To know what are the advantage and disadvantage using Moodle system in online class. Get references and compare, on what we are developing online class.*
- *The software being used in the training has been used in our university for some times, therefore the meaningful experience is to know how far each university has been applied this kind of tools to their systems.*
- *Apply to study Online teaching.*
- *The knowledge acquired from the training can help me to develop course "Applied Data Analytics" better. Also, it helps to revise the functions of VClass learning platform which is developed in the project.*

## 4 Final Remarks

This document refers to Task 3.4 - Training of staff on new tools and best practice exchange on modern teaching techniques. It was presented an overview of the training activities, namely the seminars carried out during the project meetings in Thailand and training workshops during the study visits to EU partner universities. Due the COVID 19 the last workshop planned to be at UPB were not possible to deliver. A total of six seminars were realized, which include a total of 34 speeches. The training workshops were evaluated by the participants and the results shows their relevance for the project activities and for professional development as teachers in Engineering Education context. The materials of seminars and workshops are available in the project website.