



ASEAN AUSTRALIAN ENGINEERING CONGRESS

Engineering Solutions in the Age of Digital Disruption

12th - 14th JULY 2022 HYBRID CONGRESS

AAEC2022 Newsletter Vol. 1

AAEC2022 NEWSLETTER

BACKGROUND

The ASEAN Australian Engineering Congress 2022 (AAEC2022) aims to foster excellence in the practice of "Engineering Solutions in the Age of Digital Disruption". The Congress presents an opportunity for consulting engineers, researchers, designers, contractors, local councils, implementing government agencies and suppliers to discuss engineering research and solutions for achieving Industry 4.0 and digital transformation while maximizing process efficiencies in the industry for optimizing safety and sustainability.

The Congress also provides a forum to review knowledge, disseminate information, promote awareness, facilitate collaboration, and make recommendations. Innovative engineering projects and potential solutions will be presented in the form of technical presentations to encourage constructive discussions and to also provide a networking opportunity amongst university lecturers, students, staff of government implementing agencies and practicing consulting engineers.

THEME:
Engineering Solutions in the Age of Digital Disruption

THE ORGANISERS



SARAWAK, MALAYSIA



ENGINEERS AUSTRALIA

Co-Organiser:



Event Partner:



Supporters:



SARAWAK BUSINESS FEDERATION
(Persekutuan Persatuan Perniagaan Sarawak)
Strong Together



Australian Government

Australian Trade and Investment Commission



ASSOCIATION OF CONSULTING ENGINEERS MALAYSIA
(SARAWAK BRANCH)



<https://ms.microweb.my/CONGRESS TRACKS>

- I. Engineering Computing
 - Big Data
 - Data Analytics
 - Internet of Things
 - Cloud Computing
 - Mobile Computing
 - High-Performance Computing
- II. Network, Communication and Cyber security
 - Network of Machines, Products, and Systems
 - Mobile Technologies and Platforms (3G/4G/5G)
 - Wireless/Real-Time Communications
 - Communication Protocols
 - Open Spectrum Solutions
 - Data Security and Privacy
- III. Artificial Intelligence and Machine Learning
 - Neural Network
 - Fuzzy Logic
 - Deep Learning
 - Augmented and Virtual Reality
 - Image Processing
 - Video Analysis
- IV. Automation and Sensors
 - Advanced Robotics and Automation
 - Autonomous Robots
 - Factory Automation
 - Design Automation
 - Sensor Technology
 - Sensing Network
- V. Materials Science and Manufacturing
 - Smart and Advanced Materials
 - Additive Manufacturing
 - 3D Printing Technology
 - Advanced Manufacturing Process
 - Integration of Sensors
 - Mechanical Systems
- VI. Smart Energy and Cities
 - Renewable Energy
 - Smart Energy Consumption
 - Engineering and Construction
 - Transportation
 - Smart Factory
- VII. Simulation and Optimization
 - Building Information Modelling
 - Process Planning Simulation

- Simulation of Networks
- Real-Time Data Optimization
- Engineering Simulations

- VIII. Education 4.0
 - Authentic Learning Experiences
 - Digital Literacy, Connectivity and Equity
 - Teaching Transformed
 - Gamification and Assessments Re-imagined
 - Teaching with AR, MR and XR

CALL FOR PAPERS

Important Dates

31 January 2022	Submission of abstracts
28 February 2022	Acceptance of abstracts
31 March 2022	Submission of papers
30 April 2022	Acceptance of papers

Abstract can be submitted at

www.aaec2022.org/call-for-abstract.

The guidelines and important dates are also available online for reference. Prior to submitting the abstract, please sign-up at the website and proceed to upload the abstract thereafter. Submission of an abstract is required for an oral presentation. Full paper submission is optional. The full papers will be peer-reviewed. Selected full papers will be published under a special issue in the Australian Journal of Multi-Disciplinary Engineering (AJMDE) and ICE Publishing on the Smart Infrastructure and Construction (SMIC) Journal.

Technical Papers Committee Chair: Assoc. Prof. Ir. Basil Wong (twong@swinburne.edu.my)



ORGANIZING COMMITTEE

Chairman: Ir. Dennis Ong (Engineers Australia)
Deputy Chairman: Prof. Su Hieng Tiong (Swinburne)
Secretary: Dr. Choo Chung Siung (Swinburne)
Treasurer: Ir. Soong Kok Hong (Engineers Australia)
Assistant Treasurer: Dr. Elammaran Jayamani (Swinburne)

Committee Members:

- Prof. Wallace Wong (Swinburne)
- Assoc. Prof. Basil Wong Tung Liong (Swinburne)
- Mr. Astley Pung (Engineers Australia)
- Dr. Khairul Hafiz Bin Sharkawi (SDEC)
- Mr. Hazwan Bin Razak (SDEC)
- Ms. Nur Hartini Mardan (SDEC)
- Dr. Daniel Kong (Monash University)
- Ms. Lelia Sim (SDI)
- Ms. Rosalind Wong (SDI)

PLENARY SPEAKERS



Ir. Dennis Ong
AAEC 2022 Organising
Chairman

Welcome & Closing
Speech



Prof. Tan Sri Dato' Ir. Dr.
Chuah Hean Teik
President, ASEAN
Academy of Engineering
and Technology

Keynote Presentation



YBhg. Dato' Ir. (Dr.) Lee
Yee Cheong
AAEC 2022 Congress
Advisor

Plenary 1: Industry 4.0
and Future Technologies



Prof. Ir. Ts. Dr. Al-Khalid
Bin Haji Othman
Deputy Chief Scientist &
Deputy Chief Advisor
Sarawak Multimedia
Authority (SMA)

Plenary 2: The Internet
of Things, Network
Communication, and
Cybersecurity



Dr. Ali R. Ebadi
Advisor to Board of
Directors, MEASAT
Satellite Systems Sdn.
Bhd.

Plenary 2: The Internet
of Things, Network
Communication, and
Cybersecurity



Professor Dr. Narayanan
A/L N. Kulathu Ramaiyer
Director, Institute of Social
Informatics &
Technological Innovations,
UNIMAS

Plenary 3: Artificial
Intelligence & Automation
in IR4.0.0



Dr. Ishkandar Bin Baharin
President, Malaysia
Robotics and Automation
Society (MyRAS)

Plenary 3: Artificial
Intelligence &
Automation in IR4.0.0



Ir. May Ngui
Regional General
Manager, Senior
Technical Director, GHD
Pty Ltd, Canberra,
Australia

Plenary 4: Smart Energy,
Cities, and Factories



TENTATIVE PROGRAMME

Day 1 - 12 July 2022 (Tuesday)

8:30am	Registration/Arrival of Participants/Guests (Audio/Video Checks for Presenters)
Opening Ceremony	
9:00am	Welcome Speech by Ir. Dennis Ong, Organising Chairman AAEC 2022 and Prof. Lau Hieng Ho, Pro Vice-Chancellor and Chief Executive of Swinburne University of Technology Sarawak Campus
9:20am	Opening Remarks by The Chief Minister of Sarawak (TBC)
9:40am	Keynote Presentation Australia High Commissioner to Malaysia (TBC)
10:00am	Keynote Presentation CEO of Engineers Australia, Dr. Bronwyn Evans (Industry 4.0) (TBC)
10:20am	Keynote Presentation Prof. Tan Sri Dato' Ir. Dr. Chuah Hean Teik
10:40am	Break (20 mins)
Plenary 1: Industry 4.0 and Future Technologies	
11:00am – 1:00pm	Plenary 1: Industry 4.0 and Future Technologies (2 hours) In this plenary, the current state of Industry 4.0 (IR4.0) implementation and its associated benefits and advantages in various industry sectors will be the main discussion. Stories of successful implementations of IR4.0 and how they have shaped the world in terms of creating smart future will be shared by the invited plenary speakers. In addition, the future of IR4.0 and how it is affecting the world in leading to future cut-edge technologies will also be in the discussions.
1:00pm – 1:30pm	Lunch (30 mins)
Technical Sessions A (2 hours)	
1:30-3:30pm	Concurrent: Technical Session A1: Engineering Computing Technical Session A2: Network, Communication & Cybersecurity Technical Session A3: Simulation & Optimization
3:30pm	Break (20 mins)
Plenary 2: The Internet of Things, Network Communication, and Cybersecurity	
3:50pm - 5:50pm	Plenary 2: The Internet of Things and Cybersecurity (2 hours) The internet of things (IoT) has been around for decades. What is the critical role that is played by the IoT in the IR4.0? How can it further enhance IR4.0? One of the major concerns with the IoT is cybersecurity. In general, industries are concerned with how these data are being stored securely and handled over the computing clouds. These questions will be the main focus in this plenary session.
Conclusion of AAEC2022 Day 1	

Day 2 – 13 July 2022 (Wednesday)

8:30am	Arrival of Participants (Audio/Video Checks for Presenters)
Plenary 3: Artificial Intelligence & Automation in IR4.0	
9:00am – 10:30am	Plenary 3: Artificial Intelligence & Automation in IR4.0 (2 hours) What are the current benefits and obstacles in adopting artificial intelligence (AI) for IR4.0? How does AI assist in realizing the full potential of IR4.0? How can it be coupled with automation processes in the industry in the realm of IR4.0? These will be among the questions to be addressed by the invited speakers in the plenary session.
10:30am - 11:00am	Break (20 mins)
Technical Sessions B	
11:20am	Concurrent: Technical Session B1: Smart Energy & Cities Technical Session B2: Materials Science & Manufacturing Technical Session B3: Education 4.0
12:20pm	Lunch (1 hour)
Technical Sessions B (cont'd)	
1:20pm	Concurrent: Technical Session B1: Smart Energy & Cities Technical Session B2: Materials Science & Manufacturing Technical Session B3: Education 4.0
2:20pm	Break (20 mins)
Plenary 4: Smart Energy, Cities, and Factories	
2:40pm – 4:10pm	Plenary 4: Smart Energy, Cities, and Factories Through the IR4.0 adoption, smart energy consumption can be implemented in various industry devices and systems. The couplings between cyber-physical systems, automation, and IoT can lead to the birth of smart cities and factories. In this plenary session, strategic moves implemented by local governments in building smart energy usage, cities, and factories in Sarawak or Malaysia will be shared by the invited speakers. Discussions on the current preparation towards the adoption of IR4.0 locally as well as on how the IR4.0 can benefit both local industries and international partners will be the main focus in the session.
Virtual Tour	
4:40pm	Virtual Tour for Digital Village (30 mins)
5:10pm	Conclusion of AAEC2022 Day 2



Day 3 – 14 July 2022 (Thursday)

8:30am	Arrival of Participants (Audio/Video Checks for Presenters)
Plenary 5: BIM and Construction for IR4.0	
9:00am - 10:30am	<p>Plenary 5: BIM and Construction for IR4.0.0 Chair: TBD</p> <p>In this plenary session, the role of the Building Information Modelling (BIM) and Industry 4.0 in shaping the future of the construction environment will be the main focus. How can the BIM further enhance construction locally and/or internationally? What does it take to encourage local/international industry collaborators to adopt the BIM and IR4.0? These questions will be among the main discussions in this plenary session.</p>
10:30am – 11:00am	Break (20 mins)
Technical Sessions C (1 hour)	
11:20am	<p>Concurrent:</p> <p>Technical Session C1: Artificial Intelligence & Machine Learning Technical Session C2: Automation & Sensors Technical Session C3: Other Industry 4.0 Related Technologies</p>
12:20pm	Lunch (1 hour 40 mins)
Technical Sessions C (cont'd) (1 hour)	
2:00pm	<p>Concurrent:</p> <p>Technical Session C1: Artificial Intelligence & Machine Learning Technical Session C2: Automation & Sensors Technical Session C3: Other Industry 4.0 Related Technologies</p>
3:00pm	Break (20 mins)
Plenary 6: Education 4.0	
3:20pm – 4:50pm	<p>Plenary 6: Education 4.0</p> <p>The digital industrial revolution has been brought into the classroom, accelerated by the advent of the COVID-19 pandemic. IR4.0 has not only changed the talents needed by the engineering industry; learning has become democratized and more accessible. This leads to learning innovations incorporating IR4.0 tech, i.e. Education 4.0. The traditional educational approaches indeed need a make-over at making students skill-ready for the ever-evolving industrial revolution. Some of the main questions to be addressed in this plenary session are “How does Industry 4.0 affect the education industry, especially in engineering?”, “How can education institutions equip engineering students for IR4.0?”, and “What innovations are there to enhance learning in a digital engineering world?”</p>
Ending Remarks	
5:20pm	Ending Remarks by Organising Chairman
5:50pm	End of AAEC2022

SPONSORSHIP PROSPECTUS DETAILS

	<i>Hexabyte Sponsor</i>	<i>Terabyte Sponsor</i>	<i>Gigabyte Sponsor / Exhibitor</i>
	RM8000	RM6000	RM 2500
Congress Registration	10 pax	6 pax	4 pax
Physical table tops display at satellite hubs (subject to confirmation)	✓	✓	
Advertisements on the congress website /virtual congress platform (hybrid)	✓	✓	✓
Recognition as a sponsor	✓	✓	
Recognition as an exhibitor	✓	✓	✓
Virtual Exhibition Booth space with Live Feed Steaming	✓	✓	✓
Electronic banner or logo display, link to corporate website	✓	✓	✓
Company logo to be displayed on event virtual lobby (Reception)	✓	✓	✓
Full media coverage	✓	✓	✓
Networking opportunities	✓	✓	✓
Full delegates' list	✓		
Featured Lounge Table (top rows)	✓		
Post Event Recognition	✓	✓	✓

<i>Add On Options</i>	<i>Price (RM)</i>	<i>Available Space</i>
Tea-Break Sponsors at Satellite Hubs (per session rate)	1200	12 slots
Lunch Sponsors with Lunch Talk at Satellite Hubs (per session rate)	2000	6 slots
Evening Networking Reception at Satellite Hubs (KL & Kuching)	2000	6 slots
Sponsorship of a Track / Concurrent Session	500	10 slots
Sponsorship of Plenary Session	1500	6 slots
Feature Lounge Table on Second Row (Digital)	500	4 slots
Feature Lounge Table on Third Row (Digital)	300	4 slots
Showcase Session (whole track)	500	5 slots
Webinar session sponsor	500	12 slots

REGISTRATION FEE

Categories	Technical Paper Presenter	Delegates
Early Bird	RM800 (by 30 th May 2022)	RM300 (by 15 th May 2022)
Normal	RM950	RM400
Supporting Organisations	/	RM250
Business Matching Session		RM250

AIRMEET (ONLINE PLATFORM)



Airmeet is an all-in-one virtual events hosting platform.

EXHIBITION BOOTH IN AIRMEET

Exhibition Booths:

Visibility at reception, with dedicated booth.
Integrated into Airmeet's own Social Lounge for real-time video networking.

Social Lounge:

The place where participants meet virtually, in real-time.
Pre & post session networking helps your attendees build real connections.

Accessible:

Only a high-quality HD live broadcast & networking experience.
Easy to start and join an Airmeet through any device.
Dedicated iOS and Android apps.
Also accessible through modern browsers; no downloads needed.

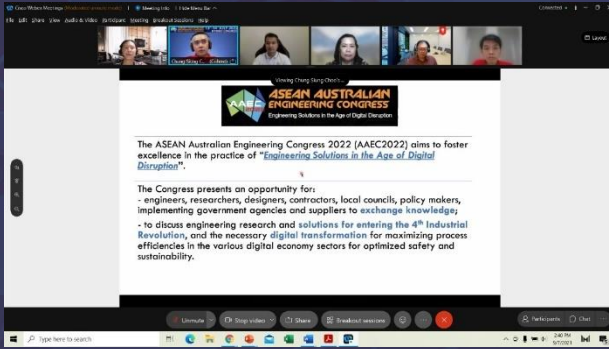
SATELLITE HUB

Tabung Ekonomi Gagasan Anak Sarawak (TEGAS) Digital Village (TDV) located at Sama Jaya High Tech Park is the proposed location for the Satellite Hub. (TBC)

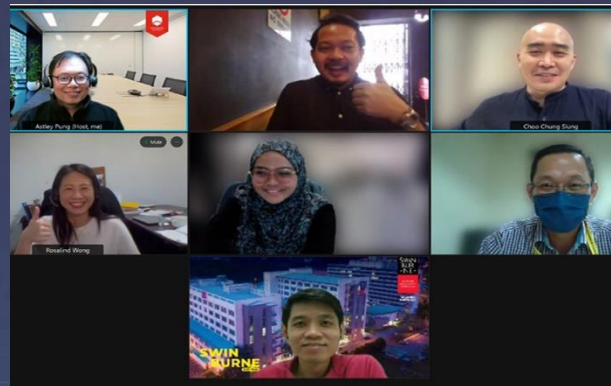
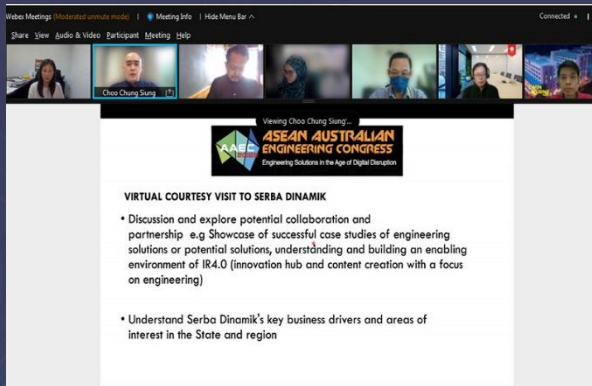
Satellite hub will be subjected to confirmation and SOP

VIRTUAL COURTESY CALLS

Virtual Courtesy Call to Sarawak Metro Sdn. Bhd. on 7th September 2021 via WEBEX to discuss on potential collaboration and support for AAEC2022. AAEC 2022 Organising Committee was represented by Dr. Choo Chung Siung, Secretary and Assoc. Prof. Dr. Basil Wong, Chairman, Technical Papers Committee, Mr. Astley Pung, and Mdm Rosalind Wong and Sarawak Metro Sdn Bhd was represented by Mr. Alexius Barieng, Director, Corporate Communication & Socio-Economic Enhancement Development (SEED) Program and Mdm Letitia Samuel, Media Manager.



Virtual Courtesy Call to Serba Dinamik on 5th October 2021 via WEBEX to discuss on potential collaboration and support for AAEC2022. AAEC 2022 Organising Committee was represented by Professor Dr. Su Hieng Tiong, Deputy Chairman, Dr. Choo Chung Siung, Secretary and Assoc. Prof. Dr. Basil Wong, Chairman, Technical Papers Committee, Mr. Astley Pung, and Mdm Rosalind Wong and Serba Dinamik was represented by Encik Abdul Qaiyum Alidin, General Manager (Operations) Serba Dinamik IT and Cik Siti Nurhidayah, System Design and Development Executive.



Virtual Courtesy Call to RECODA on 7th October 2021. The AAEC 2022 Organising Committee met with Mr. Hong Teck Wee, Senior Executive of Communications and External Relations RECODA to discuss potential support for the congress. AAEC 2022 Organising Committee was represented by Dr. Choo Chung Siung, Secretary and Assoc. Prof. Dr. Basil Wong, Chairman, Technical Papers Committee, Mr. Astley Pung and Mdm Rosalind Wong.



Virtual Courtesy Call to Public Works of Department Sarawak (JKR) on 9th November 2021 via WEBEX to discuss on potential collaboration and support for AAEC2022. AAEC 2022 Organising Committee was represented by Dr. Choo Chung Siung, Secretary, Assoc. Prof. Dr. Basil Wong, Chairman, Technical Papers Committee and Mdm Rosalind Wong and JKR was represented Puan Siti Nurainawati binti Aini, Deputy Director (Building & Specialist Services), Mr. Norman Jan, Assistant Director for Corporate Planning Branch, Ir. Chin Hon Sin, Assistant Director, Research & Investigation Branch and other staff of JKR.

OFFICIAL WEBSITE:

www.aaec2022.org



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(twong@swinburne.edu.my)