

SYNOPSIS

Fire Safe Buildings - Are There Safer Building Construction Materials?

There had been many major high-rise fires in recent years. With the advancement in material, engineering, science and technology, we expect things to get better. But why such devastating fires seem more prevalent now? And when it happens, these fires seem to have taken another form? This session would touch on building material, fire test and testing standards that is available. It would present options which architect, engineers and specifiers can consider in selecting a safer building material.

Smart Homes for City Residents

Smart homes were expensive to build and maintain in the olden days and with the current advancement in IT solutions, everything is easier and more economical to build and maintain. City residents are looking forward to a safe and secure environment in their city life and yet convenient to live and have full control of the busy life in the city. The concept of easy access and control access to their smart homes starts from the entrance into the car park without even touching the control gate because the intelligent apps will ensure that the boom gate is opened as soon as you drive into the compound. You are allowed to park your car freely inside the carpark as long as the parking lot is not occupied or the apps can direct you to the nearest parking lot to your resident lift. You will walk through the lift lobby door again with your apps security system and the lift will be waiting for you. From the lift car through the lift lobby door then into your resident unit electronic door, all are apps control access system. The facility inside the house are all control by the apps such as CCTV camera, AC units, Power points and lighting switches can also be controlled via the apps and therefore you can turn on or turn off the power whenever/wherever you want to do so. There are many other features to share with you such as the blinds closure during a sunny day or the setting of LPG gas alarm or smoke detection alarm are part of the safety features.

Solar Thermal Application to Building and Industries

Over 80% of the total global energy requirements are met by oil, natural gas and coal. In Malaysia natural gas is the largest contributor in the energy mix, contributing 43%. Malaysian government is strongly supporting sustainable energy in the country through policy interventions, tax, financial incentives and capacity building. The Eleventh Malaysian Plan also has ambitious green technology targets, The government aims to reduce GHG emission intensity by 40% till 2020 compared to 2005 levels.

In Malaysia the average solar irradiation a year is 1,600 kWh/m². This provides a good opportunity to harness the solar energy and convert it to useful low temperature heat energy for process heating at below 400°C. According to a study (Ecoheatcool 2006) around 57% of the total industrial heat demand is required at this temperature thus falling within the application of solar thermal applications.

The solar heat energy can be used in solar thermal heating to heat the process fluid whether directly or indirectly or solar thermal cooling such as in an absorption chiller to cool the process fluid. Solar isolation in Malaysia and climatic conditions are suitable for deployment of flat plate and evacuated tube collector based on solar thermal application.

Some of the sectors that solar thermal application are widely used are in hotel and hospital for buildings and food and beverage, rubber, pulp and paper, machineries, chemical and pharmaceuticals in industries

Green and Sustainable Construction by JKR Malaysia

The objective of the presentation is to highlight the action and strategies that JKR has adopted towards sustainable construction. This presentation is also aligned with JKR's Sustainability and Green Mission 2.0 under JKR's Strategic Plan 2016-2020, to support the Malaysian government's effort towards National Sustainability goals and targets hence, taking the nation one step closer towards near zero energy buildings and the reduction of CO2 emissions.

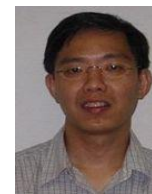
Current Automation and Robotic Technology deployed for the Steel Structure Fabrication

Steel Framing Systems i.e. Steel beams and columns, portal Frames and roof trusses is one of the most important IBS Grouping in the Structure Classification by CIBD. However, the current status of IBS system, steel framing components stand at very low percentage in the total Components Registered in the IBS Centre Malaysia. In fact, the technology level available today capable to delivery a very high degree of automation in the steel structure fabrication. This technology can be effectively realised to the degree of automation and even up to robotic level according to the definition of the degree of industrialisation of IBS system. With the Government's objective in adoption of BIM in the construction Industries, steel structure design until fabrication could exploit the model generated by BIM, further enhance with detail design and detailing tools available and directly export to NC program and CAM generation to the machine for fabrication and manufacturing. The progress of the manufacturing and the quality of components is able to be managed and tracked by the feedback system. Structural fabrication has evolved from a largely manual operation to one in which virtually every manufacturing step can be fully automated. This presentation reviews this involvement, the technology currently used in Malaysia and latest robotic welding technology adoption to fully automatic welding of structure.

PROGRAMME

10:30 am – 11:30 am	Fire Safe Buildings (Ir. Loo Chee Kin)
11:30 am – 12:30 pm	High Tech Smart Homes for City Living (Ir. Dr Cheong Thiam Fook)
12:30 pm – 2:00 pm	BREAK <i>*Lunch is not included in the registration fee.</i>
2:00 pm – 3:00 pm	Solar Thermal for Industries (Ir. Luk Chau Beng)
3:00 pm – 4:00 pm	JKR – Green And Sustainable Development (Ir. Gopal Narian Kutty)
4:00 pm – 5:00 pm	Current Automation and Robotic Technology deployed for the Steel Structure Fabrication (Ir. Tong Seng Won)

SPEAKERS



Ir. Loo Chee Kin is an active committee member in the Institution of Engineers, Malaysia (IEM) Mechanical Engineering Technical Division and Fire Advisory Board as well as various Sub-Committees and Boards. He is a Senior Consultant with Global Risk Consultants (GRC) and before that he was a Senior Engineering Specialist with FM Global. He has more than 20 years

Engineering experience, from design to field work, since graduating from UMIST, Manchester, UK with a B.Eng in Electromechanical Systems Engineering. He is a P.Eng in Mechanical and Electrical Engineering and a Member of IEM. He is a Member of IMechE and IEE, and registered C.Eng. His areas of risk evaluation are both for existing sites as well as engineering services for new projects of clients.



Ir. Dr. Cheong Thiam Fook. Registered Professional Mechanical Engineer with BEM and a Fellow Member of IEM, he worked as Mech Engineer in high-rise building projects and completed shopping complex, office buildings and ventured into mega infrastructure projects and has successfully completed many construction projects under conventional and Design & Build contracts in Building & Infra-structure

(Ampang Line LRT System Phase 1 & 2) for private and public sector. In 2000 to 2004, he managed to turn-around a manufacturing company and established a sales & marketing network both local and overseas and served as Executive Director for the Listed holding company. In 2005 to 2008, he was appointed as Managing Director of a M&E Engineering company and completed some notable projects in Putrajaya. In 2008 to 2013, he was responsible for the Transformation of an engineering PLC with core business in Construction and Manufacturing and served as the Executive Director for 5+ years and retired in Dec 2013. Ir Dr Cheong also established a M&E Consultancy Company with partners and have since completed many projects in Residential & Commercial Buildings and Hospitals. He continued to drive the organization in M&E Consultancy and Training Business. He is the CEO of a M&E Engineering company undertaking major projects in residential development where he introduced smart and intelligent M&E services to the projects to enhance the value of properties via the use of state of the art IT and Apps solutions in Security, Service, Control, Comfort and Connectivity among the residents and the public. He has the vision to build smart homes for the residents at a very cost effective and efficient manner.