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PP 4829/03/2013(032303) ISSN PQ1780/4200/B | RM18.00 | 78th Issue

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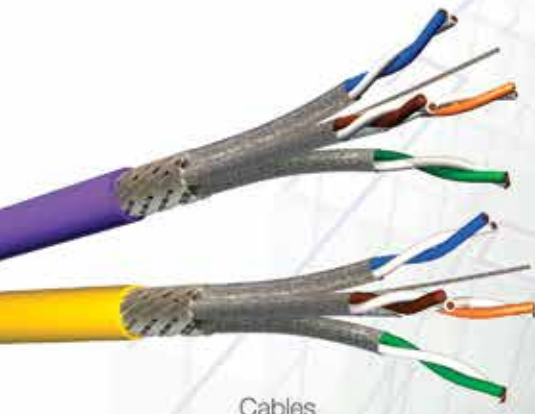
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SUARA TEEAM

A Publication of The Electrical and Electronics Association of Malaysia

Publisher & Editorial:

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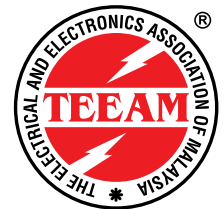
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Contents

Activities

From the Editor's Desk	5
Engagement Session with MIDA's E&E Division	7
Public Discourse on Electrical Safety Awareness 2019	9
AFEEC-FAPECA Conference & Meeting in Gwangju, Korea	13
CSUDET 2019	17
Q&A Session with Master Builders Journal	21
83rd IEC General Meeting in Shanghai	25
Technical Visit to Linkk Busway Systems	27
2019 IEC Young Professionals Programme	29
TEEAM - IEM EETD Dialogue	33
ACEiC 2019	37
CIE 2019 Washington	39
TEEAM Academic Excellence Awards	41
Golf Tournament 2019	44
New Books in Our Library	47
Wire & Cable Show Malaysia 2019	53
Badminton Tournament 2019	63
State Associations News	67
Bowling Tournament 2019	75
Courtesy Visit by the Chinese National Federation of Industries, Taiwan	87
Courtesy Visit by the PHD Chamber of Commerce & Industry, India	89
New Members	91

Feature Articles

Challenges and Opportunities in the Electrical Industry - Part 35	35
Machinery and Equipment Productivity Nexus: Enabler for Industry Productivity and Sustainability	57
The Truth About Blue Light Hazard Risk in LEDs	79
Industry 4.0: The Next Frontier and its Technological Impacts, and the Role of Global Standardisation	83

Information

Market Development Grant	23
Enforcement on Lightning Protection System for Buildings	32
2020 AFEEC-FAPECA Conference & Meeting in Hong Kong	48
TEEAM 68th Anniversary Dinner	49
Advertisers' Index	92

Highlights

Engagement Session with MIDA's E&E Division	page 7
Public Discourse on Electrical Safety Awareness 2019	page 9
AFEEC-FAPECA Conference & Meeting in Gwangju, Korea	page 13
CSUDET 2019	page 17
TEEAM Academic Excellence Awards	page 41
Golf Tournament 2019	page 44



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CT – CTS 64 Poles



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CP 6 Poles 35A-400/690V



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CMCE 3+2 (aux) polest



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Suara TEEAM is distributed free of charge to TEEAM members and selective organisations. For those who wish to purchase a copy, the cost is RM18.00 which excludes postage.

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Taman Perindustrian Bukit Serdang,
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Printer

United Mission Press Sdn Bhd
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From The Editor's Desk



This has been a very subdued Chinese New Year due to the outbreak of the Novel Coronavirus (COVID-19) in China. The extent of this impact to the global economy cannot be ascertained at the present moment. It will certainly disrupt the flow of raw materials and manufactured products from China.

Most countries are taking pro-active measures to assist the industries that will be affected. Malaysia will do the same, especially so for the SMEs. We hope that the virus can be effectively contained and businesses can return to normal in the near, foreseeable future. On a positive note, the 57th AFEEC Council Meeting and 33rd FAPECA Executive Board Meeting were convened smoothly on the afternoon of 7 November 2019. Both the meetings were excellent avenues for networking and exploring business opportunities. The Meetings also witnessed the official hand-over of the FAPECA Presidency from Mr Ryu Jae-Sun of KECA Korea to Mr Emil Yu of HKECA Hong Kong. Mr Emil Yu now helms the FAPECA Presidency for the term 2020-2021. The AFEEC Presidency is helmed by Engr Arthur N Escalante of SPECS Philippines for the term 2019-2020.

President Mr C T Siew participated in a Q&A Session which was organised by the Master Builders Journal in December 2019. The transcript was published in MBJ#117, Volume 4, 2019. It is also presented in this issue of SUARA TEEAM. The items discussed are highly relevant to all members and you are strongly encouraged to read it.

The "Arahan Penguatkuasaan Pemakaian Standard Malaysia MS IEC 62305: 'Protection Against Lightning' Bagi Sistem Perlindungan Kilat Di Bangunan" [Directive for Enforcement on Usage of Malaysia Standard MS IEC 62305 'Protection Against Lightning' for Lightning Protection System in Buildings] has been issued by Suruhajaya Tenaga (Energy Commission) in January 2020. This will create more business opportunities in lightning protection implementation.

Moving forward, I wish all of you great success in executing your strategic business plans.

Regards,



Ir Chew Shee Fuee, KMN
Editor
Suara TEEAM



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Engagement Session with MIDA's E&E Division

An Engagement Session was hosted by TEEAM with the Electrical & Electronics (E&E) Division of the Malaysian Investment Development Authority (MIDA) on 11 December 2019. MIDA Officials who visited TEEAM were Ms Jasbir Kaur, Executive Director, Manufacturing Development (Non-Resource), Ms Rosedalina Ramlan, Senior Deputy Director, E&E Division and Ms Rowena Chin I-Lin, Senior Assistant Director, E&E Division. On hand at TEEAM to receive the visitors were Mr Siew Choon Thye (President), Mr Simon Leong (Vice President & Manufacturing Chairman), Mr Lee Peng Sian (Honorary Secretary) and other Senior Council Members.

The Engagement Session discussed issues and challenges faced by members. MIDA then updated members on the latest in the E&E Industry with special reference to the assistance and facilitation offered by MIDA which TEEAM members can readily tap on.

Automation Capital Allowance

The objectives of the Automation Capital Allowance (ACA) are:

- To encourage manufacturing companies to be more innovative and productive;
- To encourage quick adoption of automation;
- To spur automation initiatives; and
- To enhance productivity.

The criteria are:

- Manufacturing companies, with at least 36 months in operation (with valid Business Licence & Manufacturing Licence); and

- Automation machine/equipment used directly in manufacturing activities;

Applications are jointly evaluated by MIDA (non-technical) and SIRIM (technical). The type of incentive for ACA is 200% on the first RM2 Million expenditure incurred within five years of assessment from 2015-2023. SIRIM will verify that the machine(s) applied for the ACA meets the following necessary technical criteria:

- General eligibility of the machine;
- Productivity measures; and
- Additional factors that could contribute to productivity enhancement.

Fees charged is RM3,000.00 for verification of a maximum of three machines at one location.

Re-investment Allowance

The Re-investment Allowance (RA) is for existing manufacturing companies (in operation for at least 36 months) that re-invest for expansion, modernisation, automation or diversification.

- 60% on qualifying capital expenditure incurred, can be offset against 70% of its statutory income for the year of assessment;
- Unutilised allowance can be carried forward for up to seven years;
- The RA will be given for a period of fifteen consecutive years beginning from the year the first re-investment is made; and
- Applications for RA should be submitted to the Inland Revenue Board (IRB).

Special Investment Tax Allowance for E&E Companies

The special Investment Tax Allowance (ITA) was announced at the National Budget 2020 to further promote high value-added activities in the E&E industry to transition into the 5G digital economy and I4.0.

The criteria are:

- Resident manufacturing companies in Malaysia which have exhausted their RAs and currently not enjoying any other incentive by the Government; and
- Must be engaged in manufacturing activities in the E&E sector and intend to re-invest for expansion, diversification and/or modernisation.

Types of incentives are:

- ITA on qualifying allowance of 50% to be offset against 50% of statutory income;
- For a period of five years; and
- The exemption covers the capital expenditure of the company.

Applications are to be sent directly to MIDA from January 2020 until 31 December 2021.

Overall, the Engagement Session with MIDA's E&E Division was very fruitful, and witnessed a very active Q&A session. TEEAM hopes to strengthen this highly beneficial co-operation with MIDA through more such positive engagements in the near future.

Following is the link to the contact details of the various Divisions at MIDA:

<https://www.mida.gov.my/home/staff-directory/posts>



Attentive – Engagement Session in progress.



Warm welcome – Mr Lee Peng Sian (TEEAM Honorary Secretary) welcoming MIDA Officials and TEEAM members to the session.



MIDA Officials – (from left) Ms Rowena Chin I-Lin (Senior Assistant Director, E&E Division), Ms Jasbir Kaur (Executive Director, Manufacturing Development, Non-Resource) and Ms Rosedalina Ramlan (Senior Deputy Director, E&E Division).



Valuable information – Ms Rowena Chin I-Lin (Senior Assistant Director, E&E Division) enlightened TEEAM members on the assistance and facilitation offered by MIDA.



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Awesome! – TEEAM's Inaugural Public Discourse on Electrical Safety Awareness 2019.

Public Discourse on Electrical Safety Awareness 2019

In collaboration with the Energy Commission (Suruhanjaya Tenaga – ST), TEEAM successfully organised its inaugural Public Discourse on Electrical Safety Awareness 2019 (ESA 2019) on 2 November 2019 at the New World Hotel, Petaling Jaya. It is the first of the EVOLVE Knowledge Series that TEEAM is organising to promote electrical safety and drive sustainability. ESA 2019 aimed to increase and strengthen awareness on electrical safety amongst stakeholders of the building and construction sectors. Themed “The Shocking Truth! – Knowing the Electrical Risks of your Property”, the maiden event received strong participation from the electrical industry, including contractors, developers, consultants, property owners/managers and competent personnel.

“In an increasingly challenging building and construction landscape, TEEAM and our members take pride in the continuous championing of Electrical Safety Programmes, and we believe ESA 2019 serves as the perfect platform to connect and engage with all stakeholders in one common and impactful environment. Among some key initiatives undertaken by TEEAM in the past includes its highly effective nationwide roadshow to promote the self-testing of Residual Current Device (RCD) – a safety device that detects current leakage and protects users against electrocutions” said Mr Siew Choon Thye, TEEAM President, in his Keynote Address. Datuk Ir Azlan Robert Abdullah, TEEAM Safety & Compliance Chairman said: “With the collaborations with ST, we strongly believe that ESA 2019 can drive and improve the level of awareness amongst all stakeholders, whilst providing a perfect opportunity for both TEEAM and ST to update the industry on the latest applicable legislations, guidelines and



Panel Discussion – (from left) Ms Ixora Ang (Moderator), Ar Anthony Lee Tee (Architect Centre's Accredited Trainer & Inspector), Ms Joanna Lenta Samana (ST's Assistant Director of Electrical & Gas Safety Development Unit) and Ir Kok Yen Kwan (TEEAM Vice President and Engineering Construction & Services Chairman).

best practices, including the development of policies, codes and guidelines”.

The first Speaker was Ar Anthony Lee Tee, Architect Centre's Accredited Trainer & Inspector who spoke on the topic: “Electrical Hazards: The Real Kisah Benar (True Case)”. He said that while the authority has adequate laws, there are still properties and buildings with arising safety concerns stemming from designs, construction and maintenance issues.

The second Speaker was ST's Assistant Director of Electrical & Gas Safety Development Unit, Ms Joanna Lenta Samana with her topic on “Electrical Safety Compliance: Regulators' Update”. She highlighted the statutory requirements for water heater systems and installation of RCDs.

The third Speaker was Ir Kok Yen Kwan, TEEAM Vice President and Engineering

Construction & Services Chairman, who spoke on: “Is Your Building Electrically Safe? How Sure Are You?” He stressed that electrical safety is everyone's joint responsibilities and therefore urged all to observe safe and regulatory-compliant practices. He added that TEEAM looks forward to working with all sectors including the public in cultivating knowledge and awareness for a safer built environment.

A grand lucky draw rounded up the event when three attractive gifts of Blueair Joy S Air Purifiers were presented to the joyful lucky winners. ESA 2019 successfully attracted an overwhelming 200 participants. A big thank you to all ESA 2019 Programme Partners and Supporters, namely ST, Hager, Megahock, Wisepro, Architect Centre, iProperty, PR Newswire and Visionary Solutions, for your great contributions in making this important event a great success!



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Snapshots of Public Discourse on Electrical Safety Awareness 2019





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Good meeting – Delegates posing after the AFEEC-FAPECA Board Meetings.

AFEEC-FAPECA Conference & Meeting in Gwangju, Korea

The 2019 Conference and Meeting of the ASEAN Federation of Electrical Engineering Contractors (AFEEC) and the Federation of Asian-Pacific Electrical Contractors Associations (FAPECA) was held from 6 to 8 November 2019 at the KDJ Convention Centre, Gwangju Metropolitan City, Korea. The Grand event was held in conjunction with BIXPO 2019, an Exhibition on Power Energy organised concurrently by KEPSCO. It provided good insights to the Korean power industries' latest technology and also offered business matching opportunities to all the delegates.

The Conference and Meetings were hosted by the Korea Electrical Contractors Association (KECA). There was overwhelming participation from members of AFEEC and FAPECA, namely, the National Associations including the Association of Indonesia Electrical and Mechanical Contractors (AKLI), Taiwan Electrical Contractors Association (TECA), Hong Kong Electrical Contractors Association (HKECA), Thai Electrical & Mechanical Contractors Association (TEMCA), Singapore Electrical Contractors & Licensed Electrical Workers Association (SECA), The Society of Philippines Electro-Technical Constructors and Suppliers (SPECS) Inc., KECA and TEEAM.

Conference on “Power System Interconnection”

A Conference on “Power System Interconnection” was held on the morning of 7 November 2019. The theme was an interesting one as electrical power interconnection spans over townships and across country. The design and implementation will have great impact on its complex inter-dependency on power quality, reliability and prevention of power disturbance, and also outage. Nowadays, with the advancement of Internet of Things (IoT) and Digital Transformation, these smart technologies are pre-integrated



Theme “Power System Interconnection” – Conference in progress.



Cheers! – Heads of Delegation proposing a toast during the Welcome Dinner.

with the power system to enhance system performance. Mr Moon Jae-Do, Former Vice Minister of Trade, Industry and Energy, Korea, gave a Keynote Speech. This was followed by the presentation of very interesting and highly informative Conference Papers. The enlightening topics were:

- Energy Connectivity for the Unity of NEA, by Mr Cho Hwan-Eik, Former CEO of KEPSCO.
- Malaysian Power System Interconnection – An Overview, by Datuk Ir Azlan Robert Abdullah, TEEAM Malaysia.
- Power System Interconnection

Neighbouring Countries, by Mr Prutichai Chonglertvanichkul, TEMCA Thailand.

- A Study on the Planning of Medium Voltage Direct Current in Korea, by Mr Yoo Dong-Wook, Korea Electro-Technology Research Institute.
- Power System Interconnection, by Ir Dr F C Chan, HKECA Hong Kong.
- An Overview and Update of Singapore's Electrical System, by Mr Somchai Virabhak/ Mr Edward Kway, SECA Singapore.
- Establishment and Operation of Disaster Prevention Micro-Grid, by Dr Cho Ming-Yuan, TECA Taiwan.



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1. HAT 821 controller - Two Utilities sources with bus tie controlling two main circuit breakers & Bus Tie breaker
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3. HAT 833 controller - Two Utilities sources with GenSet/UPS source controlling three Main circuit breakers



HAT 700B



HAT832



HAT833

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- Power System Interconnection, by Engr Arthur N Escalante, SPECS, Philippines.

It was an excellent opportunity for all delegates to learn from other member countries' practices and systems.

Welcome Dinner

A Welcome Dinner was hosted by KECA for all the delegates. It was a good occasion to network with M & E contractors and suppliers from ASEAN and the Asia-Pacific regions. The night was filled with awesome Korean cultural performances, lively singing and also highly entertaining dances. The stage's powerful LED backdrop graphics sank in extremely well with the accompanying praiseworthy stage performances. Everyone present truly enjoyed the Dinner.

AFEEC-FAPECA Board Meetings

The 57th AFEEC Council Meeting and 33rd FAPECA Executive Board Meetings were

FAPECA Executive Board Meetings were convened smoothly on the afternoon of 7 November 2019. Both the meetings proved to be excellent avenues for networking and for exploring business opportunities. The Meetings witnessed the official hand-over of the FAPECA Presidency from Mr Ryu Jae-Sun of KECA, Korea, to Mr Emil Yu of HKECA, Hong Kong. Mr Emil Yu now helms the FAPECA Presidency for the 2020-2021 term. The AFEEC Presidency is helmed by Engr Arthur N Escalante of SPECS Philippines for the 2019-2020 term.

This Annual Meeting is important in order to bind members in achieving the common objectives, one of which is to promote and recommend rules plus standards that will govern the regional operations of the electrical engineering contracting industry. This is to ensure and foster fair and healthy competition among the members, in a cordial atmosphere of win-win constructive co-operation and mutual understanding.

Farewell Dinner

A casual Farewell Dinner was hosted by KECA at the Laboum Wedding Hall to bid farewell to the foreign Delegates. KECA gave a blue denim shirt for each delegate as a souvenir for remembrance and everyone wore it that night. It was a fun-filled night with highly entertaining Karaoke singing and dancing amongst the Delegates.

Thank You

The Delegation from TEEAM truly enjoyed KECA's warm hospitality. TEEAM thanked the great host, KECA, for putting up such tremendous hard work and great effort, in organising such a fantastic and memorable event for all delegates. Congratulations!

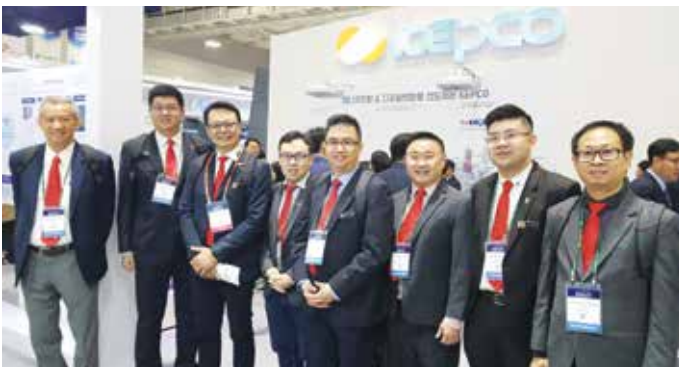
HKECA is slated to host the 2020 AFEEC-FAPECA Conference and Meeting in Hong Kong from 6 to 8 May 2020 in conjunction with the Build4Asia 2020 Exhibition.



Datuk Ir Azlan Robert Abdullah – Presented TEEAM's Paper on "Malaysian Power System Interconnection – An Overview".



Meeting in progress – The 57th AFEEC Council Meeting.



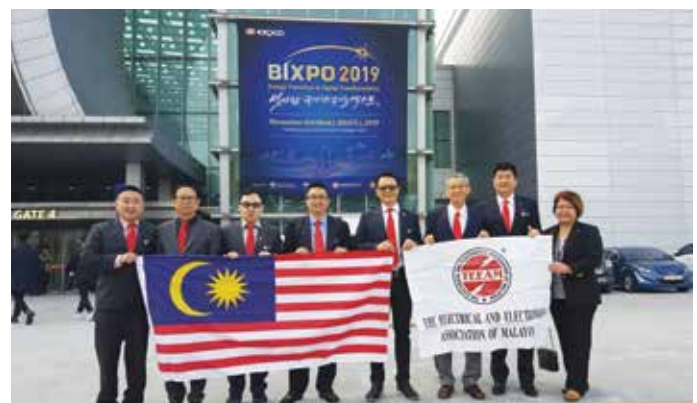
TEEAM's Delegation – (from left) Datuk Ir Azlan Robert Abdullah (Safety & Compliance Chairman and Council Member), Mr Lee Peng Sian (Honorary Secretary), Mr Siew Choon Thye (President), Ir Kok Yen Kwan (Vice President and Engineering Construction & Services Chairman), Mr Simon Leong (Vice President and Manufacturing Chairman), Ir Dr Ng Kok Chiang (Assistant Honorary Secretary), Mr Lim Sai Seong (Honorary Treasurer) and Ir Chang Yew Cheong (Deputy President).



Good Conference – TEEAM's Delegation posing with Mr Ryu Jae-Sun, KECA President (centre) after the Conference.



All smiles – TEEAM's Delegation posing with Mr Ryu Jae-Sun, KECA President (4th from right) at the Farewell Dinner.



At BIXPO 2019 Exhibition – Contingent from TEEAM Malaysia.



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CSUDET 2019

Marking the four years of the EW, CFL & FL recycling programme, the 6th IEEE Conference on Sustainable Utilisation and Development in Engineering and Technologies (CSUDET 2019) was successfully held from 7 to 9 November 2019 at Shangri-La's Rasa Sayang Resort & Spa in Penang. The Conference was co-organised by the Malaysia CIE (MyCIE), IEEE Multimedia University (MMU) Student Branch, IEEE Systems, Man and Cybernetics Malaysia Chapter (IEEE SMC), Multimedia University Research Institute for Digital Enterprise (RIDE) and supported by TEEAM.

With more than 100 submitted papers from 18 countries and seven highly acclaimed invited industrial speakers (i.e. Datuk Ir Ahmad Fauzi Hasan from ST, Mr Yong Boon Heng from TNBX, Prof. Dr Rajendran from Monash University, Dr Rezal Khairi Ahmad from Nano Malaysia, Ir Looi Hip Peu from Mektricon, Mr Alok Ghose from Signify and Mr Zaini Abdul Wahab from Green Pacer) the Conference attracted 65 participants from all around the world. There were a variety of presentations on topics related to technology sustainability. The event was a good platform for PHD students, research scholars, researchers, academic professionals from



For the album – Group photo after the closing ceremony

all around the world to share their research projects with the experts involved in the same domain.

Highlight of the event was, during the Gala Dinner, Mr Narendren Rengasamy, MyCIE Chairman officially handed over the EW, CFL & FL recycling programme to Dr Tan Ching Seong, iCYCLE Malaysia CEO who will continue the activities at own cost. This Conference was a big success and has set a high standard for future conferences. A huge thank you to the Organising Committee and all the Sponsors for supporting this Conference!



EW, CFL & FL Recycling Programme Hand-over Ceremony – (left) Mr Narendren Rengasamy (MyCIE Chairman) to Dr Tan Ching Seong (iCYCLE Malaysia CEO).

Snapshots of CSUDET 2019





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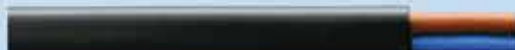
Alarm Cable (Tinned / Pure Copper)



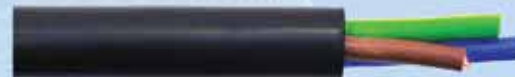
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Snapshots of CSUDET 2019



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Q&A Session with Master Builders Journal (MBJ)

In December 2019, TEEAM President, Mr Siew Choon Thye, participated in a Question & Answer (Q&A) Session organised by the Master Builders Journal (MBJ), an official publication of the Master Builders Association Malaysia (MBAM). Following is the transcript of the Q&A Session that was published in MBJ #117, Volume 4, 2019.

Q: How did your Association fare in 2019? What were your Association's goals set for 2019 and did your Association achieve them?

A: 2019 has been an exciting year for TEEAM. We saw many enthusiastic members come forward to serve the organisation. In conjunction with the new Malaysian Government to promote the E&E industry, along with the mandate from the members and trust from the Council, the team has been actively participating in various Government-NGO Dialogues and Meetings in order to escalate the wisdom accumulated since 1952 to the current Government, with a view to improve E&E trade and also to create opportunities for members.

We have also made structural changes for Committees and Sub-Committees to better promote Electrical Safety within the Association and the general public, improve our engagements and interactions with the relevant Government Bodies, Authorities and NGOs, especially the Ministry of International Trade & Industry (MITI), Malaysian Investment Development Authority (MIDA), Malaysia External Trade Development Corporation (MATRADE), Malaysia Productivity Corporation (MPC), Public Works Department (i.e., Jabatan Kerja Raya, JKR), Tenaga Nasional Berhad (TNB), Energy Commission (i.e., Suruhanjaya Tenaga), Institution of Engineers, Malaysia (IEM) and others, on the matter of policies, industry standards, and also to facilitate domestic and export business opportunities. Currently, TEEAM pro-actively leads the NEXUS MEPN Work Group 4 which provides a specific channel for the Machinery and Electrical (M&E) industry to further industry concerns to the relevant authorities and ministers.

We also saw many new faces organising major events. At the three recently-completed sports events, we saw golf players capitalising on the opportunity to play against Malaysian professional golfers in our professionally-organised Golf Competition at the IOI Palm Garden Golf Course; our badminton players having the chance to learn a few tips from former Malaysian shuttlers during the Competition, and a very warm participation from various members, at the Bowling Competition.

A recently-completed Seminar at the New World Hotel on 'Public Discourse on Electrical Safety Awareness' drew great attention from the public and the authorities as well. This is witnessed through the overwhelming response and attention in social media as well as media reports.

We will continue to drive the organisation towards the objective of especially focusing on facilitating trades, promoting safety and standards and also to propagate awareness on environmental protection, especially in the area of E-hazardous waste.

Q: How do you think the construction industry fared overall in 2019 compared to the last five years?

A: Overall, we witnessed a decline in the construction industry between 2014 and 2018. In 2014, GDP of the construction industry grew by a Compound Annual Growth Rate (CAGR) of 9.6% to reach RM70.11 billion, representing 4.8% of Malaysia's total GDP. In 2018, the GDP of the construction industry registered a moderate growth of 5.3% compared to 8.9% in 2017. This was mainly due to higher levels of over-supply of residential and commercial properties.

In 2019, according to the mid-term review of the 11th Malaysia Plan, the Government is targeting to provide electricity supply to an additional 41,160 houses to achieve the goal of 99% electricity coverage in rural areas by 2020 – an increase of 2.9% in electricity coverage, from 96.1% in 2017. Overall, the growth of the construction industry in 2019 is expected to record a lower growth compared to 2018. Nevertheless, the residential property market is expected to recover in the coming years in light of several initiatives announced under Budget 2020 to encourage demand for residential properties, such as the National Home Ownership Campaign and the creation of 'Property Crowdfunding' platforms as an alternative source of financing for first-time home buyers. Furthermore, the residential property market is also expected to be supported by Government initiatives to develop more affordable housing units.

Q: Tell us about specific areas in your trade/industry that have done well and what contributed to their success.

A: Those members who are involved in providing specialised services, such as Renewable Energy and also Data Centres, are seen to have had reasonable performance. The Government policies on renewable energy also created some excitement in our E&E sector. The demand for big data and the digitalisation of the economy in our country has caused the information storage and data

retrieval sectors to grow at an exponential rate.

The distributive trade in our electrical and electronics industry had been doing reasonably well despite the challenging business environment. We

believe that our members' years of track record, offering comprehensive product ranges, timely delivery, as well as emerging young leaders, are a few key success factors.

In addition to that, we saw E&E manufacturers capitalising on the weak national currency as well as the trade war between the industry giants, to benefit from them.

Q: Which areas do you think requires attention/development to spur growth in your trade/industry?

A: Talent to spur Research and Development. This is the core of producing marketable and cutting-edge products to consumers. However, many companies are reluctant to invest in R&D due to lack of talent as well as unclear ROIs. In line with this, we also believe that there is a need for product testing facilities to ensure electrical products manufactured are of the best quality and safety.

We hope to see the Government's strong support in the procurement policy to support the local industry. TEEAM has highlighted on many occasions the importance of the Malaysian Brand Programme that could raise Malaysian product quality and also increase export.

We also hope that the Government would place a high priority in ensuring that we have a comprehensive eco-system, especially in the areas of tax and financing. The E&E industry (which consists mostly of SMEs) had always been considered an 'undesirable segment' as bankers preferred to go after the more sizeable Corporate Business segment. Also, electrical SMEs, just like other SMEs, were viewed as risky segments.

There is a need to accelerate industry adoption of Industry 4.0-related technologies, thereby increasing the contribution of the E&E manufacturing sector to the national economy.

Q: Why do you think those areas are important and how can industry players, related trade or governing bodies and other stakeholders contribute/nurture their development?



Mr Siew Choon Thye
TEEAM President

Smart Connections, Smart City...

The Intelligent Light Control System (iLCS) is a lighting management system to support Smart City vision to provide a safer living environment. iLCS® allows the municipalities to control luminaires remotely and manage useful data effectively. (e.g., energy consumption, air quality & traffic data). City planners are able to configure and schedule lights at a specific timeframe by dimming, on or off. iLCS® makes it easy to control and automate your lights from anywhere and anytime.

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Participation Award
by Abu Dhabi Smart City Summit 2019

A: If innovative funding is available in this area, we might see companies becoming more willing to invest part of their earnings in Research and Development efforts, as the risk would be reduced. With better products that cater to the needs of consumers, Malaysian manufacturing in E&E can improve and hence contribute to the overall GDP growth. The pre-requisite to export is to have the ISO Certification. We hope the Government would help the SMIs and SMEs in this area. Simultaneously, a policy to nurture local talents to incubate local experts and establish a local Centre of Excellence must also be actively promoted.

We hope that MITI will support our call to “Buy Made-in-Malaysia Products” and influence all Government Agencies and GLC companies to buy locally-made goods in their procurements. TEEAM has also proposed promoting Malaysian brands in-line with this, to uplift the quality and reputation of Malaysian brands. We have also outlined that these SMIs and SMEs should be given help with basic ISO and International Certifications as this is the pre-requisite for the export market. We also urge MITI to not only concentrate on the promoted industries but also across all industries, especially industries such as cable, switchboard, bus-duct, and others.

To assist SMEs so that they have better cash flows, we appeal to the Government to consider waiving the stamp duty on additional trade lines. Currently, the stamp duty plus legal fees total approximately 1% for additional trade lines and this actually poses a great burden on the SMEs. In addition to that,

we would like to appeal to make applications for SME loans, business trade line and other facilities to be more flexible.

Another reason the SMEs need more funds is because of the long credit culture in Malaysia. We would like to urge the Government to look into the possibility of instituting shorter payment terms and also convert the retention sum in the form of a bank guarantee.

The industry needs easier and hassle-free yet proper access, to funding of the transformation of Malaysia’s E&E industrial capabilities, by supporting the right eco-system for Industry 4.0, in order to make Malaysia a preferred high-technology manufacturing location for the E&E Industry. The Ministry should work hand-in-hand with the Association and also our E&E industry to support the adoption of digital transformation across the three main sectors in the E&E industry, namely, Engineering Construction and Services, Trading and also Manufacturing, in order to develop a successful digital economy for the nation.

TEEAM urges the Government to also look into the speeding up of digitalisation by enabling the companies, which are already showing active initiatives, regardless of whether they are listed entities or not.

Q: What’s on your wish list for the next year and in the next five years with regards to your Association’s and the construction industry’s?

A: Within the next year:

- (i) SMEs and SMIs will be motivated to elevate their profiles and also innovate to

be competitive locally and subsequently be ready for export.

- (ii) For larger GLCs and LLCs that invest overseas, to bring Malaysian companies along with them, when they are working on their projects in foreign countries. This would also help promote Malaysian brands.
- (iii) Product electrical safety and concerns, especially on the End of Life, will continue to be pushed as a policy by the Government.

Within the next 5 years:

- (i) That the Government take stern action on sub-standard product producers.
- (ii) Industry self-regulation with strong Government enforcement support.
- (iii) An active role to be played in the world on emerging concerns on the technological changes, climate change and also humanity.
- (iv) The industry to have incorporated Industry 4.0, or at least partially, to take the industry to even greater heights of success.

Acknowledgement:

TEEAM hereby wishes to extend sincere thanks to MBJ for this enlightening Q&A Session with a noble view to highlight the arising matters and also the current direction of pro-active plus strategic, industry-related thrusts by TEEAM.



Market Development Grant (MDG)

The Market Development Grant (MDG) is an export facilitation in the form of a re-imbursable grant. It was introduced in 2002 by the Malaysia External Trade Development Corporation (MATRADE). MDG is aimed at supporting Malaysian SMEs (Small and Medium Enterprises), Professional Service Providers, Trade and Industry Associations, Chambers of Commerce, Professional Bodies and Co-operatives, in their core expenses in promoting Malaysian-made products or services globally. The maximum ceiling amount has been increased from RM200,000 to RM300,000 per life time effective 1 January 2020.

[Note that all MDG re-imbursements are subject to the availability of Government funds]

What activities are eligible for MDG?

- Participation in International Trade Fairs or Exhibitions
- International Trade Fairs or Exhibitions held in Malaysia

- International Trade Fairs or Exhibitions held overseas
- Participation in Trade & Investment Missions (TIM) or Export Acceleration Missions (EAM)
- Participation in International Conferences Held Overseas
- Listing Fees for Made-in-Malaysia Products in Supermarkets, or Hypermarkets, or Retail Centres, or Boutique Outlets Located Overseas

What are expenses eligible for MDG?

- Participation fee or Booth rental
- Booth construction or Enhancement
- Air fare
- Public land transportation - bus, taxi or train from Malaysia to an ASEAN country destination only. (Does not include ground/inter-city transportation within that ASEAN country destination).
- Accommodation
- Listing fees

What are the requirements for MDG Application?

- Must be registered as a MATRADE member
- At least 60% equity is owned by Malaysian
- Exporting Made-in-Malaysia products and services
- Active in business, more than one year in operation, and able to provide Audited Financial Statement.

Submission & Enquiry

All completed applications must be submitted online through MATRADE’s website at www.matrade.gov/mdg.

The MDG Guideline 2020 can be downloaded from www.matrade.gov.my. All enquiries on MDG can be sent to:

Market Development Unit
MATRADE
Tel: +603-6207 7593
E-mail: mdg@matrade.gov.my

Source: MATRADE

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The 83rd IEC General Meeting (GM) and Meetings of Technical Committee (TC) & Standard Committee (SC) were held from 19 to 24 October 2019 at Shanghai EXPO, China. The objective was to bring stakeholders together to decide on current issues and future directions plus strategies for IEC. The theme of the 2019 IEC GM was “Better Quality Better Life – Reliability, Safety, Efficiency”.

Close to four thousand delegates from 173 countries were present to discuss future goals and to take stock of IEC’s standardisation and conformity assessment work. Malaysia’s CIE/

TEEAM was represented by Mr Narendren Rengasamy and Mr Lim Sai Seong for the SC34A, B, C, D and TC34 meetings. The objectives of participation from Malaysia were to strengthen the relationships with the IEC TC Members and to understand the latest developments of the lighting-related standards in order to bring up the quality of Malaysian local products.

This General Meeting was a great platform for industry leaders, technology experts, regulators, academics and other stakeholders who were meeting to discuss future goals. It was also to

take stock of IEC standardisation and conformity assessment work as well as future directions plus strategies of IEC. It combined Management and Technical Meetings featuring representatives from major global organisations. More than 100 meetings were held during this year’s IEC GM. Experts from more than 50 countries presented and discussed recent updates, current challenges and arising vital issues.

It was a truly beneficial and fruitful experience for all delegates. Congratulations to IEC for organising such a meaningful event, thank you!



Opening Ceremony – IEC President, Mr James M Shannon addressing the 83rd IEC General Meeting.



Technical Meeting TC 34 – Meeting in progress.



Delegates from Malaysia CIE (MyCIE) – (left) Chairman, Mr Narendren Rengasamy and former Treasurer, Mr Lim Sai Seong.



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DC Moulded Case
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Technical Visit to LINKK Busway Systems

A Technical Visit to LINKK Busway Systems (M) Sdn Bhd was organised for TEEAM members on 23 August 2019. The industrial plant is located in Taman Perindustrian Mahkota, Beranang, Selangor. The objective of the Technical Visit was to get first-hand information about busduct production and it also created a platform which provided opportunities for members to get to know LINKK's range of products.

Established in 2010, LINKK Busway is a leading designer and manufacturer of busduct trunking systems in Asia Pacific. They have successfully supplied their systems to thousands of projects in the local and overseas markets. LINKK Busway produces busducts with a high-efficiency epoxy insulation system. Good heat dissipation, high mechanical strength and waterproof features, enabled their products to attain all the requirements of the International Standard IEC 61439-6: 2012, Low-voltage Switchgear and Controlgear Assemblies - Part 6: Busbar Trunking Systems (Busways). Research and Development efforts are always their focus and their noble aim is to become the leading busduct manufacturer in the world, with best

customer support and total commitment in product quality.

Upon arriving at LINKK Busway, a light breakfast was served to all participants. They were cordially welcomed by Mr Jason Lim, LINKK Busway's Director. Thereafter, participants were briefed on the plant information and products' portfolio before proceeding for a tour of the production site.

During the tour, participants were provided with interesting technical information on busduct production activities.

Overall, it was a truly beneficial trip for all participants. TEEAM hereby wishes to record its appreciation and sincere thanks to LINKK Busway for the interesting Technical Visit which had attracted some 27 participants from TEEAM's membership.



All smiles – Group photo of participants with LINKK Busway's Officials.



Thank you – (left) Ir Chang Yew Cheong (TEEAM Deputy President) presenting a Certificate of Appreciation to Mr Jason Lim (Director of LINKK Busway).



Welcome Address – Mr Jason Lim, LINKK Busway's Director speaking to the participants.

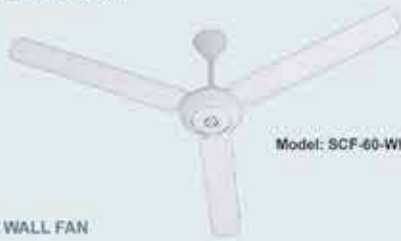
LINKK Busway's Plant



SINO Electric Fans



60" CEILING FANS



Model: SCF-60-WH



Model: SCF-60-BK

16" WALL FAN



Model : SWF-16-C

EXHAUST FANS SERIES



Model: SCX-8 / SCX-10
CEILING MOUNTED



Model: SWX-8 / SWX-10 / SWX-12
WALL MOUNTED

18" COMMERCIAL FANS



Model : SSF-18-C
(ORANGE)



Model : SSF-18-C
(GREEN)



Model : SWF-18-C
(ORANGE)



Model : SWF-18-C
(GREEN)

20" COMMERCIAL FANS



Model : SSF-20-D



Model : SWF-20-D



Model : SWF-20-DR



Model : SFF-20-D

26" INDUSTRIAL FANS



Model : SSF-26



Model : SWF-26
(WALL MOUNTED)

HD OCTAGONAL INDUSTRIAL VENTILATION FANS



Model : SX-12 / SX-16 / SX-18 / SX-24

HD INDUSTRIAL EXHAUST FAN (LOW NOISE)



Model : SXL-12 / SXL-16 / SXL-18 / SXL-20





IEC YPs 2019 – A total of 88 IEC YPs from 41 countries participated in the IEC YP Workshop 2019.

2019 IEC Young Professionals' Programme in Shanghai

The Young Professionals' Programme organised by the International Electro-Technical Commission (IEC), was developed as a way for the IEC and its National Committees to reach out to the younger generation of experts, managers and leaders, in order to encourage their long-term participation in standardisation and conformity assessment activities. This helps guarantee continuity in the availability of high-quality experts, enabling the IEC to maintain its focus on responding to market needs on a long-term basis. IEC is the world's leading organisation (founded in 1906) that publishes international standards for electrical and electronics-related technologies.

The 10th IEC Young Professionals Workshop was conducted from 20 to 23 October 2019 in Shanghai, China, in conjunction with the 83rd General Meeting of IEC. It was successfully hosted by the National Committee of China and Standards Administration of China. An overwhelming four thousand delegates from 173 countries attended the General Meeting.

At this event, stakeholders come together in an international setting to decide on current issues and future directions and strategies for the IEC. The General Meeting has a unique format, combining management and technical meetings and bringing all the key players together on one stage.

The IEC Young Professionals' Workshops presented a series of interactive sessions on topics including Artificial Intelligence (AI), the Internet of Things (IoT), getting products onto the global market faster, the standards development process, the systems approach to standards management, and also striving to understand more about the United Nation's Sustainable Development Goals.

There were 88 Young Professionals (YPs) representing 41 National Committees (NCs). The YPs were selected by their NCs to represent their respective countries. This year's Malaysian IEC YPs were represented by Mr Dom Chow Seng Chuen from TEEAM, Ir Tay Eng Chong from IEM and Mr Arif Asyraf Rashid from Panasonic. They

were selected by the Malaysian NC led by Standards Malaysia.

At the Workshop, the YPs learnt more about IEC and its standardisation plus conformity assessment work. They discovered how IEC approached emerging trends and technologies and learnt about the importance of having full representation in the NC structure. Each YP had the choice of observing part of either the Standardisation Management Board (SMB) or the Conformity Assessment Board (CAB) meetings, which enabled the YPs to gain insight into how IEC Management Meetings operated. They also experienced IEC in action by observing part of a Technical Meeting. This observation was then followed by a hands-on exercise simulating a Technical Meeting. The Workshop included numerous break-out and interactive sessions to provide participants with the opportunity to share their thoughts and views. Overall, this IEC YPs' Programme was very valuable and was of great benefit to all the YPs who attended the session. A big thank you to IEC and Standards Malaysia from TEEAM!



Overwhelming – Delegates at the 83rd IEC General Meeting 2019.



IEC YPs, Malaysian Representatives – (from left) IEC YPs 2019, Ir Tay Eng Chong, Mr Arif Asyraf Rashid & Mr Dom Chow Seng Chuen, and former IEC YPs, Mr Lim Sai Seong, Ir Yau Chau Fong & Mr Alex Looi Tink Huey.

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Model-DV M TT



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Group photo for record – The meeting entailed valuable discussions and effectively proved to be a good sharing session.

TEEAM – ST Meeting

On 4 February 2020, TEEAM had a productive meeting with the Energy Commission's (Suruhanjaya Tenaga – ST) Director of Safety Regulation, Ir Hj Md Zakuan Hj Ibrahim, and his Senior Officers. TEEAM President, Mr Siew Choon Thye, led the 7-member delegation from TEEAM. The meeting discussed Street Lighting Safety, concerns regarding the Enforcement of the Lightning Protection System, and Wiring Guidelines for Residential Buildings.

Street Lighting Safety

TEEAM gathered and presented some cases regarding street lighting poles which had been vandalised and tampered with, resulting in exposed wires and components, which posed a hazard to the public. TEEAM also highlighted the various factors that had caused the incidents. TEEAM hoped to engage with ST to raise safety awareness plus resolve the arising safety issues on street lighting across the country.

ST is aware of these issues and had advised the local councils and pole manufacturers to comply with relevant standards and regulations. The Commission had carried out its own investigations upon receiving complaints, and had imposed compounds on those who were found guilty. ST is in support of TEEAM's proposal to develop a Safety Guide for street lighting poles, and is keen to work together with TEEAM in resolving this safety issue. Both parties agreed to jointly organise a Public Discourse on Street Lighting Safety Awareness in order to enhance safety for drivers, cyclists and also pedestrians.

Enforcement of Lightning Protection System

The recent ST's Directive (Arahan/ST/No.4/2019) on the enforcement of lightning protection system had raised concerns amongst members. The Directive is aimed at ensuring the compliance of design, construction, supervision, testing, operation and maintenance of lightning protection in accordance with MS



Attentive – Meeting in progress.

IEC 62305 "Protection Against Lightning". TEEAM highlighted members' four major concerns during the meeting, namely:

- 1) Inventory issue by ESE (Early Streamer Emission) Traders and Manufacturers,
- 2) On-going projects treatment,
- 3) Schedule deadline does not favour the existing ESE Traders/Manufacturers as it will severely affect their business, and
- 4) How to enforce completed buildings to comply with the required standard.

ST's feedback implied that the Commission had taken note of the inputs from various parties before enforcing the said standard. This standard is nothing new to the industry as a circular had been issued by ST since 2011 (ST/IP/PK/JKKE/PK03/2011) on the use of MS IEC 62305 "Protection Against Lightning". All ESE Traders/Manufacturers had been given sufficient time to comply with the standard and to manage their businesses as well as their inventories.

For the ESE system, ST is of the opinion that not all inventories are becoming obsolete as there are quite some parts that can still be used for the installation, so long as they could comply with the stipulated standard. As for the existing projects, they are given the needed time to complete, and for those critical installations stated, they are expected to highlight and mitigate the cost impact with

the owners. The public is also given time to comply in stages until 2023 (please refer to page 32 for the detailed Directive). ST is firm on the enforcement, and grievances highlighted earlier are deemed to be compromised with respect to the enforcement of the standard. For any attempt to influence the standard, it is required to be officially taken to the Technical Committee level.

ST's Wiring Guidelines for Residential Buildings

TEEAM raised issues on some discrepancies found in ST's Wiring Guidelines for Residential Buildings. ST highlighted that the Commission is currently in the midst of establishing a Technical Committee and is inviting participation from stakeholders, TEEAM included, to prepare a comprehensive wiring guidelines for residential buildings, to be used by all parties as a reference. The kick-off meeting will commence soon.

Thank You

The meeting entailed valuable discussions and effectively proved to be a sharing session for both parties. TEEAM thanked Ir Hj Md Zakuan Hj Ibrahim and his Senior Officers for the time and opportunity to meet up to resolve the arising issues. The fruitful meeting capped off with a group photography taken for the record.

Enforcement on Lightning Protection System for Buildings

The Energy Commission (Suruhanjaya Tenaga - ST) has just issued the following directive on the enforcement of "MS IEC 62305 Protection Against Lightning" for Lightning Protection System for Buildings.

LAMPIRAN 2



AKTA BEKALAN ELEKTRIK 1990 [AKTA 447]

ARAHAN SURUHANJAYA TENAGA BILANGAN 4 TAHUN 2019

Arahan/ST/No. 4/2019

PADA menjalankan kuasa yang diberikan oleh Seksyen 50C(1) Akta Bekalan Elektrik 1990 [Akta 447], Suruhanjaya mengeluarkan arahan berikut:

Nama dan tarikh mula berkuatkuasa

1. Arahan ini bolehlah dinamakan Arahan Penguatkuasaan Pemakaian Standard Malaysia MS IEC 62305 – *Protection Against Lightning* Bagi Sistem Perlindungan Kilat Di Bangunan.
2. Arahan ini hendaklah mula berkuatkuasa pada tarikh ianya didaftarkan.
3. Dengan berkuatkuasanya Arahan ini, maka Pekeliling Bilangan 3/2011 Mengenai Penetapan Kaedah Pemasangan Sistem Perlindungan Kilat Di Bangunan-Bangunan, bertarikh 1 September 2011 adalah ditarik balik dan terbatal.

Pemakaian

4. Arahan ini hendaklah terpakai ke atas semua pemasangan Sistem Perlindungan Kilat di bangunan mulai tarikh Arahan ini dikuatkuasakan.
5. Arahan ini hendaklah digunakan oleh semua Orang Kompeten, Kontraktor Perkhidmatan Elektrik, Kontraktor Elektrik, juruperunding, pemunya atau pengurusan bangunan di peringkat reka bentuk, pemasangan, penyeliaan, pengujian, pengoperasian dan penyenggaraan pemasangan Sistem Perlindungan Kilat.

Tafsiran

6. Dalam Arahan ini, melainkan jika konteksnya mengkehendaki makna yang lain-

"Akta" bermaksud Akta Bekalan Elektrik 1990 [Akta 447] dan Peraturan-Peraturan yang dipinda di bawahnya dari semasa ke semasa.

7. Tujuan Arahan ini dikeluarkan adalah untuk menguatkuasakan pematuan kepada kaedah reka bentuk, memasang, menyelia, menguji, mengoperasi dan menyenggara Sistem Perlindungan Kilat mengikut Standard Malaysia MS IEC 62305 *Protection Against Lightning* kepada pihak industri dan awam. Standard ini meliputi bahagian-bahagian seperti berikut:

MS IEC 62305-1:2007 – *General principles*
MS IEC 62305-2:2007 – *Risk management*
MS IEC 62305-3:2007 – *Physical damage to structures and life hazard*
MS IEC 62305-4:2007 – *Electrical and electronic systems within structures*

8. Seksyen 47, Akta Bekalan Elektrik 1990 [Akta 447] mengenai langkah awasan terhadap elektrik atmosfera memperuntukkan:

"Mana-mana jabatan Kerajaan Persekutuan atau mana-mana Kerajaan Negeri atau mana-mana pengguna lain yang mengambil atau menggunakan elektrik daripada mana-mana pemasangan hendaklah, jika Suruhanjaya mengkehendaki sedemikian, memperuntukkan apa-apa kaedah bagi menghindarkan apa-apa risiko kerosakan kepada pemasangan itu melalui elektrik atmosfera sebagaimana yang diarahkan oleh Suruhanjaya atau sebagaimana yang ditetapkan melalui peraturan-peraturan di bawah Akta ini."

9. Selaras dengan peruntukan di bawah seksyen 47, Akta Bekalan Elektrik 1990 [Akta 447], Suruhanjaya dengan ini menetapkan bahawa reka bentuk, pemasangan, penyeliaan, pengujian, pengoperasian dan penyenggaraan alat perlindungan kilat di bangunan-bangunan hendaklah dibuat mengikut kaedah sistem perlindungan kilat yang ditetapkan oleh Standard Malaysia MS IEC 62305 – *Protection Against Lightning*.



Ruj. Tuan :
Ruj. Kami : ST (IP/JKE) PE/ 16/ 14/ 2 (1)
Tarikh : 3 Januari 2020

Suruhanjaya Tenaga
(Energy Commission)
12, Jalan Tan Hui Fatt
Phase 2
62100, Putrajaya
Malaysia
T: +603 9479 8000 F: +603 9486 8017
Toll Free: 1-800-3222-78 (ST)

SENARAI EDARAN SEPERTI LAMPIRAN 1

Y.Bhg Datuk/ Dato/ Datin/ Tuan/ Puan,

ARAHAN PENGUATKUASAAN PEMAKAIAN STANDARD MALAYSIA MS IEC 62305 'PROTECTION AGAINST LIGHTNING' BAGI SISTEM PERLINDUNGAN KILAT DI BANGUNAN

Dengan segala hormatnya, perkara di atas adalah dirujuk.

2. Selaras dengan peruntukan di bawah seksyen 47, Akta Bekalan Elektrik 1990 [Akta 447], Suruhanjaya Tenaga (ST) dengan ini menetapkan bahawa reka bentuk, pemasangan, penyeliaan, pengujian, pengoperasian dan penyenggaraan Sistem Perlindungan Kilat di bangunan hendaklah dibuat berdasarkan Standard Malaysia MS IEC 62305 – *Protection Against Lightning*.

3. Sehubungan dengan itu, ST dengan ini mengeluarkan Arahan dengan nombor pendaftaran Arahan/ST/No.4/2019 pada Lampiran 2 mengenai Penguatkuasaan Pemakaian Standard Malaysia MS IEC 62305 – *Protection Against Lightning* bagi Sistem Perlindungan Kilat di bangunan kepada semua Orang Kompeten, Kontraktor Perkhidmatan Elektrik, Kontraktor Elektrik, juruperunding, pemunya atau pengurusan bangunan untuk pematuan kepada Arahan tersebut.

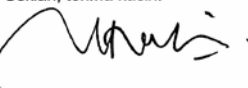
4. Adalah diingatkan bahawa, seseorang yang didapati gagal mematuhi Arahan ini adalah melakukan suatu kesalahan dan boleh, apabila disabitkan, didenda tidak melebihi dua ratus ribu ringgit atau dipenjarakan selama tempoh tidak melebihi dua tahun atau kedua-duanya berdasarkan kepada peruntukan Seksyen 50E, Akta 447.

5. Arahan ini akan terpakai dan berkuatkuasa mengikut jadual berikut:

No.	Peringkat	Tarikh
1.	Bangunan dalam proses perancangan dan pembangunan baru (<i>new development</i>)	1 Januari 2020
2.	Bangunan dalam proses pembinaan	1 Januari 2021
3.	Bangunan sedia ada	Kategori
	3.1 Hospital, institusi pengajian tinggi (IPT), bangunan perniagaan, bangunan perindustrian, bangunan kediaman kondominium, bangunan kediaman apartmen dan lapangan terbang	1 Januari 2021
	3.2 Bangunan kediaman flat, sekolah dan bangunan kerajaan	1 Januari 2022
	3.3 Bangunan kediaman atas tanah (selain daripada kategori dinyatakan pada perkara 3.1 dan 3.2)	1 Januari 2023
4.	Bangunan selain daripada kategori di atas	Akan ditetapkan oleh Suruhanjaya dari masa ke masa

6. Adalah dimaklumkan bahawa, Suruhanjaya boleh mengubah, meminda atau membatalkan Arahan ini pada bila-bila masa.

Sekian, terima kasih.


(Ir. HJ. MD ZAKUAN BIN HJ. IBRAHIM)
Pengarah
Jabatan Kawal Selia Keselamatan
Suruhanjaya Tenaga

Penguatkuasaan

10. Arahan ini akan terpakai kepada bangunan dalam proses perancangan dan pembangunan bangunan baru (*new development*) bermula dari tarikh Arahan ini didaftarkan.
11. Bagi bangunan dalam proses pembinaan, Arahan ini akan terpakai dan bermula pada 1 Januari 2021.
12. Bagi bangunan sedia ada, Arahan ini akan terpakai dan bermula seperti berikut:
 - 12.1 pada 1 Januari 2021 bagi bangunan seperti hospital, institusi pengajian tinggi (IPT), bangunan perniagaan, bangunan perindustrian, bangunan kediaman kondominium, bangunan kediaman apartmen, dan lapangan terbang;
 - 12.2 pada 1 Januari 2022 bagi bangunan seperti bangunan kediaman flat, sekolah dan bangunan kerajaan;
 - 12.3 pada 1 Januari 2023 bagi bangunan kediaman atas tanah (selain bangunan kediaman yang dinyatakan pada perkara 12.1 dan 12.2).
13. Bagi bangunan selain daripada kategori bangunan yang disenaraikan pada perkara 10, 11 dan 12, Arahan ini akan terpakai dan bermula pada tarikh yang akan ditetapkan oleh Suruhanjaya dari semasa ke semasa.

Kesalahan

14. Adalah diingatkan bahawa, seseorang yang didapati gagal mematuhi Arahan Suruhanjaya adalah melakukan suatu kesalahan dan boleh, apabila disabitkan, didenda tidak melebihi dua ratus ribu ringgit atau dipenjarakan selama tempoh tidak melebihi dua tahun atau keduanya berdasarkan kepada peruntukan Seksyen 50B, Akta Bekalan Elektrik 1990 [Akta 447].

Pindaan

15. Suruhanjaya boleh pada bila-bila masa mengubah, meminda dan membatalkan Arahan ini.

Tarikh Daftar: 1 JANUARI 2020



Ketua Pegawai Eksekutif
Suruhanjaya Tenaga

TEEAM – IEM EETD Dialogue

The Institution of Engineers Malaysia Electrical Engineering Technical Division (IEM EETD), held a Dialogue Session with TEEAM on 12 February 2020 at the TEEAM Meeting Room. Representatives from IEM EETD consisted of Ir Chong Chew Fan, Ir Yau Chau Fong, Ir Dr Siow Chun Lim, Ir Lim Kim Ten and Mr Alex Looi Tink Huey. TEEAM was represented by Mr Siew Choon Thye (President), Dato' Ir Lee Peng Joo (Past President), Mr David Chong (Vice President & Trading Chairman), Mr How Chee Seng (CSR Chairman & Council Member), Datuk Ir Azlan Robert Abdullah (Safety & Compliance Chairman & Council Member) and Mr Lawrence Lai (Committee Member).

Items discussed during the Dialogue Session included:

- Engineering Contract Matter whereby IEM will be publishing Sub-Contracts for the Civil and Mechanical & Electrical (M&E) sectors,
- Introduction to ASEAN Engineering Inspectorate - Electrical Installation (AEI-EI) and updates,

- IEM-TEEAM-BEM Route to Professional Engineer for aspiring Young Engineering Graduates,
- Co-organising Workshops, Seminars and Roadshows,
- Young Professionals' Panel to groom young engineers on Standards Development, and

- Electrical Safety concerning handphone chargers, Lighting Poles' Wirings, and Lightning Protection System.

All in all, it was a great session between IEM EETD and TEEAM. Both parties look forward to more fruitful collaborations in 2020 and beyond!



All smiles – A group photo capped off the highly fruitful Dialogue session.



Attentive – Highly engrossed in discussion.

MS IEC 62305

Easy and Safe

Maxi MV clamp with tear-off screw



Saves time : compared to welding, the mounting time of the Maxi MV clamp is considerably reduced.

The clamp with tear-off screw can be mounted easily without using any torque wrench. The tear-off head indicates accurate installation with a defined clamping force. Marking of correctly installed clamps is not necessary. This saves times and simplifies documentation.

The clamp with tear-off screw can be used for high requirements in industrial buildings, in nuclear power plants and for military applications. It fulfills international standards according to IEC 62561.



Benefits :

- Reliable mounting quality by constant torque and defined clamping force
- Easy mounting, no torque wrench needed
- Huge time savings compared to exothermic welding
- No risk for the installer by harmful welding fume
- Established technique (e.g. French nuclear power plants)
- No environmental hazard



	Standard clamp	Welding	Clamp with tear-off screw
Permanent Connection	—	✓	✓
Mounting time	✓ (60 sec) *	— (60 sec)	✓ (30 sec)
Constant installation quality	✓ *	—	✓
Environment-friendly	✓	—	✓
No specific mounting equipment needed	—	—	✓
No preparation of the connection necessary	✓	—	✓
No welding expert needed	✓	—	✓
No risk for the operator by harmful welding smoke	✓	—	✓
Mounting during rain	✓	—	✓
Corrosion-resistant	✓	✓	✓

* when using a torque wrench

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Challenges and Opportunities in the Electrical Industry – Part 35

Ir Chew Shee Fuee KMN, TEEAM Past President

Arahan Penguatkuasaan Pemakaian Standard Malaysia MS IEC 62305 “Protection Against Lightning” Bagi Sistem Perlindungan Kilat Di Bangunan.

[Directive for Enforcement on Usage of Malaysia Standard MS IEC 62305 ‘Protection Against Lightning’ for Lightning Protection System in Buildings].

The above is being enforced by Suruhanjaya Tenaga (Energy Commission) and the stages of enforcement are as follows:

- 1) Buildings under planning: 1 January 2020
- 2) Buildings under construction: 1 January 2021
- 3.1) Existing Buildings: Hospital, Institution of Higher Learning, Commercial, Industrial, Condominium, Apartment and Airport: 1 January 2021
- 3.2) Existing Buildings: Flat, School and Government Building: 1 January 2022
- 3.3) Existing Buildings: House on land other than 3.1 and 3.2: 1 January 2023

The purpose of the Directive is to ensure the compliance of Design, Construction, Supervision, Testing, Operation and Maintenance of Lightning Protection in accordance with MS IEC 62305 “Protection Against Lightning”. This Standard covers the following parts:

- MS IEC 62305-1:2007 - General principles
- MS IEC 62305-2:2007 - Risk management
- MS IEC 62305-3:2007 - Physical damage to structures and life hazard
- MS IEC 62305-4:2007 - Electrical and electronic systems within structures

The penalty of not complying with the Directive is a fine of up to RM20,000.00 or a jail term not exceeding two years.

Air Terminal in an external lightning protection system can be divided into two categories, namely conventional and non-conventional. The conventional system uses Franklin rods or mesh. Early Streamer Emission (ESE) and Dissipation Arrays (sometimes called Charge Transfer Systems-DAS/CTS) are the non-conventional air terminals.

ESE terminal systems have been in use and there is an argument on whether they are just as effective or better than conventional terminals. Evidence of lightning by-passes in ESE systems had been observed and recorded in some international Conference Papers. There is no proof of 100% protection using conventional terminals. For the time being Malaysia will only accept conventional air terminals that are in compliance with MS IEC 62305.

In order to meet the demand for Lightning Protection, it will be important for you to carry out the following steps:

1. Evaluate the need for lightning protection system

The need for protection of a facility is established starting from the evaluation of the degree of safety required and the associated risk factors. Whenever the expected strike frequency is greater than the permissible risk, protection must be installed.

2. Design the Lightning Protection System

Air Terminals, Down conductors. Earthings system and Surge protection.

There are therefore great opportunities in the area of Lightning Protection Design and Construction. Many existing buildings are without Lightning Protection Systems. There are buildings that currently use ESE terminals and they have to be replaced in compliance with MS IEC 62305.

Ir Chew Shee Fuee KMN B Sc (Hons) (Strathclyde), PEng, CEng, FIEM, MIEE Member, IEEE Member, 1st Grade Electrical Engineer (Competent up to 500 kV).

Ir Chew was President of The Electrical and Electronics Association of Malaysia (TEEAM) for 2001-2005 and 2013-2017. He was the President of the ASEAN Federation of Electrical Engineering Contractors (AFEEC) for 2016-2018. He is the former Chairman of The Institution of Engineering & Technology (IET) Malaysia Local Network. Ir Chew is the Managing Director of G H Liew Engineering (1990) Sdn Bhd and Chris Chew Electrical Consultant. He graduated from the University of Strathclyde, Glasgow with a B Sc (Hons) in Electrical & Electronics Engineering. He is a Professional Engineer and is also licensed by the Energy Commission as a Competent Engineer (without voltage limits) and a Service Engineer to carry out electrical testing up to a voltage of 500 kV.



Ir Chew Shee Fuee KMN

Ir Chew has more than 30 years of industry experience in electrical control and relay protection. He is also specialised in electrical site tests on power equipment, electrical fault investigation, service and maintenance of electrical switchgears and relays. His work also includes electrical supervision of sub-stations and electrical audit. He also presents lectures on electrical apparatus and the protection system. He was Vice-Chairman of MyENC (Malaysian Electro-Technical National Committee) and is a Member of Technical Committees (TCs) and Working Groups (WGs) in Standards Development. He can be reached at E-mail: sfchew@ghliew1990.com.



Membership Recruitment Campaign

TEEAM appeals to members to help in recruiting companies and individuals to join the association to strengthen TEEAM's membership base. Incentives are offered by the Membership Recruitment Committee. Members introducing a company member will be entitled to two points, while introducing an individual member will be entitled to one point. The points can be accumulated and used to redeem free advertisements in Suara TEEAM or redeem membership subscription.

For details, please contact the TEEAM Secretariat at Tel: +603 - 9221 4417. The membership application form can be downloaded from the TEEAM website at www.teeam.org.my.

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ACEiC 2019 (Automation & Control Enhancing Innovation Competition)

The International Automation & Control Enhancing Innovation Competition, ACEiC 2019, was a competition that was participated by post-graduate and undergraduate students from international and local universities under the guidance of a lecturer or professor. This Competition was designed as one of the efforts to minimise the gap between the university and industry player, mainly in the Automation and Control industry. Participants were encouraged to apply their knowledge to create a functional prototype in addressing industrial problems based on the development in available technologies, but were not limited to Internet of Things, programming skills, robotics nor automation. Under the theme “Embracing the Change of Industrial Revolution 4.0”, some 50 teams from local and international universities competed and showcased their creative ideas plus innovative products from their Research & Developmental efforts in automation and control-related areas.

The Competition had been successfully organised and was held on 14 and 15

October 2019 at UNITEN. The Main Organisers were Institution of Engineering and Technology - Control & Automation Technical Network and Universiti Tenaga Nasional. Yayasan Canselor UNITEN was their co-organiser. Event sponsorship came from Pestech International, UNITEN R&D, Aerodyne Group, Trisystems Engineering, Independence-X Aerospace and Abbaco Controls. TEEAM was one of the Supporting Organisations. TEEAM Officials, Ir Chang Yew Cheong (Deputy President), Mr Chris Yow (Professional Development & Events Chairman and Council Member) and Mr Harpajan Singh (Committee Member) were amongst those invited as Competition Judges.

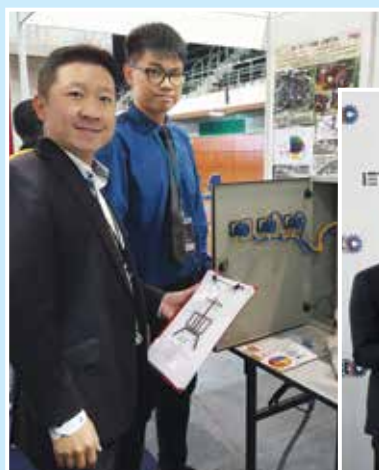
The International ACEiC 2019 was graced by the presence of The Honourable (YB) Dr Ong Kian Ming, Deputy Minister of International Trade and Industry, at the competition award presentation during the closing ceremony. Also present at the ceremony were Prof Dato’ Ir Dr. Kamal Nasharuddin Mustapha (Vice-Chancellor of UNITEN), Ir Amir Farid Abdul



Closing Ceremony – Graced by YB Dr Ong Kian Ming (Deputy Minister of International Trade and Industry).

Majid (Chairman of IET Control & Automation Technical Professional Network), Ir Prof Dr Leong Wai Yie (Chairperson of IET Malaysia Local Network), Mr Paul Lim Pay Chuan (Group CEO of Pestech International) and Ms Birutha Mooruthi (Chief Commercialisation Officer, UNITEN R&D). The Honourable Deputy Minister gave away prizes to the competition winners. Before the event came to an end, all VIPs were given a guided tour of the students’ innovations. Overall, it was a remarkable event.

Snapshots of ACEiC 2019





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CIE 2019 Washington

The 29th Quadrennial Session of the CIE (International Commission of Illumination) was successfully held at The Marriot Wardman Park Washington D.C., USA from 14 to 22 June 2019. The CIE Session, which is a 10-day long event including the CIE Statutory and Technical Meetings was hosted by the National Committee (NC) of USA and Virginia Tech. With 478 participants from more than 30 countries attending, the Conference part of the CIE Session was an inspiring event that included 94 oral presentations, 31 posters presentations with an oral overview, 167 poster presentations and eight workshops. On behalf of NC Malaysia, a 4-member delegation consisting of Mr Narendren Rengasamy, Mr Glenn Tiong, Ms Lim Swee Yong and Dr Vineetha Kalavally participated in the General Assembly, Conference and Technical Committee (TC) Meetings. Mr Narendren gave a powerpoint presentation on the detailed preparations of CIE 2021 Midterm Meeting at the General Assembly and also at the Conference Plenary Session. It was very well received amongst the attendees and CIE CB.

The closing of the Conference of the CIE Session was the time to mark the hand-over of the CIE Presidency from Dr Yoshi Ohno (NIST, USA) to Dr Peter Blattner (Metas, Switzerland). The CIE community thanks Dr Yoshi for his leadership of the CIE over the past four years and is in full support of the initiatives and endeavours that Dr Peter's leadership will bring over the coming four years.



Overwhelming turnout – CIE Session in progress.



General Assembly – Mr Narendren Rengasamy giving an update on preparation for CIE 2021 which will be hosted by Malaysia.

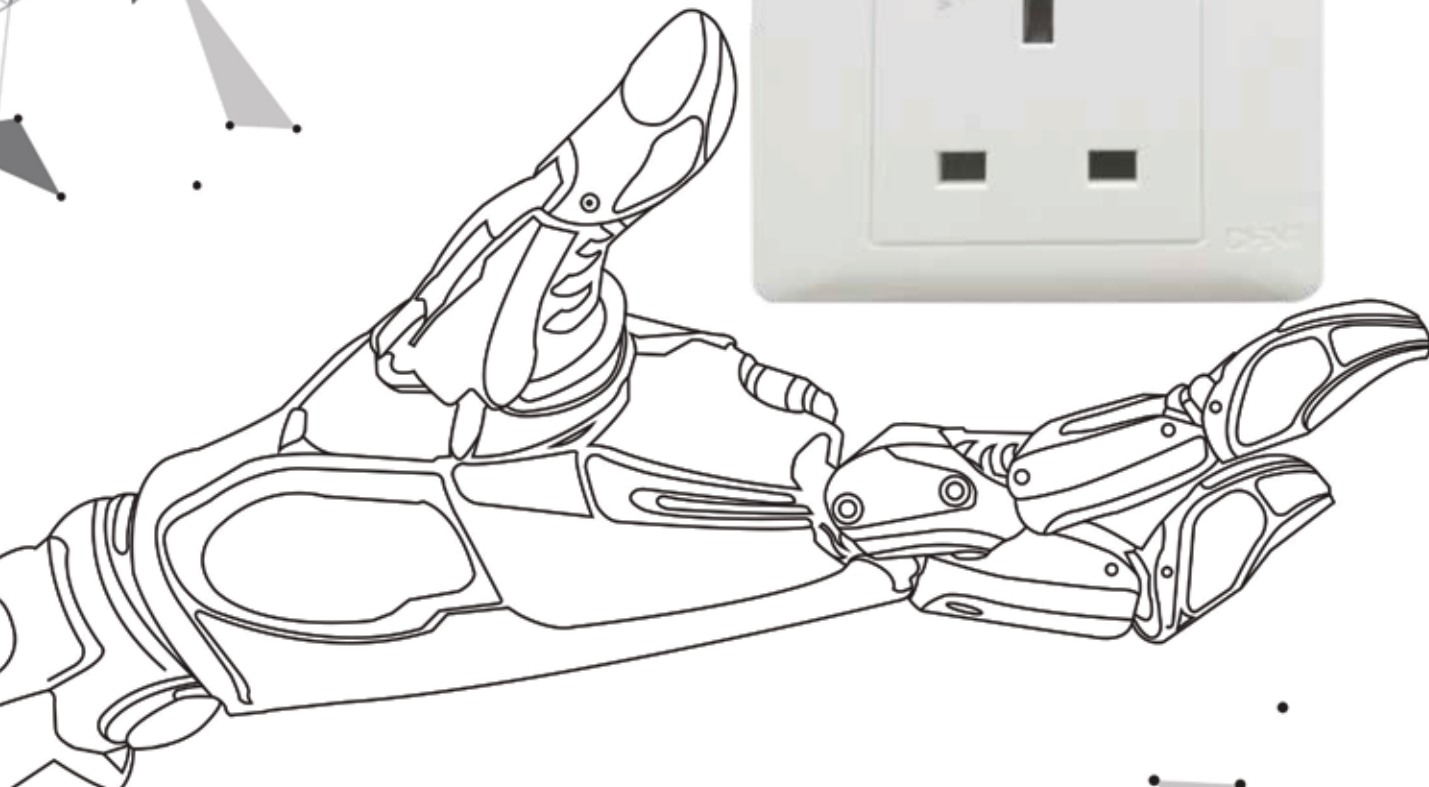


Delegates from Malaysia – (from left) Representatives from MyCIE, Mr Narendren Rengasamy (Chairman), Ms Lim Swee Yong (Division Director), Dr Vineetha Kalavally (Associate Director) and Mr Glenn Tiong (Secretary).



All smiles – (from left) Dr Peter Blattner (New CIE President), Mr Narendren Rengasamy (MyCIE Chairman) and Dr Yoshi Ohno (CIE Immediate Past President).

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TEEAM Academic Excellence Awards

Hearty congratulations to all the recipients of the prestigious TEEAM Academic Excellence Award 2019! The TEEAM Academic Excellence Award is held annually to acknowledge the achievements of primary and secondary (middle and senior) students. Eighteen students have been recognised for academic excellence in their 2018 public examinations (UPSR, SPM, Cambridge

A-Levels, UEC Senior Middle Level and IGCSE O-Levels). Each award comprised a Recognition Certificate and Cash value ranging from RM200 to RM1,000.

On 11 January 2020 at the TEEAM, the respective awards were presented to the winners by TEEAM President, Mr Siew Choon Thye, in the company of Mr David Chong Ah Nyap, the TEEAM Education,

Research and Awards Co-Chairman. In his speech, Mr Siew said, "TEEAM hopes that the excellent students will become graduates who can serve the society and country effectively. Remember, your success is our success, and your victory is our country's triumph!"

The Award Ceremony capped off with a group photo of all the recipients and their proud parents, followed by a joyous tea reception.





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Recipients of TEEAM Academic Excellence Awards 2019

UPSR (RM200.00)

Alyna Aang Min Shen
(Kejuruteraan Letrik Alam Dunia Sdn Bhd)

Ambition:
Actuarial Science

Interest / Hobby:
Violin / Piano



Beatrix Teh Xin Yi
(Autovation Sdn Bhd)

Ambition :
Accountant

Interest / Hobby :
Swimming & Reading



Chen Carmen
(SB Elektrik)

Ambition :
Accountant

Interest / Hobby :
Reading



Chin Kok Bing
(Mun Hean (M) Sdn Bhd)

Ambition:
Doctor

Interest / Hobby:
Reading & Music



Kong Li Hen
(Galaxy One Synergy)

Ambition:
Architect

Interest / Hobby:
Drawing



Sara Tang See Xuan
(SEP Electric (M) Sdn Bhd)

Ambition:
Engineer

Interest / Hobby:
Listen to Music



SPM (RM800.00)

Elton Mah Song Zhe
(SJEE Engineering Sdn Bhd)

Ambition:
Engineer

Interest / Hobby:
Playing games



Chin Fui Ching
(Sandakan Electrical Engineering Association, Sabah)

Ambition :
Doctor

Interest / Hobby:
Diabolo



Lok Jia Xin
(Swift Automation Sdn Bhd)

Ambition:
Actuary

Interest / Hobby:
Reading Novel & Singing



Muhammad Fareez Hakimi Bin Mohammad Basir
(SJEE Engineering Sdn Bhd)

Ambition:
Historical Researcher

Interest / Hobby:
Study



IGCSE O-Levels (RM800.00)

Andrea Lee Hui Wen
(Furutec Electrical Sdn Bhd)

Ambition:
Mathematician

Interest / Hobby:
Drawing & Music



Choong Wei Jie
(Persatuan Kekompetenan Penjaga Jentera & Pendawai Elektrik Perak)

Ambition:
AI Developer

Interest / Hobby:
Jogging



CAMBRIDGE A-Levels (RM1,000.00)

Chong Sai Hou
(Kitlite Letrik Sdn Bhd)

Ambition:
Biologist

Interest / Hobby:
Distance Running & Reading



Lai Xuan Yi
(Syarikat Letrik Chen Guan SB)

Ambition:
Pharmacist

Interest / Hobby:
Reading Books & Playing Cello



Lok Jia Qi
(Swift Automation Sdn Bhd)

Ambition:
Doctor

Interest / Hobby:
Reading, Painting & Dancing



Yong Elaine
(Enerbensa Sdn Bhd)

Ambition:
Electrical Engineer

Interest / Hobby:
Computer Games & Watch Drama



UEC SENIOR MIDDLE LEVEL (RM800.00)

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(Oon Brothers Electrical Trading Co Sdn Bhd)

Ambition:
TCM Physician

Interest / Hobby:
Watch Drama



Ng Jing Yun
(Terasaki Electric (M) Sdn Bhd)

Ambition:
Teacher

Interest / Hobby:
Reading & Travelling





Strong support – A whopping 99 golfers gathered at Palm Garden Golf Club to vie for the TEEAM Golf Tournament 2019 Championship.

Golf Tournament 2019

The 2019 TEEAM Golf Tournament chalked up an impressive record of 99 enthusiastic golfers. This successful event, held at the Palm Garden Golf Club, IOI Resort City, Putrajaya on 12 September 2019, teed-off in the afternoon. TEEAM also invited enthusiastic golfers from the ASEAN Federation of Electrical Engineering Contractors (AFEEC) member countries to join this Annual Tournament. There were eight golfers from the Singapore Electrical Contractors and Licensed Electrical Workers Association (SECA). TEEAM's State Association Member, namely, the Perak Electrical Association (PEA), also participated in the Tournament. The event created an excellent platform for social and business networking opportunities among TEEAM members and TEEAM's counterpart associations.

This year we had a very exciting programme 'Beat The Pro Challenge' where golfers had the opportunity to challenge Ms Genevieve Ling at Hole 17. TEEAM wishes to thank all golfers and the kind sponsors for all the strong support that had made the event a success. The list of Winners and Sponsors appears on pages 47 and 48 respectively.



At the buggy station – (from left) Mr Francis Heng (Schneider Electric), Mr JS Wong (EITA Electric), Mr Francis Ng (SW Electric) and Mr David Liew (Unit Concept).



Well done! – A big thank you to the TEEAM Council Members and Sports Committee for their great effort in making the golf event a tremendous success.



Yummy! – Players enjoyed a sumptuous dinner after a successful golf game.



Beat the Pro Challenge! – Ms Genevieve Ling @ Hole 17.



Congratulations! – Mr JS Wong (EITA Electric) won the Beat the Pro Challenge and received golf balls sponsored by Bond M & E Sdn Bhd.



Overall Nett Champion – (left) Mr Patrik Ngan (SW Electric) received the Challenge Trophy, a Replica and the main prize of Philips 55" 4K UHD LED TV from Mr Siew Choon Thye (TEEAM President).



Overall Gross Champion – (left) Mr Chong Kiun Yong (SKV Electrical) received the Challenge Trophy, a Replica and the main prize of Philips 55" 4K UHD LED TV from Mr Siew Choon Thye (TEEAM President).



Nett Winner 2nd Position – (left) Mr Cheong Pak Fatt (SNJ Lite Trading) receiving a Trophy and a Vivo Y12 from Mr Siew Choon Thye (TEEAM President).



Gross Winner 3rd Position – (left) Mr Poomthep Malakul of Feilo Sylvania Thailand receiving a Trophy and a Nikon Coolpix Digital Camera from Mr Siew Choon Thye (TEEAM President).



Lucky Winner – TEEAM Membership & Sports Chairman, Ms Chaw Wei Yin presenting a prize to the lucky draw winner.



Congratulations! – TEEAM Officials posing with all the winners.

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Golf Tournament Winners

GROSS

Gross Champion : **Chong Kiun Yong**
Trophy + Replica + Philips 55"
4K UHD LED TV

2nd Prize : **Albert Koh**
Trophy + Samsung Galaxy A30

3rd Prize : **Poomthep Malakul**
Trophy + Nikon Coolpix Digital Camera

4th Prize : **Ir Chew Siang Meng**
Philips 32" LED TV

5th Prize : **Chong Liang Shyong**
Midea Pressure Cooker

NETT

Nett Champion : **Patrik Ngan**
Trophy + Replica + Philips 55"
4K UHD LED TV

2nd Prize : **Cheong Pak Fatt**
Trophy + Vivo Y12

3rd Prize : **Terance Goh**
Trophy + GoPro hero 4

4th Prize : **Lee Yew Keong**
Samsung Galaxy A10

5th Prize : **Sunny Lim**
Samsung Sound Bar

6th Prize : **Jason Chow**
3 days/2 nights stay at Swiss Garden Golf
Resort & Spa Damai Laut for 2

7th Prize : **Goh Kian Seng**
Midea Air Cooler

8th Prize : **David Liew**
HP Deskjet 2135 Printer

9th Prize : **Calvin Chai**
SonicGear Bluetooth Speaker

10th Prize : **Fong Kee Chong**
SonicGear Bluetooth Speaker

NOVELTY EVENT

NTP (Hole 2) : **Goh Kian Seng**
Khind Vacuum Cleaner

NTP (Hole 14) : **Vincente Luciano**
Khind Vacuum Cleaner

NTL (Hole 6) : **Kong Mun Choong**
Khind Vacuum Cleaner

NTL (Hole 10) : **Said Muhammad Faiz**
Khind Vacuum Cleaner

Longest Drive (Hole 6) : **Andy Tay**
Khind Vacuum Cleaner

Longest Drive (Hole 10) :
Chong Liang Shyong
Khind Vacuum Cleaner

Wooden Spoon

Ahmad Hazairin
Wooden Spoon + 16 pcs Golf Ball

Overall Gross Champion

Chong Kiun Yong
TEEAM Gross Challenge Trophy

Overall Nett Champion

Patrik Ngan
TEEAM Nett Challenge Trophy



New Books in Our Library

Informative reference materials are available in our Library. The Library is open to members from 9:00 am to 5:45 pm, Mondays to Fridays.

Title : 2019 AFEEC-FAPECA
Conference Papers
Publisher : Korea Electrical Contractors
Association

Title : ACEM Directory 2019-2020
Publisher : Association of Consulting
Engineers Malaysia

Title : A&S Asia, May-June 2019
Publisher : www.asmag.com

Title : Asean Super 8 and ICW Show
Directory, March 2019
Publisher : United Business Media
(M) Sdn Bhd

Title : Building & Investment,
November-December 2019
Publisher : NS BlueScope Malaysia

Title : Celebrating 60 Years of SETA,
2019
Publisher : Singapore Electrical Trades
Association & Marshall
Cavendish Business Information
Private Limited

Title : EUMCCI Review, Volume 7,
2019
Publisher : EU-Malaysia Chamber of
Commerce and Industry

Title : Digital Economy Strategic
Outlook 2019/2020
Publisher : The National Tech
Association of Malaysia
(PIKOM)

Title : Heights, April-June 2019
Publisher : CIDB Malaysia

Title : Horizon, Issue 5, 2019
Publisher : UTAR Education Foundation

Title : Industrial Automation,
October-November 2019
Publisher : Festo Sdn Bhd

Title : Jurutera, October 2019
Publisher : The Institution of Engineers,
Malaysia

Title : Malaysia SAFE, Jan-Feb 2020
Publisher : PM Security Media Sdn Bhd

Title : Master Builders Journal ,
Volume 1,2, 3 & 4 (2019)
Publisher : Master Builders Association
Malaysia

Title : MFPA, March 2019
Publisher : Malaysia Fire Protection
Association

Title : MGCC Perspectives,
November-December 2019
Publisher : Malaysian-German Chamber of
Commerce and Industry

Title : SME Malaysia, 17th Edition 2019
Publisher : Small And Medium Enterprises
Association

Title : Berita KLSCCCI #367
Publisher : Kuala Lumpur & Selangor
Chinese Chamber of Commerce
& Industry



Thanks to Our Golf Sponsors

The TEEAM Membership & Sports Sub-Committee wishes to record its thanks and appreciation to the following sponsors for their generous sponsorship of goodies, prizes and cash for the TEEAM Golf Tournament 2019:

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2020 AFEEC-FAPECA Conference & Meeting in Hong Kong

In conjunction with Build4Asia 2020, a Tradeshow for the Building, Electrical Engineering and Security Industries in Hong Kong

The Conference and Meeting of the ASEAN Federation of Electrical Engineering Contractors (AFEEC) and the Federation of Asian-Pacific Electrical Contractors Associations (FAPECA) for 2020 will be held from 6 to 8 May 2020 (subject to change) at the Hong Kong Convention & Exhibition Centre. The theme for this year's Conference is "Innovation for the Electrical Contracting Industry". The event will be hosted by the Hong Kong Electrical Contractors Association (HKECA).

The conference and meeting will draw participation from national associations including the Association of Indonesia Electrical and Mechanical Contractors (AKLI), Korea Electrical Contractors Association (KECA), Singapore Electrical Contractors and Licensed Electrical Workers Association (SECA), Society of Philippines Electrical Constructors & Suppliers, Inc (SPECs), Taiwan Electrical Contractors Association (TECA), Thai Electrical & Mechanical Contractors Association (TEMCA), HKECA and TEEAM.

TEEAM will be organising a delegation to attend the above events and members are invited to participate. This is a good platform to network with M & E contractors from ASEAN and the Asia-Pacific region. For registration, please contact TEEAM Secretariat at teeam52@gmail.com.

Itinerary:

- Tues, May 5 : Arrival of Delegates
- Wed, May 6 : Morning - Build4Asia 2020 Opening Ceremony /Tour of Exhibition
Afternoon - AFEEC & FAPECA Conference
Evening - Welcome Dinner
- Thurs, May 7 : Morning - Build4Asia 2020 Exhibition
Afternoon - AFEEC & FAPECA Board Meetings
Evening - Farewell Dinner
- Fri, May 8 : Departure



68th Anniversary Dinner

TEEAM is celebrating its 68th Anniversary on Saturday, 26th September 2020. A Grand Dinner will be held in conjunction with the celebration at One World Hotel, Petaling Jaya. As part of our fund raising efforts in aid of our Building Fund, we invite members to participate as our Major Dinner Sponsors.

Sponsors' benefits include privilege seat at VVIP table, visual display of logo/branding, video presentation, Instagram influencers, advertisement in Suara TEEAM magazine and dinner table. There are four categories of Sponsorship: Diamond, Platinum, Gold and Silver. We appreciate your strong support for our Anniversary Dinner. For more detailed information and booking enquiries, please contact the TEEAM Secretariat at Tel: +603-9221 4417, 9221 2091 E-mail: philia@teeam.org.my or teeam52@gmail.com

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Branding Slideshow on all Site Projector Screens during Dinner	✓	✓	✓	✓
Branding Slideshow on TV Screen at Pre-Dinner Session	✓	✓	✓	✓
Colour Advertisement in Suara TEEAM Magazine	✓ (2 Pages)	✓ (1 Page)	✓ (1 Page)	✓ (1 Page)
Video Presentation on Stage Screen During Token Appreciation on Stage	✓ (2 Minutes)			
Token of Appreciation	✓ (On Stage)	✓ (On Stage)	✓ (On Stage)	✓ (Off Stage)
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Wire & Cable Show Malaysia 2019

The Wire & Cable Show Malaysia 2019 was conceptualised and first organised in Vietnam. It has since expanded its presence across major cities such as Manila in the Philippines and Kuala Lumpur in Malaysia. The 2019 Wire & Cable Show of Malaysia was held from 27 to 29 August 2019 at the Kuala Lumpur Convention Centre. It was organised by Century Expo Group (CEG) in collaboration with Malaysian Cable Manufacturers Association (MCMA), and TEEAM was one of the Supporting Organisations. TEEAM Vice President & Trading Chairman, Mr David Chong represented TEEAM at the Opening Ceremony.

The Show was the region's leading procurement and networking platforms for Wire and Cable Manufacturers and Suppliers to promote their products. Renowned Cable Machinery and Equipment, Wires and Cables, Accessories and Ancillary Products' companies, including TEEAM members', actively participated as exhibitors in the Show.



Opening Ceremony – VIPs at the Ribbon-Cutting Ceremony to mark the Opening of the Show.



For the album – VIPs touring the Show.

TEEAM Members @ Wire & Cable Show Malaysia 2019





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Machinery and Equipment Productivity Nexus: Enabler for Industry Productivity and Sustainability

Introduction

The Machinery and Equipment (M&E) subsector is an enabler for the economic progress of all other subsectors and has been of strategic importance throughout the global industrial revolution. It is one of the most innovative economic subsectors as it combines key technologies of the future such as electronics, robotics and software integration. All in all, the subsector is a key player in IR4.0, as it cuts across all economic segments, especially the primary manufacturing and services sectors.

In Malaysia, the M&E subsector is dominated by locally-owned SMEs who mainly produce in small batches (instead of mass production) and provide customised solutions for bigger manufacturers. A large portion of these SMEs are largely risk averse and tend to stick to traditional methods of business management, which does little to contribute to the productivity of the subsector in today's business environment. This needs to be challenged as more developed nations are becoming increasingly competitive by adopting new technologies and business methods.

M&E is typically a labour-intensive subsector, where the workforce needs to be equipped with both technical and management skills so that they can truly understand the intricacies of the processes involved. With the increase of automation in the subsector, SMEs will require fewer workers to produce the same output, with better control and fewer defects. Upskilling the local M&E workforce will increase their income, raise the subsector's productivity levels and reduce the nation's dependence on low-skilled labour. In 2018, the subsector recorded significant productivity growth at 1.1% as compared to -1.0% in 2017. To uplift productivity, the Malaysia Productivity Blueprint (MPB) has identified three (3) broad challenges that need to be addressed at sectoral level with regards to MPB pillars namely, workforce, technology and industry structure. The MPB initially identified four (4) M&E sectoral initiatives to boost productivity from large enterprises and SMEs, which led to the establishment of the M&E Productivity Nexus (MEPN).

MEPN is led by Mr Mac Ngan Boon, the President of Machinery and Engineering Industries Federation (MEIF). This Nexus aims to address Machinery and Equipment subsector productivity challenges through the implementation of the following four initiatives:

1. Set up partnership between Government and industry associations to up-skill existing employees;



Figure 1: The Machinery & Equipment Productivity Nexus is spearheaded by Industry Associations to raise the Productivity of the Subsector

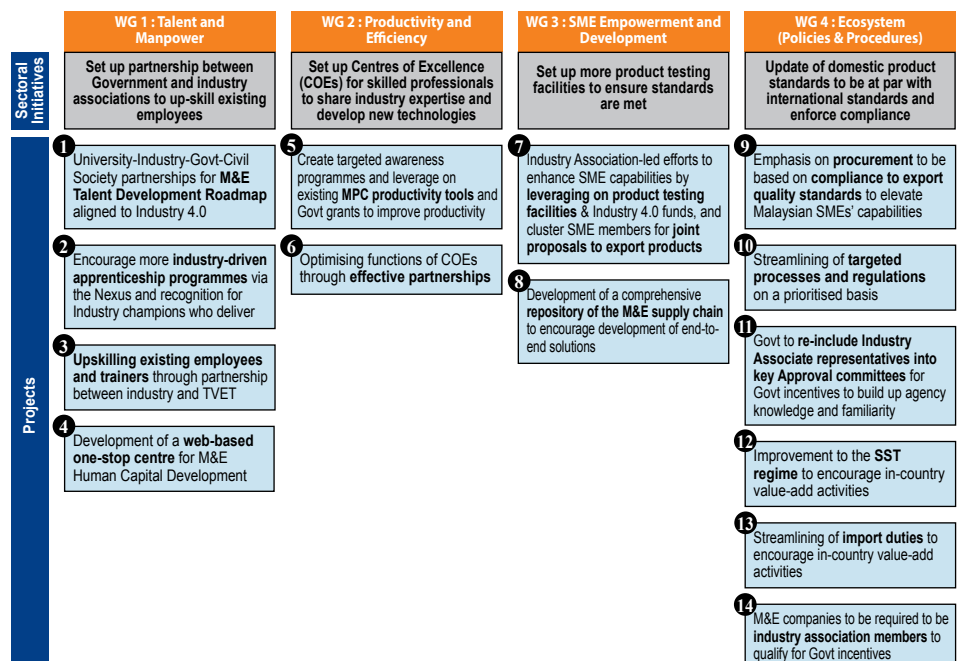


Figure 2: MEPN's 14 Projects for 2019-2020

2. Set up Centres of Excellence for skilled professionals to share industry expertise and develop new technologies;
3. Update domestic product standards to be at par with international standards and enforce compliance; and
4. Set up more product testing facilities to ensure standards are met.

The Nexus has set up 4 workgroups to plan, monitor and execute the projects under these 4 initiatives. Leaders and Subject Matter Experts have been appointed in each of the workgroup to advise, recommend and support the champion based on their expertise in projects implementation to expedite the implementation of the 14 outlined projects (Figure 1 and Figure 2).



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Projects in Action

The Machinery and Equipment Productivity Nexus through Work Group 1 has initiated the networking and inked MOU with TVET Institutions, namely, Universiti Teknikal Malaysia Melaka (UteM), German Malaysia Institute (GMI), Negeri Sembilan Skill Development Centre (NSSDC), Kedah Industrial Skills and Management Development Centre (KISMEC) and Selangor Human Resource Development Centre (SHRDC) on 22 July 2019. The MOU is aimed to establish MEIF's Strategic Partners who are willing to collaborate with industry and come out with programmes that are tailored to industry needs in addressing technical skills gaps among students, existing employees as well as the TVET trainers.

Through this partnership, MEPN in collaboration with HRDF have established the **Industrial Skills Framework** for industry. The framework which covers 38 job areas and 138 job titles provides a common reference for skills and competencies required in the M&E industry. This framework will also help guide individuals make the right decisions on skills development, enable employers to recognise skills and invest in skills training for their employees, and training providers to design programmes that address the subsector's manpower and skills needed.

Inline with the first initiative to upskill existing employees and enhance the implementation of Industry 4.0, the **Overall Equipment Effectiveness (OEE)** for Smart Manufacturing training programme has been designed and introduced to the companies. This 6-Day training programme was successfully conducted in December 2019 at the Selangor Human Resource Development Centre (SHRDC), attended by eight M&E companies. The participating companies were provided a set of training kits (hardware and gateway) for the productivity improvement project at their respective workplace and are expected to present their project results by March 2020.

Based on the result of the environmental scan study among M&E industries in 2018, the M&E industry players do not fully comprehend the scope of productivity. Thus, there is an urgent need to further propagate and drive greater productivity understanding amongst SMEs. In helping SMEs to enhance operations related productivity improvement, MEPN is currently rolling out the **Enterprise Level 'Deep Dives' and Intervention programme** using productivity assessment tools namely, Productivity Gain Measurement (ePGM) and Business Excellence Framework. MEPN is targeting 20 companies

to be assessed and embarked in productivity improvement intervention.

Collaborations amongst MEPN through MEIF, MIDA and SIRIM will witness the establishment of **Malaysia Machinery Innovation Centre (MMIC)** in the first quarter of 2020. MEIF will be continuously providing feedbacks on the proposed setting up of MMIC as the catalyst for development and adoptions of technology for industries.

MEPN has been compiling a **repository of companies in the M&E and Engineering Supporting Services (ESS) industries** that exhibits the capabilities to grow into regional or global market for their future export market and sustainability. This will be the first attempt in grooming them to become world class players who represent Malaysia as the key contributor to the regional hub for the high technology and specialised M&E and Engineering Components production and Services Supply Chain.

Regulatory delays in inspection and their associated approval by regulators lead to unnecessary delays and added costs to business for M&E. The MEPN will need to identify the most significant pain points for priority streamlining in order to achieve better process efficiency for ease of doing business. Among other industry issues that undergo the **streamlining process through Reduced Unnecessary Regulatory Burdens (RURB)** are substandard product importation and local production; issuance of temporary permit to overseas mobile crane affecting the local market; too many safety cards issued by regulators; and SIRIM's Certificate of Approval (COA) process for steel products.

As a strong voice of industry, MEIF continuously brings forward issues through engagement with MOF, MITI and agencies to re-institute the Buy Malaysian First policy and Malaysia Brand National Mark. Such effort is expected to stimulate domestic economic growth and help companies to expand marketing network and improve the local requests.

Call to Action

The M&E subsector contributes the important linkages with all subsectors including ESS and Electrical and Electronics, hence the growth performance of this subsector in addressing productivity challenge will significantly provide spillover effects to other industries as well. As members of MEIF, TEEAM members are encouraged to participate in all MEPN initiatives and programmes. Let's prosper together!

TEEAM would like to extend sincere gratitude to Dr Mazlina Shafi'i for preparing this informative report. She is the Programme Manager of M&E Productivity Nexus, Malaysia Productivity Corporation (MPC). Dr Mazlina can be reached at eyna@mpc.gov.my

For more details, please contact the MEPN Secretariat :



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For the album – A group photo of players and officials.

Badminton Tournament 2019

Thirty-two pairs of men's doubles, sixteen men's singles and fifteen pairs of mixed-doubles actively participated in the TEEAM Badminton Tournament 2019. The Tournament was held over two Sundays on 6 and 13 October 2019 at the SP Sports Forum 19, Petaling Jaya. All players showed their strong fighting spirit and keen support for their colleagues and friends. The good response and turnout of the Tournament delighted the TEEAM Membership & Sports Committee. A big thank you goes to the Referees, Umpires, Linesmen and Committee Members for their tireless effort in making the Tournament a resounding success. Congratulations to all the Winners too! The list of Winners appears on page 65.



Busy Moment – A shot taken during registration in the early morning.



Emergency support – Ambulance and Medics on standby to provide medical assistance in case of injury.



Enthusiasm – The players can't wait to show their fighting spirit in the tournament.



Bravo! – A group photo taken after the prize presentation. Congratulations to all winners!



Awesome! – Jubilant winners from Sunway Engineering!



Important Guests – It was an honour to invite (left) Mr Siew Choon Thye (TEEAM President) and Mr Foo Kok Keong (Malaysia Former Badminton National Player) to officiate the Tournament.



Men's Singles Finalists – Finalists, (2nd from left) Han Ning (Sunway Engineering) and (4th from left) Inn Wei-Pinn (Sigriner Automation (MFG) Sdn Bhd) posing with the Committee and Umpire. The Champion was Han Ning from Sunway Engineering.



Men's Doubles Championship ready to begin – Both pairs of men players are from Sunway Engineering. The Champions were Mohd Sofie Hassan & Han Ning. (3rd & 4th from left). Lim Sheng Kim & Kenneth Ng Chun Qing (2nd & 3rd from right) were 1st Runner-Up pairs.

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Badminton Tournament Winners

Men's Singles Event	Men's Doubles Event	Mixed Doubles Event
Champion Han Ning Sunway Engineering Sdn Bhd RM600	Champion Mohd Sofie Bin Hassan & Han Ning Sunway Engineering Sdn Bhd RM1,000	Champion Mohd Sofie Bin Hassan & Tiffany Teh Xiao Bee Sunway Engineering Sdn Bhd RM800
1st Runner-Up Inn Wei-Pinn Sigriner Automation (MFG) Sdn Bhd RM400	1st Runner-Up Lim Sheng Kim & Kenneth Ng Chun Qing Sunway Engineering Sdn Bhd RM600	1st Runner-Up Lim Sheng Kim & Suriani Binti Jaafar Sunway Engineering Sdn Bhd RM500
Semi-Finalists Tan Kian Huat Individual Member RM200	Semi-Finalists Tan Kian Huat & Wong Chin Peng Individual Members RM400	Semi-Finalists Chen Siang Long & Chan Yun Yeou SB Elektrik & Elektronik Sdn Bhd And Jalita Engineering Sdn Bhd RM300
Semi-Finalists Wong Jian Lun E&E Electrical Solutions Sdn Bhd RM200	Semi-Finalists Ng Hoi Kong & Lee Chin Perng Oon Brothers Electrical Trading Co. Sdn Bhd RM400	Semi-Finalists Kenneth Ng Chun Qing & Lock Yann Ching Sunway Engineering Sdn Bhd RM300

Thanks to Our Badminton Sponsors

The TEEAM Membership & Sports Sub-Committee wishes to record its thanks and appreciation to the following sponsors for their generous sponsorship of goodies, prizes and cash for the TEEAM Badminton Tournament 2019:

Arc Power Marketing Sdn Bhd RM1,000	Jwin Sdn Bhd RM300	Newton VS (M) Sdn Bhd RM300
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Can Cable Sdn Bhd RM200	Lee Hoe Electrical & Trading Sdn Bhd RM200	Stardex Trading Sdn Bhd RM2,500 + T-Shirts
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E&E Electrical Solutions Sdn Bhd RM300	Maxguard Switchgear Sdn Bhd RM3,500	Tai Sin Electric Cables (Malaysia) Sdn Bhd Towels + Recycle Bags
G & H Electrical Trading Sdn Bhd RM300	Maxitara Holdings Sdn Bhd RM300	Tan Chee Keong RM100
Gemilite Sdn Bhd RM100	Megahock Pipes & Profile Mfg. Sdn Bhd RM500 + Towels	TM Elektrik Sdn Bhd RM200
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Half-Day Seminar on CIPAA 2012

The Penang Electrical Merchants' Association (PEMA) with the support of EST Advisor Management, organised a half day seminar on the Construction Industry Payment & Adjudication Act 2012 (CIPAA 2012) at the SETIA SPICE Convention Centre, Penang on 20 August 2019. The Organising Chairman was PEMA Technical Committee Chairman, Ir Lee Weng Keen. The Seminar covered an introduction to CIPAA 2012, which provides a new regime where an unpaid party can claim for payment for work done or services rendered under the express terms of a written construction contract. CIPAA was introduced with the objective of providing a speedy procedure for the temporary resolution of payment disputes in construction contracts.

The response to the Seminar was encouraging with about 60 participants who attended. CIDB and BEM have approved the Seminar with five CCD points and three CPD hours respectively. Each participant was presented with a Certificate of Attendance at the end of the Seminar.



Good turnout – A group photo for the album.



Well done – (right) Mr Khaw Tatt Siew (PEMA President) posing with the EST Advisor Management Speakers.

One-Day Seminar on Protection against Lightning & Earth Leakage with RCD Plus Transfer Switches

The PEMA Technical Committee, in collaboration with ABB Malaysia Sdn Bhd, successfully organised a 1-Day Seminar on IEC/ EN/ BS EN 62305:2011 Protection Against Lightning & Protection Against Earth Leakage with Residual Current Devices (RCD) Plus Transfer Switches under IEC60947-6-1 on 19 November 2019 at the Eastin Hotel, Queensbay, Penang.

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industrial motors and drives, the largest provider of generators to the wind industry and also the largest supplier of power grids in the world. Before the Seminar started, Mr Khaw Tatt Siew, PEMA President, gave a warm Welcoming Address. There were three experts who spoke at the Seminar, namely, Mr Hiew Thian Wai, Ms Emily Tiong and Mr Jeff Tan Yong Wang.

The Seminar was timely as there were many concerns aired on the subject matter. The beneficial Seminar drew some 60 participants and it was approved with BEM CPD hours and CIDB CCD points for electrical engineers and contractors respectively.



Overwhelming support – A group photo capped off the Seminar.

PEMA Walkathon 2019

The PEMA Walkathon 2019 was held at the Air Itam Dam Penang on 8 December 2019. The Organising Chairman, Mr Lim Kim San, said this activity is aimed yearly to instil health and active consciousness amongst PEMA members and their families. Some 130 members and their employees plus families participated in the event. Food and drinks were served and there were attractive prizes for the winners, including the lucky draws. It was a jovial and meaningful Walk for all.



Overwhelming – Group photo of PEMA President and Council Members with the participants.



Lucky draw – (left) Mr Khaw Tatt Siew (PEMA President) presenting a prize to a lucky draw winner from amongst the participants.

Johor Bahru Electrical & Electronics Association



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JBEEA 41st Anniversary Dinner

The Johor Bahru Electrical and Electronics Association (JBEEA) celebrated their 41st Anniversary on 13 July 2019. On that Saturday evening, a total of 78 tables filled the Grand Dining Hall of Restoran Pekin Johor Jaya, Johor Bahru for this grand event.

In addition to the members of the association, their family members, staff, friends and associates all came to join in this happy occasion. An Honourable VVIP and VIPs were also invited to grace the function. They were YB (The Honourable) Mr Jimmy Puah Wee Tse, the State International Trade, Investment and Utilities Committee Chairman and also the State Assemblyman for Bukit Batu, Johor. From our affiliated association, TEEAM President, Mr Siew Choon Thye; members from State Associations (in alphabetical order) Electrical Association of Sarawak & Sabah, Chairman, Mr Hii Hua Chuon and spouse; Kluang Electrical Association, President, Mr Tee; Perak Electrical Association, President, Mr Chan Kaim Sam; PKPPE Perak, President, Mr Choong Soon Yean and associated member from Johor Electrical Appliances Dealers Association, Chairman, Mr Gan and IEM Southern Branch, Chairman, Ir Teo Kiyuee all graced this joyous celebration.

The evening started with the Welcoming Speech by JBEEA Chairman, Mr Lee Chee Boon, followed by the Opening Speech by YB Mr Jimmy Puah. Next was the Token Presentation to the VVIP and VIPs. There were also Appreciation Awards for the Sponsors. The celebration continued with dance performances, singing session, a live band and lucky draws. With the sumptuous dinner and packed entertainment, the evening concluded successfully.



Thank you – (right) Mr Lee Chee Boon (JBEEA Chairman) presenting a Token of Appreciation to Mr Siew Choon Thye (TEEAM President).



Cake-cutting Ceremony – JBEEA Committee Members on stage to cut a cake to mark the 41st Anniversary of JBEEA.



Happy occasion – A group photo for the album.

Product Seminar by Wise Pro Sdn Bhd

This was a One-Day Seminar on Automation Transfer Switch (ATS) MS IEC 69047-6-1 and ATS & Genset Controllers (Smartgen). It was also an upgraded version from the previous similar Seminar held a couple of years ago. The Seminar was held on 5 August 2019 at Renaissance Johor Bahru Hotel. It was organised by JBEEA and presented by Wise Pro Sdn Bhd.

About 60 people, comprising Consultants, Contractors, Manufacturers and Suppliers of the related fields attended the Seminar, which was from 9.00 am to 5.00 pm. The Seminar enlightened all participants and provided a better understanding regarding the Emergency Supply System for Buildings. The Speakers are registered with IEM and are experienced in the design, installation, trouble-shooting at site, and are able to offer advice in their respective fields. The Seminar was also accredited with six CPD Hours and ten CCD Points. At the end of the Seminar, each participant was presented with a Certificate of Attendance from JBEEA and Wise Pro Sdn Bhd.



Attentive – Seminar in progress.



Products demo – Technical sharing with the Seminar participants.

Charity Run 2019

It is always in the minds of the JBEEA members to do charity work for the less fortunate communities of the society, as a way of giving back to the community.

However, the Charity Run 2019 is the first-ever of such activity organised by JBEEA. This Charity Run 2019, themed Run for Dreams, was a 5-kilometer run held on 19 October 2019 at Taman Seri Austin, Johor Bahru. The event was open to the public, and together with JBEEA members, it attracted more than 400 eager participants!

When the announcement of the Charity event was made to the JBEEA members and sponsorships were requested, the members, without any hesitation, were ever willing to contribute to this noble cause. Some Main Sponsors got their Company Logos printed on the participants' T-shirts while others were Sponsors for the peripherals of the event, such as drinks, goodies, woven bags, food vouchers, etc., and lucky draws prizes. Each participant of the Run was required to pay only RM50 each or RM45 each for a group of ten people and early birds needed to pay only RM40 each to join the Run. In return, each person would receive a T-shirt and a race pack with some goodies added in.

The event started at 6.30 am on the Saturday morning of 19 October 2019. First was the registration of the participants, which was followed by a warm-up exercise led by a group of high-energy Zumba dancers.

Participants of different ages were all eagerly waiting to begin the race. The flag-off started with a blare of the horn by the JBEEA Chairman, Mr Lee Chee Boon. The crowd soon started to run, while some walked, and others with toddlers in baby strollers just strolling along to enjoy the beautiful morning exercise and picturesque scenery. Throughout the event, and for security measures, there were Rela personnel stationed and in case of any emergency the Ambulance and paramedics were also on stand-by.

Upon completing the race itself, all participants received a finisher medal and this was followed by the awarding of Appreciation Certificates to Sponsors, presentation of Mock Cheques to the two Charity Organisations, namely, Persatuan Kebajikan Caring Kulaijaya, Johor (an orphanage) and Kiwanis Club of Metro JB (for their education centre for special children). The Charity Organisations each received RM10,000.00. Before the grand finale was the announcement of the winners for the top three female category and male category. The cash prizes were RM200, RM150 and RM100 for the 1st, 2nd and 3rd winners respectively and for the two categories. The finale was the lucky draws of course, which everyone was waiting anxiously for and keeping their fingers crossed! Finally, the twenty lucky winners were revealed.

Although the whole event took up only a few hours of the morning, JBEEA was indeed grateful to everyone involved, from the 400 participants, the event team, the Project Committee of JBEEA and most importantly to the Sponsors too, who had contributed generously to make the event a resounding success.

With the success and a meaningful event, such activity will definitely not be the last but will instead be further improved.



Charity Run begins – On your mark, get-set, go.



Well done! – Winners posing with JBEEA Chairman, Mr Lee Chee Boon (centre).



Noble cause – Mock cheque presentation to Kiwanis Club of Metro JB.



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Annual General Meeting

The Electrical Association of Sarawak and Sabah (EASS) held their Annual General Meeting (AGM) on 4 August 2019 at EASS premises. There was an election of new Office-Bearers for the term 2019-2021. The Chairmanship was again succeeded by Mr Hii Hua Chuon.

EASS Office-Bearers for the term 2019-2020

Chairman	Hii Hua Chuon
Deputy Chairman	Kapitan Tiong Chiong Kiing
Vice Chairman No. 1	Lee Joon Lee
Vice Chairman No. 2	Hii Tao Chin
Vice Chairman No. 3	Goh Kee Hin
Vice Chairman No. 4	Teu Sze Wang
Vice Chairman No. 5	Wong Choo Tiong
Vice Chairman No. 6	Ong Chet Kiong
Secretary	Young Leh Luang
Assistant Secretary (English)	Yu Hieng Jeong
Assistant Secretary (Chinese)	Lai Chiong Ann
Treasurer	Ling Kung Leh
Assistant Treasurer	Hii Teck Ping
Supervisor	Goh Yew Hwong
Assistant Supervisor	Wong Ding Hie
Public Relation Officer	Kapitan Chia Yik Chong
Welfare Officer	Toh Kah Wuong
Committee Member	Wong Liong Hiong
Committee Member	Ngieng Hock Chung
Committee Member	Ngu Meng Kuong
Committee Member	Wong Yuk Soon
Committee Member	Nguoi Ing King (Vincent)
Committee Member	Kong Kuok Shien
Committee Member	Bong Boon Kong
Committee Member	Siew Ik Kiong
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Contractor Assistant Officer-In-Charge	Kapitan Ng Kian Ho
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Wireman Grade II Officer-In-Charge	Sii How Siang
Wireman Grade II Assistant Officer-In-Charge	Hu Kheng Wei
Technician Officer-In-Charge	Ling Ting Mong
Technician Assistant Officer-In-Charge	Sazali Bin Adeni
Technician Assistant Officer-In-Charge	Petrus Ak Lapok
Education Officer-In-Charge	Ting Kee Nguan
Education Assistant Officer-In-Charge	Nguoi Mao Ciong (Raymond)
Tourism Officer-In-Charge	Ding Ing Hua (Joseph)
Tourism Assistant Officer-In-Charge	Hii Hie Ung (Robert)
Chargeman Officer-In-Charge	Chiang Ming Woon
Chargeman Assistant Officer-In-Charge	Teng Mee Kong
Chargeman Assistant Officer-In-Charge	Puso Bin Bujang



Officer-In-Charge – EASS's 2019 AGM in progress.

Pre-AGM Discussion

A discussion on 'Solar Energy' was presented by EASS Chairman, Mr Hii Hua Chuon. It was organised as a Pre-AGM Discussion on 4 August 2019 for the members' benefits.

At the discussion, Mr Hii stated that the Sarawak Government will make major developments on solar energy projects in order to allow more residents to have electricity supply and increase the quality of lifestyle. He encouraged EASS members to grab the opportunity and participate in the solar energy courses, which will be organised by the Government in a few months' time. Although green electricity has a higher cost, it can promote the Research and Development of energy-saving electrical appliances. EASS will organise solar energy courses, since the solar energy projects have already expanded to Sarawak, covering schools, residential and villages, which can now enjoy the stable supply of electrical supply.

During the discussion, he stated that in the past three years, the association had strived to train many electrical technicians who had also gone to different countries to exchange industry-related knowledge. The demand for electrical energy has increased rapidly in the world and electricity supply is one of the most important industry. The development of electricity supply keeps on changing, thus members should not stop on their tracks because competition will cause them to face bigger challenges in the future. This includes saving time, saving energy, saving costs and other aspects too.

Mr Hii informed that TEEAM has invited EASS members to participate in the 14th ELECRAMA Exhibition in India which will be held from 18-22 January 2020. The Organiser will sponsor free flight tickets, a 3-night hotel stay, lunch and also transportation for approved hosted buyers. Participants will need to prepare their own visa, trip insurance and other travel expenses. He strongly encouraged EASS members to participate as hosted buyers.

He also highlighted that every year, EASS presents scholarships to members' children with a noble view to encourage them to study well and thus build their bright future. EASS will continue with this good cause.

Chargeman L1 Course by EASS and Pusat Latihan Proaktif

EASS has collaborated with Pusat Latihan Proaktif to organise the Chargeman L1 Course from 20-29 May 2019 at the Sibu Chinese Chamber of Commerce and Industry. This 10-day course was the first collaboration of EASS with Pusat Latihan Proaktif.

According to the Sarawak Electrical Inspectorate Unit, currently there are 7,000 electrical technicians who have valid certificates. However, in order to cope with the future development demands, Sarawak is in urgent need of 15,000 qualified technicians!

Pusat Latihan Proaktif will provide professional trainers to train the trainees. The main focus of the course is to impart hands-on work experience so that they are able to become professional technicians equipped with responsibility and integrity. For the June session, trainees completed the practical for three days from 14-16 June 2019 and sat for the Examination from 18-19 June 2019 at the Pusat Latihan Proaktif. Trainees who passed the Examination were presented with valid certificates. There were 31 trainees who participated in this course, including a female trainee.

Previously, EASS also organised the Wireman Courses for beginner level and advanced level. There are more than a hundred trainees who have successfully obtained their Certificates. Besides the Chargeman L1, EASS will organise Chargeman L2, Chargeman L3 and also the Charge L4 courses in the future.



Well done! – Graduates from Chargeman L1 Course posing with Officials from EASS and Pusat Latihan Proaktif.



Hands-on – Practical training session during Chargeman L1 Course.

Talk on Energy & Power Control System

A Talk on Energy & Power Control System and BOSS Electrical Products was held on 17 November 2019 at The Paramount Hotel, Sibu, Sarawak. Mr Syed Mohamad Fauzi Shahab, Director of Electricity Supply, Ministry of Utilities, Sarawak and Mr Hii Hua Chuon, EASS Chairman, were invited as Guest-of-Honours for the Opening Ceremony. Six professionals, namely, Ir Chang Yew Cheong (Director of ABBACO who is also TEEAM Deputy President), Mr Daryl Tan (Sales Manager of Eureka Technologies), Mr Roger Wong (Sales Manager of Eureka Technologies), Mr David (Asia Oversea Market Manager of Boer Power), Mr Chen Yun Sheng (Cloud Technical Manager of Boer), and Mr Daniel (Product Technical Manager of Temper Energy) were invited to conduct the Talk on Energy and Power Control System.

During the Opening Ceremony, Mr Said Mohammad Fauzi highlighted that the control of power energy can be more effective with the use of digital smart connector and artificial intelligence. With the installation of digital smart connector, manufacturers can control and guide the equipment and machines from outside the factory.

Mr Hii Hua Chuon mentioned that safety is one of the features of BOSS electrical products that are produced by Lelco from Indonesia which has operated for more than 36 years. BOSS electrical products are widely used in Asian countries. The BOSS electrical products are approved with ISO 9001 in Malaysia. He hoped that everyone can have a higher level of collaboration with BOSS and also help to share technical information with others.



Technical explanation – BOSS product demo during tea break.



During the Opening – Overwhelming response of participants and invited guests.



Official Opening – (left) Mr Syed Mohamad Fauzi Shahab, Director of Electricity Supply, Ministry of Utilities, Sarawak and Mr Hii Hua Chuon, EASS Chairman officiating the Talk.

Sarawak Energy CTP Towards HSE Self-Regulatory and HSE Excellence Awards Ceremony 2019

The Sarawak Energy Berhad's (SEB's) Contractors Transformation Programme (CTP) Award Ceremony was held on 29 November 2019 at the Waterfront Hotel, Sarawak. Chief Executive Officer of Sarawak Electricity Supply Corporation (SESCO), Mr Lau Kim Swee, who represented SEB's Chief Executive Officer, Datuk Sharbini Sulaihi, said that the CTP made contractors understand the importance of the Health, Safety and Environment (HSE) culture in SEB to keep all employees and contractors safe at all times.

At the Ceremony, SEB gave awards to twenty SEB contractors in recognition of their commitment to workers' health, safety and environment. EASS Chairman, Mr Hii Hua Chuon of Hii Hua Chuon Electrical Works was honoured for his efforts and was duly presented with a Gold Award by Mr Lau Kim Swee.

SEB launched the first programme, namely, the 'Life-Saving Rules' in 2017. They introduced the HSE culture in their second programme. Mr Lau Kim Swee highlighted that since the launch of their HSE programme, there was great improvement in the work culture towards health, safety and environment protection. SEB will continue to find a better modification in this regard.



Congratulations! – EASS Chairman, Mr Hii Hua Chuon (6th from right) representing Hii Hua Chuon Electrical Works receiving a Golden Award from SESCO CEO, Mr Lau Kim Swee during the Sarawak Energy CTP Towards HSE Self-Regulatory and HSE Excellence Awards Ceremony 2019.

The following EASS members received the CTP-HSE Excellence Awards:

Gold Award

- Hii Hua Chuon Electrical Works

Silver Awards

- High Line Electrical Works
- Kejuruteraan Powerpoint Sdn Bhd
- Hii Brothers Electrical Co

Bronze Awards

- Mega Electrical Engineering Service
- Glorious (NG) Electrical Engineering Sdn Bhd
- Aik Loung Land & Marine Electric Motor Works Sdn Bhd

Certificate of Participation

- Hing Lee Electrical & Air-Condition
- Selamat Jaya



The Perak Electrical Association

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31650 Ipoh, Perak Darul Ridzuan.

Tel: +605 - 254 1502 Fax: +605 - 250 9145

E-mail: multipower99@gmail.com / peaipoh@gmail.com

PEA 56th Anniversary Dinner & 32nd Academic Excellence Awards Presentation

The Perak Electrical Association (PEA) celebrated their 56th Anniversary at the Sun Lee How Fook Restaurant on 29 September 2019. In conjunction with the Anniversary celebrations, the 32nd PEA Academic Excellence Awards Presentation was also held at the venue. Awards were presented to the children of PEA members and children of their employees who had successfully achieved outstanding results in their Government Examinations.

More than 600 Members and Guests attended this memorable Dinner. The Opening Gambit was a lively lion dance performance. TEEAM President, Mr Siew Choon Thye as well as Council and Committee Members of TEEAM, joined the celebration dinner. It was a joyous occasion for networking and also to foster fellowship amongst the participants.



Guest-of-Honour – YB (The Honourable) Mr Wong Kah Woh, Member of Parliament for Ipoh Timur and Chairman of the Sustainable Energy Development Authority of Malaysia (SEDA).



Memorable Dinner – TEEAM's Delegation led by (centre) Mr Siew Choon Thye (President), posing with PEA President, Mr Chan Kaim Sam (4th from right).



Thank you – Guests and PEA Committee Members on stage for the Token of Appreciation presentation.



**Persatuan Kekompetenan Penjaga
Jentera & Pendawai Elektrik Perak (PKPPE)**
13B, Medan Bendahara 2, Medan Bendahara, 31650 Ipoh, Perak
Email: pkppe.2001@gmail.com



PKPPE Annual Dinner

The Persatuan Kekompetenan Penjaga Jentera & Pendawai Elektrik Perak (Perak Electrical Chargemen & Wiremen Competence Association, PKPPE) celebrated its 18th Anniversary on 10 August 2019 at Kinta River Hotel Ballroom, Ipoh. A grand dinner was organised and it was attended by about 700 people.

The Annual Dinner began with the opening speeches given by Organising Chairman, Mr Tony Leong and PKPPE President, Mr Choong Soon Year. These were followed by the signing of a Memorandum of Understanding (MOU) between PKPPE and TAM (Technological Association of Malaysia). Thereafter was the gong beating as an opening welcome by the major Sponsors: Mega Cable Sdn Bhd, Dato' Sri Michael Yong; Alpha Automation (Selangor) Sdn Bhd, Mr Tey and Maxguard Switchgear Sdn Bhd, Mr Phang plus Honorary Advisors.



Sealed – The signing of an MOU between PKPPE and TAM, witnessed by PKPPE Founder, Mr Cheah Koon Yeong (centre).

An exquisite Chinese course dinner was served and the guests were entertained by the melodious voice of the singer. The evening was full of toasts and greetings.

The guests captured their enjoyable moments with friends and families at the photo booth session.



Opening Welcome – Gong beating by major Dinner Sponsors, PKPPE Honorary Presidents, PKPPE President and Dinner Organising Chairman.



Happy Anniversary! – Cake-cutting Ceremony supported by Committee Members and Guest-of-Honour.

Technical Sharing Programme by Terasaki Electric

A Technical Sharing Programme with the theme of “Sizing and Protection of Low Voltage Wiring System & Application of Surge Protection Devices (SPD) in Electrical Installation” was organised by Terasaki Electric (M) Sdn Bhd for PKPPE. This took place at M Roof Hotel & Residences on 30 September 2019.

The Technical Sharing started with a talk on Cable Sizing and Installation by



Attentive – Keen focus on the live SPD demonstration by Mr Tony Leong.

Ir Lim Kim Ten. It was then followed by the Introduction & Surge Protection Facility by Mr Chatra Prisandi. The Technical Sharing ended with an interactive Q&A session and a sumptuous dinner. Consultants, dealers, contractors and users benefited from this Technical Sharing Programme.



Good turnout – Group photo after the highly fruitful Technical Sharing Session.

Electrical Safety Awareness Programme

On 6 November 2019, PKPPE collaborated with Sin Chew Daily in creating an Electrical Safety Awareness Programme for the students of SMK Menglembu, Perak.

The event started with speeches from the Principal of SMK Menglembu and District Manager of Sin Chew Daily. After the speeches, PKPPE President gave an introduction of PKPPE and the objectives of the association. The presentation was followed by the electrical safety awareness talk by Mr Tony Leong. Next, Mr Nick Liew shared about the possible career options in the electrical industry.

Later, the correct method to test RCCB was demonstrated to the students. The event ended with a quiz and various gifts were given away. This created a positive feedback from the students. The whole event reverberated with excitement and laughter.

The school treated the Sin Chew Daily team and PKPPE officials to a delightful lunch at the school canteen.



Attentive – PKPPE President, Mr Choong Soon Year giving an introduction of PKPPE.



Interesting topic – Presentation on electrical safety by Mr Tony Leong.



Career prospect – Mr Nick Liew highlighting the possible career options in the electrical industry to the students gathered at the talk.



Good cause – PKPPE Committee Members getting ready for the Electrical Safety Programme at SMK Menglembu, Perak.

Visit to Maverick Home

On 17 December 2019, TNB Ipoh invited PKPPE to the Maverick Home in Cyberjaya to know more about smart homes, solar and how TNB deals with complaints.

The PKPPE Committee Members set off to Cyberjaya after breakfast in the early morning. They were given a briefing and a tour to the smart homes and solar installation facilities. After lunch break, the delegation proceeded to Petaling Jaya for another briefing and tour, which focused on the operation at the backroom and complaint management centre of TNB's Careline. The session ended with an interactive tea break before they returned to Ipoh. It was a fruitful sharing session for PKPPE.



Fruitful visit – PKPPE's visit to Maverick Home & TNB Careline Centre.

Technical Visit to CHINT, China

Alpha Automation (Selangor) Sdn Bhd, distributor of CHINT electrical products, organised a 4-day/3-night Technical Visit from 7 November 2019 to the CHINT Electric plant in Zhejiang, China. PKPPE members joined the technical visit together with consultants and contractors.

CHINT is a world-renowned smart energy solutions provider. Focusing on energy system of supply, storage, transmission, distribution and consumption, CHINT has core businesses of clean energy, energy distribution, big data and other energy value-added services.

Participants were given an introduction about the operation of the plant, followed by a tour to the breaker and solar panel manufacturing facility by the Plant Manager.



Warm welcome signage – CHINT welcoming PKPPE to their plant.



Fruitful Technical Visit – Group photo after the plant tour.



Sarawak Electrical Association

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Tel: +6082 - 346 188 Fax: +6082 - 345 118
E-mail: sea.kchsarawak@gmail.com

AGM & Election 2019

The Sarawak Electrical Association (SEA) held its Annual General Meeting (AGM) on 14 July 2019 at the SEA premises. There was an election of new Office-Bearers for the year 2019-2020. The SEA Chairmanship was succeeded by Mr Ung Kah Kuok.



Mr Ung Kah Kuok
– SEA Chairman
for 2019-2020.

SEA Office-Bearers for the year 2019-2020

Chairman	Ung Kah Kuok
Vice Chairman 1	Dato' Sri Ir Peter Lu Nguang Siong
Vice Chairman 2	Wong Foo Kok
English Secretary	Then Jee Khim
Chinese Secretary	Chu Gwo Jiun
Treasurer	Then See Wee
Assistant Treasurer	Sim Kheng Kui
General Affairs Officer	Yeo Ngian Sock
Assistant General Affairs Officer	Chew Tay Jee
Welfare Officer	Leong Kong Yoi
Assistant Welfare Officer	Leiw Huat Heng
Recreation Officer	Micheal Chin
Assistant Recreation Officer	Lee Kok Tiong
Committee Members	Hon Hong Kong
	Liew Thiam Fat
	Wong Chin Yong
	Ho Bee Huat
	Wong Kee Soong
	Goh Chang Khoon
	Chai Nyan Luke
Auditor	

Other State Association Members' contacts:



Malacca Electrical Contractors and Traders Association

No. 389-G1, Taman Pringgit Jaya,
Jalan Mata Kuching, 75400 Melaka.
Tel: +606 - 283 8688 Fax: +606 - 781 1466



Negeri Sembilan Electrical Engineering Association

c/o No. 194, Jalan Pantai, 71000 Port Dickson,
Negeri Sembilan Darul Khusus.
Tel: +606-647 1105 Fax: +606-647 4728



Sabah Electrical Association

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E-mail: pes233sabah@gmail.com Website: www.pes-sabah.org

Sandakan Electrical Engineering Association, Sabah

Block B-2, Lot No. 25, Bandar Utama,
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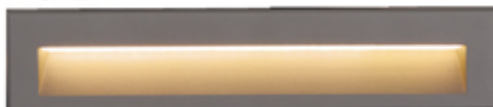
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Website: www.alm.com.my





Overwhelming response – 88 enthusiastic bowlers.

Bowling Tournament 2019

The TEEAM Annual Bowling Tournament was successfully held in the afternoon of 3 November 2019 at the Sunway Pyramid Megalanes in Petaling Jaya. Participants comprised members and their employees with a total of 59 Men and 29 Lady Bowlers vying for the Championship. The mode of play for the Men's Singles event was a 'six games pinfalls' whereas for the



Energetic – A bowler shows his fighting spirit in the tournament.



Thumbs-up – TEEAM Officials at the registration counter.



Men's Champion – Shaharin Tuah (Indkom) receiving a Trophy and Cash RM500 from Mr Siew Choon Thye (TEEAM President).



Awesome – Congratulations to all the Winners!

Ladies' Singles event it was a 'four games pinfalls'. The different events were Men's Singles, Ladies' Singles and the Team Event which consisted of three male bowlers and one female bowler.

It was a smooth-running Tournament and the players were very enthusiastic. They showed very strong fighting spirit for every

event in which they were participating. A big thank you to our generous sponsors, Gruppe Lighting Solution Sdn Bhd, Paramount PES Engineering Sdn Bhd, SB Elektrik & Elektronik Sdn Bhd, Success Electronics & Transformer Manufacturer Sdn Bhd and Mestron Engineering Sdn Bhd. The Tournament Winners are as announced on page 77.



Team Event Champion – The winning team of Sunway Engineering received Medals and Cash RM300 from Mr Siew Choon Thye (TEEAM President). Their total team score was 3,397 pins. They are Vivi Chow, Ric Chan, Muhammad Naquiddin and Shaharul.



Ladies' Champion – Jessie Chow (Sunway) receiving a Trophy and Cash RM400 from Mr Siew Choon Thye (TEEAM President).



Lucky position winner – Angie Ng (Lotus Power) receiving a Souvenir and Cash RM50 from Mr Lim Sai Seong (TEEAM Honorary Treasurer).



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7876 0879, 7874 2452
Fax: 603-7876 5057

Congratulations to Our Bowlers

Men's Singles Event

Champion

Shaharin Tuah
Indkom Engineering Sdn Bhd
Trophy + RM500

1st Runner-Up

Shukri Omar
Omron Electronics Sdn Bhd
Trophy + RM300

2nd Runner-Up

Alvin Brian Dragon
Sunway Engineering Sdn Bhd
Trophy + RM200

4th Prize

Koh Jui Seng
Active Hi-Tech Engineering Sdn Bhd
RM150

5th Prize

Ric Chan Kok Choon
Sunway Engineering Sdn Bhd
RM150

6th Prize

Alias Ahmat
Indkom Engineering Sdn Bhd
RM100

7th Prize

M.Naquiddin
Sunway Engineering Sdn Bhd
RM100

8th Prize

Ajah Maidien
Sunway Engineering Sdn Bhd
RM100

High Games

Ric Chan Kok Choon
Sunway Engineering Sdn Bhd
Bath Towel + RM50

High Series (Game 1, 2, 3)

Syahrul Shamsuddin
Sunway Engineering Sdn Bhd
Bath Towel + RM50

High Series (Game 4, 5, 6)

Simon Liew
Fully Electrical Supplier Sdn Bhd
Bath Towel + RM50

10th Position

Goh Tzer Nam
SW Electric Sdn Bhd
Bath Towel + RM50

20th Position

Muhammad Hazim
Success Electronics & Transformer
Manufacturer Sdn Bhd
Bath Towel + RM50

30th Position

Roslan Ali
Success Electronics & Transformer
Manufacturer Sdn Bhd
Bath Towel + RM50

40th Position

Samson Lee Key Jun
Eita Electric Sdn Bhd
Bath Towel + RM50

Ladies' Singles Event

Champion

Jessie Chow
Sunway Engineering Sdn Bhd
Trophy + RM400

1st Runner-Up

Mandy Yong
Omron Electronics Sdn Bhd
Trophy + RM250

2nd Runner-Up

Nurulhuda
Success Electronics & Transformer
Manufacturer Sdn Bhd
Trophy + RM200

4th Prize

Tai Kui Har
Active Hi-Tech Engineering Sdn Bhd
RM150

5th Prize

Vivi Chow
Sunway Engineering Sdn Bhd
RM100

High Games

Jessie Chow
Sunway Engineering Sdn Bhd
Bath Towel + RM50

High Series (Game 1, 2)

Tee Lee Peng
Davex (Malaysia) Sdn Bhd
Bath Towel + RM50

High Series (Game 3, 4)

Hajarat Mohamed
Gruppe Lighting Solution Sdn Bhd
Bath Towel + RM50

10th Position

Cho Huey Jia
Success Electronics & Transformer
Manufacturer Sdn Bhd
Bath Towel + RM50

20th Position

Angie Ng
Lotus Power Corporation Sdn Bhd
Bath Towel + RM50

Team Event

Champion

M. Naquiddin, Ric Chan, Shaharul,
Vivi Chow
Sunway Engineering Sdn Bhd
4 Medals + RM300

1st Runner-Up

Gallen, Alvin, Shukri, Mandy
Omron Electronics Sdn Bhd
4 Medals + RM200

2nd Runner-Up

Alias Ahmat, M. Azali,
Shaharin, Nor Atika
Indkom Engineering Sdn Bhd
4 Medals + RM100

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The Truth about Blue Light Hazard Risks in LEDs

Yi Jiau Saw and Associate Professor Dr Vineetha Kalavally
Intelligent Lighting Laboratory, School of Engineering, Monash University, Malaysia.

1.0 Introduction

Any given light source emits a spectrum that has peaks at specific wavelengths over the range of visible light wavelengths ranging from 380 nm to 780 nm. Each type of light source has its unique Spectral Power Density (SPD) as illustrated in Figure 1 [1]. Note: LEDs are not associated with retinal and skin damage from ultra violet (UV) and infrared (IR) radiation as they do not have emissions in this wavelength range [2].

2.0 Frequently Asked Questions

2.1 What is blue light?

The blue light spectrum is in the range of 400 nm to 460 nm [3].

Referring to Figure 2 (Spectrum of sunlight reaching the earth), the high-energy portion of the spectrum encompassing the blue and violet lights is indicated by the white vertical arrow with an excitation peak of 440 nm and this range between 400 nm to 460 nm is accountable for the blue light hazard [4].

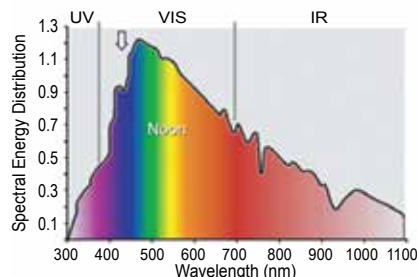


Figure 2: Spectrum of sunlight reaching the earth
(Source: J. M. Peep V. Algvere et. al., "Age-related Maculopathy and the Impact of Blue Light Hazard.")

The foremost concern when it comes to LEDs is the fact that they emit more blue light than most light sources such as incandescent light bulbs and compact fluorescent light bulbs. However, this concern may not have enough grounds, due to the following reasons:

- As observed in Figure 3 (Blue Light Hazard Efficacy for Different Light Sources against CCTs) which plots the blue light hazard efficacy ($K_{B,V}$), defined as the blue light hazard potential per lumen for various sources at similar correlated color temperatures (CCTs), the proportion of blue light in the spectrum for LEDs is not significantly higher than those in other light sources for the same CCTs [2].

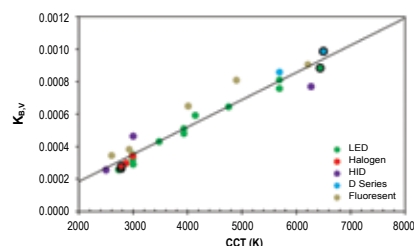


Figure 3: Blue Light Hazard Efficacy for Different Light Sources against CCTs
(Source: United States Department of Energy, "Solid-state Lighting Technology Fact Sheet")

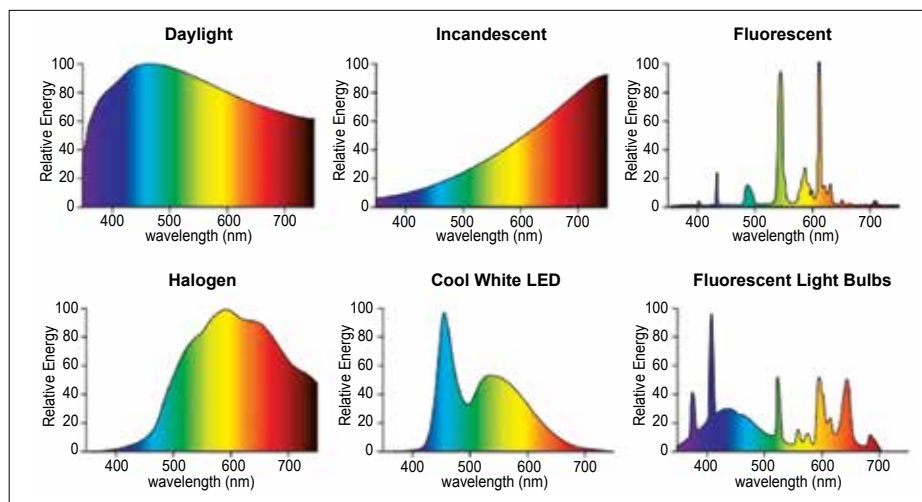


Figure 1: Spectral Distribution of Different Light Sources
(Source: InnoLED, <http://innoled.eu/>)

- In Figure 4 (Relative spectral radiance of sunlight, plotted with the blue-light hazard), the blue light hazard function falls well below the daylight spectrum [5].
- Figure 5 (Comparison of blue light irradiance E_B values of the different indoor lamp types at 500 lux and typical daylight at 5000 lux at moderate latitudes) illustrates that the amount of blue light of any indoor general lighting compared to outdoor conditions is extremely low [6].

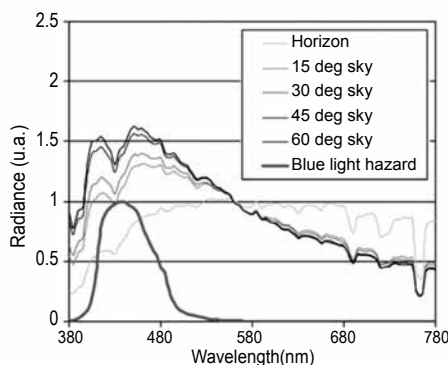


Figure 4: Relative spectral radiance of sunlight, plotted with the blue-light hazard
(Source: Behar-Cohen et. al., "Light-emitting diodes (LED) for domestic lighting: Any risks for the eye?")

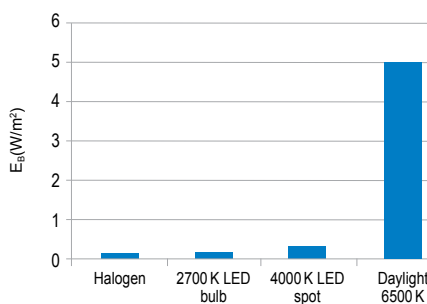


Figure 5: Comparison of blue light irradiance E_B values of the different indoor lamp types at 500 lux and typical daylight at 5000 lux at moderate latitudes.

(Source: G. L. Association, "Optical and Photobiological Safety of LED, CFLs and Other High Efficiency General Lighting Sources: A White Paper of the Global Lighting Association.")

2.2 If LEDs pass photobiological safety standards, can they be considered safe?

The main classification standards for light sources are the IEC/EN 62471 published by the International Commission on Non-Ionising Radiation Protection (ICNIRP) and American Conference of Governmental Industrial Hygienists (ACGIH) in year 2006. These standards define the photobiological safety of lamps and devices using lamps and recommend the exposure limits for radiation from illuminants. They cover a system of classification based on radiance and irradiance and define four risk groups according to the exposure time and photobiological hazards [5]. The IEC/EN 62471 standards have fundamentally the same requirements as CIE S009 standards which were published by the International Commission on Illumination in year 2002. They evaluate a light source using two measurement criteria: evaluating the illuminant under an illuminance of 500 lux which is the typical value for general lighting purposes and measuring the photobiological safety from a distance of 200 millimeters. Based on the measured blue-light radiance, L_B values, the evaluated light source is then classified into a Risk Group: RG 0, RG 1, RG 2 and RG 3 in accordance with the maximum allowable exposure time limits. Accounting for the 500 lux criterion as the evaluation basis, a study of the French Agency for Food, Environmental and Occupational Health and Safety (ANSES) 2010 reported that general consumer LEDs and even high-output discrete LEDs are classified into RG 0 or at most, RG 1 [6, 7].

In [5], the blue light hazard assessment was performed in compliance with the IEC 62471 standards criteria. Provided that the LEDs fall

within RG 0 or RG 1 as stated in Table 1 (Risk group and blue-light radiance L_B exposure limit values (ELVs) of IEC 62471), there is virtually no risk from these light sources.

L_B value (W/m ² sr)	Maximum exposure time (s)	Classification
0-100	no maximum time defined	RG 0 Exempt
100-10,000	100-10,000	RG 1 Low
10,000-4,000,000	0.25-100	RG 2 Moderate
>4,000,000	<0.25 (aversion response)	RG 3 High

Table 1: Risk group and blue-light radiance L_B exposure limit values (ELVs) of IEC 62471

Referring to Figure 6 (Blue Light Radiance L_B of diffuse sources), it is apparent that the blue light radiance of diffuse LEDs is relatively low and most of them fall within RG 0, while for point sources, all of them are classified below RG 2 in Figure 7 (Blue Light Radiance L_B of some typical point-like sources). The maximum exposure times for both RGs are not realisable as they require an individual to have a prolonged close direct gaze into these sources without succumbing to their instinctive aversion reaction such as pupillary constriction, eye movements, squinting and blinking [6, 8].

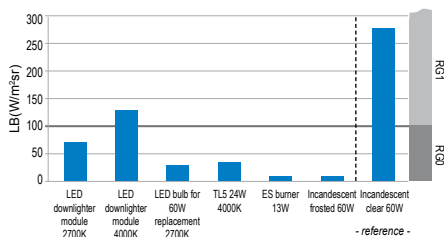


Figure 6: Blue Light Radiance L_B of diffuse sources (Source: IEC 62471:2006 standard, "Photobiological Safety of Lamps and Lamp Systems")

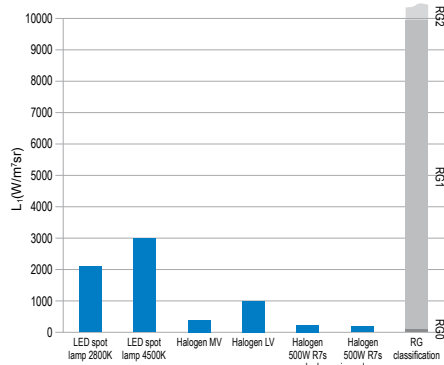


Figure 7: Blue Light Radiance L_B of some typical point-like sources (Source: IEC 62471:2006 standard, "Photobiological Safety of Lamps and Lamp Systems")

As concluded from [2], it is improbable that any white light source for general indoor lighting can be classified above RG 1 even under extremely strict evaluation criteria. However, if such an event is to occur, it is still generally safe to look straight at diffuse and warm white light sources, such as frosted or white diffusing lamps. Caution is to be taken when cool white or high intensity point sources such as an LED die is involved [6].

In terms of photobiological safety, LEDs do not differ significantly compared to traditional light sources such as incandescent and fluorescent lamps. As stated in Section

2.1, the blue light portion in LEDs is not overwhelmingly higher than other lamps at the same CCTs.

2.3 Will blue light cause visual impairment?

While previous epidemiological studies such as The Beaver Dam Eye Study 1990 [9] and the Blue Mountains Study 1995 [10] indicated that there is a correlation between chronic blue light exposure in which the participants were exposed to the summer sun for 5 hours a day and the development of visual impairment such as macular degeneration and retinal phototoxicity, newer research such as those conducted in [11], [12], [13] and the large-scale AREDS study in 2009 found no significant correlation between blue light and the development of macular degeneration. In fact, the study in [12] evaluated the blue light hazards from multiple illuminants and reported that the exposure to blue light from LEDs do not pose a significant hazard. Recent research also indicates that genetic factors (ERCC6 gene) and environmental factors including age, smoking, hypertension and diet are more likely to cause or influence macular degeneration rather than blue light exposure [6].

Regarding retinal phototoxicity, while the ICNIRP exposure limit values do not account for the possibility of an exposure over an entire lifetime, there is no evidence that blue light from artificial lighting classified in RG 0 and RG 1 will impact the retina, cornea, conjunctiva or lens graver than those done by sunlight. The IEC 62471 exposure limits are protective against acute effects while long term exposure of low level blue light is estimated to give negligible risk [3].

2.4 Will blue light affect a student's sleep cycle?

Light exposure is beneficial during the day as it suppresses melatonin synthesis, allowing increased alertness and stabilises the circadian rhythm. Only consecutive ill-timed light exposures such as during late evenings, nights and early mornings may induce inappropriate circadian rhythm phase shift due to incomplete synchronisation to actual light conditions [3]. Generally, light between 5 am to 5 pm advances the circadian cycle by ensuring the circadian rhythms align with the environment, while light between 5 pm to 5 am delays the cycle causing abnormal circadian progression [14]. An individual's sleep cycle will not be affected provided chronic ill-timed light exposure such as constantly being under artificial lighting into late evenings does not occur.

2.5 Will blue light induce cancer?

There exists comprehensive evidence of an association between chronic disruption of the circadian cycle and the rate of breast cancer, especially among night-shift workers as night-shift work carried out over the course of many years is the most extreme source of ill-timed exposure to blue light. This leads

to persistent suppressed melatonin levels, sleep deprivation and consequently circadian disruption [3]. An idea proposed by Richard Stevens as part of his light-at-night theory suggests the possibility of an increase in the risk of some types of cancer due to chronic suppression of melatonin, which is further reinforced by the finding that the rate of breast cancer is lower among blind women without visual perception [15], [16]. A study in [17] also reported that continuous exposure to light disrupts behavioral rhythms and increases tumor malignancy in C57BL/6 melanoma-bearing mice. Thus, it is suggested that the contributing factor to cancer is the chronic disruption of the circadian cycle itself, which is mainly due to improper and extensive exposure to blue light rather than being a direct consequence from blue light exposure. Proper exposure to blue light is necessary for optimum human health.

3.0 Conclusion

The blue-light hazard emitted by LEDs does not pose a significant risk to humans, on the condition that chronic ill-timed light exposure does not transpire. Present international photobiological safety standards have eliminated the possibility of any white light sources used for general lighting applications that may be hazardous to the retina and biological health. In fact, proper exposure of blue light is necessary to promote wakefulness, productivity and regulating the circadian rhythm especially in a work and study environment. Provided that the lighting products comply with the photobiological safety standards (which suggests the LEDs used for indoor lighting to be classified under RG 0 or RG 1), there is negligible risk to the consumer.

This article covers the basic knowledge on the presence of blue light in the spectrum of various light sources. It also addresses the misgivings that are closely correlated with the risk of blue-light hazard which is more noteworthy in LEDs than in other types of light sources. The key findings can be summarised as follows:

- It is observed that the strength of blue light in LEDs is not significantly higher than those in other light sources at the same Correlated Color Temperatures (CCTs) and much lower than that in daylight.
- It is reported that with the current lighting technologies, no white light sources intended for general purpose illumination are able to negatively impact the human health as all of them are classified under Risk Groups that pose negligible risk, on the basis of the present international photobiological safety standards which are the IEC/EN 62471.
- Findings discovered that there is no consistent and persuasive evidence that blue light exposure is a factor for visual impairment.

- It is established that while research indicates that blue light does negatively impact health in terms of circadian disruption and sleep cycle, this is in reference to chronic and acute levels of ill-timed blue light exposure.
- It can be said that the increased risk in cancer rates is more of a direct consequence of persistent circadian disruption due to extreme ill-time exposure of blue light rather than blue light exposure in general. In fact, blue light when exposed during appropriate times is necessary for alertness and regulating the circadian rhythms.

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Industry 4.0: The Next Frontier and its Technological Impacts, and the Role of Global Standardisation

Alex Looi Tink Huey

The Fourth Industrial Revolution or Industry 4.0 encompasses production/manufacturing-based industries, marrying advanced manufacturing techniques with digital transformation, driven by connected technologies to create Intelligent Manufacturing Systems (IMSs) which are not only inter-connected, but also have the ability to communicate, analyse, forecast and use this information to drive further intelligent actions.

According to McKinsey, Industry 4.0: Reinvigorating ASEAN Manufacturing for the Future, Industry 4.0 is expected to deliver between US\$1.2 trillion and US\$3.7 trillion in gains globally. Of this, the Association of Southeast Asian Nations (ASEAN), whose member economies among the 10 countries have significant manufacturing-based economies, has the potential to capture large opportunities and productivity gains worth US\$216 billion to US\$627 billion.

1.1 Global Standardisation in Industry 4.0

Industry 4.0 is opening the door to connectivity, innovativeness and economic strength, allowing businesses to be more flexible, efficient and resource-saving. The key ingredient to this digital revolution is data. The efficient utilisation of transforming raw data into meaningful information is an essential enabler for future businesses. The wide use of new and advanced technologies requires an Intelligent Integration System, which can only be achieved if the relevant technologies, interfaces, frameworks and formats conform to globally accepted standards. The pre-requisites for interoperability in an Industry 4.0 environment are internationally applicable and accepted norms and standards. Therefore, Industry 4.0 and standardisation must go hand in hand.

To keep up with the advancement of Industry 4.0 and the transition to this new era, the manufacturing sector, for example, needs to undergo digital transformation with embedded sensors in manufacturing equipment and product components, automation, ubiquitous cyber-physical systems, and analysis of all relevant data

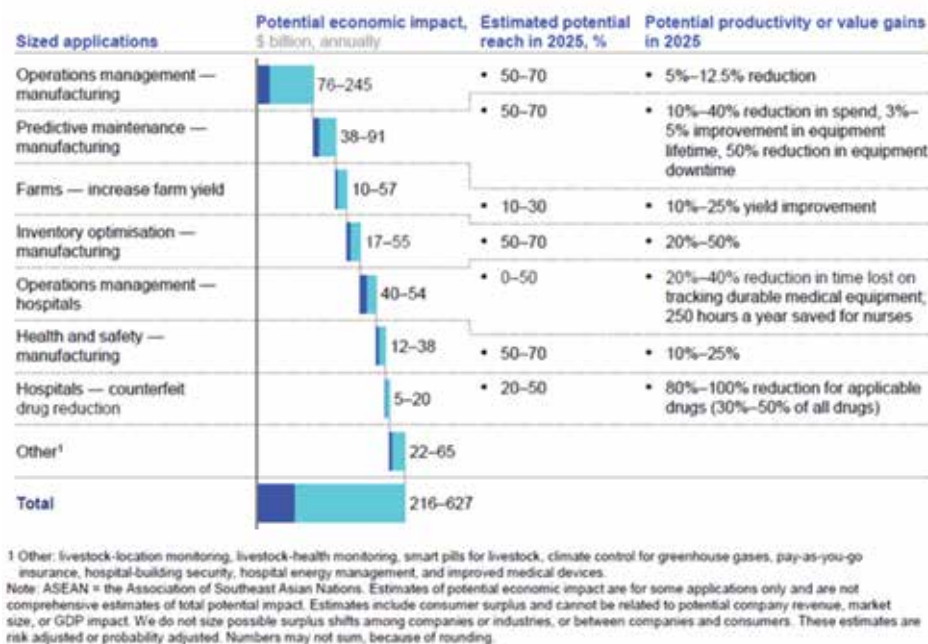


Figure 1.1 ASEAN potential productivity gains in 2025 – Industry 4.0 (McKinsey Digital – Industry 4.0: Reinvigorating ASEAN Manufacturing for the Future)

Digitisation of the manufacturing sector – Industry 4.0

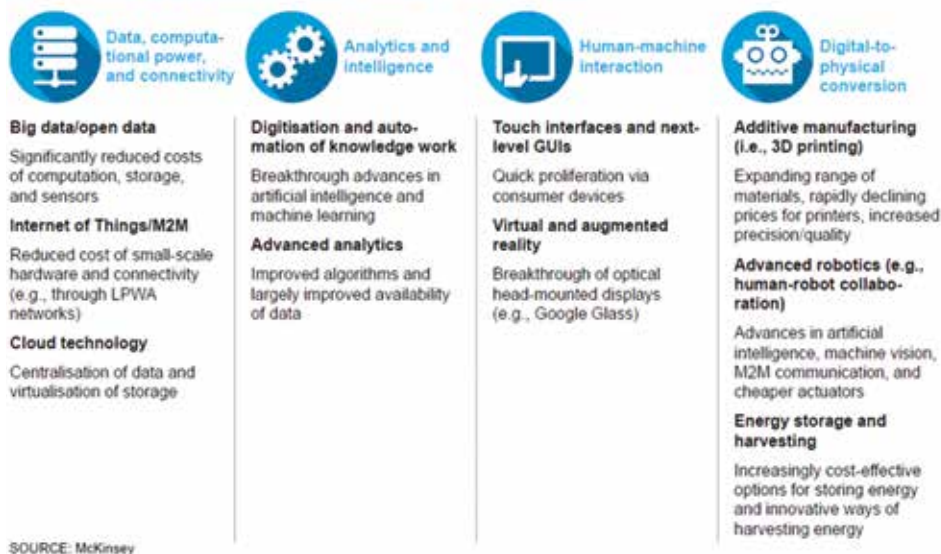


Figure 1.2 Digitisation of the manufacturing sector – Industry 4.0 (McKinsey Digital – Industry 4.0: How to navigate digitisation of the manufacturing sector)

and information. These transformations are driven by four main clusters of disruptive technologies and enablers, namely, data, computational power and connectivity; analytics and Artificial Intelligence (AI);

Human-Machine Interaction (HMI) governed by touch interfaces and Augmented Reality (AR); and digital-to-physical conversion, where Advanced Robotics and 3D Printing come into place.

(753789-W)

KYODO PIPE Standard Galvanised Steel Conduit
BS 31 CLASS B (SCREWED) / MANUFACTURER'S STANDARD

NOMINAL SIZE	OUTSIDE DIAMETER				WALL THICKNESS				CALCULATED WEIGHT WITH COUPLER			NUMBERS OF THREADS	LENGTH OF THREADS			
	MINIMUM		MAXIMUM		MINIMUM		MAXIMUM		kg/m	kg/ft	lb/ft		MINIMUM		MAXIMUM	
	in	mm	in	mm	in	mm	in	mm					in	mm	in	mm
in																
¾	18.76	7387	19.05	7500	1.52	0.060	1.52	0.064	7.13	0.217	0.479	16	12.70	0.5000	14.29	0.5625
1	25.11	0.9887	25.40	1.0000	1.52	0.060	1.52	0.064	0.972	0.296	0.653	16	15.88	0.6250	17.46	0.6875
1¼	31.46	1.2387	31.75	1.2500	1.52	0.060	1.52	0.064	1.240	0.376	0.830	16	17.46	0.6875	19.05	0.7500
1½	37.80	1.4880	38.10	1.5000	1.73	0.068	1.83	0.072	1.680	0.511	1.130	14	19.05	0.7500	20.64	0.8125
2	50.50	1.9880	50.80	2.0000	1.93	0.076	2.03	0.080	2.510	0.765	1.690	14	22.23	0.8750	23.81	0.9375

MS 275 / BS 4568 CLASS 3 (SCREWED) / MANUFACTURER'S STANDARD

NOMINAL SIZE	OUTER DIAMETER		WALL THICKNESS	CALCULATED WEIGHT WITH COUPLER		PITCH	LENGTH OF THREADS	
	MINIMUM	MAXIMUM		MINIMUM	MAXIMUM		MINIMUM	MAXIMUM
mm	mm	mm	mm	kg/m	kg/m	mm	mm	mm
20	19.7	20.0	1.6 ± 0.15	0.643	0.783	1.5	13	15
25	24.6	25.0	1.6 ± 0.15	0.811	0.995	1.5	16	18
32	31.6	32.0	1.6 ± 0.15	1.069	1.301	1.5	18	20

MS IEC 61386-1 / MS 61386-21 Conduit Systems for Cable Management.

NOMINAL SIZE	OUTER DIAMETER		INSIDE DIAMETER	EXTERNAL THREAD LENGTHS
	MINIMUM	MAXIMUM		
mm	mm	mm	mm	mm
20	19.7	20.0	16.2	14.0
25	24.6	25.0	21.1	17.0

Advantages:

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 - Inside bead minimized to enable easy wire pulling.
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Meanwhile, the power utility sector must focus on upcoming power energy technologies, standardisation of high-level and high-speed technologies with Information and Communications Technology (ICT) fusion and convergence, smart and intelligent power grids, energy storage systems, Big Data, AI and Cyber Security. The power utility sector is a critical infrastructure. Hence, ensuring efficient and continuous supply of power is essential.

The wide use of new and advanced technologies requires an Intelligent Integration System, which can only be achieved if the relevant technologies, interfaces, frameworks and formats conform to globally accepted standards. The pre-requisites for inter-operability in an Industry 4.0 environment are internationally applicable and accepted norms and standards. Therefore, Industry 4.0 and standardisation must go hand in hand.

1.2 Technological Impacts of Industry 4.0

The imminent arrival of 5G or fifth-generation wireless technology offers lightning-fast speed, extremely reliable connections, low latency, and enabling massive connectivity simultaneously. 5G networks are expected to supercharge the Internet of Things (IoT) eco-system by providing the network infrastructure needed to carry massive amounts of data and serving the communication needs for billions of IoT-connected devices. This wireless technology opens a wide range of new possibilities such as Robotics and Autonomous Systems, Remote Surgery and Remote Medical Applications, AR, and Self-Driving Vehicles. The International Electro-Technical Commission (IEC) Technical Committee (TC) 106 has been tasked to develop safety testing standards for mobile devices, base stations, and wireless communication systems to support the implementation and development of 5G networks.

IoT is a system of inter-related computing devices, mechanical and digital machines, objects embedded with sensors, software, and technology for the purpose of connecting and exchanging data with other devices and systems over the Internet. These IoT-connected devices range from household objects such as kitchen appliances, baby monitors to sophisticated industrial tools such as smart power grids, smart manufacturing, connected and smart logistics, and preventive and predictive maintenance. Companies will

deploy thousands or millions of wired and wireless sensors that produce large amounts of raw data which is being turned into useful information providing value for the user. According to IEC, the IEC's role in the IoT, an estimated 30 billion objects will be connected by 2020. The ISO/IEC JTC 1/SC 41 provides the standardisation in the area of IoT and related technologies, including sensor networks and wearable technologies to ensure that connected systems are seamless, safe, and resilient.

AR is the integration of digital information with the user's environment in real-time, thus providing an interactive, reality-based display environment. The applications for AR are limitless. Industries are adopting AR technologies to enable Virtual Manufacturing where engineers can design and evaluate new parts for industrial applications in a 3D environment; specialised and enhanced training and simulation; intelligent control and maintenance functionalities; and many more.

Blockchain is a decentralised database that is encoded, unchangeable, consensual, verifiable, transparent, and permanent. There are myriad potential uses of Blockchain Technology and one of them is 'Bitcoin'. In the logistics industry, Blockchain is being used to establish trusted information where a product was made, when the product was made, when the product was shipped, where the product is located and when the product will arrive. Blockchain Technology has also been implemented in the energy sector such as Peer-to-Peer (P2P) Renewable Energy (RE) trading and electric vehicle charging infrastructure. ISO/IEC JTC 1/ SC 27 Working Group (WG) oversees the standards development of Blockchain and Distributed Ledger Technologies.

The main pillars or technology drives of Industry 4.0 include autonomous and AI where production or manufacturing processes will become increasingly digitised and inter-connected cyber-physical systems. The industry recognises that the broad adoption of AI and automation will re-define how businesses and industries work. Hence, AI is expected to be one of the most crucial enablers and digital frontier in the evolution of Information Technology (IT).

AI is not just a single technology; it is a variety of software and hardware technologies applied in applications. AI is generally understood to refer to a machine which has the ability to replicate human cognitive functions to learn and solve problems. The components of AI such as Neural Networks, Natural Language Processing, Biometrics, Facial Recognition,

Gesture Recognition, Minibots and Video Analytics enables digital transformation.

Key barriers to the adoption of AI are trustworthiness and ethical considerations of the system as humans put their trust in machines. The AI eco-system can be divided into 3 key areas involving technical, societal and ethical considerations. The technical consideration involves foundational standards and computational methods, techniques, architectures, and the characteristics of AI systems. The societal and ethical considerations are the concern of how adoption of AI impacts and influences human lives on the labour force, privacy, eavesdropping, algorithmic bias, and safety.

The IEC and ISO Joint Technical Committee on AI, ISO/IEC JTC 1/ SC 42 was established to develop international standards, to cover areas which include AI, Big Data, use cases, governance implications, computational approaches of AI, ethical and societal concerns. The Institute of Electrical and Electronics Engineers (IEEE) Standards Association (SA) has worked on projects that focus on the human well-being in the creation of autonomous and intelligent technologies. IEEE-SA saw the release of its Ethics Guideline for automation and intelligent systems, titled 'Ethically-Aligned Design (EAD)'. This guideline focuses on high-level principles and recommendations for the ethical implementation of autonomous and intelligent systems which are covered in 8 general principles: human rights, well-being, data agency, effectiveness, transparency, accountability, awareness of misuse, and competence.

Data Centres are the backbone of Industry 4.0 as they pave the way for Industry 4.0 applications. As cloud computing and eco-systems continue to grow to be one of the key strategies for digital transformation, hyperscale data centers are expanding in capacity to meet the exponential growth of data volumes. Data Centres today are now home to AI engines, vast cloud eco-systems, blockchain technologies, advanced connectivity architectures, high-performance computing platforms, and many more. ISO/IEC JTC 1/ SC 38 serves as the focus, proponent, and systems integration entity on cloud computing and distributed platforms.

To prepare for the next frontier in digital transformation, Data Centres must implement advanced network infrastructures to make their networks faster, more flexible, more robust, more reliable and more cyber resilient and secure. Hyperscale Data Centres (HDCs) are big consumers of electrical energy. It is essential to make Data Centres more energy-

Automatic Transfer Switch (ATS) with Smart Transfer Controller



MS IEC 60947-6-1

ATS 2 pole, 3 pole, and 4 pole								
	Open Transition Without "OFF" position		Open Transition With or Without "OFF" position		HIGH SPEED Open Transition With "Sync Check" feature		Close Transition With "Sync check" feature	
	Aichi		W2/WN		WN		HPTS/WS	
	W2/WN		WN		HPTS/WS		WP	
	VITZRO TECH		W/WN		WN		-	
	W/WN		WN		-		CTTS	
Transfer speed	$\geq 55\text{ms}$		Delay adjustable		$\leq 20\text{ ms}$		$7-50\text{ms}$	
					*To CBEMA / ITIC Curve			

*For Data Centre Application - Parallel Redundancy / E-T1 $\leq 5\text{ms}$

- ATS with micro processor based controller
- Double-throw mechanism for dedicated source switching
- Solenoid operated for quick transfer
- Inherent mechanical interlock
- Mechanically held contacts
- High Electrical operation
- High Mechanical operation
- High withstand short time current ratings



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Courtesy Visit by the Chinese National Federation of Industries, Taiwan

On 3 September 2019, a 4-member delegation (consists of Mr Yang Ying-Ming, Director, Ms Chen Mei-Lan, Division Director, Mr Huang Ling-Chiao, Senior Specialist & Mr Lee Chieh-En, Senior Specialist) from the Chinese National Federation of Industries (CNFI), Taiwan paid a Courtesy Visit to TEEAM. They were led by Mr David Hsu, Director of Taipei Economic & Cultural Office in Malaysia (TECO) and Mr Samuel Ko, Secretary of TECO. On hand to receive the CNFI Delegation from TEEAM were Ir Chang Yew Cheong (Deputy President), Mr Lee Peng Sian (Honorary Secretary), Mr Nathan Chiam Tow Jen (Media, Publication & Emerging Technology Chairman & Council Member) and Mr Chong Yoon Koon (Council Member).

CNFI is the largest and most influential industrial organisation consisting of 158 member associations in their respective fields of manufacturing industry and stands for more than 100,000 companies in Taiwan. CNFI is acting as catalyst among the vast business constituencies, stakeholders, and governmental authorities, and devoted to creating a harmony economic society through

better communication and co-operation amongst various business communities and Government sectors.

The visit aimed to pledge joint efforts to promote mutual understanding and business

interchanges between CNFI and TEEAM. Both parties shared market information on the E&E industry, business opportunity and to improve relations, enhance mutual trust and carry out co-operation. It was a fruitful and informative meeting.



Fruitful discussion – Information being shared.



All smiles – CNFI Delegation and TECO Officials.



For the album – A group photo capped off the visit.

..... *Continue Industry 4.0: The Next Frontier and its Technological Impacts, and the Role of Global Standardisation*

efficient and less power hungry to combat increasing global carbon emissions. ISO/IEC JTC 1/ SC 39 was set up to develop a new metric which measures and compares the energy efficiency and the sustainability of Data Centres.

To capture this, global standardisation provides an important contribution to ensure the smooth expansion of digital transformation and Industry 4.0, and to allow systems of different manufacturers to inter-connect and inter-operate without the need for special integration efforts, as well as mitigating climate change and reducing global carbon emissions, which are in line with the United Nations (UN) Sustainable Development Goals (SDGs).



Alex Looi Tink Huey has two Bachelors' Degrees, one in Electrical & Electronics Engineering and the other in Software Engineering. He is the Head of Projects for Malim Consulting Engineers Sdn Bhd providing M&E consultancy services and turnkey project management for renewable energy power plants, commercial, and industrial developments; and Head of Projects for LAJ Engineering Sdn Bhd providing electrical service contracting services: electrical installation inspection, T&C of high voltage and low voltage electrical equipment, power system studies, power quality analysis, efficient energy management, and preventive maintenance programme. He is currently the elected Committee Member of the IEM Electrical Engineering Technical Division (EETD) and Chairman of the Activities Organising Committee. He is also an IEC (International Electro-Technical Commission) Young Professional and serves in the IEC SEG 10: Ethics in Autonomous and Artificial Intelligence Applications Committee and IEC SEG 11: Future Sustainable Transportation Committee. He is a Registered Electrical Energy Manager (REEM) with the Energy Commission, Associate ASEAN Engineer (AAE), and a Certified Infra-red Thermographer. He is also a member of TEEAM and can be contacted at alex.looi@live.com.my



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Courtesy Visit by the PHD Chamber of Commerce & Industry, India

On 12 September 2019, the Principal Director of the PHD Chamber of Commerce & Industry, India (PHDCCI), Mr Vivek Seigell and his Senior Assistant Secretary, Mr Siddharth Sawhney paid a Courtesy Visit to TEEAM. On hand to receive them from TEEAM were Mr Suresh Kumar Gorasia (Past President) and Ir Dr Ng Kok Chiang (Assistant Honorary Secretary).

Ever since its inception in 1905, the PHDCCI is a leading Industry Chamber of India, has been a pro-active participant in the India Growth Story via its Advocacy Role for the Policy Makers and Regulators of the Country. Regular interactions, Seminars, Conferences and Conclaves enable healthy and constructive discussions between the Governments, Industries and International Agencies, bringing out the Vitals for Growth. As a true representative of the Industry with a large membership base of 130,000 direct and indirect members, PHD Chamber has boldly forged ahead, leveraging its legacy with Industry Knowledge across many sectors (namely, 58 Industry verticals being covered through Expert Committees), encompassing a deep understanding of the Economy at large and the populace at the micro level.

The Courtesy Visit aimed to promote the India-ASEAN Business Summit “Today, Tomorrow, Together” which was held on 11 - 12 November 2019 at the LPS Auditorium, PHD House, New Delhi. The noble objective of the Summit was to dynamically enhance the trade trajectory between India and ASEAN Nations to new highs.

The “Today, Tomorrow, Together” India-ASEAN Summit 2019 provided a unique opportunity for the vibrant business and diplomatic communities to come together for a highly profitable interaction to strengthen their mutual bonds and also to explore



Fruitful discussion – Sharing valuable views.



For the album – (from left) Mr Siddharth Sawhney (PHDCCI Senior Assistant Secretary), Mr Vivek Seigell, (PHDCCI Principal Director), Ir Dr Ng Kok Chiang (TEEAM Assistant Honorary Secretary) and Mr Suresh Kumar Gorasia (TEEAM Past President).

new business opportunities. The number of registered delegates exceeded 400 of which more than 60 delegates were participants from the ASEAN nations.



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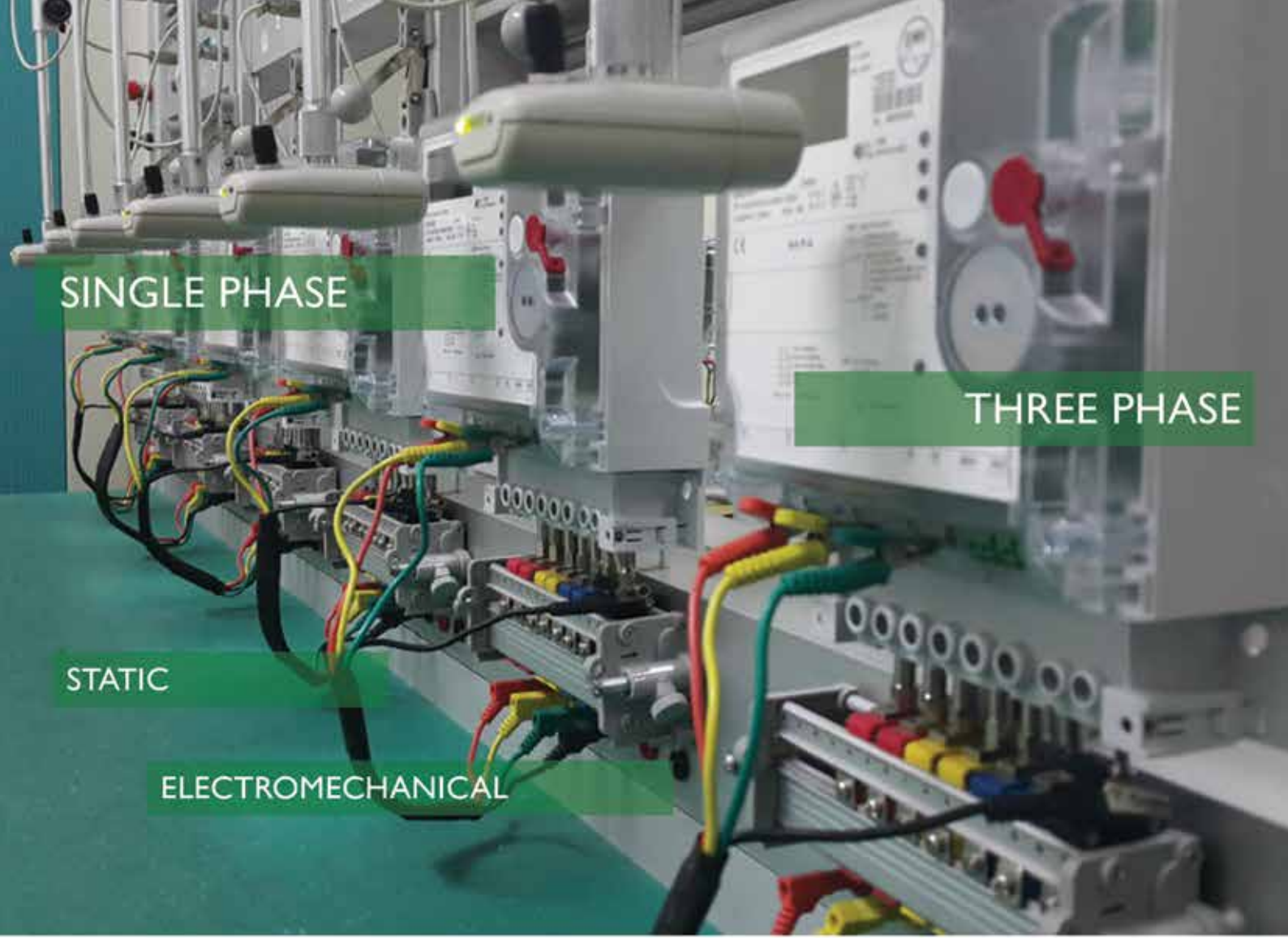


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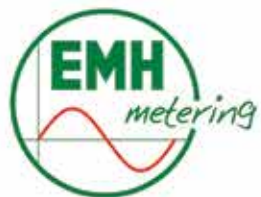
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New Members

The following new members have been approved and accepted by the TEEAM Council from August - December 2019. A warm welcome to all the new members and special appreciation is extended to those who introduced these new members. For those who are not yet members..... why wait? Join us and find out how our Association can offer our value-added services to you and your highly esteemed Companies!

Fuji Electric Sales Malaysia Sdn Bhd #13A-15, Menara Q Sentral, 2A Jalan Stesen Sentral 2, Kuala Lumpur Sentral, 50470 Kuala Lumpur. Tel: +603-2780 9980 E-mail: saito-yasuyuki@fujielectric.com Website: www.fujielectric.com.my Contact Person: Mr Yasuyuki Saito Business: Electrical products.	Suntrec Solution Sdn Bhd No. 30, Jalan Industri USJ 1/6, Taman Perindustrian USJ 1, 47600 Subang Jaya, Selangor Darul Ehsan. Tel: +603-5879 8822 Fax: +603-5879 8823 Email: sales@suntrec.net Website: www.suntrec.net Contact Person: Mr Chang Chiang Poo Business: Manufacturer of network cable & fiber optics and service provider of fiber optics.
Perniagaan Elektrik TNI Sdn Bhd No. 5-1, Jalan Ria 1, Kawasan Perindustrian Ria, Jalan Semenyih, 43000 Kajang, Selangor Darul Ehsan. Tel: +603-8739 3622 Fax: +603-8741 2749 Email: sales@tni-e.com.my Website: www.tni-e.com.my Contact Person: Mr Mike Tok Business: Electrical supplies.	Chew Han Siong No. 30, Jalan Wangsa Budi 9, Taman Wangsa Melawati, 53300 Kuala Lumpur. Tel: +6012-319 9313 Email: chew1981_2000@yahoo.com Business: Electrical in building and construction.
Tridonic Malaysia Sdn Bhd Unit V03-10-01, Designer Office Lingkaran SV, Sunway Velocity, 55100 Kuala Lumpur. Tel: +603-2733 6484 Email: Michael.lai@tridonic.com Contact Person: Mr Michael Lai Business: Electrical trading.	Harvest Engineering Hardware Sdn Bhd No.6, Jalan 14/108C, Taman Sungai Besi, 57100 Kuala Lumpur. Tel: +603-7983 4646 Fax: +603-7980 4228 Email: cfsee@harvest.com.my Contact Person: Mr See Chuan Fai Business: Hardware wholesale, retail and industrial supplies.
Tenaga Nirwana (M) Sdn Bhd No. 23-3, Jalan Kasturi 1, Plaza Kasturi, Off Jalan Balakong BT.11, 43200 Cheras, Selangor Darul Ehsan. Tel: +603-9076 3888 Fax: +603-9074 7068 Email: corp@tnirwana.com.my/ tnirwana@gmail.com Contact Person: Mr Foo Koon Wai Business: Construction.	HPWinner Lighting Solution Sdn Bhd No. 3, S-06-06, Persiaran Kelicap, Sungai Ara, 11900 Bayan Lepas, Penang. Tel: +604-608 4578 Fax: +604-608 4575 Email: alvin@hpwin.com Contact Person: Mr Han Wengang Business: OEM ODM distribution.
Protech Builders Sdn Bhd No. 22A, Jalan IAN 4, Taman Industri Angkasa Nuri, 76100 Durian Tunggal, Melaka. Tel: +606-336 8125 Fax: +606-336 8127 Email: mail@protechbuilders.my Website: www.protech.my Contact Person: Mr Wong Chan Wah Business: Mechanical & electrical contractor.	Don Lighting Manufacturing Sdn Bhd No. 12, Jln PTP 1/4, Taman Perindustrian Tasik Perdana, 47100 Puchong, Selangor Darul Ehsan. Tel: +603-8066 8324 Fax: +603-8066 7324 Email: donlightingmfg@gmail.com Website: www.donlightings.com Contact Person: Ms Michelle Mak Mei Ching Business: Lighting manufacturer.
Rubik Sdn Bhd S0-28-7, Menara 1, No.3, Jalan Bangsar, KL Eco City, 59200 Kuala Lumpur. Tel: +603-2391 9988 Email: izan@myrubik.asia Contact Person: Mr Chew Teck Ming Business: Trading in electricity meters, electronics component products, fire detection equipment, lighting, lamps and bulbs.	Chai Tong Yuen No. 255, Lrg. Saujana Tropika 5/3, S2 Heights, 70300 Seremban, Negeri Sembilan Darul Khusus. Tel: +6016-7811880 Email: chaitongyuen@gmail.com Business: Consultant in machine vision and image processing. Venturing into the area of LiFi and smart lighting.
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Alpha Automation (Selangor) Sdn Bhd	40	Schirtec (M) Sdn Bhd	10
Arc Power Marketing Sdn Bhd	28	Schneider Electric Industries (M) Sdn Bhd	12
Ben Ling Sdn Bhd	89	Shaman Sdn Bhd	92
Chi-Tak Electrical (Selangor) Sdn Bhd	4	Stantric Sdn Bhd	66
Chip Huat Electrical & Hardware Sdn Bhd	IBC, 6	Streamtec Industrial Sdn Bhd	82
DESEA Sdn Bhd	43	Success Electronics & Transformer Manufacturer Sdn Bhd	22
EITA Power System Sdn Bhd	1	Sun Power Automation Sdn Bhd	IFC, 61, 78
EMH Metering Sdn Bhd	90	Sun Power System Sdn Bhd	60
EPI Marketing Sdn Bhd	50, 51	SW Electric Sdn Bhd	46
Fajar Cables Sdn Bhd	18	Terasaki Electric (M) Sdn Bhd	26
Fuseline Electric & Engineering Sdn Bhd	54	Tenaga Nasional Berhad	56
Gruppe Lighting Solution Sdn Bhd	20	TJH2B Analytical Services Sdn Bhd	88
Kyodo Pipe Sdn Bhd	84	Tonn Cable Sdn Bhd	2
Lysaght Marketing Sdn Bhd	OCB	United MS Cables Mfg Sdn Bhd	52
Mal-Autonics Sensor Sdn Bhd	8	Utama Switchgear Sdn Bhd	38
Master Tec Wire & Cable Sdn Bhd	16	Wise Pro Sdn Bhd	14, 30, 34, 86
Maxguard Switchgear Sdn Bhd	24	Wong Electrical & Teak Wood Sdn Bhd	76
Nanyang Electric Co (M) Sdn Bhd	58		
Power Plug Busduct Sdn Bhd	36		
Samajaya Electrical Trading Sdn Bhd	64		

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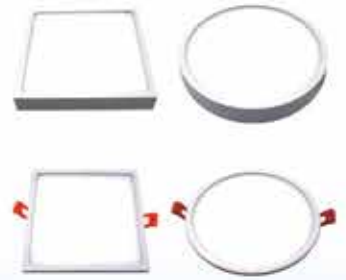
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