

In Collaboration With
Environmental Engineering Technical Division (ENETD) &
Acson Malaysia Sales & Service

Physical Half Day Seminar on Energy Efficiency in Built Environment: From System Design to Smart Building Optimization

**Date:**

10th September 2026
(Thursday)

**Venue:**

Auditorium Malakoff,
Wisma IEM

**Time:**

9.00 am -3.00 pm

**Speakers**

Speaker 1: Dr. Aloysius decruz
Speaker 2: Ms. Mak Kai Lin

SYNOPSIS

CPD HOURS : applying

CPD REF NO.: applying

Session 1 : By Ms. Mak Kai Lin

This technical talk provides an overview of precision cooling solutions, focusing on Acson's Precision Air Conditioning (PAC) technology and its practical applications. The session examines diverse server room strategies through case studies on room cooling utilizing chilled water systems and row cooling for space-optimized configurations. Additionally, the narrative explains the fundamental working principles of fan wall technology and the essential control logic—such as master-slave operations, automatic switchover, and BMS integration—required for robust remote monitoring. Concluding with a full review of the Acson PAC lineup, this overview highlights the integration of hardware and intelligent controls in maintaining mission-critical environments.

Session 2 : Dr. Aloysius Decruz

This seminar explores practical strategies for improving HVAC system energy efficiency through the application of inverter technology, advanced controls, and modular chiller optimization. It covers the key factors influencing HVAC energy performance, including COP, EER, IPLV, and the significance of part-load operation, before examining how efficient components such as microchannel heat exchangers, electronic expansion valves (EEVs), high-efficiency fans, and inverter-driven compressors enhance system performance. The session also compares fixed-speed and inverter-based systems, discussing their energy, cost, and application trade offs while addressing common misconceptions. Finally, it highlights the role of effective control strategies—including control loops, lead-lag sequencing, load sharing, and redundancy—in maximizing efficiency, reliability, and operational performance, supported by practical lessons from real-world HVAC applications.

COURSE PROGRAM

Time	PROGRAMME
8.30am - 9.00am	Registration
9.00am - 9.15am	Welcome speech by committee
9.15am - 9.30am	Welcoming address by representative ACSON
9.30am - 10.00am	Speaker 1: Dr. Alloysius • HVAC Energy Performance – What Really Matters • Efficient HVAC Components and Inverter Technology
10.00am - 11.00am	Speaker 1: Dr. Alloysius • Fixed-Speed vs Inverter Systems: Practical Selection Considerations • Controls and Modular Chiller Optimization
11.00am - 11.15am	Morning Tea Break
11.15 am - 11.35am	Speaker 2: Ts. Mak Kai Lin • MS1525 related to HVAC system in non-residential buildings • Latest MEPS rating for air-cooled split units
11.35am - 12.00pm	Speaker 2: Ts. Mak Kai Lin • Heat load calculation to optimize HVAC equipment sizing • Solutions to optimize energy usage in HVAC system design • Case Studies: Factory, Hospital and Office building
12.00pm - 1.00pm	Lunch Break
1.00pm - 2.00pm	Speaker 3 • Introduction to Smart Solutions • Smart Solutions main concept • Case Study - Energy Optimization Using Temperature Locking & Scheduling
2.00pm	Closing Remark

SPEAKER'S PROFILE



Speaker 1 : Ms. Mak Kai Lin

Six years' experience in HVAC industry, Kai Lin specializes in commercial air conditioning products and system applications across the commercial and industrial sectors. Her technical proficiency encompasses the design and implementation of chillers, air handling units, precision air conditioners, and variable refrigerant flow systems. Having transitioned from a background in chiller application design and product customization for international markets into a strategic pre-sales role, she excels at recommending tailored solutions for mission-critical environments such as data centers, hospitals, and cleanrooms.

Speaker 2: Dr. Aloysius decruz

Aloysius Decruz has over 30 years of experience in HVAC training and education, with expertise in energy-efficient HVAC systems, refrigeration, and sustainable energy technologies. He holds a PhD in Sustainable Energy Technologies from the University of Nottingham, a Master's in Energy Engineering from UPM, and specialized refrigeration training from IFFI CNAM, Paris.

A certified HRDF Train-the-Trainer (TTT) and member of the International Institute of All-Natural Refrigeration (IIAR), he has delivered professional training since 1997 to engineers, technicians, academic institutions, government a

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