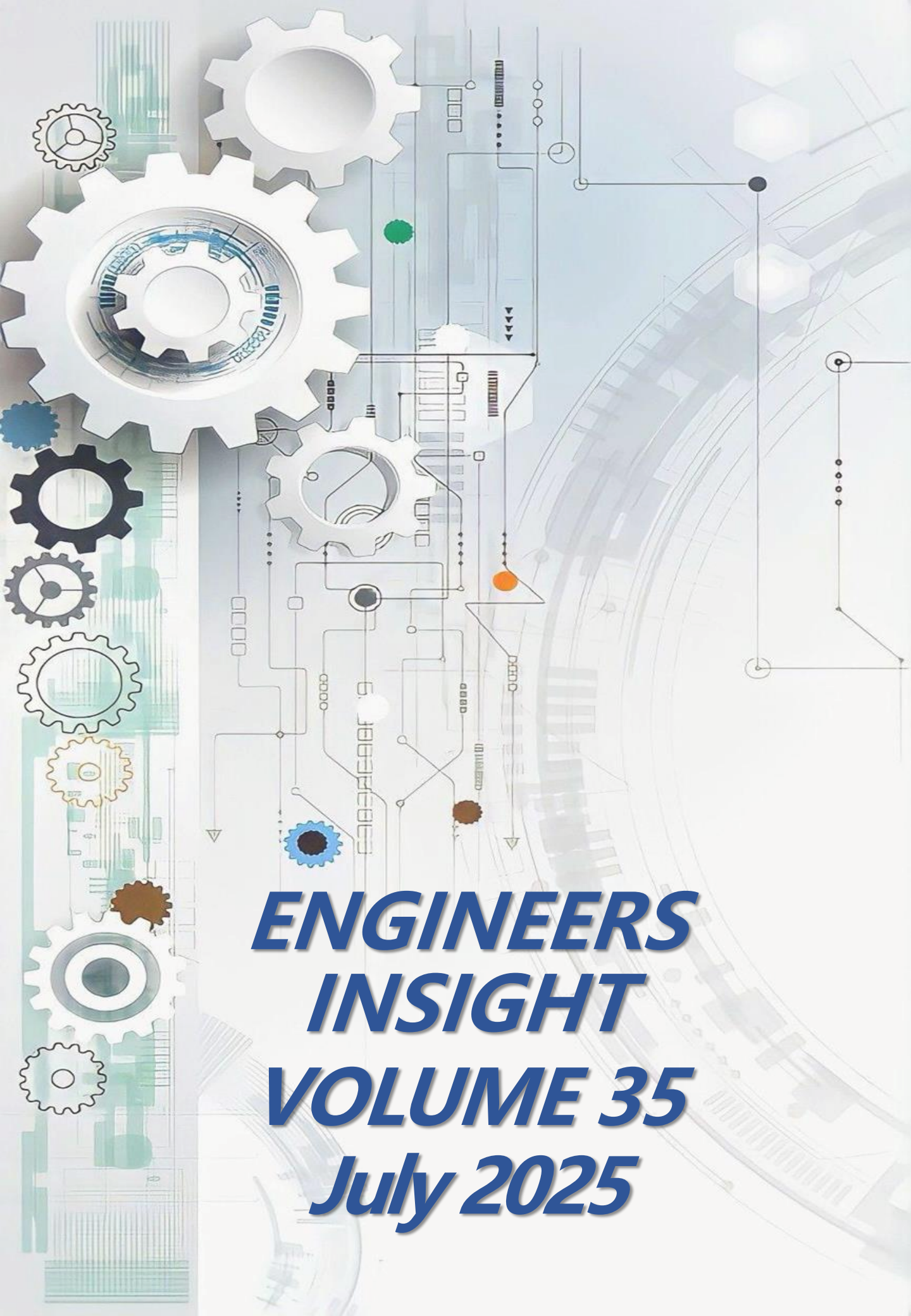

ENGINEERS INSIGHT VOLUME 35 July 2025

Engineers Insight Editorial Board

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Assist. Prof Ts Dr Arun Seeralan Balakrishnan

Ir Dr Wong Siew Fan

TABLE OF CONTENT

AWARDS & ACHIEVEMENTS

Gold Award at the International Inter Varsity Innovation Challenge (IVIC) 2024

Five academic staff members from Asia Pacific University of Technology & Innovation (APU) have been honoured for their exceptional innovation, winning the prestigious Gold Award at the International Inter Varsity Innovation Challenge (IVIC) 2024:

1. **Ir Eur Ing Ts Dr Harvin Kaur Gurchran Singh** (Assistant Professor, School of Engineering at APU)
2. **Dr Meera Eeswaran** (Senior Lecturer, School of Mathematics, Actuarial and Quantitative Studies at APU)
3. **Ms Ong Yu Yan** (Lecturer, School of Accounting and Finance at APU)
4. **Ms Vaneetha Sagadevan** (Lecturer, School of Marketing and Management at APU)
5. **Ts Jonathan JS Kovilpillai** (Senior Lecturer, Digital Learning Hub at APU)

This recognition celebrates their project, “STEM Power Up: A scaled-up Pedagogy in empowering Educators using the Virtual Reality Oil and Gas Platform walkthrough.”

Their project leverages cutting-edge virtual reality technology to create an immersive walkthrough of an oil and gas platform.

By simulating real-world scenarios, their project empowers educators to deliver complex technical concepts in a more interactive and impactful manner, fostering deeper learning and understanding among students.

On top of that, their innovative project stood out among over 150 international participants, showcasing exceptional creativity, dedication, and commitment to transforming education.

Their victory is not only a recognition of their exceptional work but also a reflection of APU's commitment to nurturing creative problem-solvers equipped with cutting-edge skills to address global challenges.

An Intelligent Vision-Based System for Accurate Fruits Ripeness and Disease Monitoring

GENERAL INFORMATION

Topic: *An Intelligent Vision-Based System for Accurate fruits Ripeness and Disease Monitoring*

Event Type: *Project*

EVENT DESCRIPTION:

The IMechE APU Student Chapter is proud to announce a remarkable achievement by our Academic Liaison Officer (ALO) **Ts. Dr. Arun Seeralan Balakrishnan**, who has successfully secured a research grant of **£1455** under Asia Pacific University (APU) for the project titled:

"An Intelligent Vision-Based System for Accurate Fruits Ripeness and Disease Monitoring."

This groundbreaking initiative aims to revolutionize agricultural practices through the integration of machine learning, computer vision, and robotics. By automating the detection of fruit ripeness and diseases, the project addresses the pressing need for accurate and efficient crop monitoring, especially in large-scale farming where manual inspection is often labor-intensive and unreliable.

Aligned with Sustainable Development Goal 2 (Zero Hunger) specifically Target 2.4, which promotes sustainable food production and resilient agricultural practices the system is designed to enhance food quality, reduce waste, and increase yield. Through deep learning algorithms trained on extensive datasets, the system can assess fruit ripeness, identify diseases, and provide real-time monitoring to support intelligent decision-making.

This innovation empowers farmers to optimize harvest schedules, ensure high-quality produce, and adopt climate-resilient, eco-friendly practices. By leveraging cutting-edge technology, the project not only contributes to global food security but also reinforces APU's commitment to impactful, sustainable research.

APU Teams Triumph at USM Varsity Hackathon

Asia Pacific University of Technology and Innovation (APU) has once again demonstrated its excellence in technology innovation as two of its student teams secured prestigious awards at the recent Varsity Hackathon (VHack) organized by Universiti Sains Malaysia (USM) on April 26, 2025.

Smart City Management System Secures 1st Runner-Up

A team of five bright minds from APU clinched the 1st Runner-Up position, bringing home a prize of RM5,000. The winning team comprised Chong Jinn Xiang, Chia Jing Liang, Bryan Low Zhern Yang, Kok Jia Yin, and Evin Kor Kar Hei, under the mentorship of **Ms. Tan Li June** and **Asst. Prof. Ir. EUR ING Ts. Dr. Lau Chee Yong**.

.

Their innovative project focuses on enhancing urban living through an integrated Smart City Management System that addresses critical challenges in modern cities: waste management, traffic congestion, and flood/weather prediction. Leveraging real-time data and AI-driven solutions, the system enables efficient waste collection, optimizes traffic flow, and provides early warnings for adverse weather conditions.

This groundbreaking initiative aligns perfectly with the United Nations' Sustainable Development Goal (SDG) 11: Sustainable Cities and Communities, which emphasizes making cities inclusive, safe, resilient, and sustainable. The project particularly focuses on improving urban infrastructure, increasing public safety, and supporting proactive city planning.

Blockchain Innovation Earns Excellence Award

In another remarkable achievement, a second team from APU secured the Excellence Award in the Blockchain category. The team, consisting of Thien Wei Jian, Ivan Wong Hong Zheng, and John Paulose, was mentored by Mr. Amad Arshad.

Their project, DeNate (Decentralized Donate), is a blockchain-powered donation platform designed to enhance transparency and efficiency in charitable giving. The innovative solution features real-time donation tracking, milestone-based fund releases, NFT badges for top donors, AI-driven chatbot with donation forecasting capabilities, and live dashboards for charity engagement.

Cross-School Collaboration Leads to Success

These achievements highlight the successful synergy between APU's School of Computing and School of Engineering. Associate Professor Ts. Dr. Tan Chin Ike, Head of the School of Computing, commented on this collaboration: "These outstanding achievements at the USM Varsity Hackathon exemplify what we can accomplish when different disciplines come together. The collaboration between our School of Computing and School of Engineering has created a powerful ecosystem where technological innovation meets practical implementation. Our students have demonstrated not only technical prowess but also the ability to address real-world challenges through multidisciplinary approaches. This success reinforces our commitment to fostering an environment where cross-disciplinary collaboration thrives, preparing our graduates to become versatile problem-solvers ready to make meaningful contributions to society."

The success at VHack 2025 reinforces APU's position as a leading institution in technology education and innovation in Malaysia and the region. The university continues to empower students with the knowledge, skills, and opportunities to excel in the rapidly evolving digital landscape.

Inventopia Competition 2025

Abdulrahman Ali, 4th year student from Bachelors of Mechatronic Engineering programme has been awarded the **Silver Award** in the INVENTOPIA FBM Seremban International Innovation Competition (FBM-SIIC) 2025 - an engineering video submission competition organized by the Faculty of Business and Management at Universiti Teknologi Mara, Seremban Campus. The theme is 'Innovation in Action: Turning Ideas into Reality', a competition recognizing creativity and innovation. The results were announced on 9th May 2025. Abdulrahman Ali was mentored **by Ms. Shamini Pathmanathan** and **Dr. Mugashini Vasudevan.**

Abdulrahman submitted his video titled ‘Automated Driving Test’ which is based on his Undergraduate Final Year Project with the same title. The project aims to develop a system that can evaluate and award marks for learner drivers during a driving test. This system would be able to reduce biasness during a driving test by having a standardized grading method and moreover, the grading would be consistent, which is difficult to achieve when many examiners are involved in the grading. The invention is also in par with the growth in Artificial Intelligence, digitalization and smart cities.

His presentation can be viewed through this link: https://youtu.be/MnVyNfP6RgE

APU Engineering Student Receives Prestigious IEM Gold Medal Award

Asia Pacific University of Technology and Innovation (APU) proudly celebrates the outstanding achievement of Chong Chee Kin, a Bachelor of Mechatronic Engineering with Honours graduate, who has been awarded the prestigious Institution of Engineers Malaysia (IEM) Gold Medal Award. The recognition came during the IEM 66th Annual Dinner & Awards Night 2025 held on 19 April 2025 at Sunway Resort Hotel.

The IEM Gold Medal Award is one of the highest honors bestowed upon engineering students in Malaysia, recognizing exceptional academic excellence and contribution to the field of engineering. Chong, a First Class degree holder, has demonstrated remarkable talent and dedication throughout his academic journey at APU.

Under the mentorship of **Asst Prof Ir EUR ING Ts Dr Lau Chee Yong** and **Asst Prof Ir Ts Dr Alexander Chee Hon Cheong**, Chong has built an impressive portfolio of achievements. His innovative thinking and technical prowess have earned him numerous accolades on both national and international platforms.

Chong's list of achievements includes the Prestigious Outstanding Award and Gold Award at the Malaysia Technology Expo 2024, as well as the APICTA Malaysia Merit award, which led to him representing Malaysia at the Brunei APICTA Finals. His excellence was further recognized internationally when he received the Invention Innovation Competition Canada (iCAN) 2024 Gold Medal Award, Best Invention Design Award, and Bucharest Special Award. Adding to his accomplishments, Chong was also honored with the James Dyson Award 2024.

Assoc Prof Ir Ts Dr Siva Kumar Sivanesan, Head of the School of Engineering at APU, expressed his pride in Chong's accomplishments: "Chong Chee Kin exemplifies the innovative spirit and technical excellence we strive to nurture at APU's School of Engineering. His achievement of the IEM Gold Medal Award reflects not only his personal dedication but also the quality of engineering education at APU. We are immensely proud of his accomplishments and confident that he will continue to make significant contributions to the engineering profession."

This recognition from IEM, Malaysia's premier engineering institution, highlights APU's commitment to producing industry-ready graduates who excel in their respective fields. The university continues to emphasize practical learning, innovation, and professional development as key components of its engineering programs.

Chong's success story serves as an inspiration to current and future engineering students at APU, demonstrating that with dedication, mentorship, and innovative thinking, they too can achieve excellence on both national and international platforms.

APU congratulates Chong Chee Kin on this well-deserved recognition and looks forward to witnessing his continued success in his engineering career.

Empowering Change: Dr. Harvin Kaur Shares the Stage on TV3's "Women Powering the Shift in Energy & Sustainability"

We are proud to share that **Ir. Ts. Dr. Harvin Kaur**, Programme Leader for Petroleum Engineering at the **Asia Pacific University of Technology and Innovation (APU)**, was recently featured on national television, **TV3**, for a special segment titled *"Women Powering the Shift in Energy & Sustainability."*

The segment brought together female leaders who are playing pivotal roles in reshaping the global energy narrative. Dr. Harvin represented APU, in a powerful conversation on the intersection of sustainability, leadership, and innovation in the energy transition era.

As the world pushes forward in its race toward net-zero emissions, the discussion highlighted how the energy transition is no longer solely about infrastructure or innovation. It is about inclusive leadership, visionary education, and systemic transformation—and women are at the forefront of this global shift.

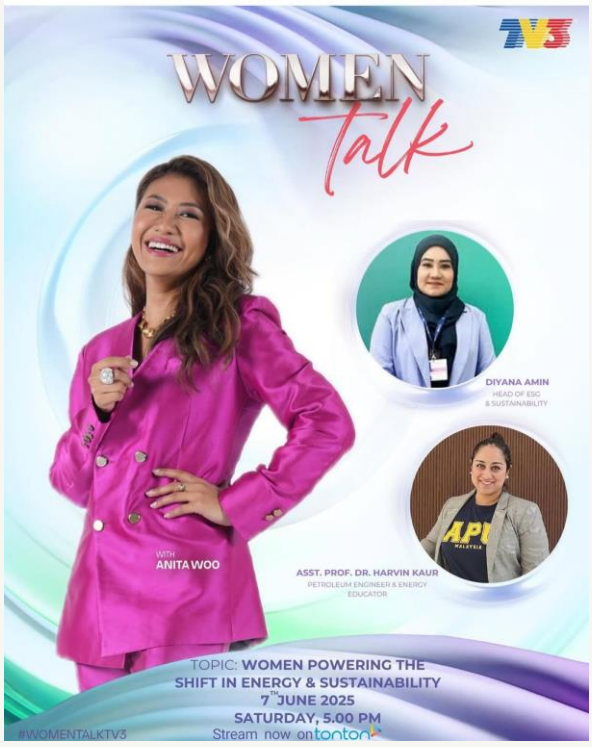
In her remarks, Dr. Harvin underscored APU's commitment to developing future-ready engineers equipped not only with technical skills but also with an ESG mindset. She shared insights from her work mentoring the next generation of petroleum engineers and advocating for curriculum reform that embeds sustainability, digital literacy, and inclusivity.

Key topics explored during the segment included:

- **Driving ESG frameworks and policy reform**
- **Leading decarbonisation and energy transition efforts**
- **Designing sustainable smart cities**
- **Redefining engineering education to empower diverse voices**

Hosted by the eloquent **Anita Woo**, the conversation was further enriched by **Diyana Mohd Amin**, Head of Sustainability at Iskandar Investment Berhad, whose visionary leadership is helping to shape a more equitable and resilient energy ecosystem in Malaysia.

Dr. Harvin's appearance on TV3 serves as a testament to APU's growing impact on national platforms and its leadership in sustainability-driven education. We congratulate her on this achievement and her continued efforts in empowering students and reshaping the future of engineering, one conversation at a time.


TV3
WOMEN
talk
DIYANA AMIN
HEAD OF ESG & SUSTAINABILITY
WITH
ANITA WOO
ASST. PROF. DR. HARVIN KAUR
PETROLEUM ENGINEER & ENERGY EDUCATOR
TOPIC: WOMEN POWERING THE SHIFT IN ENERGY & SUSTAINABILITY
7TH JUNE 2025
SATURDAY, 5.00 PM
Stream now on tontonTV3
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WOMEN
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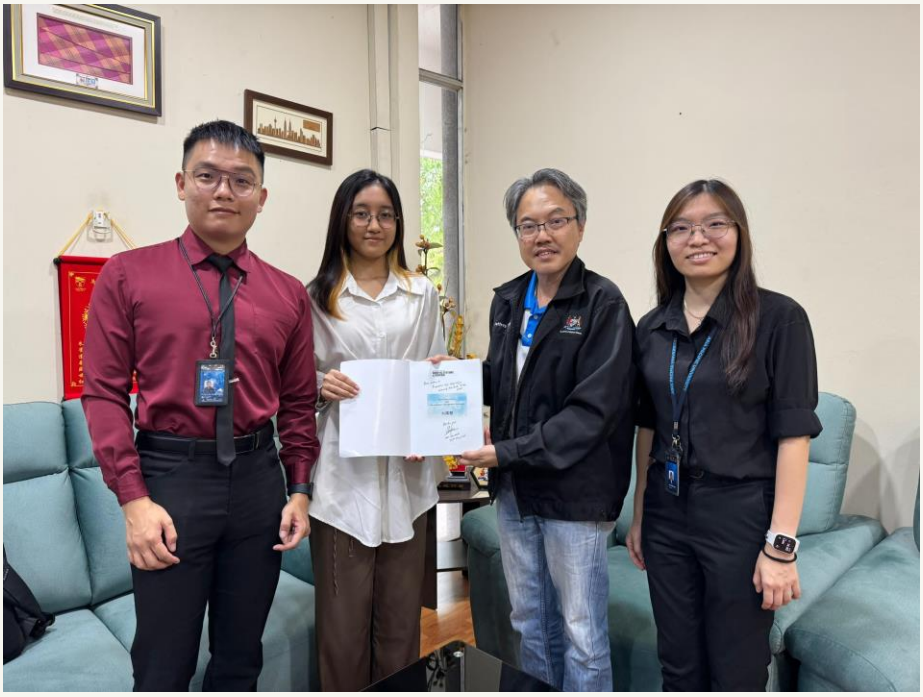
talk talk

Priyashini A/P Nagarajan Wins IEM Book Prize Award

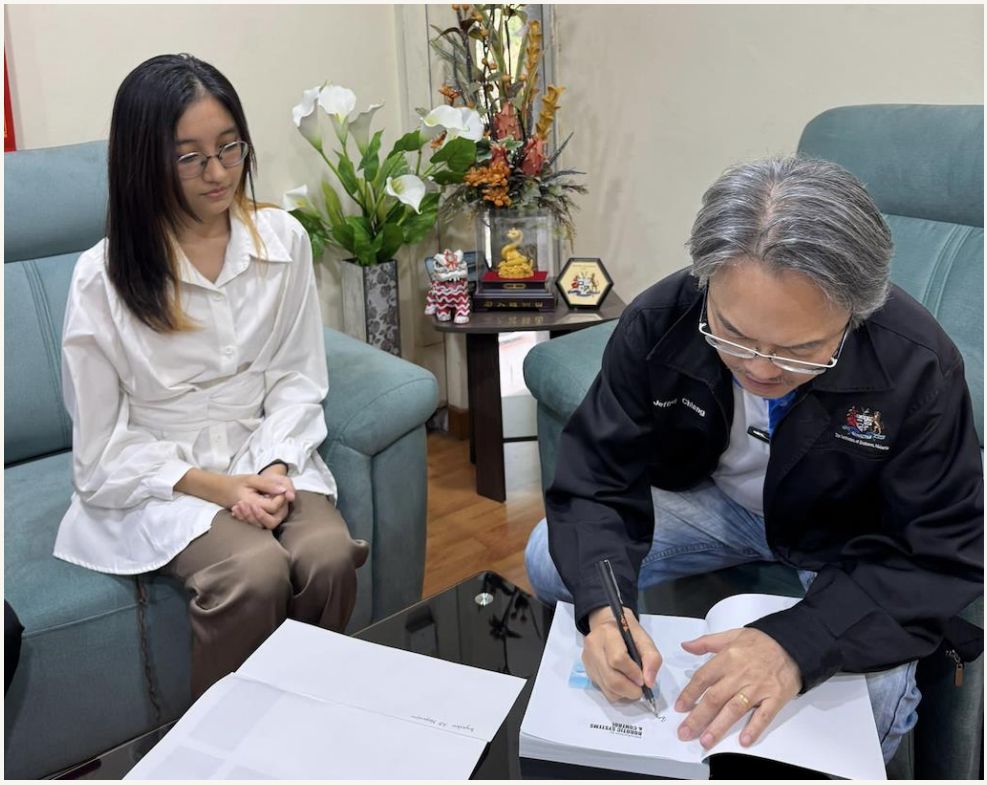
Priyashini A/P Nagarajan, a first-year Mechatronic Engineering student at Asia Pacific University of Technology and Innovation (APU), has been awarded the prestigious IEM (The Institution of Engineers, Malaysia) Book Prize Award. The award recognizes exceptional first-year engineering students for their academic excellence and active participation in engineering-related activities.



Under the mentorship of **Assistant Professor Ir Eur Ing Ts Dr. Lau Chee Yong** and **Ir Dr Lian Wen Xun**, Priyashini received this esteemed accolade at the IEM President's office on May 30, 2025. The award includes an inscribed book, "The Institution of Engineers, Malaysia Book Prize for the Best First Year Engineering Student," signed by IEM President Prof Ir Dr. Jeffrey Chiang Choong Luin.

The IEM Book Prize Award aims to inspire young engineering students to cultivate a habit of reading and utilizing reliable sources of information. This emphasis on continuous learning and self-improvement aligns with the values of academic excellence and innovation that are fundamental to the engineering profession.

Assoc Prof Ir Ts Dr Siva Kumar Sivanesan, Head of the School of Engineering at APU, praised Priyashini's outstanding performance, stating, "Priyashini has demonstrated exceptional academic achievement and dedication to her studies throughout her first year. Her commitment to excellence and passion for mechatronic engineering make her a truly deserving recipient of this prestigious award."



Assistant Professor Ir Eur Ing Ts Dr Lau Chee Yong, Priyashini's mentor and Programme Leader of Computer Engineering, expressed his pride in her accomplishment, saying, "Priyashini exemplifies the qualities we seek in our engineering students - academic excellence, dedication, and a genuine passion for learning. Her achievement reflects not only her individual merit but also the quality of education and mentorship we strive to provide at APU."

Priyashini's recognition as the recipient of the IEM Book Prize Award serves as an inspiration to her fellow students and demonstrates APU's commitment to nurturing exceptional engineering talent. Her achievement highlights the university's continued success in producing outstanding graduates who contribute meaningfully to Malaysia's engineering landscape.

The award ceremony reinforced the strong partnership between APU and The Institution of Engineers, Malaysia, in promoting engineering excellence and supporting the development of future engineering leaders in the country.

RoboRoarz International Robotics Competition 2025

RoboRoarz International Robotics Competition 2025 took place on June 21st and 22nd, 2025 at **Asia Pacific University**. The event was organized by **the School of Computing and APCORE research center of Asia Pacific University**. The competition brought together students from various universities across India, Indonesia, Malaysia, Singapore and other countries.

The competition was divided into three categories — Primary, Secondary, and Senior, with university-level participants competing under the Senior category. This year's theme focused on **robotic food delivery using Smorphi robots**, where teams were challenged to design robotic systems that could navigate environments, scan QR codes for instructions, and complete delivery tasks efficiently. **Dr. Mukil Alagirisamy** had mentored three teams of third year APU Engineering students named "1/4", "The Idiots" and "The Kaizens". The three teams have received first, second and third places in different sections of the competition. The team Astrobytes, mentored by **Ts. Dr. Arun Seeralan Balakrishnan** demonstrated a strong performance by securing the second prize and fourth prize in different modes of competition.

On the first day, the event **Smorphi Software Challenge** was conducted:

- The students were introduced to ***Smorphi***, a modular and reconfigurable robot developed by Dynamon. They attended sessions explaining how to use the software associated with Smorphi and participated in hands-on workshops where we practiced controlling the robot in both manual (pilot) and autonomous modes. They also took part in the **Smorphi Software Challenge**, where the team "The Idiots" demonstrated the ability to simulate and control Smorphi's behavior.

  - ❖ The team named "The Idiots", comprising of Mohammed Jamal, Jushita Pediredla, Hussam, Jamal, Anlon Linus secured **3rd place in the Smorphi Software Challenge**.
  - ❖ The team named "Astrobytes" comprising of Amogha seelan B.A, Alagesan Saithanvanthar, Yeo Peng Sian and Abdul Azim Khan Mohamed Kudus secured **4th place in the Smorphi Software challenge.**

On the second day, the main events were held - the **Pilot Mode and the Autonomous Mode challenges**:

- **Pilot Mode:** In this round, each team used a single Smorphi unit connected via smartphone as a remote control. The robot was equipped with a Husky Lens camera to scan color-coded QR codes (Red, Blue, Green), each giving different points. Teams were judged based on the total points collected and the time taken to finish the course. The following three teams won 2nd ,3rd and 4th place.

  - The team 'The Idiots" comprising of Mohammed Jamal, Jushita Pediredla, Hussam, Jamal, Anlon Linus competed and secured **2nd place**.
  - The team "The Kaizens" — Saad Sohil Syed, Jorryne Mark, Abdul Ahad, and Omar Adan earned **3rd place**
  - The team "¼" - Tan Zheng Xuan, Chen Lixin, Wong Carter, Vishven Al Navindren, and Lim Junn Wei, earned **4th place**.

- **Autonomous Mode**: This was the most challenging part of the competition. Teams used four Smorphi modules that could change shapes — such as L-shape, O-shape, and S-shape — to follow a line and perform tasks triggered by QR codes like “turn left” or “turn right”. The goal was to complete all assigned tasks and finish in the fastest time possible.

  - ❖ The Team “1/4”, consisting of Tan Zheng Xuan, Chen Lixin, Wong Carter, Vishven Al Navindren, and Lim Junn Wei, won **1st place** in this category.
  - ❖ The team named “Astrobytes” comprising of Amogha seelan B.A, Alagesan Saithanvanthar, Yeo Peng Sian and Abdul Azim Khan Mohamed Kudus **secured 2nd place in the Autonomous Mode.**

In addition to the competition, we had **informative talks from industry experts and researchers** in the field of robotics and automation. These sessions helped students understand the real-world applications of robotics, especially in logistics and delivery services, which aligned directly with the competition’s theme.

Student "Jushita Pediredla" participant and winner of the competition shares her thoughts on RoboRoarz 2025

"Participating in RoboRoaz 2025 was a valuable and enriching experience. As part of team "The Idiots", I was able to apply what I have learned in class to a real-world scenario, while working closely with my teammates to solve technical problems under pressure. This competition helped me develop important skills in robotics programming, system integration, strategic thinking, and teamwork. It also gave me the chance to interact with students and it's a pleasure to have **Dr. Mukil Alagirisamy as our mentor** for all the 3 teams, who guided us for 2 days of the competition, which made the event not only educational but also included practical training. Her guidance had played a vital role in empowering our teams to excel. I would like to thank our faculty mentors Ts. Dr. Arun Seeralan Balakrishnan and the organizing team who gave us this opportunity to showcase our work on an international platform. Competing at this level has motivated me to explore more fields in robotics and autonomous systems.

Overall, RoboRoarZ 2025 was a great experience that combined learning, innovation, and teamwork. I hope to take part in similar competitions in the future and continue contributing to the advancement of robotic technologies".

To conclude, in the senior category of RoboRoarz 2025, students from APU - School of Engineering won over 50% of the total prizes. They competed against participants from various countries, showcasing remarkable talent and innovation. This outstanding achievement reflects the dedication and hard work of our students. We are incredibly proud of their success on this international platform. Special thanks to Prof Ir. EUR ING Dr Vinesh Thiruchelvam, Assoc. Prof. Ts. Dr. Tan Chin Ike, Ir. Dr. Sivakumar Sivanesan, and Dr. Adeline Sneha for their continued support and encouragement provided to the students.

TEAM "¼" AUTONOMOUS MODE – 1st PLACE

From Left to Right: Chen Lixin, Tan Zheng Xuan, Dr. Mukil Alagirisamy (Mentor), Wong Carter, Vishven Al Navindren, and Lim Junn Wei – School of Engineering

TEAM "THE IDIOTS" PILOT MODE – 2nd PLACE

From Left to Right: Mohamed Gamal, Jushita Pediredla, Dr. Mukil Alagirisamy (Mentor), Hussam Mohammed Alsadig Ahmed Almubashar, Anlon Linus – School of Engineering

TEAM "THE KAIZENS" PILOT MODE – 3rd PLACE

From Left to Right: Omar Adan, Jorryne Mark, Dr. Mukil Alagirisamy (Mentor), Saad Sohail Syed, Abdul Ahad – School of Engineering

TEAM "1/4" PILOT MODE – 4th PLACE

From Left to Right: Chen Lixin, Tan Zheng Xuan, Dr. Mukil Alagirisamy (Mentor), Wong Carter, Vishven Al Navindren, and Lim Junn Wei – School of Engineering

TEAM "THE IDIOTS" SOFTWARE MODE – 3rd PLACE

From Left to Right: Mohammed Jamal, Hussam Mohammed Alsadig, Dr. Mukil Alagirisamy (Mentor), Jushita Pediredla, Anlon Linus – School of Engineering

TEAM "ASTROBYTES" AUTONOMOUS MODE -2ND PLACE

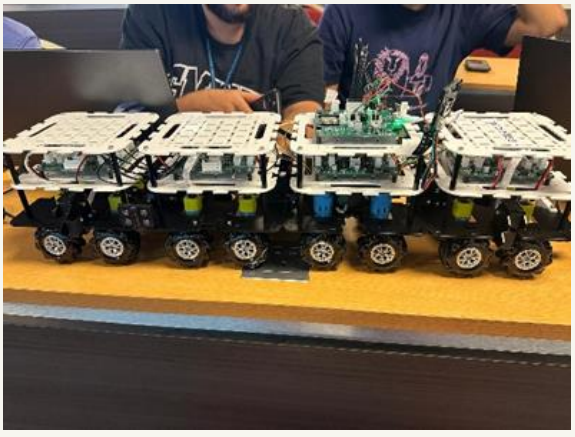
CONGRATULATIONS - THE FOUR WINNER TEAMS OF SOE IN ONE FRAME

From Left to Right: Mohamed Gamal, Jushita Pediredla, Jorryne Mark, Omar Adan, Dr. Mukil Alagirisamy (Mentor), Abdul Ahad, Wong Carter, Lim Junn Wei, Anlon Linus.

Row 2:

From Left to Right: Hussam Mohammed Alsadig Ahmed Almubashar, Saad Sohail Syed, Vishven Al Navindren, Chen Lixin Tan Zheng Xuan

TEAMS WITH THE MENTOR – DR. MUKIL PRACTICING FOR PILOT SMORPHI



Driving Sustainable Energy Through AI: APU's Keynote Presence at ICEMT 2025, Surabaya

Ir. Eur Ing Ts Dr. Harvin Kaur, Program Leader for Petroleum Engineering at the Asia Pacific University of Technology and Innovation (APU), was recently invited as a **Keynote Speaker** at the **1st International Conference on Energy and Mineral Technology (ICEMT)** held at **PEM Akamigas**, Surabaya, East Java, Indonesia.

With the theme *"Digital Transformation and Artificial Intelligence for Energy Efficiency Enhancement,"* the conference brought together a distinguished assembly of global experts, researchers, and industry leaders to explore the intersection of digital innovation, AI, and sustainable energy practices. The event served as a powerful platform to exchange ideas, share research breakthroughs, and align strategies for a low-carbon, technology-driven future.

Dr. Harvin delivered a keynote address titled **"The Future of Petroleum: Digital Transformation and AI for Sustainable Energy Use,"** which focused on how digital tools, data-driven systems, and AI applications are revolutionizing petroleum engineering and reshaping the future of global energy systems. Her talk emphasized the need for academia and industry to collaborate in fostering AI-literate talent and innovation for real-world energy challenges.

In addition to her speaking engagement, Dr. Harvin was given the rare opportunity to visit two notable sites: **Cepu Oil Refinery** and **Teksas Wonocolo**, a living petroleum museum showcasing Indonesia's traditional extraction methods. These visits provided an invaluable glimpse into Indonesia's oil and gas legacy, offering a juxtaposition of heritage and innovation in the energy sector.

Dr. Harvin expressed deep appreciation to **PEM Akamigas** for their warm hospitality and to APU for the support in making this impactful contribution possible. The experience further cements APU's commitment to being at the forefront of energy innovation and global academic collaboration.


The Future of Petroleum: Digital Transformation and AI for Sustainable Energy Use


PEM AKAMIGAS
THE 1ST INTERNATIONAL CONFERENCE ON ENERGY AND MINERAL TECHNOLOGY

She Engineers, He Supports: Rethinking Roles in a Changing Industry

Dr. Harvin Kaur represents APU at IEM's Women in Engineering Forum

We are proud to share that **Ir. Ts. Dr. Harvin Kaur Gurchran Singh**, Program Leader for Petroleum Engineering at Asia Pacific University of Technology & Innovation (APU), was invited by the **Institution of Engineers Malaysia (IEM)** to serve as a **speaker and panelist** during the forum session titled *"The Future of Women in Engineering: Education, Mentorship & Opportunities."*

Held as part of IEM's broader efforts to drive diversity and inclusion in engineering, the session convened thought leaders to explore the evolving dynamics of the industry, particularly the role of women in shaping its future.

In her impactful talk titled **"She Engineers, He Supports: Rethinking Roles in a Changing Industry,"** Dr. Harvin emphasized that engineering today is no longer confined to technical knowledge alone. Instead, it encompasses a broader mission, to **foster inclusive, equitable environments** where women are empowered, mentored, and supported across every stage of their professional journey.

Key highlights from her session included:

- The transformative **role of education** in cultivating gender diversity in STEM.
- **Institutional and academic strategies** to better support and retain women in engineering.
- The importance of **mentorship and allyship** in building a more inclusive ecosystem.
- How industry-academia collaboration can accelerate change.

Dr. Harvin noted, *"Change begins in the classroom, but it must be sustained through mentorship, policy, and a culture of mutual support. We must challenge traditional norms and embrace new models where diversity becomes the catalyst for innovation."*

Her insights sparked thoughtful dialogue and resonated deeply with participants, underlining the importance of collective action to shape a future where all engineers, regardless of gender, can thrive.

We congratulate Dr. Harvin on her continued advocacy for inclusive excellence and for representing APU on such a prestigious platform. Her participation not only reinforces APU's commitment to gender equity in engineering education but also inspires the next generation to lead with empathy, courage, and collaboration.


IEM
WORLD ENGINEERING DAY 2025
IEM


Never Too Young to Learn
Did you know that research has shown that science achievement gaps emerge by kindergarten, and these gaps continue until at least the end of eighth grade?
In a recent study, girls start doubting their own intelligence at age 6.
What's alarming is that even where there is no difference in STEM ability, a large divide in 'perceived competence' for girls can start as early as age five.
Digital skills are increasingly vital in everyone's lives. It's estimated around 90% of all jobs over the next few years will require digital skills, so we need to make sure they're at the heart of
education system.
Learnability and a growth mindset must be established ea
acquire developed skillsets and meaningful learning experiences for both boys and girls.


The Future of Women in Engineering: Education, Mentorship & Opportunities
Ir. Eur Ing Ts. Dr. Harvin Kaur
Energy Education Chairperson
Petroleum Engineering Program Leader
Trainer

APU Students Shine At Malaysian Universities National Oil And Gas Paper Competition 2025

Asia Pacific University of Technology & Innovation (APU) has achieved remarkable success at the Malaysian Universities National Oil and Gas Paper Competition (MUNOGPC) 2025, securing first place in the Geoscience track, second runner-up in the Reservoir and Production Engineering track, and second runner-up as well in the Data and Digitalisation track.

This competition gathered petroleum engineering students from universities across Malaysia, providing them with a platform to showcase their research, analytical skills, and technical expertise across five key tracks:

1. Geoscience
2. Reservoir and Production Engineering
3. Data and Digitalisation
4. Drilling Engineering
5. Health, Safety, and Environment

Under the guidance of **Ir Eur Ing Ts Dr Harvin Kaur Gurchran Singh** (Assistant Professor, School of Engineering at APU) and **Ir Juhairi Aris Muhamad Shuhili** (Lecturer, School of Engineering at APU), this achievement not only demonstrates a strong commitment to innovation, but also highlights leadership in developing pioneering solutions that bridge technology with practical applications.

Celebrating APU's Achievement

Name	Project (Paper)	Project Description
Lucas Chiong Ju Wynne	Gas Field Exploration near Yetagun Field	Research focused on a gas field near the Yetagun field in the Andaman region, incorporating resistivity log data to identify permeable zones and analyse water saturation levels within the reservoir.
Mahishkumar Ganeson	Petrophysical Analysis of a Well in the Andaman Sea	Research focused on analysing the petrophysical properties of a well in the Andaman Sea, utilising raw exploration data to determine lithology and estimate effective porosity.
Joy Barbara Cinthia Mirembe Kasura	Digital Transformation in Oil and Gas	Research focused on the impact of digitalisation and data-driven technologies in transforming the oil and gas industry, highlighting the role of artificial intelligence (AI), Internet of Things (IoT), and big data in optimising operations, reducing environmental impact.

Journey to Excellence

Ir Juhairi expressed immense pride in the students' achievements, emphasising APU's commitment to fostering innovation and excellence.

"This achievement is a testament to the dedication, perseverance, and technical expertise of our students and we are proud to see them making a mark at a national level."

Similarly, Dr Harvin highlighted that this achievement not only underscores APU's ability to cultivate industry-ready graduates, but also showcases APU's leadership in engineering education.

"Achievements like this help students build strong connections with industry employers and gain valuable skills that prepare them for their future careers.

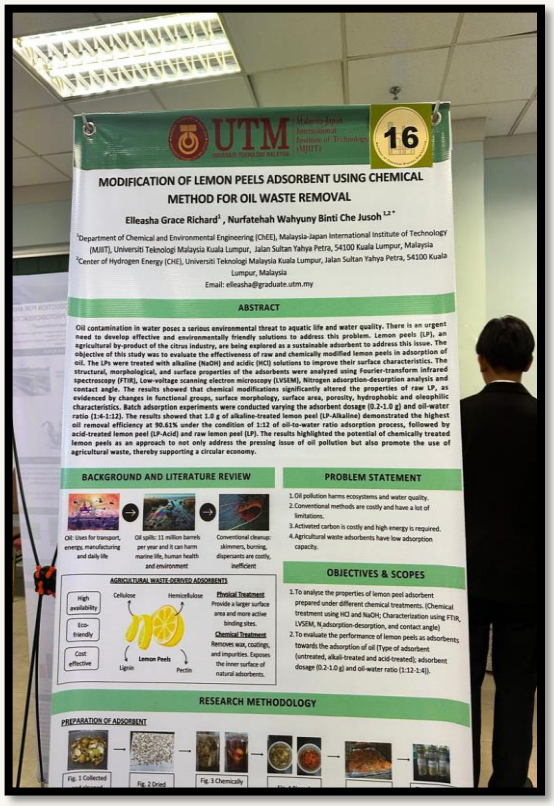
"It also reinforces APU's commitment to equipping students with the practical skills necessary to thrive in an ever-changing industry," she said.

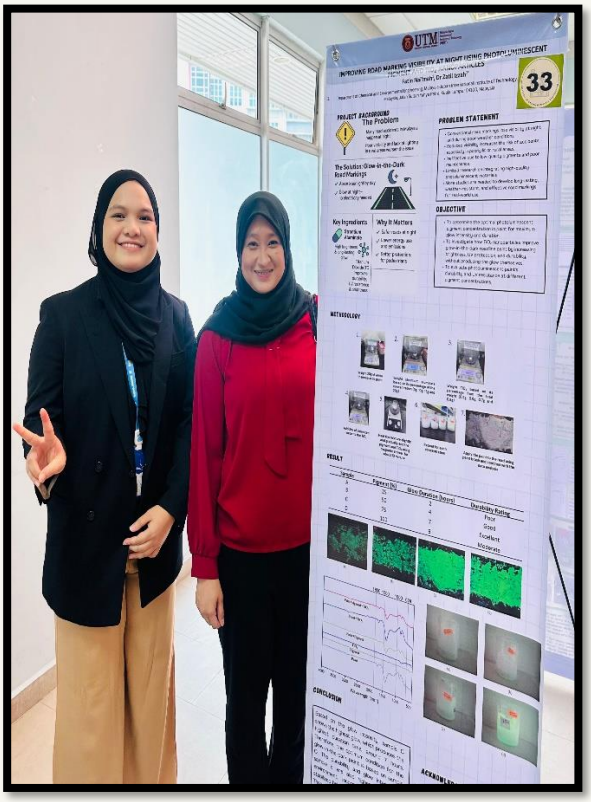
External Evaluators' Perspective: A Glimpse into MJIIT's Chemical and Environmental Engineering FYP Symposium

The School of Engineering is committed to fostering a culture of excellence and collaboration, not just within our walls but also with our esteemed peers in the engineering community. **Ms Fatin Ayuni Mohd Suhaimi** and **Mr Fauzi Zanil**, both lecturers from SoE, APU were appointed as external evaluators for the recent Final Year Project (FYP) Symposium organized by the **Department of Chemical and Environmental Engineering (ChEE)** at the **Malaysia-Japan International Institute of Technology (MJIIT), Universiti Teknologi Malaysia (UTM Kuala Lumpur).** This experience offered a valuable insight into the culmination of academic rigor and innovative spirit displayed by the next generation of engineers. It was a full day of impressive student presentations, and we're excited to share our experience.

The **FYP Symposium** is a cornerstone event in the academic calendar for engineering students, representing the culmination of months, if not a full year, of dedicated research, experimentation, and critical analysis. It serves as a vital platform for final-year students to present their findings, defend their methodologies, and articulate the significance of their work to a panel of academics, industry professionals, and external experts.

For this event, students presented their projects using posters. These posters are like a snapshot of their entire project, covering everything from the introduction and problem statements to their objectives, methodology, data analysis, and conclusions.

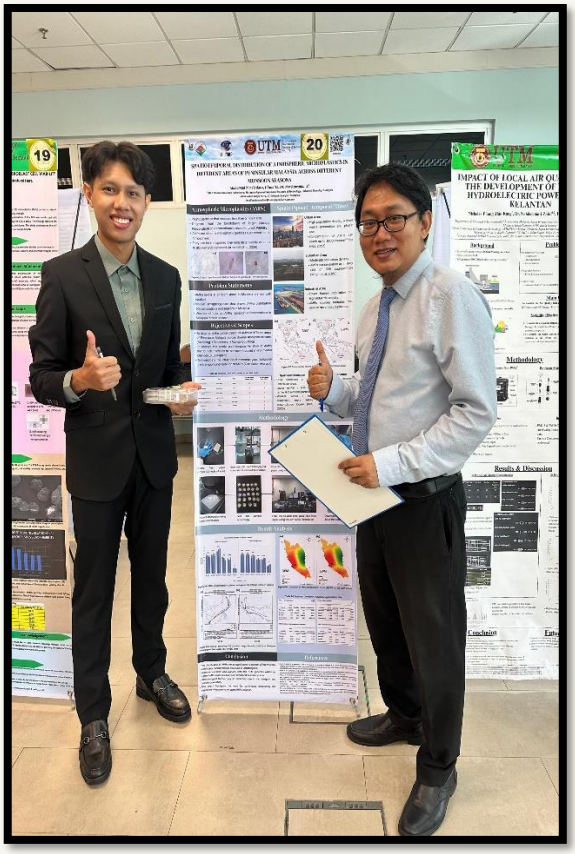




The event itself was very well-organized. Everything ran smoothly, and the facilities at MJIIT were excellent. We spent the day moving between student posters, listening to their explanations, and asking questions.

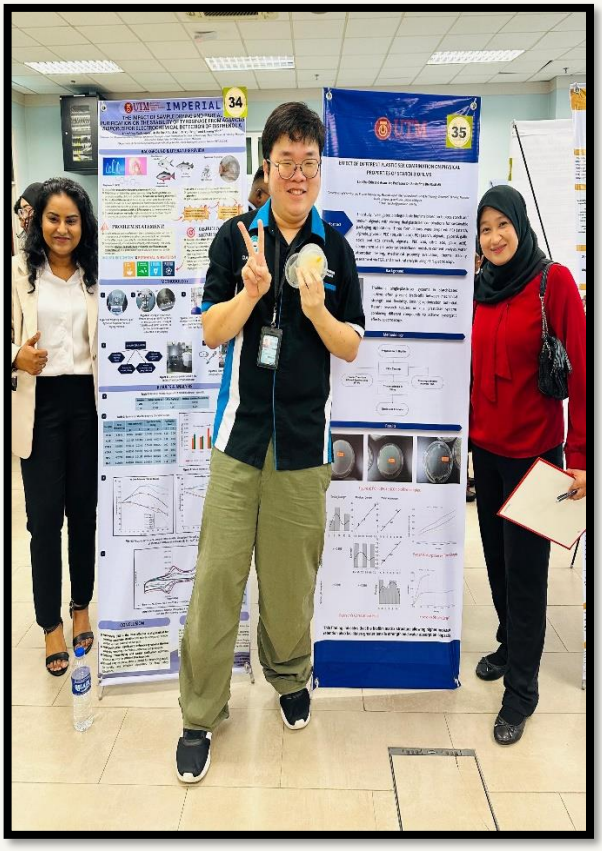
As external evaluators, our job was to provide an outside perspective on the students' projects. Mr. Fauzi Zanil and I each assessed three students. Before the symposium, we reviewed their written reports to get a good understanding of their work.

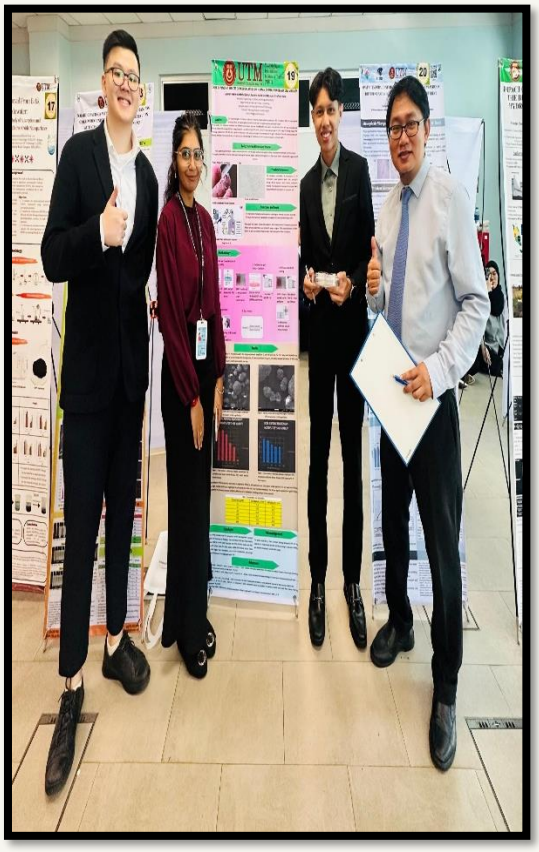
On the day, we focused on their poster presentations. We looked at how well they explained their research, how they presented their data, and how they answered our questions. It's a chance for students to show they really understand their project and can talk about it clearly.



Beyond the student evaluations, the symposium also offered a great chance to network. During breakfast and lunch, all the examiners consist expect from academics and industry professionals met up. We discussed current issues in engineering, exchanged contact information, and built connections. It's always valuable to connect with others in the field!

Overall, the students at MJIIT did a fantastic job with their FYP poster presentations. Their dedication and hard work were clear in every project. They showed strong technical understanding and a genuine passion for their topics.





However, like any learning experience, there's always room for improvement. We noticed that some students could enhance their presentation skills. Being able to clearly and confidently explain complex ideas is crucial for engineers. Also, there's potential for students to further develop their data analysis techniques and the depth of their future recommendations. These are key areas that make a strong FYP even better.

Being an external evaluator was a rewarding experience. We were truly impressed by the talent and effort of the MJIIT students. It was also a great way to see what's happening in chemical and environmental engineering research and to connect with other experts. We congratulate all the students on their efforts and commend MJIIT for putting together such a great event. We look forward to more collaborations that benefit our engineering community!

WORKSHOP

Workshop on Code of Practice for TVET Programme Accreditation (COPTPA), 2u2i and Work-Based Learning (WBL)

On 30th April 2025, Asia Pacific University (APU) hosted a pivotal workshop organized by the Malaysian Qualifications Agency Training Centre (MQATC). The event focused on the Code of Practice for TVET Programme Accreditation (COPTPA), Occupational/Industry Standards and Practices (OISP), and the transformative educational models of 2u2i and Work-Based Learning (WBL). This workshop served as a strategic platform for higher education providers (HEPs), industry stakeholders, and academic leaders to align Technical and Vocational Education and Training (TVET) programmes with national quality assurance standards and evolving industry expectations.

Representing APU's School of Engineering, **Ir. Dr. Hafizul Azizi bin Ismail @ Aziz and Ir. Dr. Mohamad Affan Mohd Noh** participated in the workshop, contributing insights on the integration of engineering education with industry-based learning models.

COPTPA is a comprehensive framework developed by the Malaysian Qualifications Agency (MQA) to ensure the quality, relevance, and consistency of TVET programmes nationwide.

It encompasses seven key areas:

1. Programme Development and Delivery
2. Assessment of Student Learning
3. Student Selection and Support Services
4. Teaching Staff
5. Educational Resources
6. Programme Management
7. Programme Monitoring, Review, and Continual Quality Improvement

The workshop began with an overview of these areas, emphasizing the importance of aligning curriculum design with industry standards, particularly the **National Occupational Skills Standards (NOSS).** Participants were briefed on the transition from COPTPA Edition 1 to Edition 2, which now covers MQF Levels 1 to 6, reflecting a broader and more inclusive scope.

A key highlight of the workshop was the exploration of the 2u2i mode of study, a hybrid educational model that combines two years of university-based learning (2u) with two years of industry-based training (2i). This model is designed to produce graduates who are both academically proficient and practically skilled.

Variants of the 2u2i model include:

- 3u1i: Three years in university, one year in industry
- 2u1i: Two years in university, one year in industry
- 1½u1i: One and a half years in university, one year in industry

These flexible structures allow institutions to tailor programmes to discipline-specific needs and industry collaboration. The 2u2i model fosters experiential learning, enhances problem-solving abilities, and strengthens employability by immersing students in real-world environments.

Complementing the 2u2i model is Work-Based Learning (WBL), a pedagogical approach that integrates structured learning experiences within the workplace. WBL formats discussed included:

- Internships
- Apprenticeships
- Job shadowing
- Clinical placements
- Cooperative education
- Mentoring and coaching

Two primary WBL delivery structures were emphasized:

- Block Release: Full-time industry training for a designated period (e.g., 3–6 months)
- Day Release: Alternating academic sessions with scheduled industry exposure

A key recommendation was that at least 20% of total programme credits should be delivered through WBL. For instance, a diploma programme with 90 credits should allocate 18 credits to WBL, ensuring substantial hands-on experience.

Participants were introduced to the concept of Effective Learning Time (ELT), used to calculate credits for WBL components. ELT includes:

- Theory (dependent and independent learning)
- Industrial guidance
- Assessment (during and outside work)

The formula for credit calculation is:
ELT ÷ 40 = Credit Hours

For example, a course with 254.5 hours of ELT would yield approximately 6 credits, ensuring alignment with the Malaysian Qualifications Framework (MQF) and enabling transparent credit recognition.

The workshop emphasized the critical role of industry involvement in curriculum development, delivery, and assessment. Industry coaches must possess a minimum of five years of experience and contribute to evaluating students' performance in practical settings. Assessment methods include:

- Observation
- Demonstration
- Portfolio reviews
- Oral interviews
- Practical tests

TVET providers are required to establish Memoranda of Understanding (MoUs) with industry partners, outlining roles, responsibilities, and collaboration mechanisms. These agreements ensure that programmes remain relevant and responsive to industry needs.

Effective management of 2u2i and WBL programmes involves coordinated efforts among HEPs, industry, and students. The workshop outlined the responsibilities of each stakeholder:

- HEPs: Curriculum design, student support, quality assurance
- Industry: Mentorship, assessment, workplace training
- Students: Active participation, adherence to learning outcomes

A dedicated 2u2i coordinator is recommended to oversee programme implementation, monitor progress, and facilitate communication between parties. Continuous Quality Improvement (CQI) is a cornerstone of COPTPA, requiring regular reviews, stakeholder consultations, and curriculum updates.

The workshop also addressed the accreditation process for TVET programmes, including:

- Provisional Accreditation (PA)
- Full Accreditation (FA)
- Conversion from academic to TVET programmes

Applications must demonstrate compliance with COPTPA standards in four key areas:

1. Programme Design and Delivery
2. Student Assessment
3. Academic Staff
4. Educational Resources

Conversion applications are evaluated based on curriculum alignment with OISP, industry validation, and adherence to TVET standards. Outcomes may include full approval, conditional approval, or rejection.

The COPTPA workshop at APU was a comprehensive and insightful event that reinforced Malaysia's commitment to enhancing the quality and relevance of TVET education.

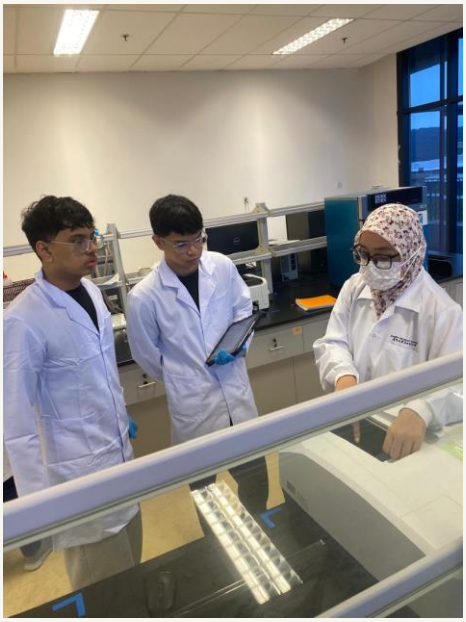
As Malaysia moves toward full compliance with COPTPA standards by 2026, workshops like this play a crucial role in preparing educators, administrators, and industry partners for the future of vocational education. The integration of quality assurance, flexible learning models, and industry collaboration marks a new era for TVET—one that is dynamic, inclusive, and forward-thinking.

Fostering Practical Excellence: APU-XMUM Academic Collaboration Enhances Student Learning

In a significant stride toward strengthening hands-on learning and industry-aligned education, the School of Engineering at Asia Pacific University of Technology & Innovation (APU) has established an impactful academic collaboration with Xiamen University Malaysia (XMUM). Spearheaded by **Ir. Dr. Wong Siew Fan**, the initiative has opened new avenues for students to engage with advanced engineering laboratory facilities beyond the APU campus.

Students from APU's Petroleum Engineering programmes during their hands-on laboratory session at Xiamen University Malaysia, held under the academic collaboration initiative led by Ir. Dr. Wong Siew Fan.

As part of this collaboration, a total of three cohorts of students from both the Petroleum Engineering and Diploma in Mechatronics programmes were given the opportunity to conduct in-course laboratory sessions at XMUM's state-of-the-art facilities. Notably, two lab sessions were successfully conducted on 25 March and 4 June 2025. These sessions provided students with enhanced practical exposure, deepening their technical competencies in real-world applications and supporting their theoretical knowledge gained in class.



Students actively engaged in a technical briefing during the laboratory session at Xiamen University Malaysia.

The outcome of this initiative has been highly positive. Students demonstrated improved practical skills and a greater understanding of laboratory procedures, fulfilling key course learning outcomes and meeting the expectations of engineering accreditation standards. The collaboration also reflects APU's commitment to academic excellence and continuous improvement through strategic institutional partnerships.

Ir. Dr. Wong's leadership in facilitating this academic exchange exemplifies the School's dedication to nurturing future-ready engineers equipped with the skills and confidence required to thrive in the evolving engineering landscape. As APU continues to build collaborative bridges with institutions like XMUM, the School remains focused on providing transformative learning experiences that prepare students to meet industry challenges head-on.

Empowering Future Petroleum Engineers: Petrel Software Workshop By APU SPE Student Chapter

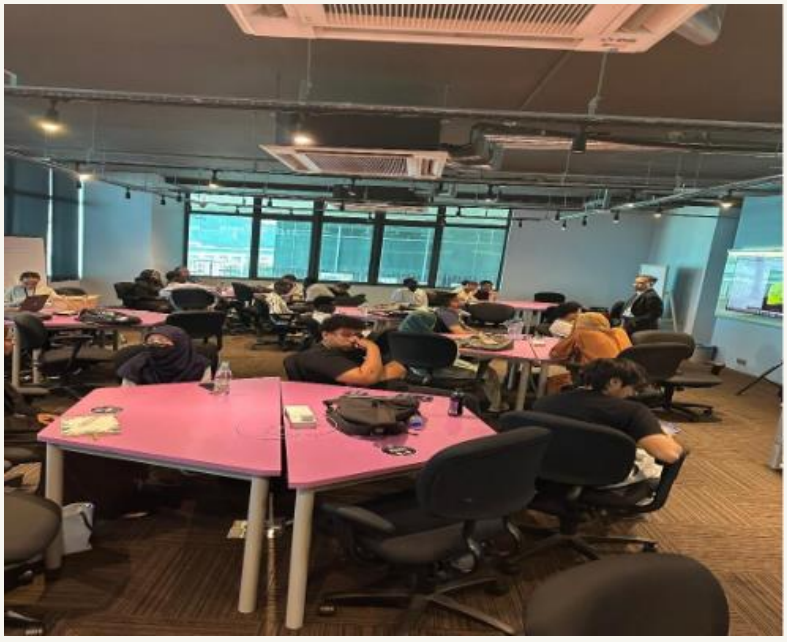
The Asia Pacific University Society of Petroleum Engineers Student Chapter (APUSPESC), under the guidance of ***Ir. Dr. Wong Siew Fan***, successfully organized a hands-on **Petrel Software Workshop** on **13th June 2025**. Conducted by ***Ir. Juhairi Aris Bin Muhamad Shuhili***, a Petroleum Engineering lecturer, the session provided an invaluable opportunity for students to bridge the gap between theoretical knowledge and practical application in subsurface interpretation and reservoir modelling. Held on-campus, the workshop attracted approximately 30 enthusiastic participants, all eager to enhance their technical competencies with real-world tools used in the oil and gas industry.

LEARNING THROUGH INDUSTRY-RELEVANT TOOLS

Petrel, developed by Schlumberger, is a leading software suite widely used for seismic interpretation, geological modeling, well planning, and reservoir simulation. While often introduced in academic settings, students rarely have the opportunity for in-depth, guided practice—making this workshop especially valuable.

Under the expert instruction of Mr. Juhairi, students were introduced to the fundamentals of Petrel, including project setup, data loading, and interpretation workflows. The session progressed into more advanced topics such as horizon picking, fault modeling, well correlation, and volumetric calculations. Designed to be interactive, the workshop encouraged real-time participation and Q&A, enabling students to apply concepts directly to their academic projects and career aspirations.

"The workshop made us realize how critical it is to understand the subsurface accurately before making any operational decisions. Learning Petrel not only helps us in our coursework but gives us a competitive edge as we move toward internships and jobs," shared one of the participants.



A STEP TOWARD PROFESSIONAL READINESS

For the students, the workshop wasn't just another academic event—it was a transformative experience that added significant value to their educational journey. The opportunity to interact with an industry expert, gain hands-on experience with industry-standard software, and understand how theoretical knowledge is applied in the field allowed many to see the practical side of their studies in a new light.

The workshop also emphasized the importance of digital tools in modern petroleum engineering. As the industry becomes more data-driven and software-intensive, proficiency in tools like Petrel has become a key skill that employers look for. Students who attended the workshop left with a stronger sense of direction, better equipped to enter the professional world with confidence.

"It's rare to have this level of exposure while still in university. Being able to explore actual reservoir models and learn the logic behind each step helped us better appreciate the complexities of field development planning," another student noted.

GRATITUDE TO OUR LEADERS AND SUPPORTERS

This successful workshop would not have been possible without the dedication and behind-the-scenes efforts of the *APUSPESC Committee*, who worked tirelessly to plan and execute the event.

Special thanks go to *Ir. Dr. Wong Siew Fan*, the advisor of the APUSPESC. Her continued mentorship, encouragement, and support were instrumental in turning this workshop into a reality. Dr. Wong's dedication to empowering students with practical skills and industry exposure has always been evident in her active involvement with the chapter's initiatives.

We also extend our heartfelt appreciation to *Mr. Juhairi Aris* for his generosity in sharing his expertise, industry stories, and clear instruction throughout the session. His engaging delivery and willingness to give back to the academic community left a lasting impression on all attendees.

LOOKING FORWARD

This workshop was more than just a technical session—it was a glimpse into the future for many aspiring petroleum engineers. It showed what is possible when industry and academia come together to create meaningful learning opportunities.

As APUSPESC continues to organize similar events, this workshop stands as a proud example of what can be achieved through collaboration, mentorship, and a shared passion for growth and learning. We look forward to hosting more workshops that not only educate but also inspire students to pursue excellence in their academic and professional journeys.

Once again, thank you to everyone who made this event possible—and here's to many more like it in the future.

EVENTS

Visit To Alpha Swift Industries

GENERAL INFORMATION

Topic: *Alpha swift industries 2025*

Date: *25th May 2025*

Event Type: *Visit*

Venue: *Alpha swift industries, Cyberjaya*

EVENT DESCRIPTION:

The IMechE APU Student Chapter recently had the privilege of hosting students from De Montfort University, UK, for an educational trip to Asia Pacific University (APU). As part of this international academic exchange, our chapter organized a special industrial visit to Alpha Swift Industries, a leading drone technology company based in Malaysia.

This visit provided a unique opportunity for both APU and De Montfort University students to gain first-hand insights into the UAV (Unmanned Aerial Vehicle) industry, including drone development, autonomous systems, and industrial applications in agriculture, logistics, and surveillance. The team at Alpha Swift Industries offered an engaging tour, showcasing their cutting-edge drone prototypes, advanced manufacturing techniques, and real-time demonstrations of drone operations.

The event not only enhanced students' understanding of emerging technologies in robotics and automation but also fostered cross-cultural academic collaboration and knowledge sharing between institutions. It was an enriching experience that aligned with IMechE's mission to bridge the gap between academia and industry while preparing the next generation of engineers for global innovation.

Student Impact: The industrial visit to Alpha Swift Industries had a profound impact on the students, offering them invaluable exposure to real-world drone technology and its diverse applications. It bridged the gap between classroom learning and industry practices, allowing students to observe how theoretical concepts in mechatronics, robotics, and aerospace engineering are applied in a high-tech environment. Engaging directly with industry professionals inspired students to think innovatively, ask critical questions, and gain clarity on potential career paths in the UAV and automation sectors. The experience also encouraged international collaboration, teamwork, and broadened their global engineering perspective.

Organising Team's Contribution:

The organising team from the **IMechE APU Student Chapter** played a pivotal role in the success of the event. They ensured seamless coordination and planning, managing all logistics and communications between APU, De Montfort University, and Alpha Swift Industries to deliver a smooth and professional experience. By initiating and maintaining strong industry engagement, the team secured a valuable partnership with Alpha Swift Industries, enabling students to gain direct exposure to cutting-edge drone technologies. Additionally, the organisers fostered a vibrant and inclusive atmosphere that encouraged cross-cultural exchange and active participation, enhancing the educational value of the visit for both local and international students.

Event Gallery:


Agriculture
01
Agriculture
02
Delivery
03
adidas

Visit to ITEX 2025

GENERAL INFORMATION

Topic: *ITEX 2025 (International Invention, Innovation & Technology Exhibition)*

Date: *29th May 2025*

Event Type: *Visit*

Venue: *Kuala Lumpur Convention Centre (KLCC), Malaysia*

EVENT DESCRIPTION: On 29th May 2025, members of the Asia Pacific Centre of Robotics Engineering (APCORE) and IMechE APU Student Chapter participated in a field visit to **ITEX 2025**, one of Asia's most prestigious exhibitions dedicated to invention, innovation, and technology. Held at the Kuala Lumpur Convention Centre (KLCC), the event gathered innovators, researchers, and technologists from over 20 countries, showcasing groundbreaking ideas across categories such as education, healthcare, robotics, sustainability, and consumer technology.

With more than 300 exhibitors and hundreds of inventions on display, ITEX 2025 served as a vibrant platform for students and innovators to witness pioneering solutions shaping the future. The event also hosted competitions, product demonstrations, and panel discussions on commercialization, IP protection, and startup acceleration.

Student Impact: The visit provided students with exceptional insights into the world of innovation and the process of transforming ideas into impactful technologies. By interacting with inventors, startups, and R&D institutions, students gained firsthand knowledge of product development, prototyping, and pitching innovations for real-world application.

Key takeaways included:

- Exposure to award-winning student innovations and university research
- Insights into IP rights, patent filing, and the commercialization journey
- Observing cross-disciplinary problem-solving in engineering, AI, and biotech
- Motivation to participate in future innovation competitions like ITEX, CIPTA, or iCAN

The experience nurtured critical thinking, sparked entrepreneurial ideas, and encouraged many to consider innovation-based career paths or pursue projects aimed at solving real-world problems.

Organising Team's Contribution: The successful visit was the result of excellent coordination by APCORE and the IMechE APU Student Chapter team. Their contributions included:

- Coordinating group registration with ITEX organizers
- Handling participant shortlisting through online sign-ups
- Managing logistics and transportation
- Providing guidance during the event and capturing key moments

Thanks to their effort, participants had a well-organized and enriching visit that blended networking, learning, and inspiration.

ATTENDEES:

1. Ahmed Aiman Mohammed
2. Ahmed Greynoon
3. Muhammad Jarrar Zulqarnain Butt
4. Kiew Zheng Wei
5. Kiew Zheng Feng
6. Thanigai Kumaran
7. Kevin Das
8. Jocelyn Gresia


ITEX25
kintone


ITEX25
VISITORS REGISTRATION COUNTER
REGISTRATION

Bridging Academia and Industry – APU and Infinecs Systems Ink Strategic Collaboration for Automotive IC Innovation

On 25th April 2025, a significant milestone was achieved at Asia Pacific University of Technology & Innovation (APU) with the official signing of a Memorandum of Agreement (MoA) between APU and Infinecs Systems Sdn. Bhd. This collaboration marks a forward-looking academic-industry partnership aimed at advancing research in the domain of integrated circuits (IC) tailored for automotive applications.

The signing ceremony was graced by **Professor Dr. Ho Chin Kuan**, Vice Chancellor of APU, alongside **Associate Professor Ir. Dr. Siva Kumar Sivanesan**, Head of School of Engineering. Representing Infinecs Systems was its Managing Director, **Mr. Kalai Selvan Subramaniam**, Vice President of Emerging Business, **Mr Tan Yar Loon**, with **Ir. Dr. Lim Chee Cheow**, a respected industry expert and technical authority in analog/RF design, serving as one of the key witnesses and enablers of the collaboration.

Under this agreement, two final-year student research projects will be jointly supervised by APU and Infinecs. These projects focus on:

1. **Ultra Low Quiescent Current Power Supply Independent Biasing for Automotive ICs**, and
2. **Ultra Low Power and High Supply Rejection Bandgap Reference ranging from -40°C to 175°C**.

Both topics reflect Infinecs' commitment to cutting-edge IC design for automotive-grade reliability and performance.

The studentship agreement outlines a one-year research timeline beginning August 2025, fully funded by Infinecs, totaling RM33,000. The scope includes schematic design, functional simulations, PVT (Process-Voltage-Temperature) analysis, and Monte Carlo verification—ensuring rigorous design robustness typical of automotive standards.

Dr. Lian Wen Xun, Lecturer and researcher at the School of Engineering, has been appointed as the Academic Supervisor and Project Lead from APU. With her extensive background in analogue IC design and experience in supervising high-impact projects, Dr. Lian will oversee the academic and technical execution of the research, while also serving as the key liaison with Infinecs' industry supervisors.

This initiative is not only a platform for students to gain hands-on experience with real-world design challenges but also reinforces APU's strategic direction of fostering industry-embedded research. The collaboration also highlights the university's capacity to serve as an innovation partner to Malaysian semiconductor companies.

This collaboration represents more than just a studentship—it is a foundational step toward deepening synergies between engineering education and semiconductor industry demands. The anticipated outcomes, including publications, prototypes, and potential IP, will contribute to the national agenda of strengthening Malaysia's position in the global IC design ecosystem.

As we look forward to the outcomes of these student-led projects, this MoA stands as a model for effective university-industry collaboration—one that is visionary, focused, and rooted in mutual technological advancement.

WISE 2025: A Bold Step Forward for Women in STEM Empowerment

In a world defined by digital transformation, environmental urgency, and technological disruption, one truth is clear: we need more women at the helm of STEM innovation. WISE 2025 (Women in STEM Empowerment), hosted at Asia Pacific University of Technology & Innovation (APU), was a bold and dynamic response to this call. A full-day celebration of leadership, innovation, and inclusion, WISE 2025 brought together students, educators, policymakers, entrepreneurs, and changemakers to affirm one powerful message: the future of STEM must be inclusive, equitable, and led by diverse voices.

A Platform Rooted in Purpose

WISE 2025 was not just an event; it was a movement powered by intention. Spearheaded **by Ir. Eur Ing. Ts. Dr. Harvin Kaur Gurchran Singh** and **Dr. Meera Eeswaran,** both passionate advocates for gender equity in STEM, the initiative reflected their unwavering commitment to empowering women through education, visibility, and leadership. Developed under APU's pioneering DIGITGAL taskforce, the symposium was designed to spark systemic conversations around equity in science, technology, engineering, and mathematics.

With guidance from dedicated taskforce members such as **Ms. Vinorra Shaker, Ms. Subaashnii Suppramaniam, Ms. Tulasi Sathyabama, Ms. Jasminder Kaur, Ir. Ts. Subhashini Gopal Krishnan, Ms. Dhevaania C. Gendsen, Ms. Cynthia Mala, Ms. Kavitha Arunasalam, Ms. Iman Danish, Mr. Marcus (student)** and **Ms. Zaahirah** (student volunteer), WISE 2025 became an immersive platform for dialogue, mentorship, and action. From the outset, the symposium set a clear tone: STEM is for everyone, and women belong at every level—from the lab bench to the boardroom.

Voices of Leadership and Vision

The symposium commenced with an inspiring opening ceremony, attended and supported by APU's Senior Leadership Team, underscoring the university's deep-rooted commitment to inclusivity and empowerment. The opening remarks were delivered by Prof. Dr. Ho Chin Kuan, setting the tone for a day of purposeful engagement and bold vision.

University and corporate leaders, alongside international partners, emphasized the critical role of gender-diverse talent pipelines and inclusive innovation cultures. The leadership by the DIGITGAL contributors brought authenticity and vision to the day's messaging.

Spotlighting Role Models and Real-World Impact

WISE 2025 gave a platform to accomplished women from across sectors such as renewable energy, tech entrepreneurship, and engineering R&D. These stories—curated with support from Ms. Dhevaania C. Gendsen and Ms. Jasminder Kaur Harbindar Jeet Singh—demonstrated resilience, ingenuity, and a shared passion for impact.

The STEM Visionaries Gallery featured community-aligned, SDG-focused student projects, underscoring the idea that innovation must serve both people and the planet.

Panels and Dialogues: Innovation Meets Inclusion

A key highlight of the symposium was the expert panel, "Emerging Innovation in Entrepreneurship for Sustainable Growth," which featured distinguished voices from academia, policy, and business. Among them was Prof. Murali from APU, who joined others in exploring gender, leadership, and innovation ecosystems in the context of sustainability. The panel reinforced WISE 2025's commitment to connecting knowledge with meaningful action.

Workshops, Mentorship & Community Building

WISE 2025 was intentionally designed to be interactive and skills driven. Afternoon sessions included workshops on digital empowerment, sustainability innovation, and navigating male-dominated workspaces. As a champion of transformative pedagogy, Dr. Harvin Kaur ensured these sessions bridged academic learning with practical strategies, equipping participants with tools to thrive and lead in their respective fields.

Celebrating Startups and Student Innovation

The event concluded with a spirited startup pitch segment, where student teams presented STEM-based entrepreneurial ideas to a panel of judges. These pitches showcased not only technical brilliance but also creativity, communication, and commercial viability—skills nurtured through APU's innovation ecosystem and mentorship by DIGITGAL taskforce members.

A Celebration of Change in Motion

The closing ceremony, led by the DIGITGAL taskforce, was a celebration of collective momentum. In her final remarks, Dr. Harvin Kaur emphasized the importance of ensuring that WISE lives on beyond a single day—as a movement shaping policies, practices, and educational culture for the betterment of all.

Looking Ahead: The Legacy of WISE 2025

WISE 2025 made one truth undeniably clear: empowered women in STEM are essential to national progress and global sustainability. As Malaysia accelerates its innovation agenda, it must continue to invest in women's STEM leadership, education, and entrepreneurship.

Thanks to the vision and leadership of Ir. Ts. Dr. Harvin Kaur, the dedication of the DIGITGAL taskforce, and the unwavering support of APU's Senior Leadership Team, WISE 2025 has laid the foundation for transformative change. With follow-up initiatives already in motion, including grant proposals, mentorship programs, and cross-sector collaborations, WISE has evolved into a catalyst for systemic empowerment.

"WiSE 2025 didn't just tell me I belong in STEM. It showed me how to lead in it." — Student Attendee

Let that be the legacy we carry forward.

DIGITGAL and APU Taskforce Members Involved:

Dr. Meera Eeswaran, Ms. Vinorra Shaker, Ms. Iman Danish, Ir. Ts. Subhashini Gopal Krishnan, Ms. Subaashnii Suppramaniam, Ms. Dhevaania C. Gendsen, Ms. Jasminder Kaur Harbindar Jeet Singh, Ms. Kavitha Arunasalam, Ms. Ong Yu Yan, Ts. Jonathan JS Kovilpillai, Mr. Joash Tan Wei Teng, Ms. Lim Ming Ming, Ms. Davina Farhana Dave, Ms. Tulasi Sathyabama, Mr. Jerry Ling Lih Kai, Ms. Vaneetha Sagadevan, Ms. Rahilah Ahmad, Dr. Fumiko Konno, Ms. Nadiah Suki, Ms. Cynthia Mala, Dr. Kanagi Rajandran, Ms. Analisa Hamdan, Dr. Ng Hui Chen, Mr. Balram Tikaram, Mr. Akhil Levin, Mr. Hari, Mr. Marcus (Student - Emcee), and the Women Empowerment Club student committee led by Ms. Nishrina and Ms. Zaahirah.

This event was proudly conceptualized and led by Ir. Ts. Dr. Harvin Kaur Gurchran Singh.

DIGITGAL website DIGITGAL-Home - APU-Unesco Chair Website


Welcoming
Remarks
Prof. Dr. Ho Chin Kuan
Vice Chancellor
Asia Pacific University of


Remarks


Special
Remarks
Ir. Ts. Dr. Harvin Kaur
School of Engineering,
Head of STEM, DIGITGAL, APU


Special
Remarks


Leave a Nest
WISE
Photo Session
Photo Session


Leave a Nest


WISE
Leave a Nest
A·P·U


Special Remarks
Ir. Ts. Dr. Harvin Kaur
School of Engineering,
Head of STEM, DIGITGAL, APU
Leave a Nest
WISE


Prof. Dr. Rofina Yasmin
Chairman
MRANTI


WISE
Women in
STEM
Empowerment
INNOVATIVE SUSTAINABLE
GROWTH OPPORTUNITIES

The Symphony of Minds, Where Human Wisdom and Digital Intelligence Dance

As we embrace educational modernization, we stand at a crucial crossroads. The rapid advancement of artificial intelligence offers us not a replacement for teachers, but an opportunity to rediscover what makes teaching profoundly human. This moment invites us to reconsider what education truly means in our increasingly digital world.

In my years at the university, I've witnessed the evolution from traditional teaching methods to AI-enhanced learning environments. Today's educational institutions often measure teachers by quantifiable outputs such as knowledge transfer, content delivery, and assessment creation. These are indeed tasks that modern AI systems perform efficiently. But this represents just one dimension of what education can and should be.

The heart of teaching has always extended beyond mere content delivery. True educators serve as emotional supporters, value guides, and belief builders. They form meaningful connections with students and understand both academic and personal challenges. These human dimensions represent the irreplaceable core of education. And these are all the aspects that AI can complement but can never authentically replicate.

Conventional educational frameworks sometimes emphasize standardization and metrics at the expense of these crucial human elements. When teachers must devote excessive time to administrative paperwork and standardized testing preparation, they have less opportunity to build genuine relationships with students. Yet these relationships remain the foundation of effective education. Thanks to the AI adoption, I believe now all the educators can leverage on the AI capability to reduce the repetitive paperwork and build more authentic connections with students.

The golden formula for mastering skills and knowledge involves ample attention and sufficient time. Patience is not inefficiency but it is a necessary ingredient in the learning process. Giving a struggling learner additional time is not a luxury but an essential aspect of effective teaching. In these spaces of human connection, real educational transformation can happen.

Today's students navigate a world fundamentally different from previous generations. The traditional educational approaches sometimes fail to resonate with their lived experiences. Rather than seeing them as difficult or rebellious, we might recognize that they're responding to a changing reality. They need not just information (which they can access anywhere) but guidance on how to process and apply it meaningfully.

I once asked my students, "What should you learn in classrooms?" After hearing responses about knowledge, content, and techniques, I replied: "You should look at your lecturers and observe how they handle problems." While information can be found anywhere, attitudes and approaches to life's challenges are best learned from authentic human models. This, I believe, represents what education should instill in every student's mind.

AI now offers remarkable capabilities. it can simulate empathy, generate helpful responses, and provide plausible advice. But it cannot authentically understand students as complex human beings with unique needs, backgrounds, and potential. AI lacks the lived experience, emotional intelligence, and intuitive judgment that form the core of human connection. These qualities matter immensely in education.

The question before us isn't whether AI will replace teachers, but how AI and teachers can work together to create better educational experiences. Each can contribute unique strengths. AI can handle routine tasks, provide immediate feedback, and offer personalized practice opportunities, freeing teachers to focus on what matters most such as building relationships, providing mentorship, and nurturing the human qualities that technology cannot replicate.

If we wish to enhance teaching as a human profession with technological support, we must thoughtfully design our educational approaches. We need approaches that value and protect time for relationship-building, that recognize the importance of accompanying students through difficulties, and that acknowledge the profound impact of human connection on learning outcomes.

AI won't replace teachers who embrace their uniquely human role. By leveraging technology to handle what machines do best, educators can reclaim time and energy for what humans do best: inspire, connect, and transform lives through authentic relationships.

The path forward is one of partnership, not replacement. We can embrace technological tools while reclaiming the human heart of education. By combining the efficiency of AI with the irreplaceable value of human guidance, we create educational environments that prepare students not just to know information but to live meaningful lives.

The future of teaching lies not in resistance to technology but in rediscovering our distinctive human contribution. Together, educators and technology can create learning experiences more powerful than either could achieve alone.

Engineering Students Gain Insight into Cutting-Edge Technology During Visit to Semiconductor Manufacturing Plant – 18th June 2025

Diploma in Mechatronics students from the School of Engineering recently had the unique opportunity to visit NXP Semiconductors, a leading semiconductor manufacturing plant located in Petaling Jaya, Selangor. The visit offered a valuable glimpse into the high-tech world of semiconductor assembly and testing and its critical role in powering today's digital innovations.

A key highlight of the visit was learning about the company's people-first philosophy. Employees are encouraged to pursue research and innovation, and their wellbeing is prioritized through structured wellness programs. It's clear that the company believes a supportive work culture fuels creativity and performance.

During the guided tour, participants were separated into 2 groups. One group explored on on wafer fabrication while the other was brought for a tour on the final testing on chips before they are packed. Company engineers provided in-depth explanations and answered questions about process optimization, cleanroom protocols and quality control.

The visit proved especially enriching for our diploma students specializing in mechatronics, who are currently in their final semester. It allowed them to connect classroom learning with real-world applications and better understand the precision and complexity involved in manufacturing advanced microchips.

In addition to the professional insights, the visit was made even more memorable by the thoughtful gestures of our host—treating us to a delicious lunch and even free ice cream! These small but meaningful touches created a welcoming and relaxed atmosphere, making the entire experience enjoyable and engaging.

The company also shared its vision for stronger university-industry collaboration. By working closely with academic institutions, they aim to ensure students are better prepared for industry challenges through internships, research opportunities, and skill-building initiatives.

This visit was not only educational but also inspiring, leaving students with a renewed sense of purpose and excitement about future opportunities in the semiconductor field.

The School of Engineering extends its gratitude to NXP Semiconductors for hosting the visit and sharing their expertise. Such industry engagements are integral to our mission of preparing students to become future-ready engineers equipped to tackle technological challenges in a fast-evolving world.

Brings Smiles and Science to Teens Girl Home Shelter

On 6 June 2025, the Asia Pacific University's SPE Student Chapter (APUSPESC) committee members, under the guidance of **Ir. Dr. Wong Siew Fan**, carried out a heartwarming and impactful CSR visit to the *Home Shelter for Children – Teens Girl Home*. This initiative was aimed at both supporting the shelter and creating a space for learning and joy through meaningful engagement.

APUSPESC committee members together with the children from the Home Shelter.

The visit began with a cheerful ice-breaking session that helped foster a friendly and welcoming environment. The team was then given an insightful briefing by Mr. Jeshurun Vincent, the person in charge of the shelter, who shared the background and mission of the Home, stories of the children, and how the shelter has played a role in shaping lives.

One of the main highlights was a hands-on educational activity on fluid viscosity, where children learned basic scientific concepts through fun and interactive experiments. The session sparked curiosity and excitement among the children and created valuable moments of connection between them and the APUSPESC team.

Moments during the engaging viscosity education session with the children.

In addition to the engagement activities, APUSPESC also donated **RM700** to the Home as a show of support for their continued care and development efforts.

Reflecting on the visit, **Ir. Dr. Wong Siew Fan** shared, *"It was a touching and humbling experience to see how eager the children were to learn and connect. I am incredibly proud of our students for their compassion, initiative, and the positive energy they brought to the Home."*

Bany Zechariah, President of APUSPESC, expressed, *"This initiative represents who we are as a student chapter — not just future engineers, but change-makers. Seeing our members come together to make a difference was inspiring and truly rewarding."*

Israa Mohammed Ibrahim, who led the fundraising efforts, added, *"It was heartening to see how willing people were to contribute to this cause. Every ringgit raised reminded us that even small efforts can make a meaningful impact in someone's life."*

This visit not only reflected the spirit of empathy and volunteerism among APU students but also demonstrated how small acts of kindness and education can make a lasting impact in the lives of others.

Ir. Dr. Wong Siew Fan (second from right, front row) with the student committee members from APUSPESC who planned and organized the event.

Prof Vinesh Thiruchelvam added that APUSPESC has come a long way since its movement to officially connect with the Society of Petroleum Engineers (USA) in 2017 to finally to establish the chapter in 2019. Since 2020 APUSPESC has been driven based on annual objective orientated KPIs which include CSR deployment that are set in January each year. Its very encouraging to see our young APU petroleum engineering talents achieve targets set while educating the needy society in a passionate manner.

Cross-Campus Collaboration For A Cause: APUSPESC X UCSI Ramadan Fundraising Event

In the spirit of Ramadan and community giving, the Asia Pacific University Society of Petroleum Engineers Student Chapter (APUSPESC) proudly collaborated with UCSI University for a meaningful Ramadan Fundraising Event held on 8th March 2025, from 7:00 PM to 9:00 PM, at Block G, UCSI University. The event welcomed approximately 150 participants and was a vibrant display of unity, entrepreneurship, and student leadership.

As part of the evening's activities, APUSPESC operated a booth selling an array of cakes and desserts, which drew enthusiastic support from attendees. The setup was fully supported by UCSI University, who provided essential logistics including tables, chairs, and access to power supply—ensuring a smooth and professional experience for all student vendors.

Booth setup by APU SPESC with a variety of homemade cakes and desserts.

Operating under an 80-20 revenue-sharing model, 80% of the total proceeds from the APU SPESC booth were channeled back into the chapter's Ramadan fundraising campaign, while the remaining 20% was retained by the event organizers to support wider charitable efforts. A structured coupon and receipt system was used to manage transactions effectively, with procedural guidance and support provided by the UCSI coordination team.

One of the crowd-favorite chocolate cakes served at the event.

This initiative not only provided a platform for students to practice event management and teamwork but also facilitated cross-campus collaboration—encouraging networking, cultural sharing, and a shared sense of purpose during the holy month. Beyond its charitable aims, the event delivered tangible outcomes to APU as well: it successfully raised RM250 to support Ramadan donation efforts, enhanced inter-university relations between APU and UCSI, and significantly boosted the visibility of APU's student societies among external communities.

Additionally, the experience strengthened the soft skills of over 10 student volunteers in areas such as communication, financial handling, and customer service—contributing directly to their personal and professional growth in alignment with the university's emphasis on holistic education.

"It is incredibly heartwarming to see our students take the initiative to participate in such meaningful and collaborative efforts. The Ramadan Fundraising Event exemplifies how technical students can engage in service, leadership, and community-building beyond the classroom. I am proud of the APU SPESC team for their commitment, creativity, and professionalism throughout the event. These experiences not only enrich their university life but also build the empathy and teamwork that define truly outstanding engineers." said by Ir. Dr. Wong Siew Fan, the advisor of APU SPESC.

The event stands as a testament to what student communities can achieve through cooperation, compassion, and creativity. APUSPESC extends its heartfelt thanks to UCSI University for their warm hospitality and partnership in making this event a success.

APUSPESC Students Represent Asia Pacific University At PetroBowl Asia Pacific Regional Qualifiers 2025

The Asia Pacific University Society of Petroleum Engineers Student Chapter (APUSPESC) proudly marked a significant milestone by sending a team of five dedicated and high-spirited students—Bany Zechariah Mangar Chol, Hazem Saeed Ali Hasyan, Lucas Chiong Ju Wynne, Levi Louis Mark Anthony, and Muhamamd Noman Kayani—to compete in the **PetroBowl Asia Pacific Regional Qualifiers (APRQ) 2025**, hosted at Universiti Teknologi Petronas (UTP).

The PetroBowl competition, organized by SPE International, is one of the most prestigious knowledge-based events in the petroleum engineering field. It features a fast-paced quiz format where university teams from across the region compete by demonstrating their expertise in petroleum engineering, geopolitics, current energy affairs, and the history of the oil and gas industry.

The APU SPE Student Chapter team in action at the PetroBowl Asia Pacific Regional Qualifiers 2025, competing against the UTP SPE Student Chapter team at Universiti Teknologi Petronas (UTP). The intense match ended with a score of 30–40.

While the APUSPESC team experienced an early exit from the tournament, their participation marked a significant step forward in the chapter's development and regional visibility. Competing alongside some of the most esteemed universities in the Asia Pacific region enabled the students to sharpen their technical knowledge and strengthen essential soft skills such as teamwork, strategic thinking, and adaptability under pressure.

Beyond the competition itself, the students fully embraced the opportunity to network with peers from other institutions, gain insights from industry professionals, and observe the high standards set by top-performing teams. The experience was both humbling and inspiring, leaving the participants eager to return stronger in future editions.

This valuable experience was made possible through the unwavering support and encouragement of **Ir. Dr. Wong Siew Fan**, the esteemed Advisor of the APUSPESC. Her guidance and mentorship were instrumental in preparing the team for this challenge. Special thanks also go to **Ir. Eur. Ts. Dr. Harvin Kaur Gurchran Singh**, Programme Leader for Petroleum Engineering at APU, for facilitating the team's participation and providing the academic support necessary to make this endeavour a success. Gratitude is also extended to **Mr. Muhammad Safri bin Basruddin** for accompanying and supporting the team throughout the competition at UTP.

Although the scoreboard did not reflect a win this year, the knowledge gained, connections made, and experience earned were invaluable victories in themselves. The APUSPESC is proud of the team's efforts and remains committed to building on this foundation to achieve even greater success in future competitions.

AI-Powered Tourism Recovery: Smart Innovation in Malaysia's Tourism Industry

Malaysia's tourism industry, as a pillar of the national economy, has faced transformation challenges in recent years. With the reopening of borders, tourist consumption habits have gradually changed, and the demand for digitalization has been increasing year by year. Artificial intelligence technology has become the key driver for Malaysia's tourism industry to reshape its competitiveness.

Smart Tourism 4.0: The Starting Point of Malaysia's Tourism Industry Digital Transformation

Malaysia Tourism Board officially launched the "Malaysia Smart Tourism 4.0" initiative in April 2018, marking an important milestone in Malaysia's 10-year tourism development roadmap. This project, in collaboration with Tencent Holdings, provided Malaysia with a comprehensive digital ecosystem, using precision marketing methods to reach China's 1.4 billion population. The then Tourism Minister Dato' Sri Nazri stated that this initiative "is a crucial game-changer that will gradually transform our tourism industry."

Research by Deloitte shows that smart tourism has been identified as a key driver for increasing Malaysia's tourism revenue, particularly targeting free independent travelers. The plan allows tourism operators to implement digital technologies to enhance tourism product categories and improve visitor experiences, which is expected to boost productivity and increase employment opportunities suitable for Malaysia's youth.

Sarawak Tourism Board: AI Training Empowering Local SMEs

The Pacific Asia Travel Association (PATA) has also partnered with the Sarawak Tourism Board (STB) to launch the "AI-Driven Transformation: Empowering Sarawak Tourism SMEs" training program. This project focuses on technology and artificial intelligence, helping participants integrate AI into their daily operations, particularly in applications related to marketing, operations, customer satisfaction, and sustainable development. Sarawak Tourism Board Chairman Dennis Ngau stated: "This collaboration with PATA marks a crucial step in our commitment to adopting advanced technologies, particularly artificial intelligence."

This training received an enthusiastic response from over 50 participants, mainly from Kuching's travel agency sector. 98% of participants indicated that the workshop met their expectations, and 93% of participants were willing to apply the AI concepts they learned in their businesses. This demonstrates Malaysia's tourism industry's determination to actively embrace AI technology.

Malaysia Digital Plan: Policy Support for Smart Tourism

The Malaysian government, through the Ministry of Communications and Multimedia, launched the "Malaysia Digital" plan aimed at accelerating the country's digital economy development. This plan includes the DE Rantau project, which aims to promote digital adoption, facilitate professional talent mobility, and tourism development, with the goal of establishing Malaysia as a preferred "digital nomad" hub.

Meanwhile, the Malaysian government is preparing to review the structure of the National AI Office (NAIO), which was launched in December 2024. This project, led by the Ministry of Communications and Digital, is part of a strategy to establish Malaysia as a leading center for AI development and adoption. NAIO will become the cornerstone of Malaysia's digital transformation agenda, promoting the integration of AI technology in key industries.

Conclusion

AI technology in Malaysia's tourism industry is not only a post-pandemic recovery tool but also a strategic asset for building long-term competitive advantages. From hotel groups' digital transformation to Sarawak Tourism Board's AI training programs, Malaysia's tourism industry is gradually achieving intelligent upgrades. However, while embracing innovation, the industry must maintain its unique cultural charm and human touch.

Looking ahead, collaborative cooperation between government and enterprises will be key. Malaysia's digital economy blueprint has listed tourism industry intelligence as a priority development direction, with plans to invest RM200 million to support related innovations. Enterprises should seize these opportunities, actively explore AI application scenarios, and cultivate digital talent, making Malaysia not only a tourism destination but also a regional leader in smart tourism.

AI Technology Adoption in Malaysian SMEs: Opportunities and Challenges

Artificial Intelligence (AI) technology is becoming a key driving force for enterprises to enhance their competitiveness. According to the latest market research, Malaysia's SME AI market reached USD 233 million in 2021 and is expected to grow at a high compound annual growth rate (CAGR) of 21.89%. As the backbone of Malaysia's economy, SMEs account for 98.5% of all business entities nationwide and contribute 36.6% to GDP. The pandemic impact exposed the inadequate digitalization of SMEs, making AI technology adoption even more urgent.

Three Key Trends Reshaping SME Business Models

1. Cloud Technology Leading Market Transformation

Cloud technology is leading market development with the highest compound annual growth rate of 32.29%. Traditional on-premise solutions require substantial upfront investment and specialized personnel, which poses a significant barrier for resource-constrained SMEs. Cloud AI platforms have changed this landscape, allowing enterprises to flexibly adjust resources according to demand without worrying about hardware maintenance. More importantly, the cloud model enables SMEs to enjoy the same level of AI services as large enterprises, effectively bridging the digital divide. According to the Enterprise Cloud Index report, 96% of Malaysian enterprises choose hybrid cloud infrastructure, higher than the Asia-Pacific regional average.

2. Manufacturing Becomes a Pioneer in AI Applications

Manufacturing holds a dominant position with 20.9% of Malaysia's AI application market. During the pandemic, the manufacturing sector faced challenges such as labor shortages and supply chain disruptions, forcing enterprises to seek AI solutions to maintain efficiency. Huawei Malaysia's collaboration with the Ministry of Health on AI-assisted diagnostic solutions can analyze hundreds of CT scans within seconds, helping medical workers complete diagnoses within one minute. Similar applications abound in manufacturing, from quality inspection to predictive maintenance, AI is redefining manufacturing operational models.

3. Industry-Academia Collaboration Becomes an Important Force in Promoting AI Adoption

Faced with the complexity of AI technology, SMEs often lack sufficient technical capabilities to independently develop solutions. This is precisely when universities play an important role. The Future Industrial AI Center established by MIMOS and the work of the Artificial Intelligence Center at Universiti Teknologi Malaysia are providing technical support and talent development for enterprises.

RHB Bank's AI-driven loan application is a successful case study. This application utilizes AI and big data technology to achieve automated processing of SME loan applications, significantly improving approval efficiency. Through industry-academia collaboration, enterprises gain cutting-edge technical knowledge while providing practical opportunities for students, creating a win-win situation. As an educator, I deeply appreciate the importance of this collaborative model in promoting AI technology adoption.

Strategic Considerations for Embracing AI Technology

Although AI technology brings tremendous opportunities for SMEs, challenges remain. The World Bank report indicates that Malaysian SMEs still lag behind large enterprises in digital adoption. To seize AI opportunities, SMEs need to take proactive action: First, transform their mindset and view AI as an investment rather than a cost—data shows AI can improve productivity by 60%. Second, choose appropriate partners, especially establishing long-term cooperative relationships with universities. Finally, combine business characteristics to select suitable AI application scenarios.

Artificial Intelligence brings unprecedented opportunities for Malaysian SMEs. By embracing cloud technology, deepening industry-academia collaboration, and selecting appropriate application scenarios, SMEs are fully capable of gaining an advantage in the technological revolution. As educators, we are willing to collaborate with more SMEs to jointly promote Malaysia's economic digital transformation. The future belongs to enterprises that dare to innovate and excel at collaboration, and AI will become the most powerful competitive weapon.

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