



IEM MECHANICAL & ELECTRICAL FORUM

**KL CONVENTION CENTER
23 - 25 MAY 2016**

The mechanical and electrical (M&E) engineering fields are ever evolving. There are many changes in the legislation, practices and contracts that has change how the engineer approaches the design and specifications. And in today' s world of multi-tasking and being technology savvy, M&E engineers are expected to have broad knowledge in the area of safety and risk management. To be a leading-edge engineer, engineers would need to know how a sub-system builds into an infrastructure and be beneficial to the community.

Day 1 – 23 May

Day 2 – 24 May

Day 3 – 25 May

STREAM 1

Green Energy & Sustainable

- ❖ Conservation of Water - Apply Basic Engineering Principles Green Tech
- ❖ Why Green Energy & Sustainability
- ❖ Hydrocarbon as greener and more efficient refrigerants
- ❖ Renewable Energy in the Context of Sustainable Development
- ❖ Energy Efficiency : Catalyst for Green?

Power

- ❖ Renewable Energy Policy & latest development of RE in Malaysia
- ❖ Overview of MS ISO 50001 Energy Management System
- ❖ Latest electrical installations requirement
- ❖ Electrical Safety Legislation Update
- ❖ Why Earn a Professional Certification in Project Management?

REVAC

- ❖ Commissioning Process for Smoke Control System
- ❖ Healthcare Ventilation System Requirements and Challenges Emphasising
- ❖ Controls In Green Buildings (Air-conditioning Systems)
- ❖ IOT of REVAC Systems

STREAM 2

Development in Code and Standards

- ❖ OSC 3.0
- ❖ M&E concern with Strata or mixed development
- ❖ New UBBL
- ❖ IEM M&E form of contract
- ❖ Earthquake Restraints for Mechanical Systems

M&E Infrastructure

- ❖ Railway control centre ergonomic M&E
- ❖ Greenfield Power Plant Project
- ❖ Regulatory Compliance to Water Services Industry Act 2006 (WSIA) for Water and Sewage Works
- ❖ Water Use Reduction in Green Buildings
- ❖ PM of Major Infra Works

Safety and Risk Control

- ❖ Combustible Dust Explosion Risk Management
- ❖ Lift & Escalator Code in Malaysia
- ❖ Very Early Aspirating Smoke Detection Technology and Solutions & New approach to Gas Detection
- ❖ CLASS and GHS for M&E

IEM MECHANICAL & ELECTRICAL FORUM

DATE	TIME	THEME	STREAM 1	THEME	STREAM 2
23 May 2016 (Monday)	10:30 am – 11:30 am	GREEN ENERGY & SUSTAINABLE BEM Approved CPD/PDP Hours: 4 Ref No: IEM16/HQ/184/F	Conservation of Water - Apply Basic Engineering Principles <i>(Ir. Gary Lim)</i>	DEVELOPMENT IN CODE & STANDARDS BEM Approved CPD/PDP Hours: 5 Ref No: IEM16/HQ/185/F	M&E Concern with Strata or Mixed Development <i>(Ir. Lum Youk Lee)</i>
	11:30 am – 12:30 am		Why Green Energy & Sustainability <i>(Mr. James Chua)</i>		OSC 3.0 of Building Permits <i>(Ir. Yim Hon Wa)</i>
	12:30 pm – 2.00 pm		BREAK		BREAK
	2:00 pm – 3:00 pm		Hydrocarbom as Greener and More Efficient Refrigerants <i>(Mr. Ferdinand Ng)</i>		New UBBL <i>(Ir. Thin Choon Chai)</i>
	3:00 pm – 4:00 pm		Green Technology & Sustainable Development <i>(Ir. Dr. Aidil Chee Tahir)</i>		Earthquake restrains for Mechanical Systems <i>(Ir. Tan Yiing Yee)</i>
	4:00 pm – 5:00 pm		Energy Efficiency : Catalyst for Green? <i>(Ir. Kok Yen Kwan)</i>		IEM Form of Contracts for Civil and Mechanical & Electrical Engineering Works <i>(Ir. Oon Chee Kheng)</i>
24 May 2016 (Tuesday)	10:30 am – 11:30 am	POWER BEM Approved CPD/PDP Hours: 5 Ref No: IEM16/HQ/186/F	Renewable Energy Policy & Latest Development of RE in M'sia <i>(Dato' Dr. Ali Askar)</i>	M&E INFRASTRUCTURE BEM Approved CPD/PDP Hours: 5 Ref No: IEM16/HQ/187/F	Railway Control Centre Ergonomic M&E <i>(Ir. Syed Nequib)</i>
	11:30 am – 12:30 pm		Overview of MS ISO 50001 Energy Management System - Requirements with Guidance for Use <i>(Ir. Francis)</i>		Greenfield Power Plant Project <i>(Ir. Fam Yew Hin)</i>
	12:30 am – 2.00 pm		BREAK		BREAK
	2:00 pm – 3:00 pm		Latest Updates on MS1979:2016- Electrical Installations of Buildings – Code of Practice <i>(Ir. Yau Chau Fong)</i>		Regulatory Compliance to Water Services Industry Act 2006 (WSIA) for Water and Sewage Works <i>(Mr. Chow Kin Liung)</i>
	3:00 pm – 4:00 pm		Electrical Safety Legislation Update- Amendment of Electricity Supply Act 1990 with Respect to Improving Safety Practices <i>(Ir. Hj. Nur Ali Bin Omar)</i>		Water Use Reduction in Green Buildings <i>(Mr. Gregers Reimann)</i>
	4:00 pm – 5:00 pm		“Why Earn a Professional Certification in Project Management?” <i>(Ir. Frankie Chong)</i>		PM of Major Infra Works <i>(Ir. Dr. Cheong Thiam Fook)</i>
25 May 2016 Wednesday	10:30 am – 11:30 am	REVAC BEM Approved CPD/PDP Hours: 4 Ref No: IEM16/HQ/188/F	Commissioning Process for Smoke <i>(Ir. Soong Peng Soon)</i>	SAFETY & RISK CONTROL BEM Approved CPD/PDP Hours: 3 Ref No: IEM16/HQ/189/F	Combustible Dust Explosion Risk Management <i>(Mr. Felipe Ong)</i>
	11:30 am – 12:30 am		IOT of REVAC Systems <i>(Ir. Dr. Tan Chee Fai)</i>		Lift & Escalator Code in M'sia <i>(Mr. Raghib, Grad IEM)</i>
	12:30 pm – 1:30 pm		BREAK		BREAK
	1:30 pm – 2:30 pm		Healthcare Ventilation System Requirements & Challenges <i>(Ir. Al-Khairi)</i>		Very Early Aspirating Smoke Detection Technology and Solutions& New approach to Gas Detection <i>(Mr. Derrick Wong)</i>
	2:30 pm – 3:30 pm		Emphasising Controls In Green Buildings (Air-conditioning Systems) <i>(Ir. Daniel Lim Kim Chuan)</i>		CLASS & GHS for M&E Engineers <i>(Ir. Kim Kek Seong)</i>

DATE	TIME	STREAM 2
23 May 2016 (Monday)	12:30 p.m - 1:30 p.m	COPE in Code Assessment and Risk Management <i>(Ir. Loo Chee Kin)</i> BEM Approved CPD/PDP Hours: 2 Ref No: IEM16/HQ/190/T
24 May 2016 (Tuesday)	12:30 p.m - 1:30 p.m	Flood Pumping Stations <i>(Ir. Puvanesan)</i> BEM Approved CPD/PDP Hours: 2 Ref No: IEM16/HQ/191/T

*Attending on the lunch time forum is complimentary to participants who have signed up for any day or stream

IEM MECHANICAL & ELECTRICAL FORUM

23 MAY 2016 (MONDAY)
STREAM 1
GREEN ENERGY & SUSTAINABLE
BEM Approved CPD/PDP Hours: 4
Ref No: IEM16/HQ/184/F

10.00 am – 10.30 am	Registration
10.30 am – 11.30 am	<p>Topic : Conservation of Water - Apply Basic Engineering Principles</p> <p>Malaysia average water usage is 232 litres per capita per day and there is a plan to reduce the usage to 180 litres per capita per day by 2020.</p> <p>Water is a necessity and the high level of usage comes from many areas, some of which are beyond the control of the Engineering professionals. However Engineers should ensure that in their design works, the concept of water conservation should be given priority.</p> <p>Malaysians are used to cheap water rate and the water bill DOES NOT stands out among the many monthly bills. It would take a long while before their water wasteful habits can be changed, be observant on such bad habits like letting the tap running when carrying simple activities.</p> <p>Non-Revenue Water (NRW) is an EXISTING occurrence is an issue to be handled by the authority and to a certain aspect it is beyond the control of Engineers. Engineers can play an important role in the conservation of TREATED water by apply effective measures in their design works from the source till consumed/used.</p> <p>Malaysia experience an annual rainfall between 2,300mm to 3,000mm and Rainwater Harvesting (RWH) has been promoted extensively and the Uniform Building By-Law 1984 was amended hence the implementation of Rainwater Harvesting and Utilization System (SPAH) at buildings.</p> <p>RWH system can be a very simplified system merely by applying basic Engineering principles and the rainwater collected should only be used for WC Flushing and Landscaping. Complicated studies need not be carried out, take a simple logic that if you could harvest 1,000 litres of rainwater and use it for WC Flushing and landscaping, you conserve 1,000 litres of treated water. The ability to duplicate it at multiple locations, say 1,000, then 1,000,000 litres of treated has been conserved. In this respect, Engineers have this role to play.</p>
11.30 am – 12.30 pm	<p>Topic : Why Green Energy and Sustainability?</p>
12.30 pm – 2.00 pm	Break
2.00 pm – 3.00 pm	<p>Topic : Hydrocarbon as Greener and More Efficient Refrigerants</p>



Ir. Gary Lim Eng Hwa



Mr. James Chua



**Mr. Ferdinand Ng Siek
Khai**

IEM MECHANICAL & ELECTRICAL FORUM

23 MAY 2016 (MONDAY)
STREAM 1
GREEN ENERGY & SUSTAINABLE

3.00 pm – 4.00 pm



Ir. Dr. Aidil Chee Tahir

Topic : Renewable Energy in the Context of Sustainable Development

The volatile and cyclical nature of business is a common phenomenon that plagues the oil and gas industry. The recent drastic economic downturn where at the middle of 2014 saw oil prices falling more than 70 percent has caused many oil and gas companies which in recent years had made record profits, to see their earnings plummeted leading them to decommission many of their oil rigs and gas plants while sharply cutting investments in both exploration and production. Several of these companies have now consequently become insolvent resulting in a global wide retrenchment of oil and gas workers. This crisis has prompted policy makers, governmental organizations and investors to rethink and reconsider investing in renewable energy as investment in fossil fuels such as oil and gas are now being viewed as an increasingly risky proposition. As such, renewable energy is seen as the energy solution for the future and also as a strategy to solve the issues of global warming and climate change. However is renewable energy really in line with the concept of sustainable development? Does renewable energy help to achieve sustainable development in a coherent and holistic manner? This presentation discusses the relationship between renewable energy and sustainable development, and explores to what extent renewable energy is sustainable.

4.00 pm – 5.00 pm



Ir. Kok Yen Kwan

Topic : Energy Efficiency : Catalyst for Green?



IEM MECHANICAL & ELECTRICAL FORUM

24 MAY 2016 (TUESDAY)

STREAM 1

POWER

BEM Approved CPD/PDP Hours: 5

Ref No: IEM16/HQ/186/F

10.00 am – 10.30 am

Registration

10.30 am – 11.30 am



**Dato' Ir. Dr. Ali Askar
Sher Mohamad**

Topic : Renewable Energy Policy & Latest Development of RE in Malaysia

The introduction of FiT saw the kickstart of the RE Industry in Malaysia; now many people are questioning whether the generous Tariffs, especially for PV, actually benefited the country or just helped enrich a few people.

What is the role of Net Energy Metering (NEM) and Large Scale Solar (LSS) in the development of the local RE Industry? How do they differ from FiT?

11.30 am – 12.30 pm



Ir. Francis Xavier Jacob

Topic: Overview of MS ISO 50001 Energy Management System – Requirements With Guidance For Use

The MS ISO 50001, based on the international standard ISO 50001, was established to enable organisations to establish the systems and processes necessary to improve energy performance, including energy efficiency and intensity. Using energy efficiently helps organisations to save money as well as helping to conserve resources and tackle climate change. The standard supports organisations in all sectors to use energy more efficiently, through the development of an energy management system (EnMS). The standard is based on the management system model of continual improvement also used for other well-known standards such as ISO 9001 (Quality Management) or ISO 14001 (Environmental Management). This makes it easier for organisations to integrate energy management into their overall efforts to improve quality and environmental management. The standard provides a framework of requirements for organizations to:

- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet the policy
- Use data to better understand and make decisions about energy use
- Measure the results
- Review how well the policy works, and
- Continually improve energy management.

The talk will cover: -

- Background & Introduction
- Scope & Definitions
- Energy Management System Requirements
- Implementation and Operation
- Why isn't industry more energy efficient
- Overall Goal
- Barriers to Improve EE

12.30 pm – 2.00 pm

Break

2.00 pm – 3.00 pm



Ir. Yau Chau Fong

Topic: Latest Updates On MS1979:2016 - Electrical installations of buildings - Code of practice

This Malaysian Standard was developed by the Working Group on Electrical Installation, Protection and Insulation Practice under the authority of the Industry Standards Committee on Generation, Transmission and Distribution of Energy. Development of this Malaysian Standard was carried out by The Electrical and Electronics Association of Malaysia (TEEAM) which is the Standards Writing Organisation (SWO) appointed by SIRIM Berhad to develop standards for electrical installation, protection and insulation practice.

This Malaysian Standard cancels and replaces MS 1979:2007, Electrical installations of buildings - Code of practice.

More than 80 % of Malaysian low voltage electricity customers are domestic dwellings and residential houses catering to uninformed consumers. On the other hand, less than 20 % of Malaysian electricity customers are commercial, industrial consumers or other non-domestic and non-residential consumers. Therefore, whilst MS IEC 60364 as a set of standards provides guidelines for the whole spectrum of low voltage electrical installations of buildings for both the informed as well as the uninformed consumers, this Malaysian Standard developed under the direction of the regulatory body, however, deals with the low voltage electrical safety of uninformed consumers.

The speaker will be presenting through each and every Code Of Practice and focusing on the major changes to the codes in comparing with the earlier MS1979: 2007 version

IEM MECHANICAL & ELECTRICAL FORUM

24 MAY 2016 (TUESDAY)
STREAM 1
POWER

3.00 pm – 4.00 pm



**Ir. Hj. Nur Ali Za Bin
Omar**

Topic : Electrical Safety Legislation Update - Amendment of electricity Supply Act 1990 with respect to improving safety Practices

Electricity Supply (Amendment) Act 2015 telah dikuatkuasakan pada tahun 2015 dengan meminda Electricity Supply Act 1990 di mana antara objektif pindaan dilaksanakan adalah untuk memantapkan aspek keselamatan dan perlindungan kepada pengguna tenaga elektrik di Malaysia. (Enhance safety and consumer protection).

4.00 pm – 5.00 pm



Ir. Frankie Chong

Topic : "Why Earn a Professional Certification in Project Management?"

It is reckoned that throughout the world, as the number of projects swell, the pool of certified talent in project management is not keeping pace. For example, of the 20 million people participating in projects worldwide, just one million have professionally recognized formal training on how to best execute those projects. One thing becomes clear: The demand for skilled project managers is at a critically urgent level.

With the dynamic demands from the workplace, an individual who is skilled in Project Management techniques stands above the rest in terms of having superior abilities to plan, organise and to systematically approach his or her work. This important value also provides the individual a real competitive advantage in terms of career advancement and developing his true managerial potential.

In pursuing industrial excellence and credibility, a true professional can differentiate his or her capabilities by way of international certification. The fundamental rationale for certification of Project Managers is to ensure that the project industry is managed by knowledgeable and competent professionals who possess the minimum skills in applying best practices in project management, with the ultimate goal that the stakeholder's needs and expectations are adequately fulfilled

Addressing the importance of certification, the speaker will cover the following topics:

- Case for certification of professional project managers
- Supporting survey findings on the health and common practices of Project Management in Malaysia
- The certification route to internationally recognized professional project managers

It is hoped that the talk will create awareness of certification among the industry players and to promote professionalism by adopting the best practices and standard in project management. As the world economy becomes more globalised and competitive, it is imperative that Project Managers have internationally recognized competence in managing projects. They should then seriously consider the route to certification that can reap many benefits both for the individuals as well as for the organizations.

IEM MECHANICAL & ELECTRICAL FORUM

10.00 am – 10.30 am

Registration

10.30 am – 11.30 am



Ir. Soong Peng Soon

Topic : Commissioning Process for Smoke

Commissioning is a quality assurance process that ensure building systems are designed, installed and performing to the Owner's Project Requirements. High performance building often mandates commissioning report from industry experts describing and verifying performance based metrics for conventional building systems such as air-conditioning, electrical services, etc. Commissioning process for smoke control system is a relative new topic, whereby BSI Standards Publication has just added part 8 to the BS 7346 in year 2013 that including code of practice for commissioning. For AHSRAE, Guideline 1.5 was published in year 2012 that describes the Commissioning Process for Smoke Control Systems. Commissioning process cuts across the design, delivery and performance evaluation of smoke control system that requires Owner's commitment and expertise in fire engineering, mechanical & electrical services & any innovative technologies. Performance verification process is more clearly define in the newly established standards and they can be applicable to both old & new systems. The session will present a general discussion on content BS-7346 Part 8 and making some reference to ASHRAE Guideline.

11.30 am – 12.30 pm

Topic : IOT of REVAC Systems



Ir. Dr. Tan Chee Fai

During the past 15 years, the Internet revolution has redefined business-to-consumer (B2C) industries such as media, retail and financial services. In the next 10 years, the Internet of Things revolution will dramatically alter manufacturing, energy, agriculture, transportation and other industrial sectors of the economy which, together, account for nearly two-thirds of the global gross domestic product (GDP). It will also fundamentally transform how people will work through new interactions between humans and machines. Dubbed the Industrial Internet (of Things), this latest wave of technological change will bring unprecedented opportunities, along with new risks, to business and society. It will combine the global reach of the Internet with a new ability to directly control the physical world, including the machines, factories and infrastructure that define the modern landscape. However, like the Internet was in the late 1990s, the Industrial Internet is currently in its early stages. In this talk, we will focus on the implementation of Industrial Internet of Things to achieve energy saving approach. Is the Industrial Internet of Things is able to reduce the energy use by space cooling, space heating, water heating and refrigeration which represents about 70% of total energy consumption for residential buildings?

12.30 pm – 1.30 pm

Break

1.30 pm – 2.30 pm

Topic : Healthcare Ventilation System Requirements and Challenges



Ir. Al- Khairi Mohd Daud

Healthcare buildings house many clinical departments and support services that require specialized air conditioning and ventilation system. Many healthcare facilities expanded their services or change the service of the rooms or floor throughout the life of the hospital. Though the space may be suitable for the new services, the original mechanical and electrical system such as ventilation systems may not be able to accommodate the needs of the new services especially when the area has been retrofitted.

In many cases the architects and health planners decides the requirements but overlooked the mechanical and electrical needs that are critical in getting conducive patient care as per the standard. The speaker shall talk about the healthcare air condition and ventilation requirements and the challenges that face the professionals in the industry to design and retrofit the current installation.

2.30 pm – 3.30 pm



Ir. Daniel Lim Kim Chuan

Topic: Emphasising Controls In Green Buildings (Air-conditioning Systems)

IEM MECHANICAL & ELECTRICAL FORUM

FORUM SPECIAL FEATURE BY IEM

**23 MAY 2016 (MONDAY)
STREAM 2**

BEM Approved CPD/PDP Hours: 2
Ref No: IEM16/HO/190/T

12.30 - 1.30 pm



Ir. Loo Chee Kin

Topic : COPE in Code Assessment and Risk Management

COPE is an acronym that stands for the four characteristics an insurance underwriter reviews when evaluating the risk presented by a building; Construction, Occupancy, Protection and Exposure. Although the COPE approach has traditionally been used to evaluate the risk presented by existing buildings, this approach can also be used to manage the risk presented by a project.

This session will illustrate some of the COPE ideas. The speaker will provide pointers on available resources to engineers, as some of the resources are readily available online.

As engineers, it is necessary to be concern about any possible risks before and during the project period as well as the facility's concerns while in operational stage and till the facility is finally decommissioned. In that before stage, it should include code assessment and risk management in the project conceptual and site selection too.

***Attending on the lunch time forum is complimentary to participants who have signed up for any day or stream**

IEM MECHANICAL & ELECTRICAL FORUM

FORUM SPECIAL FEATURE BY IEM

24 MAY 2016 (TUESDAY)
STREAM 2

BEM Approved CPD/PDP Hours: 2
Ref No: IEM16/HQ/191/T

12.30 - 1.30 pm



Ir. Puvanesan Mariappan

Topic : Flood Pumping Stations

Flooding is the most common cause of disaster in the world and by far the fastest growing. Flooding occurs mainly due to overflow of the river, backwater effect due to tidal intrusion from the sea, morphological issues and inadequate capacity of waterway, drainage system and any existing tributaries. Flood can be mitigated via construction of polder bund and pumping stations. Flood pumping stations will be established once the flood mitigation scheme design developed with detailed hydrological and hydraulic modelling. The establishment of excellent flood pumping station consists of flooding control, source and solution of flooding, the design of flood control pumping station, CFD and model testing and vortex and its prevention.

***Attending on the lunch time forum is complimentary to participants who have signed up for any day or stream**

IEM MECHANICAL & ELECTRICAL FORUM

	Category 1 IEM Member	Category 2 For Non-Member
Per Session	RM400.00	RM600.00
Per Stream	RM800.00	RM1200.00
Full Flex	RM900.00	RM1350.00

*GST not included

SPECIAL!!

1. Student will be entitled to 30% discount (upon authentication of student status)
2. Group discount will be entitled for groups of 3 or more delegates from same company – 10%
3. Early bird registration before 23 April 2016 will be entitled to 10% discount

Terms & Conditions:

- Meals are not provided
- For ONLINE REGISTRATIONS, only ONLINE PAYMENT is applicable [via Credit Card]
- Payment via CASH / CHEQUE / BANK-IN TRANSMISSION / BANK DRAFT / MONEY ORDER / POSTAL ORDER / LO / WALK -IN will be considered as NORMAL REGISTRATION
- For online registrations, please note that **payment MUST be made on registration.**
- **FULL PAYMENT** must be settled before commencement of the course, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participants fail to attend the course, the fee is to be settled in full. If the participant failed to attend the course, the fee paid is non refundable. Registration fee includes lecture notes, refreshment and lunches.
- The Organising Committee reserves the right to cancel, alter, or change the program due to unforeseen circumstances. Every effort will be made to inform the registered participants of any changes. In view of the limited places available, intending participants are advised to send their registrations as early as possible so as to avoid disappointment.

REGISTRATION

No	Name	IEM M'ship No	Stream 1*			Stream 2*			Fees (RM)
			23 May	24 May	25 May	23 May	24 May	25 May	
Subtotal									
GST 6%									
Total Payable									

*Please tick to the appropriate day

Organisation/ Company:		
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For Further details, please contact and/or fax this REGISTRATION FORM to: The Institution of Engineers, Malaysia Bangunan Ingenieur, Lots 60/62, Jalan 52/4, 46200 Petaling Jaya, Selangor Tel: 03-7968 4001/2 Fax: 03-79577678 Email: sec@.org.my/ norfarehan@iem.org.my Website: www.myiem.org.my		Who should attend: <ul style="list-style-type: none"> • Mechanical and electrical (M&E) engineers. • Building services engineers and those involved in green technology and renewable energy; power and electrical industries; or refrigeration, ventilation and air-conditioning. • Facility management, engineers, consultants, designers, contract administrators and project managers interested in recent developments in Code and Standards. • Planners, engineers, designers and project consultants involved in planning M&E infrastructure. • Safety engineers and those responsible to implement safety and risk control measures.

PERSONAL DATA PROTECTION ACT

I have read and understood the IEM's Personal Data Protection Notice published on IEM's website at <http://www.myiem.org.my> and I agree to IEM's use and processing of my personal data as set out in the said notice.

CANCELLATION POLICY

IEM reserves the right to postpone, reschedule, allocate or cancel the course. Full refund less 30% if cancellation is received in writing more than **7 days** before start date of the event. No cancellation will be accepted prior to the date of the event. However, replacement or substitute may be made at any time with prior notification and substitute will be charged according to membership status.

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