



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



Master Degree in Industry 4.0

Ind4.0 (610455-EPP-1-MY-EPPKA2-CBHE-JP)

AGRICULTURE

AUTOMOTIVE

MANUFACTURING

HEALTH

**DELIVERABLE OF ERASMUS+IND4.0 WP6
D6.5 Ind4.0 Final Conference**



D6.5 Ind4.0 Final Conference

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Projection Information

Project Acronym	InD4.0
Project Full Title	Master Degree in Industry 4.0
Project No	601455-EPP-1-2019-1-MY-EPPKA2-CBHE-JP
Funding Scheme	ERASMUS+ KA2 Capacity Building in the field of Higher Education
Coordinator	Universiti Teknologi MARA (UiTM)
Project Website	https://www.ind4-0-eu.my/

Work Package	6 Dissemination & Exploitation
Deliverable:	D6.5 Ind4.0 Final Conference
Type:	Event/Report
Dissemination level:	Public
Version:	Final
Delivery date:	12/10/2023
Keywords:	Conference, networking, sharing knowledge
Abstract:	

Author Margaret Chan Kit Yok (UiTM)

Reviewed Partners of Consortium

Delivery Date 10/10/2023

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Executive Summary

The Ind4.0 International Conference was an event for a discourse on the emergence of the 4th industrial revolution in the past few decades which has changed the technology, industries, and societal patterns and processes in the 21st century due to increasing interconnectivity and smart automation. This was aligned to the Master in Ind4.0 project to create a forum bringing together the members of the consortium and experts from industry, academia, and government to share their knowledge and insights foreseeable contribution of the projects towards the developments in the Ind4.0 industry. Appropriately titled as the 1st International Conference of Business and Technological Advances in Industry Revolution 4.0, it adopted the theme of “Industrial 4.0 and Challenges for a Sustainable Future”. The Ind4.0 International had played an important role as it was timely scheduled creating Ind4.0 awareness in Sarawak with publicity generated through the media resonating to the Sarawak Digital Economy Blueprint 2030 launched on 4 October 2023 to ensure Sarawak secures future as leading digital economy society by 2030.

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

Table of Contents

Executive Summary	4
List of Tables	6
List of Figures.....	6
1.0 Introduction.....	7
2.0 Aims.....	7
3.0 Objectives.....	7
4.0 Theme.....	8
5.0 Conference Management.....	9
5.1 International Committee	9
5.2 Local Committee.....	10
5.3 Call for Papers.....	12
6.0 Conference Venue	16
7.0 Conference Programme	17
8.0 Participants.....	21
9.0 Gallery	23
10.0 Highlights.....	26
10.1 Media Coverage.....	26
10.1.1 Publication of the Keynote Address in The Borneo Post	27
10.1.2 Publication of the Keynote Address at Sarawak Tribune.....	29
10.1.3 Facebook page of the Honourable Deputy Premier of Sarawak on ICoBTA-IR4.0 Conference	32
10.1.4 Other Media Coverage	33
10.2 Panel Discussion	34
10.0 Gala Dinner.....	37
11.0 Steering Committee Meeting.....	38
12.0 Proceedings of ICoBTA-IR4.0	38
12.1 Preface.....	39
12.2 Editorial Board	40

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



List of Tables

Table 1: List of Reviewers	13
Table 2: Number of participants and institutions/organisations	21

List of Figures

Figure 1: Riverside Majestic Hotel as Conference Venue	17
Figure 2: Keynote Speaker 1	23
Figure 3: Keynote Speaker 2	23
Figure 4: Selection of photos capturing presenters delivering their papers	24
Figure 5: Recollection of experience in participant's Facebook page	25
Figure 6: The launching of the Sarawak Digital Economy Blueprint 2030	26
Figure 7: Launching of inaugural ICoBTA-IR4.0 Conference by the Honourable Premier of Sarawak	28
Figure 8: The Rector of UiTM Sarawak welcoming the Deputy Premier of Sarawak.....	31
Figure 9: The Honourable Deputy Premier of Sarawak delivering the keynote address.....	31
Figure 10: Group photos of the participants	32
Figure 11 Sarawak Cultural Welcome to the conference	34
Figure 12: The panellists and the moderator of the Panel Discussion session.....	35
Figure 13: Memories of Gala Dinner	37
Figure 14: Steering Committee Meeting in session at UiTM Campus Samarahan	38
Figure 15: e-Proceedings of ICoBTA-IR4.0 2023	39
Figure 16: The Editorial Board	41

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

1.0 Introduction

The final conference organised by UiTM concurrently with the final face-to-face project meeting provided an opportunity for all partners to contribute to the expected successful execution. The representatives were gathered in the event with the discourse among the relevant department/faculties, education professionals and academic staff, students, researchers, experts from the industry and government officials, and the wider public. This was to allow the networking to maintain the project's viability and ensure that its results remain available and be used by others beyond its completion.

2.0 Aims

The aims of the conference were:

1. To provide the platform for educators to share and discuss new approaches, teaching methodologies and strategies for the organization, structuring and execution of teaching programs for Industry Revolution 4.0.
2. To bring together leading academicians, scientists, researchers and research scholars to exchange and share their experiences and research results on all aspects of the Fourth Industrial Revolution.
3. To provide a platform for public and private policy makers, senior decision makers from industries and top experts of ICT companies, and stakeholders sharing their new ideas, original research results and practical development experiences.

3.0 Objectives

The objectives of the conference were:

1. To disseminate the curriculum development of higher education in Industrial 4.0;
2. To interact and disseminate information on the latest developments of Industry 4.0;
3. To deliberate recent innovations, trends, and concerns in theory and practice as well as practical challenges encountered and solutions adopted in Smart Industries and the Fourth Industrial Revolution.
4. To discuss challenges imposed by cultural, legacy and socio-political factors for Industry 4.0

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

4.0 Theme

The Ind4.0 International Conference was an event for a discourse on the emergence of the 4th industrial revolution in the past few decades which has changed the technology, industries, and societal patterns and processes in the 21st century due to increasing interconnectivity and smart automation. Appropriately titled as the 1st International Conference of Business and Technological Advances in Industry Revolution 4.0 (ICoBTA-IR4), it adopted the theme of “Industrial 4.0 and Challenges for a Sustainable Future”. The Ind4.0 International had played an important role as it was timely scheduled creating Ind4.0 awareness in Sarawak with publicity generated through the media resonating to the Sarawak Digital Economy Blueprint 2030 launched on 4 October 2023 to ensure Sarawak secures future as leading digital economy society by 2030.

There were 4 subthemes aligning with the project to encourage discussion and sharing of perspectives and experiences. The networking activities boosted the sustainable use of the project outputs. The subthemes were in the perspective of:

1. Teaching and Learning

Design, Implementation and Assessment of IND4.0 in Education

Learning Experience: self-regulated learning or adaptation of the learning material)

Educator Experience: Pedagogy, Practice, Reflections about teaching approaches

Interdisciplinary, Multidisciplinary and Transdisciplinary Education

Nurturing Creativity & Innovation: New, Innovative & Radical Education

2. Ecosystem and Infrastructure Efficiency

Computer Networks and Interoperability

Internet of Things (IoT)

Cloud Computing and Cloud solutions for Industry 4.0

Big Data Analytics

Artificial Intelligence

3. Operations and Performance

Smart Devices and Products

CyberPhysical Systems

IoT-enabled Biosensors

Real-time and Time-bounded Operating Systems and Communication Protocols for
Industry 4.0

Human-machine Interactions in Cyber-physical Systems

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

Cognitive Computing
Augmented Reality and Industrial IoT
Innovative and Secure Sensing
Machine Learning Techniques
Smart Tools and In-line Part Inspection
Improving Manufacturing Through IoT and Big Data Analytic
Process Safety in Industry 4.0

4. Industries

Supply Chain Management
Energy Efficiency and Power Management in Industry 4.0 Systems
Scalable and Resilient Protocols for Industrial Devices
Emerging Standards in Smart Industries and Mobile Systems
Secure Protocols for Industrial Applications
Information sharing in Smart Industries
Ind4.0 in Circular Economy
Ind4.0 in Manufacturing
Ind4.0 in Pervasive Health
Ind4.0 in Agriculture/Aquaculture

5.0 Conference Management

The conference organising activities was initiated during Steering Committee Meeting on the 23 April 2022 at the second study visit at Università degli Studi Guglielmo Marconi in Italy. The International Committee was formed as shown in the list.

5.1 International Committee

Associate Prof. Dr Margaret Chan Kit Yok	(Universiti Teknologi MARA, Malaysia)
Prof. Dr Ling Siew Eng	(Universiti Teknologi MARA, Malaysia)
Prof. Dr Fauziah Sheikh Ahmad	(Universiti Teknologi Malaysia)
Assoc Prof Haidawati Mohamad Nasir	(Universiti Kuala Lumpur, Malaysia)
Vannaro Pin	(University of Heng Samrin Thbongkhmum, Cambodia)
Dr Ratha Chea	(University of Battambang, Cambodia)
Chiv Sarith	(Mean Chey National University, Cambodia)
Dr Bunlay Nith	(Ministry of Education, Youth and Sport, Cambodia)
Prof. Dr Samadi	(Universitas Syiah Kuala, Indonesia)

9

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Dr Emerson Sinulingga	(Universitas Sumatera Utara, Indonesia)
Prof. Achilles Kameas	(Hellenic Open University, Greece)
Arturo Lavalle	(Università degli Studi Guglielmo Marconi, Italy)
Prof. Dr Ioannis Chatzigiannakis	(“La Sapienza” University of Rome, Italy)
Stefanos Vagenas	(Skybridge Partners Outsourcing Services PC, Greece)
Eirini Aggeli	(Metropolitan College, Athens)
Theodor Grasso	(BK-Consult, Germany)

The deliberation worked out the title of the conference, the aims and objectives. The theme and the subtheme were also formulated. The dates were decided through popular votes over a series of dates.

The local committee was formed with the contributions from academic, technical and administrative staff of UiTM Sarawak Branch. The various committee were organised to ensure the successful preparation and implementation of the conference.

5.2 Local Committee

Advisor

Professor Dato Dr Jamil Hamali

Rector, Universiti Teknologi MARA, Sarawak Branch

Chairperson

Associate Prof. Dr Margaret Chan Kit Yok

Deputy Chairperson

Prof. Dr Ling Siew Eng

Secretary

Dr Azlina Bujang

Assistant Secretary

Noriham Bujang

Treasurer

Mohamad Husaini Bin Mohd Saleh (Head)

Zanariah binti Abdul Abdul Rahman

Azwannita Binti Majeli

Rosmalina

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Secretariat

Aiza Johari (Head)

Sulastri Putit

Ketty Chachil

Abdul Hadi Abdul Talip

Ch'ing Looi Ching

Zainon Haji Bibi

Dr Lee Yee Ann

Publication and Review Committee

Ling Siew Ching (Head)

Noormuthaah Binti Mohammad Ali Adaha

Noor Ain Mohd Noor

Dr Nazirah Hamdan

Nur Adilah bt Amiruddin

Nur Shuhadak Binti Ismail

Typesetting Committee

Dr Tuh Moi Hua

Christina Eu Nguk Ling

Shirley Sinatra anak Gran

Aimi Nuraida Ali Hassan

Dr Lee Siaw Li

Agnes Ayang Ak Kenyang

Lai Tze Wee

Publicity

Dr Mohd Syahiran Bin Latiff

Corporate Communication/Protocol

Yaziz Kassim

Mohammad Abang

Elzianie Nashazanie Binti Ja'afar

Abg Muhd Syazwan Bin Abang Razak

Transportation

Rudy Ujang

Emcee

Nur Aziela bt Aidit

Christine Jacqueline Runggol

Venue and Accommodation Coordinator

Disclaimer:

Ardiana Mazwa Raudah Binti Amir Abdullah

Head of ICT & AV Equipment Committee

Adeena Mazwa Raudah Binti Amir Abdullah

Aminuddin Bin Bakar

Syarifuddin bin Bujang

5.3 Call for Papers

All abstracts and full paper proposals were submitted through the Openconf.php platform using the author's guidelines.

The abstract (template provided) was limited to one A4 size page, including the objective, methodology, results and conclusion. The language of the conference was in English. Two types of copies of the full papers (template provided), one in MS Word and the other in pdf format with single spacing (12 pt, Times New Roman) were submitted with the authors mentioning their affiliation with corresponding addresses, email, telephone and fax numbers.

Upon acceptance, the authors submitted the full paper per conference format provided. The final approval of the paper for oral presentation was based on peer review.

Submission link: <http://www.icobta.net/submit/openconf.php>



OpenConf

<https://www.openconf.com> › portfolio

OpenConf Portfolio

International Conference of Business and Technological Advances in Industry Revolution 4.0 (ICoBTA-IR4.0) 2023. Sarawak, Malaysia; Congreso Nacional de Manejo ...

Abstract registration deadline: 15 June 2023

Notification of Acceptance: 15 July 2023

Full Paper Submission deadline: 15 August 2023

The list of Reviewers is shown in Table 1.

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

Table 1: List of Reviewers

No	Name of Reviewer	Institution	Subtheme	Expertise
P1	Associate Prof. Ts. Dr Margaret Chan Kit Yok	Universiti Teknologi MARA, Malaysia	Industries	Ind4.0 in Agriculture/ Aquaculture
P1	Dr Liew Chin Ying	Universiti Teknologi MARA, Malaysia	Teaching and Learning	Learning Experience
				Educator Experience
P1	Prof. Ts. Dr Ling Siew Eng	Universiti Teknologi MARA, Malaysia	Education	Education
P1	Dr Azlina Bujang	Universiti Teknologi MARA, Malaysia	Industries	Ind4.0 in Business
			Ecosystem and Infrastructure Efficiency	Cloud Computing and Cloud solutions for Industry 4.0
P2	Associate Prof. Dr Siti Sophiayati Yuhaniz	Universiti Teknologi Malaysia (UTM)	Operations and Performance	Machine Learning Techniques, Human-machine Interactions in Cyber-physical Systems
P2	Associate Prof. Dr Haliyana khalid	Universiti Teknologi Malaysia (UTM)	Industries	Information Sharing in Smart Industries
P2	Associate Dr Prof. Suraya Miskon	Universiti Teknologi Malaysia (UTM)	Teaching and Learning	Implementation and Assessment of IND4.0 in Education
P2	Associate Prof. Dr Maizatulaidawati Md Husin	Universiti Teknologi Malaysia (UTM)	Teaching and Learning	Pedagogy, Practice or Action Research in Education
P2	Prof. Dr Fauziah Sh Ahmad	Universiti Teknologi Malaysia (UTM)	Industries	Supply Chain Management
P3	Associate Prof. Dr Haidawati binti Mohamad Nasir	UniKL Malaysian Institute of Information Technology (MIIT)	Ecosystem and Infrastructure Efficiency	Internet of Things (IoT)

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

P3	Associate Prof. Dr Megat Norulazmi Megat Mohamed Noor	UniKL Malaysian Institute of Information Technology (MIIT)	Ecosystem and Infrastructure Efficiency	Cloud Computing and Cloud solutions for Industry 4.0
P3	Associate Prof. Dr Adidah binti Lajis	UniKL Malaysian Institute of Information Technology (MIIT)	Ecosystem and Infrastructure Efficiency	Artificial Intelligence Big Data Analytics
P5	Dr. Ratha CHEA	National University of Battambang	Industries & universities	Biostatistics/Machi ne learning Freshwater ecology
P5	Dr. Bunrouen THACH	National University of Battambang	Industries & universities	Digital business/Economy ind4.0
P5	Solida TAN	National University of Battambang	Industries & universities	Management information system/knowledge management
P8	Rahmad Dawood	Universitas Syiah Kuala	Operations and Performance	HCI, IoT, Embedded System
P8	Kahlil Muchtar	Universitas Syiah Kuala	Ecosystem and Infrastructure Efficiency	Artificial Intelligence, Computer Vision, Image Processing
P8	Yudha Nurdin	Universitas Syiah Kuala	Ecosystem and Infrastructure Efficiency	Artificial Intelligence
P9	Emerson Pascawira Sinulingga PhD	Universitas Sumatera Utara	Industries	Ind4.0 in Circular Economy
P9	Fahmi PhD	Universitas Sumatera Utara	Industries	Ind4.0 in Pervasive Health
P9	Suherman PhD	Universitas Sumatera Utara	Ecosystem and Infrastructure Efficiency	Computer Networks and Interoperability
P10	Prof. Achilles Kameas	Hellenic Open University	Teaching and Learning	· Curriculum development: Implementation and Assessment of IND4.0 in Education.

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

			Ecosystem and Infrastructure Efficiency	· Learning Experience: Self-regulated Learning or Adaptation of the Learning Material.
				Educator Experience: Pedagogy, Practice or Action Research in Education.
				Internet of Things (IoT)
P10	Associate Prof. Bill Vassiliadis	Hellenic Open University	Teaching and Learning	Curriculum development: Implementation and Assessment of IND4.0 in Education. Learning Experience: Self-regulated Learning or Adaptation of the Learning Material.
			Operations and Performance	Internet of Things (IoT)
P10	Dr. Theodor Panagiotakopoulos	Hellenic Open University	Industries	Ind4.0 in Pervasive Health
			Ecosystem and Infrastructure Efficiency	Internet of Things (IoT)
P11	Ilaria Reggiani	Guglielmo Marconi University	Teaching and Learning	3. Learning Experience: Selfregulated Learning or Adaptation of the Learning Materials.
P11	Arturo Lavalle	Guglielmo Marconi University	Teaching and Learning	1. Curriculum development: Implementation and Assessment of

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

				IND4.0 in Education
P12	Ioannis Chatziannakis	Sapienza University of Rome	Ecosystem and Infrastructure Efficiency	Computer Networks and Interoperability
				Internet of Things (IoT)
			Operations and Performance	Cloud Computing and Cloud solutions for Industry 4.0
				Smart Devices and Products
				CyberPhysical Systems
				Augmented Reality and Industrial IoT
P12	Andrea Vitaletti	Sapienza University of Rome	Ecosystem and Infrastructure Efficiency	Internet of Things (IoT)
				Ind4.0 in Circular Economy
			Industries	Ind4.0 in Manufacturing
P12	Aris Anagnostopoulos	Sapienza University of Rome	Ecosystem and Infrastructure Efficiency	
				Big Data Analytics
			Operations and Performance	Artificial Intelligence
				Machine Learning Techniques
				Improving Manufacturing Through IoT and Big Data Analytics

6.0 Conference Venue

The conference was held at the Riverside Majestic Hotel, situated at the heart of the capital city of Sarawak (Figure 1). This venue was chosen for the convenience of transportation logistic as there were many affordable hotels and lodging places nearby.

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Figure 1: Riverside Majestic Hotel as Conference Venue

7.0 Conference Programme

The conference was a two day conference starting on the 3 October 2023. It was scheduled immediately back-to-back with the International Computational Methods in Engineering Health Sciences (ICCMEH 2023: 2 – 3 October 2023). The members of the Ind4.0 project coming for the ICoBTA-IR4.0 Conference can participate and network with participants from ICCMEH 2024. The closing ceremony of ICCMEH 2023 and the official opening of ICoBTA-IR4.0 were amalgamated as both have common topics on digital economy. The conference programme has been organised as below:

3 October 2023, Tuesday

0830 – 1200 Pre-registration at Hotel Lobby/ ICCMEH 2023 Paper Presentation Session

Zoom Meeting

<https://zoom.us/j/96996950428?pwd=MkQyc2JUK3UwV0FLMVI2TjlxMzNvUT09>

3 October 2023, Wednesday

1430	<p>Official Opening Ceremony Introductory Speech <i>Associate Professor Dr Margaret Chan Kit Yok</i> <i>Project Coordinator of ERASMUS+ InD4.0 on Capacity Building in Higher Education</i> <i>Universiti Teknologi Mara, Sarawak Branch</i></p>
	<p>Welcoming Address <i>Professor Dato Dr Hj Jamil Hj Hamali</i> <i>Rector, Universiti Teknologi Mara, Sarawak Branch</i></p>

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

	<p>Keynote Speech <i>The Right Honourable Datuk Patinggi Dr Haji Abang Abdul Rahman Zohari Bin Tun Datuk Abang Haji Openg Premier Of Sarawak</i></p>
1600	Tea Break/Networking
1900	Conference Dinner

4 October 2023, Thursday

0830	Registration
0900	<p>Keynote Speaker 1 Strategy on Developing Curriculum to Embrace IR4.0 <i>Professor Ts. Dr Haryani Haron Assistant Vice Chancellor College of Computing, Informatics and Mathematics Universiti Teknologi MARA</i></p>
	<p>Keynote Speaker 2 Infusing Global Perspectives & Leveraging Emerging IDEAS in STEM <i>Professor Dato Dr Hj. Jamil Hj. Hamali Rector Universiti Teknologi MARA Sarawak Branch</i></p>
	<p>Keynote Paper 3 Empowering Educators: An MSc Curriculum for Industry 4.0 <i>Bill Vassiliadis, Achilles Kameas, Theodor Panagiotakopoulos, Antonia Stefani Hellenic Open University, Patras, Greece</i></p>
1000	Tea Break
1030	<p>Session 1: IND4.0 in Business</p> <p>Development of Islamic Finance in Industry 4.0 Era: Challenges, Criticism and Opportunities <i>Maizaitulaidawati Md Husin, Nor Aiza Mohd Zamil, Haliyana Khalid Universiti Teknologi Malaysia</i></p> <p>Malaysia Enhancing Employee Experience in Expenditure Enquiry Management of Global Service Centre Through Chatbot: An Action Research in Multinational Company <i>Maria Ahmad, Fauziah Sh. Ahmad Universiti Teknologi Malaysia, Malaysia</i></p> <p>Bridging Local Womenpreneurs' Knowledge and Application Toward SME Business Digitalization <i>Jasmine David, Rozita @ Uji Mohammed, Agnes Paulus Jidwin, Dewi Tajuddin, Jacqueline Koh Siew Len Universiti Teknologi MARA Sabah Branch</i></p>

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

	<p>Session 2: IND4.0 in Pervasive Health</p> <p>Impact Analysis of Clahe and Um Based Image Quality Improvement on Diabetic Retinopathy Disease Classification</p> <p><i>Nurul Muthmainnah Sabrini, Kahlil Muchtar, Maulisa Oktiana, Roslidar Roslidar, Wildan Mumtaz, Novi Maulina</i> <i>Universitas Syiah Kuala, Indonesia</i></p>
	<p>Session 3: Ecosystem and Infrastructure Efficiency (Artificial Intelligence Internet of Things (IoT))</p> <p>FedArtML: A Tool to Create Non-iid Datasets and Quantify Data Heterogeneity for Federated Learning</p> <p><i>Daniel Mauricio Jimenez Gutierrez, Aris Anagnostopoulos, Ioannis Chatzigiannakis, Andrea Vitaletti</i> <i>Sapienza University of Rome, Italy</i></p> <p>Development and Implementation of Smart IoT-Based Aquascape Monitoring System</p> <p><i>Muhamad Amjad Mohd Azmi, Ghulam Fizza, Haidawati Nasir</i> <i>Universiti Kuala Lumpur, Malaysia</i></p>
	<p>Session 4: IND 4.0 in Agriculture</p> <p>A Preliminary Results of a Deep Learning Model for Classifying Watermelon Sweetness Through Field Spot Detection</p> <p><i>Maya Fitria, Muhammad Hafez Al-Assad, Yudi Candra, Silvia Roza, Rahmad Dawood</i> <i>Universitas Syiah Kuala, Indonesia</i></p> <p>Image Detection Using YOLOv7 Algorithm to Detect the Moulded Crab</p> <p><i>Mohammad Affaiq bin Aini, Lee Beng Yong, Yong Yueh Tiam, Leong Siow Hoo, Khong Heng Yen, Firdaus Abdullah, Sharifah Raina binti Manaf, Chua Tze Nan</i> <i>Universiti Teknologi MARA Sarawak Branch</i></p>
1230	Lunch
1400	<p>Session 4: IND 4.0 in Agriculture</p> <p>Effective Olive Leaf Infection Detection Using Artificial Intelligence and Transfer Learning</p> <p><i>Themistoklis Sarantakos, Daniel Mauricio Jimenez Gutierrez, Dimitrios Amaxilatis, Ioannis Chatzigiannakis</i> <i>Spark Works Ltd., Galway, Ireland & Sapienza University of Rome, Italy</i></p> <p>Measuring Leaf Area using AutoCAD</p> <p><i>Seraphina ak Dominic, Margaret Chan Kit Yok, Siraj Munir Bin Mohammad</i> <i>Universiti Teknologi MARA Sarawak Branch</i></p>

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

	<p>Session 5: IND4.0 in Education</p> <p>A Short Course on IoT <i>Ioannis Chatzigiannakis, Andrea Vitaletti</i> <i>Sapienza University of Rome, Italy</i></p> <p>Sector Skills Gaps Findings in Industrial Revolution IR4.0 <i>Margaret Chan Kit Yok, Ling Siew Ching</i> <i>Universiti Teknologi MARA Sarawak Branch</i></p> <p>A Roadmap to Industrial Revolution 4.0: Preparing Students' Sustainable Skills via STEM Education <i>Ling Siew Eng, Azlina Bujang, Mohd Syahiran Abdul Latif</i> <i>Universiti Teknologi MARA Sarawak Branch</i></p>
	<p>Session 6: Operations and Performance</p> <p>Impact of Embedded-TCP Key Exchange for Fragmented Segments <i>Suherman, Fahmi, Ali H. Rambe, Emerson P. Sinulingga, Marwan Al-Akaidi</i> <i>Universitas Sumatera Utara, Medan, Indonesia & Al-Farahidi University, Baghdad, Iraq</i></p> <p>Universal Low Power Wireless Sensor Node with Energy Harvesting <i>Emerson P. Sinulingga, Suherman, Dani Gunawan, Tigor H. Nasution, Dwi Budi Prasetyo, Abdul Risyad Nasution</i> <i>Universitas Sumatera Utara, Medan, Indonesia & Mandike Instrument, Medan, Indonesia</i></p> <p>Rural Internet Access Distribution using Regression Model <i>Suherman, Ali H. Rambe, Tigor H. Nasution, Alvin C. Pardede, Marwan Al-Akaidi</i> <i>Universitas Sumatera Utara, Medan, Indonesia & Al-Farahidi University, Baghdad, Iraq</i></p>
<p>1600</p>	<p>Panel Discussion</p> <p>Industrial 4.0 and Challenges for a Sustainable Future</p> <p>Panellists</p> <ul style="list-style-type: none"> i. Prof. Ts. Dr Haryani Haron <i>Assistant Vice Chancellor College of Computing, Informatics and Mathematics Universiti Teknologi MARA</i> ii. H.E. DR Touch Visalsok <i>Secretary of State Ministry of Education Youth and Sport, Cambodia</i> iii. Prof. Dr Ioannis Chatzigiannakis <i>Sapienza University of Rome, Italy</i> iv. Assistant Prof. Ir. Rahmad Dawood

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

	<i>The founding director of the Telematics Research Centre Universitas Syiah Kuala, Indonesia</i>
	Moderator Assoc Prof Dr Margaret Chan Kit Yok <i>Project Coordinator of ERASMUS+ InD4.0 on Capacity Building in Higher Education Universiti Teknologi Mara, Sarawak Branch</i>
1700	Closing Ceremony
1730	Tea Break

5 October 2023, Friday

Venue: Campus Samarahan, UiTM Sarawak, Kota Samarahan

0830	Registration
0900 - 1700	Steering Committee Meeting
1700	End of Day 3

6 October 2023, Saturday Cultural Tour

8.0 Participants

There were 120 participants from the academics, government policy makers and industries as shown in Table 2. The international participants are affiliates of the Ind4.0 consortium.

Table 2: Number of participants and institutions/organisations

No	Institution/Organisation	No of Participants
1	P01 - UiTM	5
2	P02 - UKM	5
3	P03 - UniKL	5
4	P04- UHST	8
5	P05 - NUBB	4
6	P06 - MCU	3
7	P07 - MoEYS	4
8	P08- Unsyiah	4
9	P09 - USU	9
10	P11 - Sapienza	2
11	P14 - AMC	1
12	Deputy Premier Office, Sarawak Government	5
13	Universiti Teknologi MARA, Sarawak	55
14	Universiti Teknologi MARA, Shah Alam	4

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



15	Universiti Teknologi MARA, Sabah	1
16	Sarawak State Farmers Organisation	1
17	Integrated Agriculture Development Agencies, Samarahan	2
18	University Malaysia Sarawak	1
19	Department of Agriculture, Sarawak	1
20	Sarawak Multimedia Authority, Sarawak	1
21	I-Cats University College	5
Total		120

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



9.0 Gallery

A collection of photos capturing some of the session in actions is presented. (Figures 2 -5).



Figure 2: Keynote Speaker 1

Strategy on Developing Curriculum to Embrace IR4.0

Professor Ts. Dr Haryani Haron

Assistant Vice Chancellor College of Computing, Informatics and Mathematics Universiti Teknologi MARA



Figure 3: Keynote Speaker 2

Infusing Global Perspectives & Leveraging Emerging IDEAS in STEM

Professor Dato Dr Hj. Jamil Hj. Hamali

Rector Universiti Teknologi MARA Sarawak Branch

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Figure 4: Selection of photos capturing presenters delivering their papers

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Kahlil Muchtar, Ph.D. 🇮🇩🇸🇬's Post



Kahlil Muchtar, Ph.D. 🇮🇩🇸🇬

IEEE Senior Member | Vice Chair ASASI Aceh | Asst. Professor | Head of Computer Eng. Dep...
4mo

Had fantastic days in Kuching, Serawak, Malaysia in order to present our paper at ICoBTA'2023. The performance evaluation is executed to explore the impact of image enhancement in deep learning models. This work led by **Nurul Muthmainnah Sabrini** who graduated recently (from our COMVISLAB). Congrats Nurul and all team.

Besides, this was the end of Erasmus+ Ind 4.0 project. Thanks to Prof. Samadi, Prof. **Hizir Sofyan** and Ir. **Rahmad Dawood** to let me in. Always wish the best to **Universitas Syiah Kuala**.

Last but not least, Laksa Sarawak is so delicious 😊.



👍🌱❤️ 43 · 1 Comment

Figure 5: Recollection of experience in participant's Facebook page

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



10.0 Highlights

The highlights covered the Media Coverage of the Keynote address of the Right Honourable Premier of Sarawak and the Round Table Discussion.

10.1 Media Coverage

The official opening of ICoBTA-IR4.0 was graced by the Right Honourable Premier of Sarawak who was deputised by the Honourable Deputy Premier of Sarawak. The Ind4.0 event coincided with the launching of the Sarawak Digital Economy Blueprint 2030 (Figure 2). This served as a prelude to ICobTA-IR4.0 Conference contributing the discussion points to the discourse of the round table discussion agendum.

MALAYSIA

Sarawak Premier Abang Johari launches second Sarawak Digital Economy Blueprint 2030 to set out state's future



By Sulok Tawie
Wednesday, 04 Oct 2023 12:53 PM MYT

KUCHING, Oct 4 — Premier Tan Sri Abang Johari Openg today launched the Second Sarawak Digital Economy Blueprint 2030 which will set out how the state will secure its future as a leading digital economy and society by 2030.

He said this comprehensive plan builds upon the existing Sarawak Digital Economy Strategy 2018-2022 and serves as the cornerstone of the Sarawak Post Covid-19 Development Strategy 2030 (PCDS 2030).

“The blueprint is a living document that will transform the whole-of-economy and society from a conventional resource-based economy to an environmentally sustainable technology-based economy,” he said at the opening of the World Congress on Innovation and Technology and the 6th International Digital Economy Conference Sarawak conference here.

He said the blueprint will also ensure that Sarawak will not be left behind as most developing countries are already at the forefront of the digital economy and ensure Sarawak is on track to be a developed region by 2030.

Premier Tan Sri Abang Johari Openg says this comprehensive plan builds upon the existing Sarawak Digital Economy Strategy 2018-2022 and serves as the cornerstone of the Sarawak Post Covid-19 Development Strategy 2030 (PCDS 2030). — Bernama pic

Figure 6: The launching of the Sarawak Digital Economy Blueprint 2030

The keynote address of the Right Honourable Premier at the official opening of the ICoBTA-IR4.0 Conference emphasised the role of higher education institutions in delivering curricula in tandem to the Sarawak Government agenda in the transformation of development with the aspiration to become a major digital economy powerhouse in the region by 2030. He called Ind4.0 consortium to be strategic partners as it was established with transnational

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

synergy among the European Union and Asian partners. The media coverage spoke volume of the keynote address delivered by the Deputy Premier of Sarawak.

10.1.1 Publication of the Keynote Address in The Borneo Post

| Abg Jo: S'wak aspires to transform education by leveraging on technology

BY MARILYN TEN ON OCTOBER 3, 2023, TUESDAY AT 6:52 PM

SARAWAK

<https://www.theborneopost.com/2023/10/03/abg-jo-swak-aspires-to-transform-education-by-leveraging-on-technology/>

KUCHING (Oct 3): The Sarawak government aspires to seek the transformation of education by leveraging on technology to ensure a future-ready generation, said Premier Datuk Patinggi Tan Sri Abang Johari Tun Openg which was held simultaneously with the closing of the International Conference on Computational Methods in Engineering & Health Sciences (ICCMEH) 2023 and 1st International Conference of Business and Technological Advances in Industry Revolution 4.0 (ICoBTA-IR4). The unique amalgamation of the two conferences, organised by Universiti Teknologi MARA (UiTM), were part of the Erasmus+ Key Action 2 Capacity Building Programme in the field of higher education projects co-funded by the Erasmus+ Programme of the European Union.

Abang Johari said with the advent of the Internet of Things (IoT), greater automation and artificial intelligence, connectivity between machines is the focus of Industry 4.0. "Incorporating Computational Fluid Dynamics (CFD), an integral component of Industry 4.0 technologies, plays a pivotal role in the digital economy, significantly bolstering engineers' capacity through simulation to attain precise results in various engineering studies and design optimisations. "This technology facilitates the optimisation of designs to enhance product or system performance and aids in identifying areas necessitating adjustments before operation and manufacturing. "By synergising CFD and Industry 4.0 technologies, the industry can craft innovative solutions that set it apart, enabling it to differentiate itself from competitors by elevating its operational efficiency, flexibility, responsiveness, and cost-effectiveness," he said.

He said this impact resonates with the Sarawak government's agenda in developing new technologies and solutions to transform into a digital and green economy for a common regional prosperity.

Meanwhile, UiTM Sarawak Rector Prof Dato Dr Jamil Hamali said the university is a partner of seven consortiums with Erasmus+ Key Action 2 Capacity Building in the Field of Higher Education, with various projects related to the digital economy since 2015. "The transnational

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



proposals were carefully made in line with the needs of all the Asian Partners' countries from the public authorities and industry perspective.

“The educational challenges lie in what makes them so interested in finding employees who have the potential to manage broad solutions and complex ecosystems in the pursuit of the digital and green economy,” he said.

He said UiTM Sarawak has completed two projects in Blended Learning led by Aix Marseille University, France and Food Processing and Innovation led by Universiti Teknologi Malaysia. “Today, we are ending another two projects, APPLY, led by Chiang Mai University and Industrial Revolution 4.0, led by UiTM. “Three more are still ongoing namely Family Business Management (FAB) by the National University of Management, Cambodia; Portable Video Conferencing Toolkits led by Danmarks Tekniseke Universitet, Denmark; and this year, we are starting with Smart City ASEAN Learning Network led by Universiti Malaya,” he said. He added that the university has benefited tremendously in offering new Master Programmes and Professional Courses developed with the transnational effort with continuous collaboration in students and academic staff mobility programmes and research activities.



Figure 7: Launching of inaugural ICoBTA-IR4.0 Conference by the Honourable Premier of Sarawak

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



10.1.2 Publication of the Keynote Address at Sarawak Tribune

<https://www.newsarawaktribune.com.my/sarawak-calls-for-new-stem-curriculum-education-transformation/>

👤 Natasha Jee 📌 Education, Top Story 📅 3 October 2023 🕒 8:51 pm

Sarawak calls for new STEM curriculum, education transformation



KUCHING: The Sarawak government aspires to seek a transformation in education to ensure a future-ready generation.

In stating this, Premier Datuk Patinggi Tan Sri Abang Johari Tun Openg said in line with the Mid Term Review of the 12th Malaysia Plan released by the Ministry of Economy on Sept 11, it has called for the establishment of a new science technology, engineering, and mathematics (STEM) curriculum to be introduced to students to embrace the Fourth Industrial Revolution (IR4.0) aligning with the national aspiration and niche areas.

“IR5.0 is already advancing, so this is a big education challenge.

“Thus, the state government welcomes pioneering initiatives to democratise education, ensuring accessibility and quality,” he said.

Abang Johari said in his speech read by Deputy Premier Datuk Seri Dr Sim Kui Hian at the closing of the International Conference on Computational Methods in Engineering & Health Sciences (ICCMEH) 2023 and the opening ceremony of the first International Conference of Business and Technological Advances in Industry Revolution 4.0 (ICoBTA-IR4.0), which is co-funded by the Sarawak government and ERASMUS+ Programme of the European Union here on Tuesday (Oct 3).

He added Sarawak envisages a state where the confluence of education and technology acts as a catalyst for socio-economic transformation, ensuring a brighter future for our upcoming generations.

“Our state’s commitment to these objectives is unwavering, and today’s conferences will serve as a legacy of our collective resolve,” he said.

He lauded Universiti Teknologi Mara (UiTM) for being the partner of two consortiums of the ERASMUS+ Programme for the projects namely, Applied Computational Fluid Dynamics (APPLY) and Industrial Revolution 4.0 (InD4.0).

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

“Sarawak’s big leap into the digital and green economy with the Post Covid-19 Development Strategy 2030 heralding for Kuching with Smart City Status by 2025 will benefit from the two ERASMUS+ projects.

“This will provide practical solutions to help close the gap between industry needs or expectations and educational system outputs,” he said.

The conference, he added, can bring inspiration in seeking green solutions with a responsive education system focused on the preparation of more productive, effective, and highly skilled human resources that contribute to the productivity and development of the economy in a sustainable way.

Meanwhile, UiTM Sarawak Branch Rector Professor Datuk Dr Jamil Hamali stated that the university is a partner of seven consortiums with ERASMUS+ Key Action 2 Capacity Building in the field of higher education, with various projects related to the digital economy since 2015. “The transnational proposals were carefully made in line with the needs of all the Asian Partners’ countries from the public authorities and industry perspective.

“Educational challenges lie in what makes them interested in finding employees who have the potential to manage broad solutions and complex ecosystems in the pursuit of the digital and green economy,” he added.

He added UiTM Sarawak Branch has completed two projects in Blended Learning led by Aix Marseille University, France and Food Processing and Innovation led by Universiti Teknologi Malaysia (UTM). “Today, we are ending another two projects, APPLY, led by Chiang Mai University and Industrial Revolution 4.0, led by UiTM. “Three more projects are still ongoing namely, Family Business Management (FAB) by the National University of Management, Cambodia; Portable Video Conferencing Toolkits led by Danmarks Tekniseke Universitet, Denmark, and this year, we are starting with SMART City ASEAN Learning Network led by Universiti Malaya,” he said.

Dr Jamil said that they have benefited tremendously in offering new Masters’ Programmes and Professional Courses developed with the transnational effort with continuous collaboration in students and academic staff mobility programmes and research activities.

“I also want to acknowledge the support of the Sarawak government and the ERASMUS+ Programme of the European Union, which is co-funding the projects and conferences,” he said.

Meanwhile, ICCMEH is a collaborative effort of the three higher institutions from India, Japan and Malaysia, and two partner institutions from the ERASMUS+ project APPLY in Malaysia. The ICoBTA-IR4.0 2023 is an inaugural conference related to ERASMUS+ Project Industrial 4.0 in which UiTM is the project coordinator.

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Figure 8: The Rector of UiTM Sarawak welcoming the Deputy Premier of Sarawak



Figure 9: The Honourable Deputy Premier of Sarawak delivering the keynote address

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Figure 10: Group photos of the participants

10.1.3 Facebook page of the Honourable Deputy Premier of Sarawak on ICoBTA-IR4.0 Conference



Dr Sim Kui Hian is at **Riverside Majestic Hotel**.

4 October 2023 · Kuching · 🌐

Being the wakil for Premier Abg Jo, representing him for:

🌟 International Conference on Computational Methods in Engineering & Health Sciences (ICCMEH) 2023 AND

🌟 1st International Conference of Business and Technological Advances in Industry Revolution 4.0 (ICoBTA-IR4.0)

<https://tinyurl.com/3d6h3scn>

Heartiest congratulations to UiTM Sarawak Campus together with the partner universities in Malaysia, Asia and Europe securing 7 ERAMUS+ (EuRopean Community Action Scheme for the Mobility of University Students) Program funded by European Union 🇪🇺 <https://erasmus-plus.ec.europa.eu>

//代表砂拉越总理阿邦佐哈里出席

🌟 2023年度工程与健康科学演算法国际会议

🌟 第一届工业革命4.0商业与技术国际会议

衷心祝贺玛拉工艺大学砂拉越分校连同马来西亚、亚洲及欧洲的合作大学伙伴获得由欧盟资助，举办欧洲大学生流动性社区行动计划。

[#jagasarawakbait](#)

Skh 🐝

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



academia, researchers, industry players, policymakers and students at the confluence of two conferences co-funded by the ERASMUS+ Programme of the European Union: the official closing event of the International Conference on Computational Methods in Engineering Health Sciences 2023 and the official opening of 1st International Conference of Business and Technological Advances in Industry Revolution 4.0. The unique amalgamation of these two events, as told by the organizers, is because UTM is a partner of 2 consortiums of the ERASMUS+ Programme for the projects: Applied Computational Fluid Dynamics (APPLY) and Industrial Revolution 4.0 (Ind4.0). I, therefore, extend a heartfelt welcome to all participants from across the globe.

2. With the advent of the Internet of Things (IoT), greater automation and artificial intelligence, connectivity between machines is the focus of Industry 4.0. Incorporating CFD, an integral component of Industry 4.0 technologies, plays a pivotal role in the digital economy, significantly bolstering engineers' capacity through simulation to attain precise results in various engineering studies and design optimizations. They empower engineers to fine-tune resource allocation, minimize waste, and foster sustainability. This technology facilitates the optimization of designs to enhance product or system performance and aids in

Industrial Revolution and its technologies synergizing with CFD.

4. I extend my sincere gratitude for choosing Kuching as the conference's destination. Kuching needs no introduction for its Malaysian hospitality and the unique diversity of the culture of the Sarawak people with the pristine flora and fauna.
5. I want to highlight where you are in the technological term. Kuching is the capital city of Sarawak, a region within Malaysia celebrating its 60th Independence with significant milestones towards achieving a sustainable digital and green economy in 2030. Embarking on the exciting journey of growth and transformation infused with a dynamic growth mindset embracing learning and evolution, this is the forum that can bring inspiration in seeking green solutions with a responsive education system focused on the preparation of more productive, effective, and highly skilled human resource that contribute to the productivity and development of the economy in a sustainable way.
6. Sarawak's big leap into the digital and green economy with the Post Covid-19 Development Strategy 2030 heralding for Kuching with Smart City Status by 2025 will benefit from the two ERASMUS+ projects that provide practical solutions to help close the gap

transformation of education to ensure a sustainable generation. Leveraging technology, we welcome pioneering initiatives to democratize education, ensuring accessibility and quality. Indeed, the overarching themes of ICCMEH and ICoBTA-IR4.0 resonate with Sarawak's endeavours, emphasizing the symbiotic relationship between education and technology. We envisage a state where the confluence of education and technology acts as a catalyst for socio-economic transformation, ensuring a brighter future for our upcoming generations. Our state's commitment to these objectives is unwavering, and your conferences will serve as a legacy of our collective resolve.

+6

8. I applaud UTM Sarawak for accepting to be the host. I wish to convey my deepest gratitude to all contributors, organizers, and participants. Your dedication and passion are the lifeblood of such events, ensuring their success and impact. The Sarawak government stands with you, not just as a supporter but as a collaborator, in our shared journey towards educational excellence. Together, we envision a brighter future and actively sculpt it.

9. I congratulate the successful deliverance of the International Conference on Computational Methods in Engineering Health Sciences (ICCMEH) 2023, and therefore, I officially close the conference.

50

1 comment 3 shares

10.1.4 Other Media Coverage

<https://ukas.sarawak.gov.my/2023/10/03/sarawak-bersedia-ubah-landskap-pendidikan-lahirkan-generasi-sedia-hadapi-teknologi/>

<https://www.utusanborneo.com.my/2023/10/03/kerajaan-sarawak-berhasrat-mentransformasi-sistem-pendidikan>

<https://www.pressreader.com/malaysia/utusan-borneo-sarawak/20231004/281668259614062>

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Figure 11 Sarawak Cultural Welcome to the conference

10.2 Panel Discussion

The Panel Discussion focused on the theme of the conference: Industrial 4.0 and Challenges for a Sustainable Future. Figure captured the panellists and the moderator during the session.

Panellists

- i. Prof. Ts. Dr Haryani Haron
*Assistant Vice Chancellor College of Computing, Informatics and Mathematics
Universiti Teknologi MARA*
- ii. H.E. DR Touch Visalsok
Secretary of State Ministry of Education Youth and Sport, Cambodia
- iii. Prof. Dr Ioannis Chatzigiannakis
Sapienza University of Rome, Italy
- iv. Assistant Prof. Ir. Rahmad Dawood
*The founding director of the Telematics Research Centre Universitas Syiah Kuala,
Indonesia*

Moderator

Assoc Prof Dr Margaret Chan Kit Yok
*Project Coordinator of ERASMUS+ InD4.0 on Capacity Building in Higher Education Universiti
Teknologi Mara, Sarawak Branch*

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Figure 12: The panellists and the moderator of the Panel Discussion session

The synthesis of the keynote address of the Right Honourable Premier of Sarawak, the keynote papers and the papers presented gain new insights and perspectives on the latest developments and the readiness of the stakeholders in embracing Industry 4.0.

Two key statements of the extracted of the keynote address of Right Honourable Premier of Sarawak to be debated and deliberated were:

In line with the Mid Term Review of the 12th Malaysia Plan released by the Ministry of Economy on Sept 11, 2023, it has called for the establishment of a new science technology, engineering, and mathematics (STEM) curriculum to be introduced to students to embrace the Fourth Industrial Revolution (IR4.0) aligning with the national aspiration and niche areas.
(Sarawak Tribune, 3 October 2023)

The Sarawak government aspires to seek the transformation of education by leveraging on technology to ensure a future-ready generation.
(Borneo Post, 3 October 2023)

Three pertinent questions were addressed:

1. How has Industry 4.0 affected the Education Industry?
2. What is your advice on the need to develop a stronger STEM-based education to drive IR4.0?
3. What are the strategies to embrace Industry 4.0 Revolution in the University Curricula?

It is recognised that the transdisciplinary Master programme developed by the consortium was a noble and innovative effort to ensure its relevance in the current Industry 4.0 ecosystem. It also supports the regional governments' initiatives and strategies toward a digital economy accomplishment not only in Sarawak. Key issues and challenges facing the Industry 4.0 ecosystem were pertaining to the mismatch of the higher education curricula and

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



the rapid Industry 4.0 adoption transgressing to Industry 5.0. Technical skills that include Data and IT skills are no longer enough for employees to compete in the highly competitive global industry environment. The required skill is still missing in term of inter discipline linkage. Educational institutions are in progress to catch and adopt the changes, but it is not as quick as what the industries expect.

It was resolved for the sustainability of the consortium, it should not only be relying on the traditional approach of collaborative teaching and learning on the Master programmes offered by the Asian Higher Institutions in the consortium and proposed research. The professional courses are fundamental as paving for the workforce as a feeder to the Master programme. A concerted effort towards developing microcredits courses from the curriculum offering smaller learning units in new learning models with digital offerings should be the consortium's next move to collaborate on to address adult students at any age and stage of their careers will be able to pursue a lifetime of learning.

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



10.0 Gala Dinner

The gala dinner was organised for participants from both conferences of ICCMEH and ICoBTA-IR4.0 to have fellowship. Selected memories captured is displayed in Figure 13.



Figure 13: Memories of Gala Dinner

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

11.0 Steering Committee Meeting

The Steering Committee Meeting was held in the Main Meeting Room at UiTM Campus Samarahan (Figure 14). It provided an opportunity for the members of the consortium to tour the university premises.



Figure 14: Steering Committee Meeting in session at UiTM Campus Samarahan

12.0 Proceedings of ICoBTA-IR4.0

Seventeen papers were given consent to be published in the e-proceedings book ICoBTA-IR4.0 2023 (Figure 15) with Copyright © by Universiti Teknologi MARA Cawangan Sarawak Dec 2023 and ISBN 978-629-98951-1-4. The e-proceedings are accessible in the link:

<https://www.ind4-0-eu.my/ICOBTA-e-proceeding.pdf>

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Figure 15: e-Proceedings of ICoBTA-IR4.0 2023

12.1 Preface

PREFACE The emergence of the Fourth Industrial Revolution in the past few decades has changed the technology, industries, and societal patterns and processes in the 21st century due to increasing interconnectivity and smart automation. Thus, the ERASMUS+ IND4.0 with 15 partners' consortium co-funded by the ERASMUS+ Key Action 2 Capacity Building in Higher Education aim is to provide practical solutions so as to help close the gap between industry needs/expectations and educational system outputs in relation to Industry 4.0 in the target countries. In this context, the consortium has transferred significant know-how from the

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

European Educational System, which the partner country Institutions in Asia used to design an advanced, practical-based MSc Curriculum for Industry 4.0. This is to build the capacity of Higher Education Institutions in the partner countries, improve the level of competencies and skills offered, and address the absence of a similar programme. A final conference, the 1st INTERNATIONAL CONFERENCE OF BUSINESS AND TECHNOLOGICAL ADVANCES IN INDUSTRY REVOLUTION 4.0, organised as part of the dissemination and exploitation work package, showcased all partners' contributions to its success. The theme was Industrial Revolution 4.0: Challenges for a Sustainable Future. The objectives were: 1. To disseminate the curriculum development of higher education in Industrial 4.0. 2. To interact and share information on the latest developments of Industry 4.0. 3. To deliberate recent innovations, trends, and concerns in theory and practice as well as practical challenges encountered, and solutions adopted in Smart Industries and the Fourth Industrial Revolution. 4. Discuss challenges imposed by cultural, legacy and socio-political factors for Industry 4.0. The e-proceedings Book documented the 17 papers presented during the conference. The papers were all peer-reviewed. The Editorial Board would like to thank the authors of the papers, the organising committee, the scientific committee, and the reviewers for their work with the conference and this book of proceedings. This book of proceeding is only available as an e-publication and can be found at the following link: <http://www.icobta.net/> To cite this book of proceedings: Name, N. and Name, N. (2023). Title of the paper. In e-Proceedings Book of 1st International Conference of Business and Technological Advances in Industrial Revolution 4.0. Kuching, Sarawak, Malaysia (pp. xx-yy). Retrieved from <http://www.icobta.net/>

12.2 Editorial Board

The Editorial Board is shown in Figure 16.

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

e-proceedings book ICoBTA-IR4.0

ADVISOR

Professor Dato Dr Hj Jamil Hj Hamali

ERASMUS+ IND4.0 PROJECT COORDINATOR

Associate Professor Dr Margaret Chan Kit Yok

EDITORIAL BOARD

Chief Editor

Ling Siew Ching

Committee

Dr Tuh Moi Hua

Dr Lee Siaw Li

Dr Christina Eu Nguk Ling

Shirley Sinatra Gran

Aimi Nuraida Ali Hassan

Agnes Ayang Anak Kenyang

Lai Tze Wee

Noormuthaah Mohamad Ali Adaha

COVER DESIGNER

Dr Mohd Syahiran Abd Latif

iii

Figure 16: The Editorial Board

Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.



Disclaimer:

With the support of the Erasmus+ Programme of the European Union. This document reflects only the view of its authors; the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.