

PHYSICAL PRE-AGM TALK ON ECOS(C): AI-DRIVEN REAL-TIME ENERGY COST OPTIMISATION SYSTEM

CPD HOURS: 2

CPD REFERENCES: IEM26/HQ/281/T

 **18 JULY 2026**

 **9.00AM - 11.00PM**

 **AUDITORIUM TAN SRI PROF. CHIN FUNG KEE**



Mr. Chia Jun Shen



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REGISTER



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SYNOPSIS

eCOS(C) is an AI-driven energy optimisation platform designed for industrial and commercial facilities to reduce electricity costs, improve operational efficiency, and support sustainable energy management. The system is engineered to integrate seamlessly with Solar Photovoltaic (PV) systems and Battery Energy Storage Systems (BESS), enabling coordinated control of distributed energy resources.

The platform continuously acquires and processes real-time data, including facility load demand, electricity tariff structures (such as Maximum Demand charges and Time-of-Use pricing), solar generation output, battery state-of-charge, and power quality parameters. This enables a comprehensive and dynamic view of the facility's energy profile.

Using advanced optimisation and control algorithms, eCOS(C) determines the most cost-effective energy dispatch strategy in real time. It intelligently manages battery charging and discharging, prioritises solar self-consumption, reduces peak demand, and minimises reliance on high-cost grid electricity during peak tariff periods.

Unlike conventional rule-based or static energy management systems, eCOS(C) employs a continuously adaptive optimisation approach that responds to changing operating conditions throughout the day. This ensures that energy assets are utilised efficiently while maintaining system reliability.

Through intelligent coordination of renewable generation and energy storage, eCOS(C) enables automated, data-driven energy management that enhances grid interaction, improves system performance, and supports long-term sustainability objectives.

SPEAKERS BIODATA

Mr. Chia Jun Shen is the Chief Technology Officer of TranXenergySdn. Bhd. and a technology leader specializing in artificial intelligence, energy optimization, energy management systems, and digital energy solutions.

He leads the development and commercialization of advanced energy technologies, including the award-winning Energy Cost Control Optimization System (eCOS©), an intelligent platform designed to optimize energy consumption and reduce electricity costs for industrial and commercial users. Under his technical leadership, the system successfully progressed to live industrial deployment and received multiple industry recognitions, including the SEDA Innovation Award, MD APICTA Award, MARVEX & ENGINEER Excellence Award, and Solar Technology Leader Award.

Jun Shen also served as Project Manager for a collaborative research initiative between Monash University Malaysia and PETRONAS Research Sdn. Bhd., focusing on blockchain-based peer-to-peer energy trading and cloud energy storage solutions for the future energy market.

A First Class Honours graduate in Robotics and Mechatronics Engineering from Monash University Malaysia (2022) and recipient of the Best Final Year Project Award, he is passionate about translating cutting-edge research into commercially viable technologies that accelerate the transition towards a smarter and more sustainable energy ecosystem.

Mr. Min Tai Yap is a Systems Engineer at AMSOLAR SdnBhd and a Master's Research Candidate at Monash University Malaysia, specializing in energy systems, battery energy storage systems (BESS), IoT technologies, and climate-resilient engineering solutions. He currently leads the development of cloud-based energy monitoring platforms and next-generation BESS control systems, with experience spanning software architecture, renewable energy integration, hardware-software systems, and industrial commissioning. His work includes the development of AI-driven energy optimization solutions that coordinate solar and battery resources to reduce energy costs and peak demand.

Min Tai is also actively involved in research on resilient environmental sensor networks for resource-constrained communities, focusing on bridging climate information gaps through innovative IoT-based weather monitoring solutions deployed across multiple regions worldwide. As part of his research, he participated in an academic exchange programme with Heidelberg University, Germany, on next-generation weather monitoring technologies.

A graduate of Monash University with a Bachelor of Mechanical Engineering (Honours), Min Tai combines expertise in engineering design, software development, renewable energy systems, and systems engineering. He is passionate about leveraging technology and engineering innovation to create sustainable solutions with meaningful social impact