



SUARA TEEAM



**A Publication of The Electrical
and Electronics Association of
Malaysia.**

www.teeam.org.my




Like us on
Facebook



PP 4829/03/2013(032303) ISSN PQ1780/4200/B | RM18.00 | 83rd Issue | August 2022



A Sonepar Company

SUN POWER



EXCLUSIVE AGENT

LS ELECTRIC



OBO
BETTERMANN

ELECTRONICON
always in charge

ESTA

CHHG



SANIL

LV CIRCUIT BREAKER
LV CONTACTOR & TOR
LV INVERTER

MV TRANSFORMER
MV SWITCHGEAR

POWER FACTOR
CORRECTION
CAPACITOR & REACTOR

DISTRIBUTION BOARD

POWER PROTECTION RELAY
POWER FACTOR REGULATOR
POWER ANALYZER METER (DPM)
VOLTAGE MONITORING RELAY
DIGITAL TIME SWITCH

SURGE PROTECTION
DEVICES

WIRING DEVICES

THE LEADING ELECTRICAL COMPONENTS SUPPLIER



www.sunpowerberhad.com.my

SUN POWER AUTOMATION SDN BHD (639503-W) ♦ SUN POWER SYSTEM SDN BHD (799462-W) ♦ A Sonepar Company

Lot 1554, Kampung Jaya Industrial Area, 47000 Sungai Buloh, Selangor D.E. Malaysia.

+603-6157 7555 (Hunting) +603-6157 7666, 6157 7595 general@sunpowerberhad.com.my



VITALink®
Circuit Integrity Cable

VITALink® Copper Corrugated FIRE Resistant (CCFR) Wiring System

A True Alternative to MICC Cable

FIRE-RESISTANT LSZH WIRING SYSTEM

- The only flexible fire-resistant LSZH cable system that was designed, tested, and certified for both **vertical and horizontal** installations
- **Fully tested with supports and fixings** to be fitted-for-purpose
- Supports 0.6/1kV power, control, signal, communication & data circuits
- Made in the USA



UL & BS CERTIFIED FIRE RESISTANCE

- 2 hours to **UL 2196**-listed wiring system at **1010°C**
- 3 hours to BS 6387 CWZ, AS/NZS 3013



LISTED

EASE OF INSTALLATION

- Standard tools, glands, and terminations
- Flexible design, no special training required



RUGGEDIZED CABLE

- Resistant to impact, cut-through, and crush
- Water, oil, and rodents proof, EMI / EMC protected
- Suitable for hazardous locations
- Copper armour is sized to use as a ground conductor



APPLICATIONS

- Life-safety, firefighting and all essential circuits in:
- Highrise, tunnels, hospitals, critical infrastructure
- Public buildings, military installations, data centres



EITA®
brings good feel to life

EITA Power System Sdn. Bhd. (279315-V)
Lot 4, Block A, Jalan SS13/7,
Subang Jaya Industrial Estate,
47500 Subang Jaya, Selangor, Malaysia

Tel: +603-5635 7088 Fax: +603-5635 6099
Email: vitalink@eita.com.my



Recognition by:



A member of MCMA & TEEAM



WORLD CLASS QUALITY
POWER CABLE



TONN C A B L E

(Power & Data Cable Manufacturer)

www.tonn cable.com



ALUMINIUM CABLE
AERIAL BUNDLE CABLE (ABC)



FIRE RESISTANT &
FLAME RETARDANT CABLE

TONN C A B L E

(Power & Data Cable Manufacturer)

Tonn Cable Sdn. Bhd. (593174-V)

Lot 1 (PT 54), Jln. Perusahaan 5, Kaw. Perusahaan Berang,
43700 Berang Selangor, Malaysia.

TC MARKETING
PTE LTD (2010318612)

Tel: (603) 8766 9888
Fax: (603) 8766 8111

Email: enquiry@tonncable.com
Website: www.tonn cable.com



TEEAM Office-Bearers For Year 2021-2023

President

Siew Choon Thye (Gruppe Lighting Solution Sdn Bhd)

Deputy President

Ir. Chang Yew Cheong (Abbaco Controls Sdn Bhd)

Immediate Past President

Datuk Ir. Yong Ah Huat (Individual)

Past Presidents

Ir. Chew Shee Fuee KMN (G H Liew Engineering (1990) Sdn Bhd)

Fu Wing Hoong (EITA Resources Berhad)

Dato' Ir. Lee Peng Joo (Individual)

Suresh Kumar Gorasia (Amalgamated Engineering & Commercial Co (KL) Sdn Bhd)

Vice Presidents

Ir. Kok Yen Kwan (NK Engineers Sdn Bhd)

Stan Lim Hui Ming (Nanyang Electric Co. (M) Sdn Bhd)

Lee Peng Sian (Furutech Electrical Sdn Bhd)

Honorary Secretary

Ir. Dr. Ng Kok Chiang (Syarikat Pembaikan Letrik Leong Hing)

Honorary Treasurer

Ts. Lim Sai Seong (QAV Technologies Sdn Bhd)

Assistant Honorary Secretary

Ir. Ts. Narendren Rengasamy (Individual)

Assistant Honorary Treasurer

Chris Yow Loo Sik (Sik Supply Sdn Bhd)

Council Members

Albert Tan Tin Yau (Conway Terminals Manufacturer Sdn Bhd)

Andrew Lu Zen Kai (Powerpoint Electrical Sdn Bhd)

Dato' Andy Tan Boon Hin (Paramount PES Engineering Sdn Bhd)

Datuk Ir. Azlan Robert Abdullah (Aras Kejuruteraan Sdn Bhd)

Datuk Chen Siang Long (SB Elektrik & Elektronik Sdn Bhd)

Chong Kwong Fah (KW Electric & Lighting Sdn Bhd)

Chong Yoon Koon (Perniagaan Kejuruteraan Chongs)

Choo Wei Seng (Showertec Industries Sdn Bhd)

David Chong Ah Nyap (Euro Electrical Sdn Bhd)

Derrick Wong Wai Sing (EPI Marketing Sdn Bhd)

Glenn Tiong Chak Lim (Malaysia CIE)

How Chee Seng (CS Project & Engineering Services)

Ir. Lee Kok Chong (Amptech M&E Sdn Bhd)

Liow Lih Na (Magnum Pro Marketing Sdn Bhd)

Rajasegaran Bungara Naidu (DPI Industries Sdn Bhd)

Datuk Said Anuar Said Ahmad (S. A. Continental Sdn Bhd)

Steven Choo Chee Seong (Hang San Electrical Supplies Sdn Bhd)

Dato' Tan Cheng Hooi (Tenaga Letrik Sdn Bhd)

Willy Wong (Wintrad Industries Sdn Bhd)

State Associations' Representatives

(Council Members)

Chew See Kheng (Negeri Sembilan Electrical Engineering Association)

Chin Ket Hiong (Sandakan Electrical Engineering Association, Sabah)

Ir. Darren Lee Weng Keen (Penang Electrical Merchants' Association)

Gan Seng Chong (Malacca Electrical Contractors & Traders Association)

Hui Hua Chuan (Electrical Association of Sarawak & Sabah)

Kapitan Francis Chew Joon Fah (Sarawak Electrical Association)

Leslie Jong Vui Kee (Sabah Electrical Association)

Nick Liew Kar Hoe (Persatuan Kompetensi Penjaga Jentera & Pendawai Elektrik Perak)

Richard Wong Ngen Wah (The Perak Electrical Association)

Steven Lim Kee Teck (Johor Bahru Electrical & Electronics Association)

Technical Advisors

Datuk Ir. Ahmad Fauzi Hasan

Ir. Rocky Wong Hon Thang

Legal Advisor

Brent Yap Hon Yean

Internal Auditors

Chong Chee Siong (Wong Electrical & Teak Wood (Sel) Sdn Bhd)

Fong Mun Loon (Letrik PJ Union Sdn Bhd)

Trustees

Fu Wing Hoong (EITA Resources Berhad)

Suresh Kumar Gorasia (Amalgamated Engineering & Commercial Co (KL) Sdn Bhd)

Dato' Yeoh Kim Wah (Eco Jaya Elektrik Sdn Bhd)

Datuk Ir. Yong Ah Huat (Individual)

Secretariat

Winnie Khong (Executive Secretary)

N. Thila (Assistant Executive Secretary)

Sherly Cheong (Accounts Assistant)

Philia Ho (Admin Assistant)

SUARA TEEAM

A Publication of The Electrical and Electronics Association of Malaysia

Publisher & Editorial:

The Electrical and Electronics Association of Malaysia

No. 5-B, Jalan Gelugor, Off Jalan Kenanga, 55200 Kuala Lumpur, Malaysia.

Tel: +603 - 9221 4417

E-mail: teeam@teeam.org.my or teeam52@gmail.com



www.teeam.org.my



@teeam_my



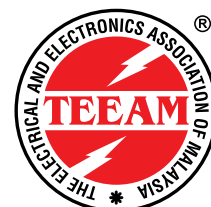
teeam.org.my/



@teeam_my



teeam my



Since 1952

Contents

Activities

From the Editor's Desk	5
TEEAM 70th AGM 2022	7
ASEAN-BAC Virtual Dialogues	13
TEEAM-RHB Financing Webinar	15
TEEAM-ST Virtual Meeting	17
TEEAM Members Directory 2022-2023	17
ARCHIDEX 2022	18
TEEAM-UOB Virtual Meeting	21
MCMEA Council Meeting 2022	21
Raya Open House 2022 Invitations	23
TEEAM-MATRADE Virtual Meeting	27
5th MEIF AGM 2022	33
CPTPP Ratification – TEEAM Press Statement	33
IEM-Standards Malaysia-Suruhanjaya Tenaga ASEAN	49
Electrotechnical Symposium & Exhibition 2022	50
ENGINEER & MARVEX 2022	59
MATRADE ETA Grants	60
State Associations News	64
METALTECH & AUTOMEX 2022	75
Webinar on Energy Efficiency	78
New Members	78

Feature Articles

TEEAM's Past Scholarship Recipient's Achievements – An Inspirational/Motivational Segment	37
Challenges and Opportunities in the Electrical Industry – Part 40	47
Plasma Technology Air Purifier	81
“Killing People with Kindness” A Critical Review of Flame-Retardant and Halogen-Free Cables	53
What Does 2022 Hold for Malaysia's Renewable Energy Scene?	67
Power Quality - Harmonics Amplification Caused by Resonance and Risks of Overloading Capacitors (Part 1)	71

Information

Malaysian Economic Statistics Review Volume 7/2022: Key Reviews & Overviews	34
Malaysian Economic Statistics Review Volume 7/2022: Labour Scenario	57
TEEAM Bowling Tournament 2022	83
TEEAM Badminton Tournament 2022	84
Advertisers' Index	84

Highlights

	TEEAM 70th AGM 2022	page 7
	TEEAM-ST Virtual Meeting	page 17
	MCMEA Council Meeting 2022	page 21
	5th MEIF AGM 2022	page 33
	MESR 7/2022	page 57
	Webinar on Energy Efficiency	page 75



Plugs, Socket-Outlets for Industrial Purposes

LS – TYPE Plugs and Socket-Outlets for Entertainment



Plugs



Couplers

Inclined flush mounting sockets - Watertight IP67



PEW...PI 16A-32A 63A-125A

Couplers - Watertight IP66/IP67



16A-32A

Wall-mounting plugs - Watertight IP67



PEW...SM 63A

Plugs – Watertight IP66/IP67



PEW...SV 16A – 32A

Interlocked switched socket-outlets with screw type fuse carrier aluminium enclosure – splashproof IP55



(PK...PB5 125A)

Interlocked Switched Socket-Outlets



TM...SP

Plugs - Low voltage from 50V to 690V

IP44



PE...PP 16A-32A

IP67



Couplers 16A-32A



PE...PQ 16A-32A



SIPW...SV



PE...SV 16A-32A



PEW...PP 16A-32A



Multipole Connectors for Industrial Purposes

C-Type



IP Enclosure C-Type



Hoods with 2 levels



Hoods with 1 level

CNE-CSE 16 Poles



Inserts, Screw terminal connection

MIXO modular units



4 poles 40A-830V

CT – CTS 64 Poles



Terminal blocks inserts screw terminal connection

CP 6 Poles 35A-400/690V



Inserts, screw terminal connection

CKS 3 and 4 Poles



Inserts, 3 poles + connection with spring terminal



Inserts, 4 poles + connection with spring terminal

CMCE 3+2 (aux) polest



Inserts, Crimp Connections

MIXO modular units 2 poles 100A



Crimp connections



CHI-TAK ELECTRICAL (SELANGOR) SDN. BHD. (163203-T)

25, Jalan 20/14, Paramount Garden, 46300 Petaling Jaya, Selangor, Malaysia.

Tel: +603-78759622(6 Lines)

Fax: +603-78752085, 78772014

E-mail: chitakpj@yahoo.com

Website: www.chitakelectrical.com.my

sales@chitakelectrical.com.my



2021-2023 TEEAM Media, Publication & Emerging Technology Sub-Committee

Chairman

Derrick Wong Wai Sing
EPI Marketing Sdn Bhd
Tel: +605-281 2012 Fax: +605-282 2013

Co-Chairman

Stan Lim Hui Ming
Nanyang Electric Co. (M) Sdn Bhd
Tel: +603-6274 0199 Fax: +603-6274 5127

Vice Chairman

Andrew Lu Zen Kai
Powerpoint Electrical Sdn Bhd
Tel: +6082-346 188 Fax: +6082-345 118

Editor

Ir. Chew Shee Fuee KMN
G. H. Liew Engineering (1990) Sdn Bhd
Tel: +603-7954 8675 Fax: +603-7954 8450

Committee Member

Chong Yoon Koon
Perniagaan Kejuruteraan Chongs
Tel: +6012-388 2668

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 includes postage within Malaysia.

For overseas orders, please check with the Publisher.

Circulation

TEEAM Secretariat
Tel: +603-9221 4417

Contribution of Articles

Alex Looi Tink Huey
E-mail: alex.looi@live.com.my

Charles Lee Wai Chiew
E-mail: qcb-tech@live.com

Ir. Chew Shee Fuee KMN
E-mail: sfchew@ghliew1990.com

Department of Statistics, Malaysia
Website: <http://www.dosm.gov.my>

Ko Chuan Zhen
E-mail: hello.pxh@plusenergy.com

Mah Chee Weng
E-mail: cheeweng12@gmail.com

Richard Hosier
E-mail: richard.hosier@marmonglobal.com

Artwork & Printer

United Mission Press Sdn Bhd
No. 15 & 17, Jalan BS 9/10, Perindustrian BS 9,
Taman Perindustrian Bukit Serdang,
43300 Sri Kembangan, Selangor Darul Ehsan.
Tel: +603-8953 8836 Fax: +603-8958 0837

From The Editor's Desk



Malaysia's economy is now on an upwards track to recovery from the pandemic following a successful vaccination drive and the full withdrawal of movement restrictions. The economy is projected to expand 5.5 percent in 2022, driven mainly by a strong rebound in consumption. This is good news!

The MEIF had an election of Office-Bearers during their AGM on 31 March 2022. Congratulations to TEEAM President, Mr Siew Choon Thye, for being elected as Vice President II.

The MCMEA Council Meeting witnessed the hand-over of the Chairmanship from MFPA's Ms Michelle Hah to SKLPA's Mr David Tan whilst BASAM's Mr Jeffrey Lim was elected the Vice Chairman. The MCMEA Council will continue to pursue the retention sum issue and also arrange a meeting with HRD Corp to discuss HRD's levy.

TEEAM supports the ratification of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a multi-lateral free trade agreement formerly known as the Trans-Pacific Partnership (TPP) – with a view to further strengthen Malaysia's position in the global supply chain.

We are celebrating TEEAM's 70th Anniversary this year with a Grand Dinner Reception on 19 November 2022, at the One World Hotel in Petaling Jaya. We sincerely hope to have members' strong support in terms of Dinner Sponsorships.

We have a great article contributed by a praiseworthy recipient of TEEAM's Scholarship Programme – a first for the records. Consequently, we hope to pro-actively encourage more young people to eagerly enter the Electrical and Electronics (E&E) Industries and excel thereat.

Here's to everyone's SUCCESS!

Regards,

Ir Chew Shee Fuee, KMN
Editor
Suara TEEAM



nodoka

NATURAL BREEZE WITH A TOUCH



THE SMART CONTROL FAN



K12UC



K12YC



K15UC



K15YC

- New generation DC (Direct Current) motor for better air delivery
- Remote control with 10 Preset Speeds
- Wi-Fi smart control with 24 hours sleep mode and ON/OFF timer
- 1/fYuragi (Natural Breeze) function
- Reverse function and schedule function
- Stepless control of LED brightness and colour
(Applicable to K15UC & K12UC)

KDK FANS (M) SDN BHD

(Company No: 200201001186)

03-7785 5011

www.kdk.com.my

www.facebook.com/kdkmalaysia



Ceiling Fan

TEEAM 70th Annual General Meeting 2022



The 70th TEEAM Annual General Meeting (AGM) was successfully held on Sunday, 29 May 2022 at The Gallery, West Lobby, Kuala Lumpur Golf & Country Club (KLGCC). The AGM successfully garnered 50 attendees. Before the AGM proper started, we invited UOB Officers to brief on the various financial facilities available for TEEAM members. It was a very informative and exciting presentation by UOB.

Call-To-Order & Opening Address

TEEAM President, Mr Siew Choon Thye, recorded a vote of thanks to the Emcee of the day, Ir. Ts. Narendren Rengasamy, who is also the Assistant Honorary Secretary, and expressed his gratitude to all members for taking time off to attend the 70th AGM.

He stated that the past 26 months since 18 March 2020, had been very challenging for every one of us. The outbreak of the COVID-19 pandemic had halted both global and domestic economic activities. The nation had thus undertaken various measures to curb the pandemic, including different stages of Movement Control Orders, to restrict the physical mobility of people and also the movement of goods and services, which in turn gravely impacted our businesses and economies as a whole. The imposition of full lockdowns, curfews, and restrictions on business activities, and strict Standard Operating Procedures (SOPs), have severely affected our businesses and industry. However, supported by the National Recovery Plan (NRP) and a step-up in vaccination efforts, the Malaysian economy rebounded by 3.6% in the fourth quarter of 2021, as economic activities resumed with the easing of containment measures coupled with strong external demand. Meanwhile, Bank Negara Malaysia has forecasted that Malaysia's economic

growth is right on track to expand between 5.3% - 6.3% for 2022 upon re-opening of the economic and social sectors as well as the nation's borders.

Mr Siew also stated that throughout 2021 and even during the lockdown, TEEAM had been pro-actively engaging with the Government through the Government's various agencies such as MITI, MOF, MPC, MATRADE, MIDA, ST and CIDB, to communicate issues faced and assistance needed by TEEAM members during this challenging period. He added that TEEAM had also issued numerous Media Statements during the various stages of the National Recovery Plan to appeal to the Government to provide assistance to our members and allow our E&E sector to operate.

Mr Siew notified that TEEAM continues to engage with local NGOs and professional institutions too, such as MEIF, IEM, MBAM, MCMEA and MEPN, to promote collaboration and enhance our standing in the industry, as well as having joint events to benefit members. TEEAM also constantly promotes and strengthens our cordial relationship with the Government through TEEAM's representation in external organisations where standards, practices, industry's issues and concerns are pro-actively discussed, for the best interests and benefit of our members and all stakeholders.



TEEAM Executive Council (EXCO).

[illegible]

Autonics

Mr Siew stressed that digitalisation and transformation are now very important and necessary in expanding our business in order to gain a competitive edge and keep pace with the new trends. Digitalisation is the use of digital technologies to change business models and provide new revenue plus value-producing opportunities. He said that TEEAM had been leveraging on digital capabilities to communicate and engage with members, by conducting webinars, virtual meetings, AGMs, as well as other activities. TEEAM had been organising educational webinar sessions and also participating in virtual and hybrid networking events with individual partners within our industry. He also stated that TEEAM has a wealth of knowledge, and when combined with networking opportunities, priceless long-term relationships were built in the last year. Educational webinars carried out throughout the year had provided knowledge, technical assistance as well as networking opportunities related to the electrical and electronics industry.

Our Government is very committed in driving industries and businesses towards automation and digitalisation. The Smart Automation and Digitalisation Grant is offered to enable future-proofing of businesses, improve competitiveness, and capabilities. Besides reducing our reliance on low-skilled foreign workers, it creates new job opportunities in high value-added sectors. He hoped that members would take advantage of these initiatives and facilities offered by the Government.

In his Opening Address, Mr Siew also said that 2022 will be a significant year as TEEAM will be celebrating its 70th Platinum Anniversary. A Grand Dinner will be held on Saturday, 19 November 2022, to celebrate this special occasion at the One World Hotel in Petaling Jaya. He invited TEEAM members to strongly support the Dinner by way of taking up Sponsorships whereby the attractive Sponsorship Package provides excellent logo/brand exposure and mileage for Sponsors in TEEAM's events throughout 2022 and 2023. He hopes that members will seize this great opportunity. He also congratulated and thanked TOYOTA for being the Diamond Sponsor plus United Overseas Bank (UOB) and EITA Resources Berhad, both as the Platinum Sponsors.

He said that TEEAM achieved a big milestone this year to promote export and support our Manufacturing members. MATRADE had approved our application for ETA grants to support members' participation in 3 overseas exhibitions, namely:

- 1) Electric & Power Vietnam 2022 in Ho Chi Minh City from 7-9 September 2022,
- 2) Electric & Power Indonesia 2022 in Jakarta from 14-17 September 2022, and
- 3) IEEE 3E XPO 2022 in Manila from 10-12 November 2022.

He hopes members will seize this golden opportunity to expand their products and services overseas. Other events are also being planned, therefore it will be a fruitful year ahead.

Lastly, he expressed his deepest appreciation to the dedicated TEEAM EXCO Members, Council Members, and General Members, for their continuous contribution, support, and confidence in him. He requested the members to stay on course and continue the journey in TEEAM to create opportunities, build bridges and ensure prosperity for all.

Mr Siew ended his Speech with a memorable quote: *"Coming together is a beginning, Staying together is progress, and Working together is success."*

Acceptance of Minutes, Annual Report and Accounts

The attendees approved the minutes of the past Annual General Meeting 2021. TEEAM Honorary Secretary, Ir. Dr. Ng Kok Chiang, presented the Annual Report 2021, which outlined the activities of the Association for the year 2021. This was followed by the tabling of Audited Accounts by the Honorary Treasurer, Ts. Lim Sai Seong, for the year ended 31 December 2021. Both the Annual Report 2021 and the Audited Accounts 2021 were duly adopted at the Annual General Meeting.

Conclusion

As there was no notice received from members for any other business to be conducted at the 70th TEEAM AGM, the President then concluded the Annual General Meeting. In his closing remark, Mr Siew expressed his sincere thanks and gratitude to the EXCO, Council and Members for their contribution. He also sought support and sponsorship from TEEAM Members to make the TEEAM 70th Anniversary Dinner a grand success.

Snapshots of the TEEAM 70th AGM 2022



Master Tec®

Wire & Cable

(705279-P)

www.mastertec-wirecable.com



SAFETY AND PERFORMANCE

2021 Product Safety Award

Wires & Cables Manufacturer



sales@mastertec.my



+606 316 1111

Snapshots of the TEEAM 70th AGM 2022





EVlink Smart Wallbox

The connected EV charging station for smarter charging

Ideal for semi-public parking facilities, corporate EV fleets, and apartment complexes, EVlink Smart Wallbox offers energy metering capability, plus the connectivity needed to ensure user authentication, generate reports and billing, allocate costs to individual users, and perform remote maintenance. Everything needed to make EV charging easier than ever to manage!



- Rugged indoor/outdoor design
- Access control by key lock or user authentication by RFID card
- Wall mounting, or stand mounting with one or two charging stations
- Can be wired from top, bottom, or back

Attached-cable versions also available

Why choose EVlink Smart Wallbox?

- Built-in connectivity to interface with EVlink Insights or third-party back-end software* through a LAN (Wi-Fi or Ethernet) or a GPRS connection using the open standard protocol OCPP
- Easy installation and wiring, efficient commissioning via an embedded web server, backed by worldwide customer support.
- Ready for energy-management needs with deferred start and power limitation locally or remotely controlled through an energy management device or system

- Flexible for a broad range of needs:
 - Rated charging power of 7,4 kW or 22 kW: derate now and get the power you need for larger batteries later
 - Socket-outlet Type 2 with optional domestic socket-outlet Type E or attached-cable version with a T1 or T2 connector
 - Built-in energy metering or connection to an external meter for accurate metering

**Please contact us to check the compatibility*

se.com/my

For enquiries, please contact: my.marketing@se.com

Life Is On

Schneider
Electric

ASEAN-BAC Malaysia Dialogues

Malaysian businesses were relieved at RCEP's entry into force but voiced concerns on rising freight costs, operating expenses, and labour shortages plaguing business recovery.

Kuala Lumpur, 30 March 2022 — The ASEAN Business Advisory Council (ASEAN-BAC) Malaysia hosted the second series of dialogues with trade and business associations showcasing a strong representation of over 100 senior business leaders of Malaysia's private sector, to exchange views and understand business concerns plus inform its consultation and advocacy efforts with the Malaysian as well as the ASEAN level Ministerial meetings in 2022.

The "Malaysia and ASEAN in 2022: Outlook, Opportunities and Challenges" virtual consultative dialogues featured three consultation sessions with senior leaders of trade associations, chambers of commerce, professional bodies and business councils representing local and foreign businesses in Malaysia. These sessions were chaired by ASEAN-BAC Malaysia Council Members, Tan Sri Dato' Dr. Munir Majid, Tan Sri Yong Poh Kon and Mr Raja Singham. (TEEAM was invited to the consultation session and was represented by its President, Mr Siew Choon Thy).

Puan Jamilah Haji Hassan, Senior Director of the ASEAN Economic Integration Division at the Ministry of International Trade and Industry (MITI), addressed the matter of Free Trade Agreement (FTA) ratifications in her special remarks, and assured participants that the Comprehensive and Progressive Agreement for the Trans-Pacific Partnership (CPTPP) remains a top priority at the Ministry. "I would like to stress that Malaysia is undertaking the necessary steps to ratify the CPTPP, including commissioning a Cost-Benefit Analysis (CBA) that was completed recently. Amendments to the relevant legislation are also underway. Once everything is in place, MITI will seek the Cabinet's mandate to ratify the CPTPP."

ASEAN-BAC Malaysia Chair, Tan Sri Dr. Munir Majid commented that credit should be given to MITI for pushing ahead with CPTPP despite political resistance. "However, several issues from last year remain to be addressed, particularly greater and more regular consultation with the private sector, and new challenges have emerged in world politics and economy which require public-private sector collaboration. Whether for the domestic, ASEAN and/or ASEAN Plus economies, Malaysia needs to compete and succeed in all conditions," he said.

As Malaysia stands on the cusp of a full re-opening, the uncertainty of entering this phase was well reflected in the many anxieties and aspirations highlighted during the sessions as the participants raised a wide range of issues ranging from domestic to international challenges.

"This virtual dialogue comes at the right time, with Malaysia's transition to the endemic phase beginning 1 April 2022. With the borders re-opening, business sectors that took massive economic hits will now have the opportunity to bounce back and even leverage lessons learnt during the pandemic," said ASEAN-BAC Malaysia Council Member, Mr Raja Singham.

Key Concerns/Observations highlighted during the virtual dialogue included the following:

1. Continued Government support is needed for businesses to weather "long COVID"

The participants' view was that, while Government support during the COVID-19 lockdowns was appreciated, economic headwinds still continue to put pressure on businesses. Common concerns across industries were the high inflation costs, increased fuel prices, and additional expenses incurred to keep employees safe during the



ASEAN-BAC Malaysia Virtual Consultative Dialogue on 30 March 2022.

re-opening phase. The industrial sector suffers a sharp increase in production costs due to high energy costs stemming from the rising prices of coal, electricity, and petroleum coke.

Some representatives opined that the Government should focus on providing targeted tax relief and policy support to sectors critical to recovery, such as the tourism industry, which has a multiplier effect on the rest of the economy. This could include further exemptions, discounts and incentives to help these businesses stay afloat.

The professional bodies expressed concerns that their fraternities have been excluded from many Government stimulus packages disbursed by the Government, as they are not considered Small and Medium Enterprises (SMEs) in order to qualify for the subsidies. They also face the challenges of expanding locally and abroad as mutual recognition agreements signed in ASEAN have not been practised in reality despite having set up various ASEAN mechanisms for years.

2. Labour shortage is the new normal for Malaysian businesses

Foreign and local labour shortages have also been significant impediments to business recovery, especially in labour-intensive industries such as agriculture, construction and hospitality. As the country re-opens, they are finding it hard to fill these roles as local workers have turned to other employment options or self-employment by pursuing online businesses. The shortage has led to stalled or slowed projects in some sectors.

Certain industries represented at the dialogue have requested the Government to consider either implementing the minimum wage hike in stages or delaying any upward revision until 2024 when the economy is expected to be in better shape. Another solution raised during the dialogue was the possibility of more tax incentives and subsidies to help businesses adopt new technologies and digitalise their operations, such as automation grants to reduce their dependence on foreign labour.

3. Soaring freight and packaging costs are impeding Malaysian exports

The spike in shipping rates, container shortages and fuel prices has made logistics a pain for Malaysian exporters. It has also affected businesses' ability to compete in an increasingly competitive regional and global market. According to one association, the price of exporting a 40-foot high cube container from Pasir Gudang or Tanjung Pelepas to the United States, has seen an almost 200% surge since the start of January 2021. This has led overseas importers to instead source their products from other countries closer to them which may have higher production costs but lower freight charges that offset the additional production cost.

DEHNcare APJ Protective Jacket & APC Protective Coat

- Excellent Fit, Size 46 – 58
- APC 2 to IEC 61482 - 2: 2018, Box Test: 7 kA/ATPV: 33.1 cal/cm²

DEHNcare APG/APG L Gloves, Short or Long Gauntlet

- For protection against high temperatures & cuts
- Excellent fit, with best surface feel from soft, breathable leather sizes 8 – 12
- APC 2 to IEC 61482 - 2: 2018, Box Test: 7 kA/ATPV: 32.8 cal/cm²

DEHNcare APHO Protective Hood

- 3-zone protection, face, ears & neck with Good Ventilation
- All-round view, Light Transmission Class 0, Fog-free 10yrs lifetime
- APC 2 to IEC 61482-1-2: 2007, Box Test: 7 kA/ATPV : 37.2 cal/cm²

DEHNcare APT Protective Trousers

- Trousers with braces, belt and knee pads for comfort.
- Excellent fit, sizes 46-58
- APC 2 to IEC 61482-2:2018
- Box Test: 7 kA/ATPV: 29.21 cal/cm²



DEHNcare – Arc - fault tested PPE, The protective clothing. Avoid Injuries.
DEHNcare PPE offers reliable protection against 2nd degree burns caused by arc faults.
Maximum protection & superior comfort, thanks to breathable leather and neoprene material.
DEHNcare provides full set PPE with proper certifications give users peace of mind.

Our distributor :



Wise Pro Sdn Bhd 199601008707 (NO.381055P)
No. 8, Pusat Teknologi Sinar Meranti, Jalan IMP 1/3,
Taman Industri Meranti Perdana, 47120 Puchong, Selangor
Tel : +603-8066 6491/6492/6493 Fax : +603-8052 6649
(Sales) Mobile No. +6017 - 492 1474, +6012 - 543 5515

E-mail : info@wiseprocorsa.com.my

www.wiseprocorsa.com.my

TEEAM - RHB Financing Webinar

The COVID-19 pandemic has severely disrupted the global supply chain. Many Small and Medium Enterprises (SMEs) faced delays in collecting receivables. Consequently, SMEs are delaying payments to vendors, thus causing delays in receiving supplies. This resulted in delays in order fulfilment and delivery, and the ultimate impact is a decline in sales revenue and shortfall in liquidity. Hence, this has negatively impacted sustainability and business recovery.

In the midst of these highly challenging times, cash flows are vital to sustain any business. Hence, RHB Bank in collaboration with TEEAM, co-organised a Financial Webinar

on 21 April 2022. The distinguished panellists from RHB Bank were Mr Brian Chin, Regional SME Head of Klang Valley South and Ms Shirley Lu, Head of Transaction Banking SME/Commercial Sales & Services.

Mr Brian Chin spoke on the various RHB SME Financing Schemes offered under RHB Biz Power, such as Business Loans, Property Financing, Online Financing, Green Financing and PEMULIH Government Guarantee Schemes (PGGS). PGGS provides financing assistance to Malaysian SMEs and Mid-Sized Companies (MSCs) for Working Capital or CAPEX (i.e., Capital Expenditure) financing.

Meanwhile, Ms Shirley Lu gave an insightful sharing of RHB's SME Export Financing Scheme. This is a post-shipment financing solution which provides immediate cash flow for export of goods (invoiced/denominated in either USD, GBP, EUR or SGD currencies) pending receipt of export proceeds from the overseas buyers. No collateral is needed as the facility is guaranteed by Credit Guarantee Corporation (CGC) or Syarikat Jaminan Pembiayaan Perniagaan Berhad (SJPP), at a guarantee fee that is subsidised by RHB -- from as low as RM500 to RM1,000 annually.

The highly beneficial Webinar successfully drew a good crowd of 30 online participants.



..... Continue ASEAN-BAC Malaysia Dialogues

Even for those willing to put up with the exorbitant sea freight charges, there are still issues like container shortages, high packaging prices, and port congestion. As such, Malaysian producers have turned to land transportation where possible, such as when exporting to neighbouring ASEAN countries such as Thailand and Singapore, or air freight for urgent shipments.

Some exporters ask that the Government explore the feasibility of a single land checkpoint to enable the seamless movement of trucks across borders, such as at the Malaysia-Thai border, without the need for trans-loading, so as to allow exporters to save time and cost.

4. Malaysia needs to upskill and hone the unique advantages of its workforce and SMEs

A common thread raised across industries is the need to invest in training local talent to ensure that they are employable and can meet employers' needs. Given Malaysia's relatively smaller population size, the Government will need to consider long-term solutions to its talent gap problems. One suggestion given to fill the void is to allow foreign students to work part-time, while another is to increase the participation of women in the Malaysian workforce.

The issue of gender equality in workplace representation and leadership was raised. One view calls for a "sustainable feminist recovery" to allow more female talents to assume leadership roles and push for supportive policies to prohibit sexual harassment at work.

A bigger push is also needed to promote "Made in Malaysia" goods and services. Malaysia can no longer compete in terms of low labour costs and should instead double down on its core strengths, such as its expertise in the halal industry, the capabilities of its Electrical and Electronics (E&E) sector, and its multi-lingual workforce.

5. The Government needs to explore new markets and resume existing FTA negotiations

The participants called on the Government to ratify the CPTPP at the earliest possible date and conclude negotiations on the Malaysia-European Free Trade Agreement while also exploring new markets such as the Middle East, Eastern Europe and Africa, to establish preferential trade agreements.

The participants also called on the Government to ensure that SMEs can utilise trade deals that it has entered into, such as the Regional Comprehensive Economic Partnership (RCEP). SMEs should be encouraged to adopt digital technologies to take advantage of the RCEP's e-commerce provisions and ensure that SMEs can compete with bigger players from other RCEP member states.

ASEAN-BAC Malaysia Council Member, Tan Sri Yong Poh Kon noted MITI's progress on this front, "From the strong support shown by the business organisations at last year's dialogue, MITI has progressed far in the ratification of our two signed free trade agreements which will provide a strong foundation for our economic recovery."

To re-iterate: "Whether for the domestic, ASEAN and/or ASEAN Plus' economy, Malaysia needs to compete and succeed in all conditions. ASEAN-BAC Malaysia will pass on these recommendations to the Malaysian Government and serve as an advocate for the Malaysian private sector at the national and regional levels, when we interact with ASEAN leaders and the ASEAN Secretariat", Tan Sri Dr Munir Majid concluded.

Source: ASEAN-BAC Malaysia Media Release

ASEAN Business Advisory Council (ASEAN-BAC) Malaysia
Unit 9-1, 9th Floor, West Wing, Menara MATRADE,
Jalan Sultan Haji Ahmad Shah,
50480 Kuala Lumpur, Malaysia.
Tel: +603 6211 2511 Fax : +603 6211 4533
E-mail: secretariat@aseanbex.com
Website: www.aseanbac.com.my



UNITED MS CABLES MFG SDN. BHD.

Quality & Reliable

Cables

Manufacturer of :

- Armoured/Non Armoured Cable
- PVC insulated cables
- Flexible Cables
- Automotive cables
- Battery Cables
- Speaker Cables



BUREAU VERITAS



MALAYSIA



Manufactured by :

UNITED MS CABLES MFG SDN. BHD. (399247-X)

NO. 15 JALAN JASMINE 1, SEK. BB10,
BANDAR BUKIT BERUNTUNG,
48300 SERENDAH, SELANGOR, MALAYSIA.

Tel : +603-6028 2828 **Fax :** +603-6028 2288 / 2289

Email : enquiry@umscable.com.my

Website : <https://www.umscable.com.my>

TEEAM-ST Virtual Meeting

On 2 April 2022, TEEAM had a brief Virtual Meeting with the Energy Commission, Suruhanjaya Tenaga – ST, on Water Heater Safety. TEEAM highlighted the market situation of electrocution hazards in the domestic market and on water heater safety. There is an urgent need to make the following Malaysia Standards to be mandatory:

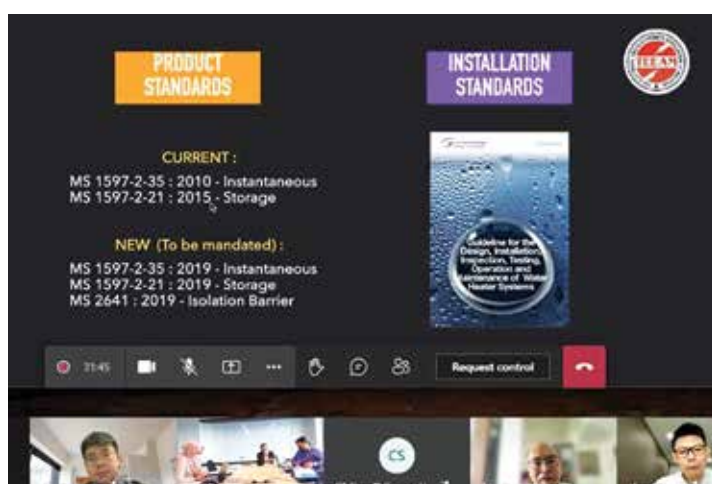
MS 1597-2-35:2019 – Instantaneous,
MS 1597-2-21:2019 – Storage, and
MS 2641:2019 – Isolation Barrier.

The current installation standard for electric water heater is the Guideline for the Design, Installation, Inspection, Testing, Operation and Maintenance of Water Heater Systems.

ST is supportive of TEEAM's proposed collaboration on the Electrical Safety Awareness Programme to educate the public. In the meeting, it was agreed to set-up a Focus Group to kick-start the discussion. The ST team was led by Ir. Md Zakuan Ibrahim,

Director of Safety Regulation and his Officers. TEEAM was represented by Mr Siew Choon Thye (President), Ir. Chang Yew Cheong (Deputy President), Ts. Lim Sai Seong (Honorary Treasurer), Mr Choo Wei Seng

(Council Member and Safety & Compliance Chairman), Mr Tee Tone Vei (Subject Matter Expert & Committee Member), Ms Winnie Khong (Executive Secretary) and Ms N Thila (Assistant Executive Secretary).



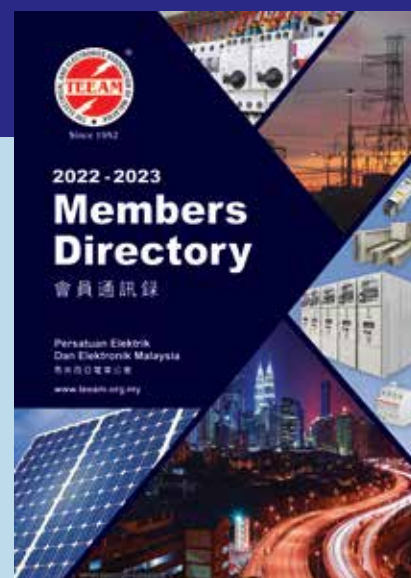
TEEAM Members Directory 2022-2023

TEEAM is very pleased to announce the release of our new TEEAM Members Directory 2022-2023. This industry-oriented publication is a highly useful reference Directory for both the local E&E business communities and also for all overseas buyers. It contains the following useful and highly beneficial listings:

- TEEAM Members' Business Contact Details
- A Ready Guide to Malaysian Ministries, Government Departments, Statutory Bodies & Utilities

- List of M&E Consulting Firms
- Contacts of Embassies and High Commissions in Malaysia
- List of MATRADE's Overseas Network
- AFEEC, FAPECA & IFEC Members' Contact Details.

Every member is given a free copy. Additional copies can be purchased from the TEEAM Secretariat at RM50.00 (Member) and RM60.00 (Non-Member). Kindly e-mail to: sherly@teeam.org.my



ARCHIDEX 2022

ARCHIDEX 2022, the 21st edition of International Architecture, Interior Design & Building Exhibition, returned face-to-face on a high note, with Exhibitors and Suppliers making a strong comeback. ARCHIDEX 2022 was jointly organised by PAM and CIS, and the Exhibition was successfully held from 29 June to 2 July 2022 at the Kuala Lumpur Convention Centre. This leading platform for professionals in the Architecture, Interior Design & Building Industry was participated by some 400 exhibitors from 12 countries, occupying 9 exhibition halls. ARCHIDEX 2022 was launched by the Deputy Works Minister, The Honourable Datuk Arthur Joseph Kurup, on 29 June 2022. TEEAM was honoured to be one of the Supporting Organisations.

Representing TEEAM at the ARCHIDEX launching day were Mr Siew Choon Thye (President), Ir. Chang Yew Cheong (Deputy President), Ir. Kok Yen Kwan (Vice President), Mr Choo Wei Seng (Council Member) and Ms Winnie Khong (Executive Secretary). TEEAM Past President, Mr Suresh Kumar Gorasia, was also present at ARCHIDEX 2022.

TEEAM hosted a Focus Forum during ARCHIDEX 2022. Distinguished Speakers, Mr Choo Wei Seng (TEEAM Council Member and Safety & Compliance Chairman), gave a presentation on “Residential Electric Water Heater Safety & Common Mistakes” whilst Mr Tee Tone Vei (TEEAM Committee

Member for Safety & Compliance) spoke on “Zooming-in on Design & Safety Elements for Your Home”.

The next edition of ARCHIDEX 2023 is set for 26 to 29 July 2023 at the Kuala Lumpur Convention Centre.



Snapshots at ARCHIDEX 2022



Snapshots at ARCHIDEX 2022



GRUPPE 4 2030 Agenda

Decentralization | Decarbonization | Digitalization | Decomposition

Our world is increasingly feeling the pressure of population growth, resource scarcity and climate change. Malaysia together with other world leaders adopted the 2030 Agenda for Sustainable Development at the United Nations General Assembly on 25 September 2015 with 17 Sustainable Development Goals (SDGs). Sustainability is in the heart of Gruppe's drive to unlock the extraordinary ability of light for a brighter future and a better world. We contribute to the sustainable future through our products, systems and services. Moving towards (SDGs), Gruppe launched 4D – Decentralization, Decarbonization, Digitalization and Decomposition – ambitiously setting Gruppe's targets for Agenda 2030. We're focusing on the areas where we can be most influential and we're actively working on goals 7, 9, 11, 12, and 13.



2030 Agenda Towards Net Zero Emission



Decentralization

R&D Technology, Development, Technology Transfer Manufacturing, Engineering, Testing, Certification, Spare parts, Services, Maintenance



Decarbonization

CO2 Reduction & Energy Saving By Using Renewable Energy Through Solar Lighting & LED Lighting System



Digitalization

IOT and Communication. For Easy Detection, Maintenance, Data & Asset Management



Decomposition

End Of Product Life Cycle And Disposal Of E-Waste Management

Since 1987



Creating Lighting Image
Developing Future...



Gruppe Lighting Solution Sdn. Bhd. (158881-U)

No 14 & 16, Jalan Anggerik Mokara 31/50, Kota Kemuning, Seksyen 31, 40460 Shah Alam, Selangor D. E. Malaysia

Tel: +603-5525 4133, Fax : +603-5525 4122

Email: info.gruppelighting.com

Website : www.gruppelighting.com

TEEAM-UOB Virtual Meeting

TEEAM had a Virtual Meeting with United Overseas Bank (UOB) on 14 April 2022. It was a fruitful discussion on collaboration with UOB to offer attractive financial assistance to TEEAM members. UOB offers diverse solutions for SMEs to improve performance, spur innovation and enhance productivity. Energy Efficiency (EE) Project Financing and EE Retrofitting/Equipment Financing are now available. UOB also spoke on BNM's (i.e., Bank Negara Malaysia's) financial facilities such as LCTF, ADF and HTF-NIAs. Besides those, UOB's U@Work Programme was also highlighted to benefit TEEAM members' employees. Investment opportunities for TEEAM's funds were also explored. TEEAM will further arrange timely Webinars to brief members in detail regarding UOB's Autocount Accounting, SmartBusiness and BizMoney financing facilities.

The UOB team was led by Mr Jason Low, First Vice President of Wholesale Banking Business Management, UOB HQ; Ms Chiok Sook Yin, First Vice President, Commercial Banking, UOB HQ; Ms Eliz Soo, Vice President, Personal Financial Services, UOB HQ; Mr Beh Chin Boon, First Vice President, Business Banking, UOB HQ; Ms Wong Yin Pheng, Area Manager, Central Area III; Ms Samantha Wong, First Vice President & Branch Manager, UOB Pudu; Mr Frank Lee, Vice President Commercial Banking Medan Pasar; Mr Oh Seng Hu, Branch Manager, UOB Jalan Othman, PJ; Ms Jenny Sim, Vice President, Global Markets, UOB HQ and Ms Rachael Pu, Senior Director, Global Markets, UOB HQ.

The strong team from TEEAM was headed by Ir. Chang Yew Cheong (Deputy President), Ir. Dr. Ng Kok Chiang (Honorary Secretary), Mr Chris Yow (Assistant Honorary Treasurer), Ir. Lee Kok Chong (Council Member and Professional Development & Events Chairman), Mr Andrew Lu (Council Member), Mr Charles Lee (Committee Member) and Ms Winnie Khong (Executive Secretary). TEEAM hopes to continue bringing value-added services to our membership.



BizMoney

4.0% flat p.a.

Up to RM1mil

Up to 5 years

80% guarantee by SJPP

Why Choose BizMoney?

- Collateral FREE**
Only require guarantees from shareholders or directors. No requirement for property or fixed deposit as security.
- EASY Application**
No loan processing fee. Just simple documentation.
- FAST Approval**
Approval decision in just 5 working days (upon receipt of complete set of business documents).
- Government Guarantee Scheme**
For Manufacturer & Services Sector

JOMX Campaign

By connecting SMEs to these SEVEN Solution Partners, they would gain instant access to highly discounted digital services and easy yet fast deployable solutions. UOB is funding up to 12-months of free subscription for said Solution Partners.

Find out more at [http://www.uob.com.my/jomx](#)

Comprehensive financing solutions for the "EE" ecosystem

Energy Service Provider	M & E Contractor	End-User	
Development of EE Projects	Construction Activities	Commercial and Industrial segment	Residential segment
Project or Portfolio Based Financing	Value chain or Working Capital financing	EE Retrofitting / Equipment Financing	UOB credit cards and housing mortgage program

MCMEA Council Meeting 2022

MCMEA is the Malaysia Council of Mechanical & Electrical Associations, which was founded as a result of collaborative efforts amongst various associations, aimed to effectively address all Mechanical and Electrical works-related issues, thus providing one common platform and voice representing the said industries whenever the needs were to arise. MCMEA is a coalition of six Associations which has over 3,000 member companies that employ over 100,000 workers. MCMEA comprises the following:

- BASAM - Malaysia Building Automation System Association
- MACRA - Malaysian Air-Conditioning & Refrigeration Association
- MALEA - The Malaysian Lift & Escalator Association
- MFPA - Malaysian Fire Protection Association
- SKLPA - The Selangor & Kuala Lumpur Plumbing Association
- TEEAM - The Electrical and Electronics Association of Malaysia

The MCMEA Council Meeting was back to the face-to-face meeting mode on 2 June 2022 after a very long break due to the COVID-19 pandemic. It was held at the SKLPA premises in Bandar Mahkota Cheras, Kajang (Selangor). The meeting witnessed the hand-over of the Chairmanship from MFPA's Ms Michelle Hah to SKLPA's Mr David Tan whilst BASAM's Mr Jeffrey Lim was elected the Vice Chairman. The Council will continue to pursue the Retention Sum issue and to

arrange a meeting with HRD Corp to discuss the HRD levy. TEEAM was represented by Ir. Dr. Ng Kok Chiang (Honorary Secretary), Dato' Andy Tan (Council Member & Asset Management Chairman) and Mr Chow Wing Kar (Committee Member).

It was a fruitful meeting and Council Members felt great to be able to resume physical meetings. The Chairmanship hand-over was signified by a cake-cutting ceremony. The Council Meeting ended with a sumptuous networking lunch at the Legend Seafood Restaurant, hosted by SKLPA.



TemPower PRO



New AX Series Circuit Breaker (ACB)

TemBreak PRO



Moulded Case Circuit Breaker (MCCB)



Earth Leakage Relay
(TZS-AD)



ELCB



MCB



RCBO

TemLite



Miniature Circuit Breaker
(MCB)



Residual Current Circuit
Breaker (RCCB)



Residual Current Operating
Circuit Breaker (RCCB)



Surge Protective Device
(SPD)



Modular Contactor

Mersen



Surge Protective Device

FRANKE GMKP ENERGY



Power Capacitor

TERASAKI ELECTRIC (M) SDN BHD (156366-X)

Lot 3, Jalan 16/13D, 40000 Shah Alam, Selangor Darul Ehsan, Malaysia.

Tel: +603-5549 3820 (6 Hunting Lines) Fax: +603-5512 9299

E-mail: sales@terasaki.com.my / ykkoh@terasaki.com.my



Raya Open House 2022 Invitations

“Open-House” is a unique celebration in Malaysia wherein during a festival, especially the Hari Raya Aidilfitri celebrations, they would ‘open’ their houses to welcome not only friends and family members, but also strangers. Through feasting and chatting, everyone gets the chance to know each other and make new friends while catching up on those whom they already know!

This year is the first year of Hari Raya Aidilfitri’s Open-House celebrations since the COVID-19 Pandemic hit Malaysia two years ago. Many Ministries and Organisations hosted their Open-House Celebrations at their respective buildings, inviting all Industries’ Players, Associations and Companies to attend. TEEAM has also been cordially invited to

a number of the Open-Houses during the Hari Raya Celebration month in May 2022. Council Members have been assigned to represent TEEAM, to attend all the Open-House Celebrations to which TEEAM had been invited.

Below are the events of the afore-mentioned Open-Houses:



17 May 2022 - Ministry of Finance (MOF)’s Hari Raya Aidilfitri Reception that was held at the Ministry of Finance Complex, Putrajaya. TEEAM Council Members who attended were Ts. Lim Sai Seong (Honorary Treasurer) and Mr Derrick Wong (Council Member and Media & Publication Chairman).



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						MINIMUM		MAXIMUM		
	in	mm	in	mm	in	mm	in	mm	in	mm	kg/m		kg/ft	lb/ft	PER INCH	mm	in
¾	18.76	0.7387	19.05	0.7500	1.52	0.060	1.63	0.064	0.713	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	1.63	0.064	0.972	0.296	0.653	16	15.88	0.6250	17.46	0.6875	
1 ¼	31.46	1.2387	31.75	1.2500	1.52	0.060	1.63	0.064	1.240	0.376	0.830	16	17.46	0.6875	19.05	0.7500	
1 ½	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	OUTSIDE DIAMETER		WALL THICKNESS	CALCULATED WEIGHT WITH COUPLER		PITCH	LENGTH OF THREADS	
	MINIMUM	MAXIMUM		MINIMUM	MAXIMUM		MINIMUM	MAXIMUM
mm	mm	mm	mm	kg/m	kg/ft	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	OUTSIDE 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 :

- Made of hot-dip galvanised steel with weld zone zinc coating restored
- Kyodo pipe are colour coated with oven baked painted and of high fastness quality
- Inside bead minimized to enable easy wire pulling
- Come with any colour as per requirement



KYODO PIPE SDN. BHD. (753789-W)

Plot 322, Jalan PKNK 3/2, Kawasan Perusahaan Sungai Petani,
08000 Sungai Petani, Kedah Darul Aman, Malaysia
Tel : 04-444 5178 Fax : 04-440 0521
Sales : Mr. Yeap K.L (012-431 2393)
RND Department : Mr. Tan S.M (012-538 7746)
Website: www.kyodopipe.com

24 May 2022 - Malaysian Green Technology and Climate Change Corporation (MGTC)'s Hari Raya Aidilfitri Reception that was held at MGTC, Bangi. TEEAM's representatives who attended were Mr Siew Choon Thye (President), Ts. Lim Sai Seong (Honorary Treasurer), Ir. Ts. Roger Wong (Committee Member) and Ms Winnie Khong (Executive Secretary).



26 May 2022 - Suruhanjaya Tenaga (Energy Commission, Malaysia)'s Hari Raya Aidilfitri Reception that was held at ST Diamond Building, Putrajaya. TEEAM Council Members who attended were Mr Siew Choon Thye (President) and Ts. Lim Sai Seong (Honorary Treasurer).



30 May 2022 - Malaysia Productivity Corporation (MPC)'s Raya Aidilfitri Reception that was held at Eastin Hotel, Petaling Jaya. TEEAM Council Members who attended were Ir. Chang Yew Cheong (Deputy President), Ts. Lim Sai Seong (Honorary Treasurer) and Mr Chris Yow (Asst Honorary Treasurer).



Tel : 03-5569 2841 Sales : 012-725 9103 Technical : 019-358 8457

Authorised Distributor

minilec



9001-2008



Phase Failure Relays



P1 PFS2



ALV D2



S2 VMR3



S1 VSP1



S2 ELR2



F3 EFR1



CBCT

Earth Fault Monitoring Relays

Liquid Level Controller / Latching Relay



P1 LCW1



S2 WLC1



S2 ALT1



F3 BPC1



F5 BPC1

Sam
Wha DSP CO., LTD
DIGITAL STANDARD PROTECTION

Digital Motor Protection Relay



DSP-VIP-PM

Compact Unit with Voltage, Current KW, Power Factor KWH, Earthfault, Winding Temperature / RS 485 / 422 Modbus RTU, Ethernet Modbus TCP, 4-20 MA.



DSP-VIP-PL



DSP-COM,CTM, DSP-COL,CTL,CCL, CCM,AOM(Current) AOL(Current)

Over Current, Under Current, Current Unbalance, Phase Loss, Reverse Phase, Locked Rotor, Shock (Stall), Ground Fault / 4-20 MA, RS 485 / RTU.



DSP-3SD
(Current, 3CT)

Over Current, Under Current, Phase Loss, Reverse Phase, Locked Rotor, Current Unbalance, Ground Fault.



DS-3SS
(Current, 3CT)

Over Current, Reverse Phase, Phase Loss, Locked Rotor.



EOCR DSP-SS1
(Current, 2CT)

Over Current, Under Current, Phase Loss, Locked Rotor.



DSP-2SD
(Current, 2CT)

Over Current, Phase Loss.



Applicable for Pump, Fan, Induction motor with various mode of communication and analog output.



DSP-SDTR (Shunt down turn-over relay)

31 May 2022 - Ministry of International Trade and Industry (MITI)'s Raya Aidilfitri Reception that was held at MITEC. TEEAM Council Members who attended were Ir. Chang Yew Cheong (Deputy President) and Ts. Lim Sai Seong (Honorary Treasurer).



31 May 2022 - Ministry of Human Resource (MOHR)'s Raya Aidilfitri Reception that was held at MITEC. TEEAM Council Members who attended were Ir. Chang Yew Cheong (Deputy President) and Ts. Lim Sai Seong (Honorary Treasurer).



Deepest Gratitude

TEEAM wishes to sincerely thank all the above Ministries and Organisations for their most cordial invitations to their Hari Raya Open Houses! It was indeed a very joyous occasion for all who attended the auspicious celebrations.



TEEAM-MATRADE Virtual Meeting

TEEAM had a brief Virtual Meeting with MATRADE's E&E, ICT and M&E Team on 7 April 2022. MATRADE's strong team was led by its Director, Mr Naim Abdul Rahman. During the Virtual Meeting, MATRADE highlighted the Trade Performances in 2021, and MATRADE's various Trade Promotion Programmes for 2021 and 2022, particularly for the E&E, ICT and M&E-related sectors. Representatives from TEEAM at the TEEAM-MATRADE Virtual Meeting were Mr Lee Peng Sian (Vice President), Mr Suresh Kumar Gorasia (Past President), Mr Chris Yow (Assistant Honorary Treasurer), Ir. Lee Kok Chong

(Council Member and Professional Development & Events Chairman), Mr Choo Wei Seng (Council Member and Safety & Compliance Chairman) and Ms Winnie Khong (Executive Secretary).

It was a very fruitful Virtual Meeting to get first-hand information of trade performances' updates and insights of trade promotion programmes whereby TEEAM members could seize the opportunity to participate and benefit from them.

TEEAM wishes to record its sincere appreciation and thanks to MATRADE for the great support extended to the Association.





OK-IN®



We are specialized in all types of

nylon & stainless steel cable tie, security tie, cable clip, cable cleat, cable clamp, cable gland and laser & emboss label strips

Email: sales@epimkt.com.my

Website: www.epimkt.com.my

Facebook: EPIMarketing



EPI Marketing Sdn Bhd (304750-D)
EPI Plastic Industries (IP0304342-A)

HEADQUARTER & FACTORY:
No. 3, 5 & 7, Laluan Perusahaan Kledang 5,
Tmn Perindustrian Chandan Raya,
Menglembu 31450 Ipoh, Perak.

Tel: +605-2812012
Fax: +605-2822013

KL BRANCH:
No. 25 & 27, Jalan Rajawali 3,
Bandar Puchong Jaya,
47100, Puchong, Selangor

Tel: +603-80807268
Fax: +603-80824268



IP44 provide protection
IP67 provide protection



We are specialized in all types of

Industrial Plug & Socket, Weather Proof Isolator, Cable Lug, Cable Link, Insulated & Non Insulated Terminal, Connector, Trailing Socket, Busbar, Electrical Wire Tape, Revolving Light, Tower Light, Siren, Alarm Bell, Selector Switch & Automation Control Components.

Email: sales@epimkt.com.my

Website: www.epimkt.com.my

Facebook: EPIMarketing



EPI Marketing Sdn Bhd (304750-D)
EPI Plastic Industries (IP0304342-A)

HEADQUARTER & FACTORY:
No. 3, 5 & 7, Jalan Perusahaan Kledang 5,
Tmn Perindustrian Chandan Raya,
Menglembu 31450 Ipoh, Perak.

Tel: +605-2812012
Fax: +605-2822013

KL BRANCH:
No. 25 & 27, Jalan Rajawali 3,
Bandar Puchong Jaya,
47100, Puchong, Selangor

Tel: +603-80807268
Fax: +603-80824268



Our Technology Partner:

ILCS

Intelligent Light Control System



Light Control Unit

is compatible with either NEMA or Zhaga socket ready to establish a smart city neural infrastructure network.

NIKKON®

Manage and Optimize Your City with Intelligent Real-Time Monitoring From Anywhere



Public Security
Management System



Traffic Adaptive Installation
(Dynamic Dimming)



Traffic Flow Management
& Surveillance System



Wireless
Smart Parking



Smart
Metering



Door Contact
Alarm



Air Quality
Monitoring System



Visual Intelligence
& Analysis



Telecommunication
Hub



Traffic Flow Management
& Surveillance System



**Success Electronics & Transformer
Manufacturer Sdn. Bhd.** [200853-K]

(A wholly owned subsidiary of Success Transformer
Corporation Berhad)

Contact us now at 1300 88 2788 / +603 - 6279 2800

or email: marketing@success.com.my

Website: www.nikkonlighting.com

Follow us at   'Nikkon Lighting'



**Most Innovative
Product Award**
by Australian Smart
Lighting Summit 2018



**Most Innovative
Product Award**
by Middle East Lighting
Design Summit 2018



Participation Award
by Abu Dhabi
Smart City Summit 2019



Since 1952

70th Platinum Anniversary Dinner

TEEAM is celebrating its 70th Platinum Anniversary on Saturday, 19 November 2022. 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, company video presentation, advertisement in Suara TEEAM magazine, logo exposure in dinner souvenir book & TEEAM's Sports, Professional Development and CSR events, token of appreciation presentation and dinner table. There are four categories of Sponsorship: Diamond, Platinum, Gold and Silver. We appreciate your strong support for our Platinum Anniversary Dinner. For more detailed information and booking enquiries, please contact the TEEAM Secretariat E-mail: philia@teeam.org.my or teeam52@gmail.com

Major Sponsorship Rate Card

Sponsors' Benefits	Diamond	Platinum	Gold	Silver	Door Gift
Sponsorship	RM 35,000	RM 20,000	RM 13,000	RM 6,500	RM25x1,000 pcs = RM25,000
Privilege Seat at VVIP Table (Guest of Honour Table)	✓ (1 Seat)	✓ (1 Seat)			
One VIP Table with Preferential Position	✓	✓	✓	✓	✓
Branding Slideshow on all Site Projector Screens during Dinner	✓	✓	✓	✓	✓
Branding Slideshow on TV Screen at Pre-Dinner Session	✓	✓	✓	✓	✓
Colour Advertisement in Suara TEEAM Magazine (1 Page)	✓	✓	✓	✓	✓
Token of Appreciation Presentation	✓ (On Stage)	✓ (On Stage)	✓ (On Stage)	✓ (Off Stage)	✓ (Off Stage)
Company Logo Appears on Dinner Souvenir Book as Acknowledgement	✓	✓			
Company logo appears on TEEAM's Events as "Anniversary Dinner (AD) Sponsor" for Year 2022 & 2023	✓ Sports, Professional Development and CSR Events	✓ Sports & Professional Development Events			
Company Video Presentation on Screen During Token of Appreciation Presentation on Stage (2 min)	✓				
Foyer Space Area for Sponsor's Display of Products & Services	✓				



CHNT

Empower the World

NU6-II G/F



Type 2 Low Voltage Surge Protection Device (SPD)

IEC 62305-4 · IEC 61643-11 · Suruhanjaya Tenaga



CHNT

Empower the World

8 Years Warranty



ALPHA AUTOMATION (SELANGOR) SDN BHD (372711-D)

☎ +603-5569 3698 📠 +603-5569 4099 ✉ alphamail@alphasel.com

📍 5, Jalan Pemberita U1/49, Temasya Industrial Park, Glenmarie, 40150 Shah Alam, Selangor

ALPHACHINT

5th MEIF AGM 2022

The 5th Annual General Meeting (AGM) of the Machinery & Equipment Industries Federation (MEIF) was held on 31 March 2022 at the Kuala Lumpur Golf & Country Club (KLGCC). TEEAM is a member of MEIF along with nine other Constituent Associations, namely MEMA, MATA, SAMENTA, SMEAM, MSTMA, MMCOA1987, PERKEM, MAIA and UNIKLMFI.

The MEIF had an election of Office-Bearers during the AGM. Congratulations to TEEAM President, Mr Siew Choon Thye, for being elected as the MEIF Vice President II. The MEIF Presidency was retained by Mr Mac Ngan Boon of MEMA whilst Datin Lorela Chia of SAMENTA was elected as the Vice President I; Ms Carol Ong of MATA was retained as the Honorary Secretary; Mr Ding Hong Sing of SMEAM was elected as the Honorary Treasurer; Ts. Lim Sai Seong of TEEAM was retained as the Internal Auditor; and Mr Albert Lai of MMCOA1987 was also elected as the Internal Auditor. Well done and congratulations to all who were elected to office.

Other TEEAM Officials who were present to support the 5th MEIF AGM were Mr Stan Lim (Vice President), Ir. Dr. Ng Kok Chiang (Honorary Secretary), Mr Chris Yow (Assistant Honorary Treasurer), Mr Suresh Kumar Gorasia (Past President) and Ms Winnie Khong (Executive Secretary). TEEAM looks forward to continue working closely with MEIF and all other Constituent Associations to drive forward the Machinery & Equipment Industries, particularly the MEPN (Machinery & Equipment Productivity Nexus) Initiatives and Programmes under MPC, which can immensely benefit our members.



MEIF AGM in progress.



MEIF Office-Bearers: (from left) Mr Albert Lai (Internal Auditor), Ms Carol Ong (Honorary Secretary), Datin Lorela Chia (Vice President I), Mr Mac Ngan Boon (President), Mr Siew Choon Thye (Vice President II), Mr Ding Hong Sing (Honorary Treasurer) and Ts. Lim Sai Seong (Internal Auditor).



CPTPP Ratification – TEEAM Press Statement

26 July 2022, Kuala Lumpur

On March 8, 2018 in Santiago, Chile, CPTPP leaders of 11 nations signed the economically important and strategic Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), which is a multi-lateral Free Trade Agreement (FTA), formerly known as the Trans-Pacific Partnership (TPP). The Electrical and Electronics Industry has experienced the great and severe impact of the pandemic and economic disruption since the very start of the COVID-19 pandemic. It is highly imperative that our E&E Industry pro-actively leverages on CPTPP to ramp up efforts for economic recovery, especially so given the impending-cum-impeding world economic recession and the Russian-Ukrainian War, which have caused much hardship to our members in this critical industry.

CPTPP will boost trade, especially with the opening of new FTAs with countries such as Canada, Mexico and Peru for our exports – all for the betterment of our economy. Although, in our E&E Industry, compliance with the UL (Underwriters Laboratories) Standard may be an additional requirement, CPTPP will eliminate Tariffs of the current exports to these countries, thus enabling the Electrical and Electronics Industry in our country to flourish, whereby we can readily tap into the supply chains of the countries involved. This will also create more job opportunities for our local citizens when our industry expands. CPTPP is also expected to give the much-needed leverage, as zero or reduced duties to the Electrical and Electronics Manufacturers will definitely enable them to have better opportunities to export to Mexico and also gain further access into the US market under the North

American Free Trade Agreement (NAFTA). Consequently, The Electrical and Electronics Association of Malaysia (TEEAM) supports the ratification of CPTPP to thus strengthen Malaysia's position in the global supply chain. Additionally, with the announcement of interest from other countries such as Indonesia, South Korea, Thailand, the Philippines, and Taiwan, coupled with the recent accessions of United Kingdom and China to the CPTPP, TEEAM is of the opinion that early ratification of CPTPP will give added advantage to our exporters with preferential market access in order to remain competitive over our neighbouring countries and build investors' confidence in Malaysia during this time of economic slowdown and hardship. Malaysia and her citizens will stand to benefit from this ratification of the CPTPP given the continuous rising prices of consumer and industrial goods.

Malaysian Economic Statistics Review

Volume 7/2022:

Key Reviews & Overviews

The Department of Statistics, Malaysia (DOSM) had recently released the Malaysian Economic Statistics Review (MESR) Volume 7/2022 on 28 July 2022. This publication presents the latest economic scenario based on the official macro-economic statistics released by DOSM. This edition focuses on the economic performance for May 2022 and with some recent statistics for June 2022. The MESR will assist users and readers to have the latest information on the economic performance, and in much greater detail.

Key Reviews

- The International Monetary Fund (IMF) and the World Bank expect that the global economy will grow by 3.2 per cent and 2.9 per cent respectively in 2022, lower than their prior forecast for this year. The revision was due to the repercussion of the adverse effects of prolonged pandemic, and the conflict between Ukraine and Russia which had led to global supply chain disruptions, and in turn contributed to rising inflation.
- Malaysia's Natural Rubber Production plunged by 25.2 per cent to 21,073 tonnes in May 2022, from 28,164 tonnes in the same month of 2021. On a monthly basis, Natural Rubber Production declined by 6.3 per cent as compared to 22,498 tonnes in April 2022. The production of fresh fruit bunches decreased marginally by 0.2 per cent to 7,967,345 tonnes in June 2022 as opposed to the same month in 2021 (7,980,011 tonnes). Meanwhile, a month-on-month comparison showed an increase of 6.8 per cent over May 2022 (7,457,943 tonnes).
- In May 2022, the Industrial Production Index (IPI) rose by 4.1 per cent as compared to the same month of the previous year. The rise in the IPI was backed by the increment in the Manufacturing Index (6.9%) and Electricity Index (2.8%). The Mining Index, on the other hand, fell by 4.9 per cent.
- Concomitantly, the Manufacturing Sector's Sales continued double-digit growth of 15.7 per cent by recording RM142.0 billion in May 2022 (April 2022: 13.2%), compared to the same month last year. The growth in Sales Value was impelled by Electrical & Electronics Products (24.9%), Food, Beverages & Tobacco Products (20.4%) and Petroleum, Chemical, Rubber & Plastic Products (7.7%).
- Furthermore, the Wholesale & Retail Trade Sales soared 19.9 per cent year-on-year to a record RM129.8 billion in May 2022. The growth was driven by the Retail Trade Sub-sector which increased by RM13.0 billion or 29.9 per cent to RM56.3 billion. This was followed by Wholesale Trade and Motor Vehicles which surged by 11.7 per cent to RM59.6 billion and 20.1 per cent to RM13.9 billion respectively.
- Looking at the prices, National Inflation in May 2022 increased 2.8 per cent to 126.6 as against 123.1 in the same month of the preceding year. The increase in Headline Inflation was mainly from the rise in the Food & Non-Alcoholic Beverages Group (5.2%) as compared to the same month of the preceding year, the highest increase since November 2011. Other Groups also recorded increases except for Communication which remained unchanged. Considering June 2022, Malaysia's Inflation increased 3.4 per cent to 127.4 as against 123.2 in the same month of the preceding year.
- At the same time, Malaysia's Producer Price Index remained double-digit at a rate of 11.2 per cent year-on-year in May 2022 as compared to 11.0 per cent in April 2022. The growth was mainly led by the rise in

the index of Mining (20.6%), Agriculture, Forestry & Fishing (16.7%), and Manufacturing (10.1%). The indices of Water Supply increased by 1.2 per cent while Electricity & Gas Supply decreased by 0.6 per cent. However, for June 2022, the Producer Price Index registered 10.9 per cent as compared to the 11.2 per cent recorded in May 2022.

- Malaysia's Total Trade in May 2022 rose 33.6 per cent to RM228.4 billion from RM170.9 billion in May 2021. Exports increased by 30.5 per cent to RM120.5 billion while Imports grew by 37.3 per cent to RM107.9 billion. As the growth of Imports exceeded Exports, the Trade Surplus fell by 8.3 per cent to RM12.6 billion over the same period last year. However, Malaysia's Total Trade continued its strong performance in June 2022, with a value of RM270.4 billion and subsequently recorded a growth of 43.4 per cent from RM188.5 billion in the same period during the preceding year.
- In May 2022, the Labour Market showed that the number of employed persons grew by 3.4 per cent (+529.2 thousand) to 15.90 million persons (May 2021: 15.37 million persons). As a result, the employment-to-population ratio improved by 1.4 percentage points year-on-year to 66.8 per cent. Subsequently, the unemployment rate slipped 0.6 percentage points year-on-year to 3.9 per cent (May 2021: 4.5%).
- Based on the Leading Index (LI) in May 2022, Malaysia's economy is expected to perform a better economic recovery in the upcoming months with effective management of inflation by tightening the monetary policy. The LI improved to 111.2 points in the reference month to post a growth of 2.2 per cent year-on-year after recording a negative 0.5 per cent in April 2022.

Overview of the World Economy

The International Monetary Fund (IMF) foresees the world economy encountering a recession in 2023. The agency lowered its Global Economic Growth Forecast to 3.2 per cent in 2022, 0.4 percentage points lower than in the April 2022 World Economic Outlook.

Whilst the World Bank, through its Global Economic Prospects Report published in June 2022, expects the global economy to decline from 5.7 per cent in 2021 to 2.9 per cent in 2022, it is slower than the 4.1 per cent anticipated in January 2022. This was due to several factors, such as the crisis in Ukraine and the Movement Control Orders in China which have led to global supply chain disruptions and contributed to rising inflation.

Growth in the advanced economies is also projected to sharply decelerate from 5.1 per cent in 2021 to 2.6 per cent this year, a 1.2 percentage point below projections in January. The advanced economic performance is expected to further moderate to 2.2 per cent in 2023, largely reflecting the further unwinding of the fiscal and monetary policy support provided during the pandemic. Looking at the most recent economic data, large economies such as China and Russia dropped in the second quarter of this year, thus raising the risk for next year. Moreover, global inflation, rising interest rates, the slowing of China's economic growth, and increased Russian war-related sanctions in Ukraine also affected the economic slowdown.

In terms of inflation, the risk of stagflation (i.e., stagnation inflation) will cause potentially harmful consequences for middle and low income economies. As a result of the pandemic and the war, the level of per capita income in developing economies this year will be nearly 5 per cent below its pre-pandemic trend.

Overview of Malaysia's Economy

Malaysia's economy began to show recovery momentum when it recorded a growth of 3.1 per cent in 2021 compared to a decline of 5.5 per cent in the previous year. The impact of this recovery was reflected in the 2021 Gross Domestic Product (GDP) State Performance, whereby all States showed favourable performances compared to the decline in 2020. Five States outperformed national growth, topped by Pulau Pinang (Penang) with 6.8 per cent increment, followed by Selangor with 5.0 per cent; Terengganu, with 3.6 per cent; Perak, 3.5 per cent; and Kedah grew by 3.2 per cent.

The Services Sector re-bounded 1.9 per cent in 2021 after declining 5.4 per cent the previous year, with a share of 57.0 per cent of Malaysia's economy. The performance was driven by the Wholesale & Retail Trade, Finance & Insurance, Information & Communication and Government Services Sub-sectors. W.P. Kuala Lumpur and Selangor continued to be the main contributors with economic growth of 1.6 per cent (2020: -5.8%) and 2.2 per cent (2020: -6.6%), respectively.

Furthermore, the Manufacturing Sector which constituted 24.3 per cent to Malaysia's GDP, expanded 9.5 per cent from negative 2.7 per cent in 2020. The upturn was fuelled by a strong growth primarily in Electrical, Electronics and Optical Products at 14.6 per cent (2020: 2.6%) and the Petroleum, Chemical, Rubber and Plastic Products at 12.9 per cent (2020: -1.0%) Sub-sectors. The rise in demand for semi-conductor chips in recent years has influenced the double-digit growth, particularly in Selangor (13.1%) and Pulau Pinang (12.4%).

The Mining & Quarrying Sector increased marginally by 0.3 per cent, influenced by the Natural Gas Sub-sector, particularly in Sabah. This Sub-sector flourished 6.6 per cent as compared to a drop of 9.4 per cent in 2020.

On the other hand, the Agriculture Sector recorded a smaller contraction of 0.2 per cent, as against a decline of 2.4 per cent in 2020. The downturn was attributed to the decline in Perlis (-6.0%), Terengganu (-5.3%), Sarawak (-3.2%), Sabah (-2.4%), Negeri Sembilan (-0.4%) and Pahang (-0.1%).

The Construction Sector fell 5.2 per cent (2020: -19.3%) influenced by the decline in almost all Sub-sectors excluding Specialised Construction activities. This performance was under-pinned by Selangor (2021:-6.6%, 2020: -9.7%), W.P. Kuala Lumpur (2021:-12.1%, 2020: -26.4%) and Sarawak (2021: 10.2%, 2020: -8.8%).

Chart 1: Economic Growth by State and Economic Activity, 2021

State	Agriculture	Mining & Quarrying	Manufacturing	Construction	Services	GDP 2021	GDP 2020
Pulau Pinang	-2.4	-4.1	12.4	12.9	2.1	6.8	-2.1
Selangor	4.9	-3.0	13.1	-6.6	2.2	5.0	-6.2
Terengganu	-5.3	3.5	9.5	2.5	1.2	3.6	-6.7
Perak	3.1	-3.4	9.2	-6.7	2.4	3.5	-2.4
Kedah	2.6	-4.5	6.2	-8.4	1.9	3.2	-1.8
MALAYSIA	-0.2	0.3	9.5	-5.2	1.9	3.1	-5.5
Negeri Sembilan	-0.4	-3.4	7.2	-5.3	2.0	3.0	-3.6
Sarawak	-3.2	-3.3	11.2	10.2	2.1	2.9	-6.8
Johor	0.6	-7.5	5.5	-18.0	2.6	2.4	-4.7
Kelantan	1.0	5.1	2.1	1.2	2.7	2.4	-1.2
Malaka	-0.6	-4.4	3.3	-6.5	2.3	2.0	-5.9
Perlis	-6.0	-2.3	5.4	0.2	2.3	1.5	-6.0
Sabah	-2.4	2.4	-1.8	7.9	1.8	1.1	-9.2
Pahang	-0.1	-13.5	5.1	18.5	-1.4	0.9	-6.1
W.P. Kuala Lumpur*	-0.5	-3.1	4.3	-12.1	1.6	0.8	-7.4
W.P. Labuan	1.3	-	-1.0	-11.5	1.5	0.5	-5.4
SUPRA	-	2.2	-	-	-	2.2	-11.0

*Includes W.P. Putrajaya

Source: Department of Statistics, Malaysia

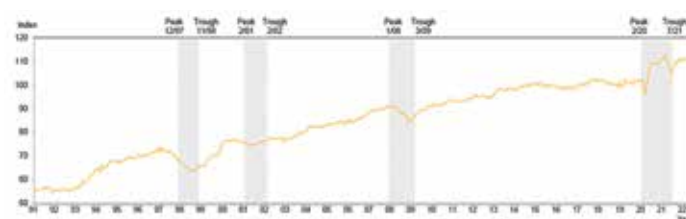
For the current economic scenario, the Industrial Production Index (IPI) rose by 4.1 per cent in May 2022 as compared to the previous year. The expansion was driven by the Manufacturing and Electricity Sectors, which recorded 6.9 per cent and 2.8 per cent, respectively. However, the Mining Sector shrank 4.9 per cent as compared to the same month last year. In terms of Sales Value, the Manufacturing Sector stood at RM142.0 billion, and grew 15.7 per cent as compared to the preceding year.

Meanwhile, Sales Value of Wholesale & Retail Trade posted RM129.8 billion in May 2022, and recorded a double-digit growth of 19.9 per cent year-on-year. The robust growth was contributed by all Sub-sectors, namely Retail Trade 29.9 per cent, Motor Vehicles 20.1 per cent and Wholesale Trade 11.7 per cent. In terms of the Volume Index, Wholesale & Retail Trade registered a growth of 14.7 per cent year-on-year to record 141.8 points.

Malaysia's Total Trade retained its strong performance in June 2022, and recorded a growth of 43.4 per cent during the same period of the preceding year. Exports and Imports reached a new high value of RM146.2 billion and RM124.2 billion, respectively. In terms of growth, Exports expanded 38.8 per cent while Imports surged 49.3 per cent.

Moreover, Malaysia's inflation increased 3.4 per cent to 127.4 in June 2022, mainly affected by the Food Index which increased 6.1 per cent. Meanwhile, Headline Inflation rose 3.4 per cent influenced by positive growth in other groups excluding Communications. In the meantime, Malaysia's Producer Price Index eased to 10.9 per cent in June 2022 as compared to 11.2 per cent recorded in May 2022, propelled by the expansion in almost all Sectors except for the Utility Sectors.

Chart 2: Leading Index (2015=100) and Business Cycle (Grey Shaded Areas), January 1991 - May 2022



Source: Department of Statistics, Malaysia

The Leading Index (LI) showed a better performance in May 2022, signalling that the economic outlook will continue to grow positively in the coming months. The LI improved to 111.2 points in the reference month to post a growth of 2.2 per cent year-on-year after recording a negative 0.5 per cent in April 2022. In May 2022, the LI posted a month-on-month increase of 0.4 per cent. Moving forward, effective management of inflation by the Government is essential in providing a conducive environment for the sustainable growth of the Malaysian economy.

The full publication of MESR Volume 7/2022 can be downloaded from the DOSM Website at www.dosm.gov.my

Acknowledgment

Source: Department of Statistics, Malaysia (DOSM)

Department of Statistics, Malaysia

Block C6, Complex C,

Federal Government Administrative Centre,

62514 Putrajaya, MALAYSIA

Tel. : +603-8885 7000

Fax : +603-8888 9248

Portal : <http://www.dosm.gov.my>

Facebook : www.facebook.com/StatsMalaysia

Twitter : [http://twitter.com/StatsMalaysia](https://twitter.com/StatsMalaysia)

Instagram : [http://instagram.com/StatsMalaysia](https://www.instagram.com/StatsMalaysia)



A **Complete System** in circuit protection



UTAMA

SWITCHGEAR SDN BHD

UTAMA SWITCHGEAR SDN BHD (416650-H)

No. 3, Jalan USJ 19/4A, USJ 19, 47630 Subang Jaya, Selangor Darul Ehsan, Malaysia

Tel 603-8024 1215 Fax 603-8024 1796 Email utamasb@ussbeeps.com Website www.ussbeeps.com

TEEAM's Past Scholarship Recipient's Achievements – An Inspirational/Motivational Segment

Backdrop:

TEEAM invited our past scholar for an interview to inspire the younger generation to take up Electrical & Electronics Engineering. We gave him a set of questions and this is his frank feedback.

Part I: Brief Intro Plus Scholar's Background

Part II: Probing Questions Posed To Scholarship Recipient By TEEAM

Part III: TEEAM Scholarship Recipient's Heartfelt Write-up

Part I: Brief Intro Plus Scholar's Background (Biodata)

A. Brief Intro:

TEEAM has pro-actively promoted the pursuit of excellence vis-à-vis its note-worthy plus praiseworthy CSR-based Academic Initiatives – especially so when it comes to acknowledging and rewarding stellar academic achievements by children of TEEAM's highly esteemed fraternity.

In this first of many articles, TEEAM is extremely pleased to present to you the academic plus industry achievements of one of TEEAM's Scholarship Recipients of yesteryears.

B. Scholar's Background (Biodata):

- Mr Mah Chee Weng.
- Recipient of TEEAM Scholarship for the year 2012-2015 of Nottingham (Malaysia Campus).
- Attended SMK Confucian Kuala Lumpur and Taylor's College from 2005-2011.
- Son of Mr Mah Chin Heng & Madam Kris Chan Yee Mei of See Kwong Electric (KL) Sdn Bhd.

Part II: Probing Questions Posed To Scholarship Recipient By TEEAM

Part A: Personal Background

- 1) Introduce yourself, your childhood your family
- 2) What are you best known for by your friends? (Your hobbies, attributes, talents, skills, etc.)
- 3) What were your dreams since your younger days?

Part B: Your Engineering Bachelors & TEEAM Scholarship

- 1) What influenced you to choose Electrical & Electronics Engineering as your bachelors?
- 2) How important do you think it is in applying for a Scholarship for your education?
- 3) How did the Scholarship affect your education goal?
- 4) Tell us how the Scholarship has helped inspire you to pursue this Engineering Bachelors and how do you think it can inspire others too?
- 5) Tell us more about your Engineering Bachelors, what you have learned thereat, and what do you think of the most important subjects that you have learned during your studies?
- 6) We have also received the good news regarding your Final Year Project: perhaps you can tell us more about your Final Year Project which has won the prestigious Book Prize?
- 7) Do you think that your Bachelors has helped in your current career, and how so (if yes)?
- 8) How do you describe the influence of your Engineering education in your current career?
- 9) How has the Engineering Bachelors improved the different aspects of your life, including socially?
- 10) What are the most notable and valuable experiences which you had gained during your E&E studies at Nottingham University?

11) Tell us more about your travels and experiences during your E&E studies that are not academically-related, but may have changed your perspectives of the world, given the chance to pursue this Bachelor's at Nottingham University.

12) Lastly, what would your advice be to other aspiring applicants for TEEAM's Electrical & Electronics Engineering Bachelors and Scholarship offers? What do you think TEEAM can do more to encourage even more students to take up Electrical & Electronics Engineering in the future?

Part C: Perspectives about the Industry

- 1) In your generation, what are the general views of your fellow friends in the E&E faculty, of the prospect of the country and also the prospects for E&E graduates?
- 2) What do you see TEEAM could do even better for the E&E industry?
- 3) What are the steps that you could recommend and participate, to make things better for both the nation and also the Association?

Part III: TEEAM Scholarship Recipient's Heartfelt Write-up

When I was in High School, I never gave much thought about what life after being a student was, and what a "real" job would be like. I remember I was just an avid basketball player, a kid that wanted to fit in while meeting the expectations set by his parents. I remember finding training methods to jump higher so that I could dunk a basketball and started venturing into a bit of Sports Science then. So, I told my Mom, "I want to study Sports Science." Without hesitation, I was rejected and there wasn't any room for discussion. I felt dejected but it was only much later that I realised why my parents did not want me to pursue that career path.

As my family was involved in the Electrical industry, I had a hunch back then that I was being steered into a certain direction they wanted, which was to be an Electrical Engineer. As fate would have had it, the topic in Physics I excelled in the most, in High School, was the basics of electrical circuits. I remember guiding my High School peers back then on questions involving Ohm's Law and Series/Parallel Circuits. While they were scratching their heads figuring out the answers to those questions, I was scratching mine figuring out how to explain the answers to them.

A-Levels further reinforced my beliefs that topics on electricity were my strong suits even though I slacked off on my studies in the first semester of College. Upon completing my A-Levels, I followed my parents' wishes to pursue a Masters in Electrical and Electronics Engineering at the University of Nottingham, Malaysia Campus. At that time, TEEAM contacted me to inform me that I was eligible to apply for their Scholarship offer. Figuring that I could lighten some of the tuition fees of my parents, I applied for it and managed to get it. I understood that as a Scholarship holder, I had the responsibility of meeting the expectations set by TEEAM, but this didn't really alter my goals in university, which was to graduate with First Class Honours, apply for a transfer student placing for a year in the UK, and becoming the best student-athlete I ever could be.

During my first year of university, I made it a point to balance my studies with my basketball pursuits so as to not play catch up again like how I did in college. Having peers that were great students too also definitely influenced me to be a better one, and we would hang out often to finish coursework plus tutorial sheets together. There were several times whereby we would burn the midnight oil together just to

Maxguard®

467568W

SAFE AND SAVE
Since 1998

"If it's not good, we don't sell it, if it's not perfect,
we will replace it and if it's not with a guarantee,
it's not MAXGUARD"

ELECTRICAL SWITCHGEAR

LOW VOLTAGE

Established in 1998, **MAXGUARD** is now a major player in the Low Voltage Switchgears Industry in Malaysia, specializing in distribution boards with a comprehensive range of circuit breakers. Our main objective is to meet the standards of the highly competitive market. Under our **SAFE** and **SAVE** motto, **MAXGUARD** is the first in the Country to invest in a range of comprehensive testing equipment for greater quality control to ensure the highest quality of products and to meet customer's budget.

MAXGUARD products are fully type tested to IEC Standards, by ETL Semko of Sweden, approved by Suruhanjaya Tenaga, Government Departments and annual Product Certification Audit by SIRIM QAS International Sdn. Bhd, Malaysia.



PRODUCT LIABILITY
* Terms & Conditions Apply *
RM2,000,000.00



www.maxguard.com.my



Intertek



Approved for
Government Projects

finish our coursework even in the first year of Degree itself. I fondly, or perhaps “un-fondly”, remember staying up till 8 am in the morning to go through my first-year Programming Coursework before submitting it at 9 am! Reminiscing those challenging times, I’m indeed grateful to my peers and lecturers who were willing to take their time to discuss the topics within the modules, which helped me to produce work that I was satisfied with. Despite the occasional sleepless nights, I believe experiences such as these set a good foundation for the rest of my university life, as I successfully managed to get a spot on the Dean’s List for 3 consecutive years, spoken in all humility.

As for my love for basketball, I committed myself to the university’s Basketball Club and Team. Unfortunately, my university was unable to join the main University League like the rest of the other Malaysian universities, due to the difference in academic schedules. However, I did my best to make full use of the good sports facilities provided in the university and managed to get a spot on the university’s Basketball Team. There was a Mini Tournament that I would look forward to at the end of the academic year, that is, the Tri-Campus Games, which brought together athletes from all three campuses (Malaysia, China, and the UK). I didn’t manage to win any gold medal in my 3 years’ of participation in the Tri-Campus Games, but I’ve met many friends through this, and ultimately it was a good experience. Besides being on the team, I was also a part of the Basketball Club Committee that organised multiple 3-on-3 Basketball Tournaments which are open to the public. This honed my organisational skills such as managing sponsorships and planning out the co-ordination and logistics of an event.



Me (wearing a cap), being part of the 3-on-3 Basketball Tournament Organising Committee.

One of the highlights in my university life was my Transfer Year in the UK in my 3rd year. As mentioned earlier, that was one of my goals from the moment I enrolled into the university. I was ecstatic when I got selected for a transfer year in UK! Being able to experience an entirely new campus life in a foreign country with a different climate was indeed an eye-opener. As the University of Nottingham attracts students from all over the world, I got to observe the differences between international students, which amused me a lot. One of it was witnessing first-hand the stereotype of students from China and UK. While British students would feel accomplished in achieving a score of 70% on their exams, the China students would say a score of 90% is just decent! Besides that, the polarity of lecturers’ behaviours was something I didn’t expect at all. From my first 2 years in the Malaysian campus, most lecturers would expect students to come see them to further engage in the materials they were teaching, and they were most certainly generous with their time as long you requested for it in advance. On the other hand, in the UK campus, by way of a personal observance, there are lecturers who would be annoyed at students coming to them

to ask questions and would insist they should’ve known the material even when they clearly don’t. However, in all fairness, there are also lecturers who would organise extra tutorial sessions (on their very own initiative, mind you) and hand-hold the students in solving problems from the tutorial sheet!

I can say without a doubt that the Examination schedule in the UK was the most brutal one I’ve ever sat through. When my friends and I found out that we had 3 papers to sit for in 3 consecutive days, all we could do was to accept our fate, ‘laugh together with despair’ and spend our nights in the library, cramming for the papers. One of my friends had to go through 5 papers in a mere span of 6 days. We witnessed fragments of his soul leaving his body with each passing day during that time span! At the end of that period, he went into hibernation mode to recover the pieces of his soul that he had lost, to put it tongue in cheek! Being a student-athlete in the UK campus was both challenging and exciting too as the trainings were more frequent and there was a proper League to look forward to. I managed to get a Roster Spot on the university’s Men’s Basketball Second Team, and it was one of the more rewarding experiences in my student-athlete career even though my team wasn’t one of the better teams in the nation for that Division. I had a taste of what it was like to be a more committed student-athlete as my weekly schedule was packed with practices and basketball games aside from my lectures. Unfortunately, I sustained a rather severe ankle sprain during my time there, but I still managed to participate in various other ‘smaller’ tournaments such as various Malaysian Games and HK-China Games where I at least got to win some medals. All in all, that was one of the best basketball years in my life thus far!



Me (first from top left) and my teammates in the UK.

Since I was on foreign soil, I took various opportunities to travel during the breaks I had. From hiking knee-deep in snow at Peak District to having my entire digestive system on fire when I took on a spicy food challenge in Scotland, I had my fair share of fun and sorrow! I realised back then what it meant to travel on a budget and how perhaps ‘over-budgeting’ isn’t really a good idea unless one fancies the idea of spending a cold winter’s night at the Oxford train station. What’s worse still was that I wasn’t responsible for planning that, but I had to put up with it nonetheless. However, it gave me a new-found appreciation of being able to afford accommodation and how I may have taken it for granted. Besides that, I understood why it was so very important to travel with a group of people as my friends and I almost got lost hiking in the Isle of Skye, but we managed to find our way back in the dark thanks to the keen eyesight of one of my friends. Well, that could also be a lesson on why it’s not a good idea to hike without a guide.

Alas, after a year in the UK, I came back to resume my Final Year back at the Malaysia campus. This was the year where most Engineering students would dread, as three ominous letters would be foremost at the back of our minds: F. Y. P. Each student in their final year is supposed to select a topic from a given list as their Final Year Project where a lecturer would be supervising you, the undergraduate, for the entire academic



旺电器木料有限公司

(6943-D)

WONG ELECTRICAL & TEAK WOOD SDN. BHD.

8, Lorong Yap Hin, Pudu, 55100 Kuala Lumpur, Malaysia.

Tel: 603-2142 5822 (Hunting Lines), 603-2142 9218/2148 4742 Fax: 603-2142 4523/2142 2846

Email: wetkl@wongelectrical.com.my Website: www.wongelectrical.com.my



Winston 18" - 35"
Stand / Wall Fan



Winston Exhaust Fan
12", 15" 18", 24", 30", 36"



Cable Lug



Bi-Metal Lug



NPC 3.1-3.4



160A Black Box
160A TPN Cut Out



1KV Termination Kit



11KV Termination Kit



Time Switch



Fibre Glass Wire



Plug & Socket
16A - 125A



Henly KWH Meter
(10/60A 240V, 15/60A 415V,
30/100A 415V, /5 415V)



Wire Grip & Puller



Weather proof flexible
conduit & adaptor



Shinohawa Metal
Enclosure Box



Shinohawa Cable Joint
SM0 1.5mm - 6mm x 4 core
SM1 1.5mm - 16mm x 4 core
SM3 10mm - 50mm x 4 core



JEC 20A-63A
Weatherproof
Isolator



25-160A
Weatherproof
Isolator



Copper Bus Bar



Copper Strips

Wong Electrical & Teak Wood
(Pg) Sdn. Bhd. (30263-T)
No. 13 Jalan Pantai
10150 Pulau Pinang
Tel: 604-229 2571, 2519, 3996, 3686
Fax: 604-229 3613

Branch: 28, Lengkok Kikik 1
Taman Inderawasih
13600 Prai Pulau Pinang
Tel: 604-398 0720
Fax: 604-398 0855

Wong Electrical & Teak Wood
(Sel) Sdn. Bhd. (75423-D)
No.33 Jalan 20/14
Paramount Garden
46300 Petaling Jaya Selangor
Tel: 603-7874 8355(HL), 8251, 8135, 7876 2676
Fax: 603-7876 7175

Soon Fay Sdn. Bhd. (50058-U)
No.13, Jalan Kalong
Off Jalan Sungai Besi
55200 Kuala Lumpur
Tel: 603-9221 6011(HL), 3313,
6759, 7036, 1264, 1262
Fax: 603-9221 0743

Wong Lighting (M) Sdn. Bhd. (72038-P)
No 17 & 19, Lorong Yap Hing
Off Jalan Pasar, Pudu 55100 Kuala Lumpur
Tel: 603-2145 6788(HL), 2145 0591
2145 0590
Fax: 603-2145 6799

Branch: No. 34 Jalan 20/16A
Paramount Garden
46300 Petaling Jaya Selangor
Tel: 603-7876 5022(HL), 7874 2409,
7876 0879, 7874 2452
Fax: 603-7876 5057



Me in Isle of Skye, Scotland.

year. However, I was the only student that had TWO supervisors. Why did I get 'double the recommended dose' of supervisors? Actually, I was already two weeks into working on the topic that I had already chosen but I talked to another lecturer who mentioned about a project that wasn't on the list. The topic mentioned intrigued me a lot as I was more into Research and Simulation back then. Following that, I took the courage to request for a change from my original supervisor, but he insisted that he should still be supervising me alongside the other supervisor, which I accepted. Little did I know what I had unwittingly walked myself into!

The topic I settled on for my FYP was Ocean Thermal Energy Conversion (OTEC), which is a Renewable Energy Technology that would utilise the ocean's thermal difference to generate electricity. The ocean is basically Earth's largest solar panel. Hence, as the surface of the ocean is heated up by the Sun, the temperature of the ocean surface becomes much warmer when compared to the deep ocean water. This creates a natural temperature gradient which gives rise to thermal energy. On a fundamental level, the power generation of OTEC is similar to how a steam power plant would function. The main objective of my project was to develop a Mathematical Model and ultimately a Simulation Model of an OTEC System to investigate its theoretical performance. I also had to propose Possible Control Strategies for an OTEC System.

As I got deeper into the project, I realised that I had to learn other topics unrelated to Electrical and Electronics Engineering (EEE), such as thermodynamics, etc. Due to the project's multi-disciplinary nature coupled with its 3-pronged deliverables (viz., Mathematical Model, Simulation Model and also Possible Control Strategies), I had to do a lot of in-depth studying and laser-targeted researching! On top of that, my first supervisor gave me an additional objective, which was to build a Hardware Prototype. In the end, I chose not to meet that additional demand and doubled down on the research and simulation just so I could write a coherent thesis that met my expectations. Remember when I mentioned about staying up till 8 am in my first year just to submit my Coursework? This time though, I had to grind it out till 10 am, after which I then proceeded to hibernate after submitting my Thesis. I remember feeling bad that I couldn't complete all the project objectives but 'lo and behold!', my Thesis actually won the best Final Year Project Book Prize -- which I would've never expected on 'day 1' of the project initiation. My final year of university was probably the most stressful one as I had to cleverly juggle my FYP, coursework and examinations, being the Vice-President of the Basketball Club, and attending team practice plus matches – all jam-packed. In the end, I'm extremely glad that I had persevered through and successfully accomplished my goals that I had set for university.

Upon reflection, graduating with an Engineering Degree helped me a lot even though it wasn't my first choice when I was 18 back then. The subjects I learned throughout my highly-productive 4 years there greatly sharpened my logical, analytical, and sequential thinking



Me featuring my graduation robe.

prowesses. I would say the subjects that helped me develop more so were Programming, Control Systems and Engineering Mathematics. Besides that, spending quality time with my peers and lecturers taught me how to communicate better and learn about different perspectives. I may not have always seen eye-to-eye with them, but I took away something new every time I discussed with them. Finally, the sleepless nights finishing up Coursework and Projects helped in developing my mental toughness, grit, and perseverance.

After I graduated however, I decided not to pursue Electrical or Electronics Engineering as a career. I dipped my toes in the Data Science pool though, and I found out that there were many others that had done the same as well – due to the increasing demand for this newly-emerging technological-based discipline. I believe one of the advantages of an Engineering Degree is that it's flexible and can be applied in many other disciplines too. The topics I learned in university may be irrelevant from my workplace but the principles and thinking processes are similar. In my first job in a Data Operations Team, I used the R Programming Language to cut down the time taken for a Microsoft Access Data Processing Workflow, by a whopping 50%! I credit this to the thought-processes that I had successfully honed throughout my University Degree. It was only after I had worked for a few years that I realised why my mother had wanted me to get an Engineering Degree even though it meant shattering my teenage dream. I could pick up work processes and see the gaps whereby I could make them more efficient, and also how I could automate certain things to save much cost and more time. I've heard similar stories as well from my peers who are working in engineering and also in non-engineering industries. That being said, it could just have been our inclination to such things that makes it possible to do so. I'd say that our world needs more engineering graduates, but, engineering isn't for everyone.

To the eager-beaver High School and College Students who are keenly considering taking up Engineering as a profession, it would be wise to take stock of your strengths and interests. Does the Scientific Method intrigue you? Does Advanced Calculus make you feel challenged or terrified? These are some of the questions to consider when deciding on an Engineering Degree. Vice-versa, for those who have not considered



(165757-H)

發佳電纜有限公司

FAJAR CABLES SDN BHD



Reliable • Safe • Eco - Friendly



Auto Cable



Alarm Cable (Tinned / Pure Copper)



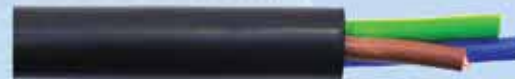
Speaker Cable



PVC/PVC Flexible Cord (0.5 to 6.0mm² ; 2 to 5 Cores)



PVC/PVC Twin Flat Cable



S. Rubber Flexible Cord (0.5 to 6.0mm² ; 2 to 5 Cores)



Twin Flat Power Cable



Trailer Cable



PVC Flexible Power Cable (0.5 to 240mm²)



PVC Multicore Control Cable (Max: 40 Cores)



PVC Welding Cable (10 to 240mm²)



Synthetic Rubber Welding Cable
(10 to 240mm²)



Our factory is equipped with latest advanced machinery from Germany

Other Wires and Cables

• Battery cable • Automotive cable • Jumper Cable • Blasting Cable • PVC Insulated Cable

Custom Made Cables

A member of MCMA & TEEAM



Lot 12, Jalan CJ 1/2A, Kawasan MIEL, Batu 11, Jalan Balakong. P. O. Box 28, 43200 Cheras, Selangor Darul Ehsan, Malaysia.
Tel: +6 03- 9075 7999 (Hunting Line) Fax: +6 03 9075 7488 Website: www.fajarcables.com.my Email: contact@fajarcables.com.my

taking up Engineering, why is that so? If you have the capability in understanding STEM subjects better and faster than your peers, what's stopping you from utilising this innate strength? I'll always remember how one of the most respected lecturers in my university, the late Prof. Dino Isa, squeezed in a life lesson while teaching about the doping process in semiconductors! There are trade-offs to be made in every area of life. Besides just thinking of what you really want to do, perhaps give some thought to: about how much you are willing to sacrifice to achieve your ideal ambition!

I think the concept of Ikigai (Japanese for 'life worth/purpose') is very relatable when it comes to considering trade-offs and what career/university degree choices to make.



Ikigai (Japanese for 'life worth/purpose')

Ideally, most of us, if not all, would like to be at the intersection of the 4 circles. However, I believe one doesn't have to get all 4 at once, and certainly not at the same time or on the first try! Besides, ambitions change as we all age. One of the greatest basketballers, Kobe Bryant, shares the same sentiment where he mentioned in an interview that his goals changed drastically for him from ages 6 to 7, to 25 to 37. Basketball helped him realise many other ambitions such as being a successful investor and an Oscar-winning storyteller. I'm no Kobe Bryant though but I believe my strengths in Engineering can translate into any ambitions I may have in the future. The thing is that most of us aren't just interested in one thing only. We tend to like many things all at once, but then we choose to focus on just one. In my humble opinion, I don't think that one should have an all-or-nothing or "YOLO" attitude, whereby one thinks "If I don't get this dream job/career now, I'll never attain happiness". Not all of us get the perfect fit right away, and that's okay.

To you the highly-esteemed parents, I humbly request you to please consider nudging your child's interests towards STEM (Science, Technology, Engineering & Mathematics), starting from a tender young age. I believe kids nowadays learn quicker than ever before (that's evolution for you) and there's so much exposure for them due to the rise

of smartphones and tablets, etc. Take a bit of time to learn what they're curious about and what their habits and inclinations are. For example, if your child likes reading comics or manga, perhaps nudge him/her to read one related to Science, such as Dr Stone's (parents, you can give it a try too, *wink wink*). Or if your child is super into gaming or e-sports, maybe consider asking him/her "Ever wonder how these modern gaming platforms are made possible today?". Expose them to various things linked to electrical or electronics, which in this day and age, is almost in every item in the household. I recall one of my ex-colleagues saying that his father used to say, "You can either be a doctor, lawyer, engineer or a failure." While I think that quote is hilarious, it goes back to the all-or-nothing attitude that I had mentioned about earlier. I personally think that wishing and pressuring your child into STEM-based Degrees is more likely to drive them away from those! On that note, please don't expect Primary and Secondary Schools to churn out students that aspire to be STEM professionals when there are so many influences around them. (However, the trend towards STEM is picking up). I humbly believe that it's the parents' responsibility to align a child's interests and strengths so the child can thrive and be self-sufficient.

With all that said, if you, dear reader, are (or a parent of) an aspiring applicant for an Electrical and Electronics Engineering (EEE) Degree, congratulations! I can assure you that obtaining an EEE Degree is more valuable now based on what I've heard from friends and family in the Engineering world. There are huge prospects for EEE graduates looking at the trend where technology is now heading. There's Green/Renewable Energy, Blockchain, Virtual Reality and Augmented Reality (VR and AR), Health and Sports Tech, etc., which are all the hype globally nowadays. I've heard that some companies in the electronics industry are willing to pay a starting monthly salary of at least RM4,000 for fresh graduates! Besides that, in my opinion, an EEE graduate can also pivot into the IT field fairly easily, as Electronics serves to be the backbone for anything related to IT. Most EEE Degrees would have taught some basics in Programming which helps the transition to IT and even Data Science.

Lastly, I think TEEAM can encourage more students to take up EEE by thinking of ways to pique interests about anything electrical or electronics. for both parents, and children of young ages. A suggestion would be organising an Educational Fair which briefly shows how simple electrical/electronics inventions shape our daily lives in this modern age. Besides that, perhaps have classes on simple Robotic Programming such as Raspberry Pi to show young kids (and even adults) on what they can build with a simple starter kit and basic concepts. For teenagers in High School and Colleges, perhaps organise Competitions where they are required to invent something, or present an idea about invention and have established Engineers from TEEAM to judge and give constructive feedback to them. A simple thing that might have a big impact is: perhaps TEEAM can share Infographics or Short Videos on Social Media that educate the public on how electrical/electronics devices make current technology trends possible.

If you have read this far, thank you for your attention and time!

Acknowledgement

TEEAM is deeply grateful to our Scholar Mr Mah Chee Weng for his inspiring write-up. If you are interested in TEEAM's Annual Academic Scholarship, please feel free to contact the TEEAM Secretariat at +603-9221 4417 E-mail: thila@teeam.org.my



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 new company member will be entitled to two points, whilst 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

HIWIN
Linear Motion Products & Technology

MOTION CONTROL & LINEAR TECHNOLOGY



6 Axis Robot



Linear Guide Way



SCARA Robot



Single Axis Robot



AC Servo Motor & Drive



Ball Screws



Actuator



**MITSUBISHI
ELECTRIC**

Changes for the Better

FACTORY AUTOMATION PRODUCTS & SOLUTION



Panasonic

SENSING & CONTROL TECHNOLOGY



Touch Screen



Sensor



Laser Markers



ALUMINIUM PROFILE

AC DC INDUCTION MOTOR



Structure Design



Cut To Length & Machining Service



Profile Accessories



AC/DC Gear Motor



Stepping Motor



LETROMECC
SINCE 1992

TOTAL SOLUTION FOR FACTORY AUTOMATION COMPONENTS & CONTROL DEVICES



LIMA TECHNOLOGIES (M) SDN BHD
Reg No.: 632251-D

LETROMECC INDUSTRIES (M) SDN BHD
Reg No.: 258593-V
33, Persiaran Mahsuri 1/1, Sunway Tunas,
11900 Bayan Lepas, Pulau Penang, Malaysia.
Tel : +604-644 4466 / +604-644 3741
Fax : +604-644 3749
Email: sales-pg@letromec.com

LETROMECC INDUSTRIES (KL) SDN BHD
Reg No.: 542633-A
2A, Jalan MJ 14, Taman Industri Meranti Jaya,
47120 Puchong, Selangor, Malaysia.
Tel : +603-8063 0270
Fax : +603-8063 0276
Email: sales-kl@letromec.com

LETROMECC INDUSTRIES (IPOH) SDN BHD
Reg No.: 734412-P
14, Medan Bendahara 1,
31650 Ipoh, Perak, Malaysia.
Tel : +605-254 8868
Fax : +605-254 7868
Email: sales-ipoh@letromec.com



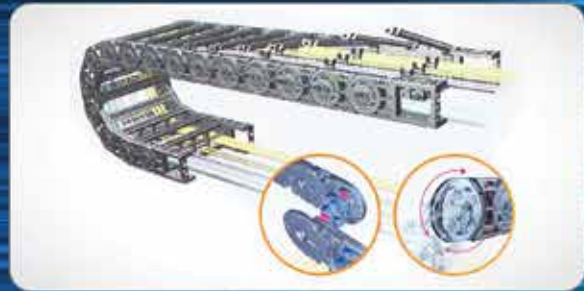
YOUR SMART PHONE
www.letromec.com



CABLE PROTECTION SYSTEMS



CPS Cable Chain (Mini)



Shift Chain



Sabin Chain



Revolving Chain



Helix Chain



ROBO-Kit



CPSFLEX



CPSFIX



LETROMECC
SINCE 1992

TOTAL SOLUTION FOR FACTORY
AUTOMATION COMPONENTS &
CONTROL DEVICES



LIMA TECHNOLOGIES (M) SDN BHD
Reg No.: 632251-D

LETROMECC INDUSTRIES (M) SDN BHD

Reg No.: 258593-V
33, Persiaran Mahsuri 1/1, Sunway Tunas,
11900 Bayan Lepas, Pulau Penang, Malaysia.
Tel : +604-644 4466 / +604-644 3741
Fax : +604-644 3749
Email: sales-pg@letromec.com

LETROMECC INDUSTRIES (KL) SDN BHD

Reg No.: 542633-A
2A, Jalan MJ 14, Taman Industri Meranti Jaya,
47120 Puchong, Selangor, Malaysia.
Tel : +603-8063 0270
Fax : +603-8063 0276
Email: sales-kl@letromec.com

LETROMECC INDUSTRIES (IPOH) SDN BHD

Reg No.: 734412-P
14, Medan Bendahara 1,
31650 Ipoh, Perak, Malaysia.
Tel : +605-254 8868
Fax : +605-254 7868
Email: sales-ipoh@letromec.com



SCAN THIS WITH
YOUR SMART PHONE
www.letromec.com

BS 31



GI CONDUIT CABLE MANAGEMENT



British Standard GI Conduit

BS 31 (Class B) Standard



Manufactured in accordance with BS 31 standard. All our conduits are supplied with coupling & thread protector.

Item Code	Trade Size (in)	Nominal Wall Thickness (mm)	Length (metre)
C-D075P	3/4	1.60	3.81
C-D100P	1	1.60	3.81

FEATURES:

- Manufactured from hot dipped galvanised steel strip
- Smooth internal surface & low welding bead
- Straight, clean threading on both sides

ABOUT US

Founded in 1998, INSTEEL specialises in manufacturing a whole range of electrical steel conduit & fittings in Malaysia. Our products are approved & certified to the relevant British Standards.

For more information, contact us at info@insteelworld.com



 www.insteelworld.com

 +603-5192 8003

 Lot 2-31, Jalan SU 7, Seksyen 26,
Off Persiaran Tengku Ampuan,
40400 Shah Alam, Selangor Darul Ehsan, Malaysia

 INSTEEL (MALAYSIA) SDN BHD 199801013721 (469850-M)

Challenges and Opportunities in the Electrical Industry – Part 40

Ir Chew Shee Fuee KMN, TEEAM Past President

Guidelines on Electricity Tariff Determination under the Incentive-Based Regulation (IBR) for Peninsular Malaysia 2021

The public is asking for the reason for the Imbalance Cost Pass-Through (ICPT) Adjustment in the tariff structure. [Note: The above guidelines can be downloaded from the website of TNB (www.tnb.com.my) or Suruhanjaya Tenaga - Energy Commission (www.st.gov.my)].

With the sharp rise in fuel costs, caused by the Russian invasion of Ukraine, it will be of interest to find out more about the ICPT Adjustment.

The following is extracted from the aforementioned TNB Guidelines.

ICPT Adjustment: Application of the ICPT Adjustment

7.1. The ICPT Adjustment compensates for differences between the Actual and Forecast Generation Costs used in determining the Average Generation Cost in each Regulatory Period. Therefore, it is intended to enable the recovery of Actual Fuel Costs and other Generation-specific Costs.

7.2. The ICPT Adjustment is applied as a surcharge or rebate (calculated as a negative surcharge) added to the energy charges applied for electricity sales to those customers liable for the ICPT Adjustment. These liable customers may be determined by the Minister. This surcharge or rebate is an additional to the Regulated Tariffs, and the ICPT Adjustment is not included in the calculation of the Allowed Average Tariff.

7.3. The ICPT Adjustment is calculated and applied at six-month intervals. The first Adjustment in each year applies from January to June and the second from July to December.

Calculation of the ICPT Adjustment

7.4. The ICPT Adjustment comprises a Generation Cost Adjustment and a Fund Contribution.

7.5. The Generation Cost Adjustment adjusts for differences between the Actual and Forecast Costs for each of the fuel costs and other Generation-specific Costs over the six-month period. The Adjustment for each type of cost is split into two parts. The first part uses the Actual Data for the most recent 2 months for which this is available, and Estimated Data for the following 4 months. The second part corrects for differences between Actual Outcomes and the Estimated Data used to calculate the First Adjustment.

7.6. The Fund Contribution is the net contribution from the Electricity Industry Fund (EIF) over the six-month period, applied by the Commission to offset Generation Cost increases. When the Generation Cost Adjustment for a six-month period is greater than zero, the Commission may authorise payment of amounts during the six-month period from the Electricity Industry Fund (EIF) to the Single Buyer, in which case the Fund Contribution will have a negative value. When the Generation Cost Adjustment for a six-month period is less than zero, the Commission may require the Single Buyer to pay amounts during the six-month period into the Electricity Industry Fund (EIF), in which case the Fund Contribution will have a positive value.

Process for applying the ICPT Adjustment

7.9. The proposed ICPT Adjustment Report must be submitted to the Commission by either the Single Buyer or, on its behalf, by TNB, by the following dates:

7.10. Submission dates

(a) For an ICPT Adjustment taking effect from January, no later than 10 weeks before the expiry of the relevant six-month period of the preceding year.

(b) For an ICPT Adjustment taking effect from July, no later than 10 weeks before the expiry of the relevant six-month period of the same year.

In terms of the ICPT Adjustment Reporting, the Single Buyer shall submit the following requirements:

(a) Detailed Estimated Generation Cost Report that presents calculation of the Estimated Actual Generation Cost and Other Generation Cost that is incurred by the Single Buyer under the PPA and SLA for the relevant six-month period of the Regulatory Period, based on Actual Cost Data for the first 2 months, and estimates for the remaining 4 months.

(b) The Single Buyer should provide a Detailed Generation Cost Report on actual Fuel Cost, Other Generation Costs, Units Sold and Revenue Collected, based on the Single Buyer Tariff for the preceding six-month period. This is to ascertain the amount of over- or under-recovery of changes in Fuel and Generation-specific Costs.

(c) The Report shall include a detailed explanation of the variances between the Actual Costs of Electricity Procurement and Generation Revenue, based on the Single Buyer Tariff.

(d) The Estimated Actual Fuel Cost and Other Generation Cost Report and the Application

of the Fuel Cost Adjustment and Other Generation Cost Adjustment prepared by the Single Buyer, are to be certified as correct by a reputable Audit Company.

(e) Together with the proposed ICPT submission and Detailed Generation Cost Report submission, the Single Buyer is also required to submit the Audited Actual Revenue for the preceding six-month period, which is based on the Single Buyer Tariff and Actual Sales of Electricity to customers. The Actual Generation-specific Revenue for the Single Buyer should reflect the Generation-specific Revenue received from Customer Services over the relevant six months.

7.11. The value of proposed ICPT Adjustment may also incorporate the Calculation of Revenue-Cap Adjustment and Price-Cap Adjustment by each Regulated Business Entities (RBE) and shall be determined by the Commission.

7.12. The Commission will verify the proposed ICPT Adjustment Report and accompanying Proposed Regulated Tariffs within 15 working days of receipt.

7.13. Where the Commission has identified an error in the calculations submitted, then the Single Buyer will be required to revise and re-submit their Proposed ICPT Adjustment, and the Commission will have a further 15 working days from receipt of the revised calculations to accept or reject these.

7.14. The value of any over-recovery of Allowed Revenues which results from a delay in the approval of the ICPT Adjustment due to errors in its calculation by the Single Buyer, shall be determined by the Commission and returned to customers in the form of a reduction in Regulated Tariffs for the following year. Any under-recovery due to errors in the calculation by the Single Buyer, shall not be compensated.

7.15. The Commission will adopt the following Approval Process for any Tariff Adjustment:

(a) If the proposed ICPT Adjustment is less than or equal to 7% higher than the sum of the Average Generation Cost and of the Base Average Tariffs for each individual RBE, the Commission will approve the proposed ICPT Adjustment.

(b) If the proposed ICPT Adjustment is greater than 7% higher than the sum of the Average Generation Cost and of the Base Average Tariffs for each individual RBE, the Commission will recommend its decision to the Minister for approval.

7.16. The Minister may approve an ICPT Adjustment that is different from that recommended by the Commission.



SmartGen

Gen Set & ATS Controller

GENSET CONTROLLER

Auto-Main Failure
Control Module



HGM 6110N

Auto -Sync GenSet
Control Module



HGM 9510

Marine Engine
Controller



HMC 9000A

ATS CONTROLLER

ATS Control Module



HAT 560N



HAT821



HAT 700B



HAT832



HAT833

SmartGen ATS control modules can be utilised to control Type PC, CB & CC Auto transfer switching equipment to IEC60947-6-1.

Automatic switching for two or three power sources with coupler or/& with Generator/UPS can be program.

1. HAT 821 controller - Two Utilities sources with bus tie controlling two main circuit breakers & Bus Tie breaker
2. HAT 832 controller - Two Utilities sources with GenSet/UPS source using two tier transfer switching
3. HAT 833 controller - Two Utilities sources with GenSet/UPS source controlling three Main circuit breakers

INTELLIGENT AUTO BATTERY CHARGER



BACM2410
(RS485)



BACM1206
(RS485)



BASM2406
(RS485)



BASM2420
(RS485)



Wise Pro Sdn Bhd

199601008707
(NO.381055P)

No. 8, Pusat Teknologi Sinar Meranti, Jalan IMP 1/3, Taman Industri Meranti Perdana, 47120 Puchong, Selangor
Tel : +603-8066 6491/6492/6493 Fax : +603-8052 6649 (Sales) Mobile No. +6017 - 492 1474, +6012 - 543 5515

E-mail : info@wiseprocorsa.com.my

www.wiseprocorsa.com.my

IEM-Standards Malaysia-Suruhanjaya Tenaga ASEAN Electrotechnical Symposium & Exhibition 2022

The ASEAN Electrotechnical Symposium & Exhibition 2022, with the theme ‘Standards Drive Sustainable Development Goals’, was successfully held concurrently with the ENGINEERS & MARVEX 2022 Exhibition from 16 – 17 March 2022 at the Kuala Lumpur Convention Centre (KLCC). The Symposium was jointly organised by the Institution of Engineers, Malaysia (IEM), Standards Malaysia and Suruhanjaya Tenaga (Energy Commission of Malaysia) to provide an effective platform to drive cross-border flows and mobility of engineering technology and services, thus accentuating the linkages in ASEAN countries and positioning ASEAN on the Global Value Chain map.

The Symposium featured Keynotes and Presentations from experts on the latest Electrotechnical Standards, Technology, Products and Services on the following themes: “Standards Drive Global Value Chains”, “Generation, Transmission & Distribution”,

“Electrical Installation in Buildings”, and “Electrical Equipment & Appliances”, based on challenges and opportunities in these fields. The Symposium Opening was officiated by Ts. Abdul Razib Dawood, Chief Executive Officer of Suruhanjaya Tenaga.

Ts. Lim Sai Seong (Honorary Treasurer) represented TEEAM to deliver a presentation on “Testing, Inspection & Certification for a Safe & Sustainable Community”.

The significance of the event was the launching of the White Paper for Electrical Installation Standards & Regulations in Buildings amongst ASEAN countries, which was in line with the ASEAN initiatives of the ASEAN Connectivity Blueprint 2025.

Alongside the Symposium, the event also comprised exhibitions from various industry stakeholders, whereby it allowed the participants to gain direct access to the latest Engineering Technology, Products and Services, as well as the opportunity to

participate in the Business-to-Business (B2B) meetings with both domestic and ASEAN manufacturers, traders, construction sector and services.

Overall, the Symposium was very informative whereby it created a highly beneficial platform for everyone in the industry to share knowledge, technology and know-how to achieve the noble Sustainable Development Goals (SDGs) in every context.



Ts. Lim Sai Seong (TEEAM Honorary Treasurer) delivered a presentation.



The ASEAN Electrotechnical Symposium Opening was officiated by Ts. Abdul Razib Dawood, Chief Executive Officer of Suruhanjaya Tenaga.



(right) Ts. Lim Sai Seong received a token of appreciation from the Moderator, Mr. Lee Cheng Pay.



..... Continue Challenges and Opportunities in the Electrical Industry – Part 40

7.17. Where approval by the Minister is delayed beyond the start of the following year, then the following shall apply:

- The existing ICPT Adjustment shall remain in effect until an approval is issued.
- The present value of any over-recovery or under-recovery of the ICPT Adjustment which results from such delay shall be determined by the Commission.
- This difference shall be returned to customers, if an over-recovery, or paid to the Single Buyer, if an under-recovery, in the form of a deduction from or an addition to the ICPT Adjustment to be applied for the following six-month period.

7.18. If the delay occurs in the last six months of the current Regulatory Period, then the Adjustment is carried-over to the next Regulatory Period.

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 Immediate Past 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 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



ENGINEER & MARVEX 2022

After the prolonged lock-down due to the COVID-19 pandemic, businesses are now beginning to be re-connected at ENGINEER 2022, the 1st Malaysia Engineering Exhibition organised by IEM and CIS, and fully supported by TEEAM. ENGINEER 2022 focused on the following five key divisions – Civil, Electrical, Electronics, Chemical and Mechanical Engineering. It was held concurrently with MARVEX 2022, the 1st Air-Conditioning, Refrigeration & Ventilation Expo organised by MACRA and CIS. This exciting and much anticipated Exhibition was successfully organised from 16 to 19 March 2022 at the Kuala Lumpur Convention Centre.

ENGINEER & MARVEX 2022 was launched by the Deputy Minister of Works, The Honourable Datuk Arthur Joseph Kurup, on 17 March 2022. The launch event also honoured the ten Supporting Associations, which were the: ASHRAE Malaysia Chapter, Malaysia Association of Energy Service Companies (MAESCO), Malaysia Board of Technologists (MBOT), Malaysian Green Building Council (MGBC), Malaysian Oil & Gas Engineering Council (MOGEC), Malaysia Photovoltaic Industry Association (MPIA), Real Estate & Housing Developers' Association (REHDA), Royal Institution of Surveyors Malaysia (RISM), The Electrical and Electronics Association of Malaysia (TEEAM) and The Institution of Engineering and Technology (IET). TEEAM President, Mr Siew Choon Thye and Ir. Chang Yew Cheong (Deputy) were present at the launch.

Amongst the participating TEEAM members were Alpha-Chint, Central Cables, Cybernet

Systems, DNF Cable, Harvest, Mikro, Pekat Engineering, Southern Cable and Terasaki. A warm Welcome Reception was held on 16 March 2022 for the exhibitors. During the Networking Reception, the ENGINEER & MARVEX ACMV&R Excellence Awards were presented for innovative products. TEEAM Vice President Ir. Kok Yen Kwan was the leading Chief Judge while TEEAM Honorary Secretary, Ir. Dr. Ng Kok Chiang also sat on the highly-esteemed Panel of Judges. TEEAM member, Terasaki Electric (M) Sdn Bhd, was amongst the award winners for its signature entry, the Tembreak Pro. This innovative product provides excellent protection against overload and short-circuits. It has been innovatively designed and rigorously tested to support the most complex electrical systems, via its in-built adaptive capabilities and multi-protection relays. It comes with a pre-trip alarm function for constant monitoring of the load current and a temperature self-monitoring



TEEAM President, Mr Siew Choon Thye (Centre) receiving a token of appreciate from Deputy Minister of Works, The Honourable Datuk Arthur Joseph Kurup. TEEAM was amongst the ten Supporting Associations.

function. Heartiest congratulations from TEEAM!

The 2023 edition of ENGINEER & MARVEX will be held from 6 to 9 September 2023 at the Kuala Lumpur Convention Centre. See you there!



ENGINEER & MARVEX 2022 Official Launch on 17 March 2022.

Snapshots at ENGINEER & MARVEX 2022



Snapshots at ENGINEER & MARVEX 2022





旺電器木料(雪)有限公司

Wong Electrical & Teak Wood (Selangor) Sdn Bhd

Registered No. 75423-D

33, Jalan 20/14, Paramount Garden, 46300 Petaling Jaya, Selangor.

Tel: 03-7874 8355 (HL), 7876 2676

Fax: 03-7876 7175 (account dept.), 03-7876 1033 (sales dept.)

Email: wetsel@wetpj.com.my



Shinohawa



YY CABLE ACCESSORIES

KF

GIRAEUICA

EUICA



CLIG

CHNT

Pilot

EPCOS

KYORITSU

NEXT PRO

ABB

Schneider

OMRON

LEDVANCE

SOCOME

TERASAKI

SANWA

MULTITEK

U-LI

CVS

MW

FE

BRIDGES

CMF

“Killing People with Kindness”

A Critical Review of Flame-Retardant and Halogen-Free Cables

Richard Hosier

Flame-Retardant and Halogen-Free Cables - An Uncomfortable Paradox

Electric wiring systems are mostly hidden and embedded in the construction, ceiling spaces, riser shafts, or wall cavities. Cables are installed in buildings by many different trades for different applications and often in polymeric conduit and ducting systems. What is not often realised is that the many miles of cables and many tons of plastic polymers which make up the wiring system can represent a major fixed-fire load in a building.

Fire Spread & Flame Retardance

Most of the common flexible cables are made from hydrocarbon (oil) based polymers. These base polymers are not usually flame-retardant and have high calorific values, so cable manufacturers add chemicals to make them more suited to electrical cable use. Halogens such as Chlorine are particularly good additives that help retard flame propagation and don't significantly impact the dielectric properties of the polymer, so halogens are used in both cable insulations and cable sheaths. These halogenated polymers (example: PVC) also have a negative side effect because in a fire they will release the halogens as halides which are extremely toxic and when combined with the moisture in the eyes, mouth and lungs become very irritable. Frequently, standard PVC cables will also release large amounts of acrid smoke.

Often, designers realize the dangers of fire spread, halogen and toxic gases emissions, plus the smoke released from cables in a fire, so they specify cables to have 'Halogen-Free', 'Flame-Retardant' and 'Low Smoke' properties. For these cases, cable manufacturers need to use other non-halogenated materials, mostly with flame-retarding fillers such as alumina-trihydrate (ATH). While effective in retarding flame propagation, these fillers often negatively affect the polymer by reducing dielectric performance or affecting mechanical and water resistance. For this reason, additives like ATH are mostly used only in cable jackets. Halogen-Free flame-retardant cables most often use an unfilled or less filled polymer such as Polyethylene (PE or XLPE) or EPR for the insulation, which has good electric and mechanical properties but may not be very flame-retardant.

Fire Propagation Performance

Often the best flame-retardant cables are halogenated because both the insulation and



outer Jacket are flame-retardant but when we need Halogen-Free cables, we find it is often only the outer jacket that is flame-retardant and the inner insulation is not. This has significance because while cables with a flame-retardant outer jacket may pass flame-retardance tests with an external flame source (BS EN 60332-1, BS EN 60332-3), the same cables when subjected to high overload or prolonged short-circuits have been proven in university tests to be highly flammable and can even start the fire under uncleared short-circuit or overload conditions. This effect is known and was published by Nexans/Olex Cables Australia at the 8th International Conference on Insulated Power Cables (Jicable'11, 19-23 June 2011, Versailles, France). What this means is your flame-retardant cables may not be flame retardant under uncleared short circuit or overload conditions!

In the UK, EU, and many other countries, BS 7671 and IEC 60364-5-52 have current-rating tables allowing some cable designs to operate at conductor temperatures of up to 90°C. Whilst technically acceptable for the cables, what has not been fully considered is the intrinsic change this cable operating temperature may have on the cable's flammability. Where cables are required to be flame-retardant to IEC 60332-3-22/23/24 standards, it is concerning that these tests are not conducted on cable samples pre-conditioned to the rated operating temperature of the cable, but rather commencing at room temperature. It is well known that the hotter a material is, the more easily it will burn,

so designers and users of cables who claim to meet these standards may be surprised to learn that their cables might not be flame-retardant at all when installed and used at their rated operating temperature. (Ref: Q. Xie, T. Gong, X. Huang (2021) Fire Zone Diagram of Flame-Retardant Cables: Ignition and Upward Flame Spread, Fire Technology. <https://doi.org/10.1007/s10694-021-01133-x>)

The Primary Importance of Fire Load

Many countries around the world are moving to a greater use of Halogen-Free and Flame-Retardant (HFFR) cables in the pursuit of increased building safety. Whilst an admirable motive, the reality can be rather different: In asking for both flame-retardant and halogen-free properties, cable manufacturers often need to compromise between high flame retardance with halogens or reduced flame retardance without halogens.

To provide cables that are halogen-free, cable makers most often choose polymers such as Polyethylene (PE and XLPE) because they are easy to process and cheap. However, although Polyethylene is halogen-free, it has a natural high-fire load.

The following table compares the fire load in MJ/Kg for common cable-insulating materials against some common fuels. The Heat Release Rate (HRR) and volatility in the air for these materials will differ but the fuel added to a fire per kg and the consequential volume of heat generated and oxygen consumed is relative.



- Full range of Low Voltage 440V & 525V capacitor
- Available size : 1, 1.5, 2, 2.5, 5 kVAR
10, 15, 20, 25, 30, 40, 50 kVAR
- Medium voltage 3.3kV up until 33kV capacitor also available



- Type 1 to Type 3 Surge Protective Devices
- Up to 100KA available
- 7 mode Surge Arrestor
- Made in EU



- Full range of LV & MV products
- Including SPAJ140C & RED615 relay



- Industrial relays & sockets
- All models comes with LED indicator & manual test button



- Variable speed drive
- Altivar 212 Drive
- Altivar Process ATV630



common name	description	MJ/Kg
Petrol		48
XLPE	Polyethylene	46
PP	Polypropylene	46
Nylon 66	Polyamide	33
EPR	Ethylene propylene rubber	28.5
CSP	Chlorosulphonated polyethylene	28
Coal		25
PCP	Polychloroprene rubber	24
Wood		18.5
PVC	Polyvinyl chloride	18
SIR	Silicone Rubber	15.5
ETFE	Ethylene tetrafluoroethylene	13.8
HFFR	Halogen Free Flame Retardant	13
PTFE	Polytetrafluoroethylene	5
MICC	Bare Mineral Insulated Metal Sheathed	0

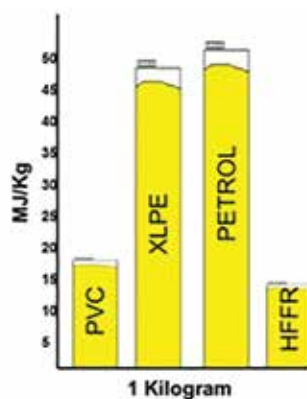


Figure 1

When considering fire safety in cable design, we need to understand the most important factors: Fire experts tell us most fire-related deaths in buildings are caused by smoke inhalation, temperature rise, and oxygen depletion or by trauma caused by jumping, in trying to escape these effects. Notably, the most common cause of death in building fires is Smoke inhalation with asphyxia due to CO (Carbon Monoxide) although HCN (Hydrogen Cyanide) is becoming more common with the increasing use of man-made and lightweight synthetic building materials. Notably, neither is a Halogen gas.

Smoke

The first and most important aspect of smoke is: how much smoke? Typically, the larger the fire the more smoke is generated so anything we can do to reduce the spread of fire will also correspondingly reduce the amount of smoke. Highly flame-retardant cables with a high oxygen index will help here because they may limit the fire spread.

Smoke will contain particulates of carbon, ash and other solids, liquids and gases -- and many are toxic and combustible. In particular, fires in confined areas such as buildings, tunnels, and underground environments cause oxygen levels to drop near the fire source, and this contributes to incomplete burning and smouldering which can produce increased amounts of smoke and toxic by-products including CO (Carbon Monoxide). As we already know, the presence of halogenated materials will release toxic halides such as Hydrogen Chloride together with many other toxic and flammable gases found in the smoke.

For this reason, common British, and IEC smoke tests (BS EN 61034-2) are conducted by burning cable samples in large 3-meter³ chambers with an alcohol fuel and plenty of air. This can provide very misleading smoke figures because complete burning in flame often releases far less smoke than partial incomplete burning or smouldering which is likely in practice. There are no smoke tests done on cables subjected to heating under short-circuit or overload conditions, which for some common "Halogen Free" insulation materials give off significantly more smoke than in flame (Figure 2 below). Simply specifying low smoke cables to meet common

British, IEC standards than thinking this will provide a low smoke environment during a real fire, may give comfort to the specifiers and authorities but unfortunately in practice, it will be of little help for the people actually involved.

Material	Thickness	Maximum Specific Optical Density (DM) Non-Flaming	Flaming
Plastics;			
UPVC	3	400	580
Polyethylene & XLPE	3	590	83
Polypropylene	3	550	162
Polystyrene	3	476	960
Plasticised PVC	3	430	650

Figure 2

Edgerley P G and Pettit K "The Effect of Pyrolysis and Combustion Temperatures on Smoke Density. Fire and Materials" Vol 2 No 1 pp 11-17 1978.

Halogens, Toxicity, Oxygen Depletion, and Temperature Rise

It is concerning that the UK, Europe and today, many other countries too, adopt the concept of halogen-free materials without properly addressing the subject of toxicity. Halogens released during combustion are extremely toxic but so too is carbon monoxide and this is not a halogen gas. It is common for specifications to call for halogen-free cables and because of this, encourage the use of Polyethylene because it is halogen-free. Burning Polyethylene (which can be seen from Figure 1 above, has the highest MJ fuel load per Kg of all insulations) will generate almost 3 times more heat than an equivalent PVC cable. This means that burning Polyethylene will not only generate almost 3 times more heat but also consume almost 3 times more oxygen and can produce large amounts of Carbon Monoxide, especially with partial or incomplete burning. Given that it is carbon monoxide that is statistically responsible for most toxicity deaths in fires, this situation is at best alarming. (Carbon Monoxide is a colourless and odourless toxic gas which inhibits the blood haemoglobin from absorbing oxygen. Prolonged exposure results in asphyxiation).

The fuel elements shown in the table above (Figure 1) indicate the amount of heat that will be generated by burning 1kg of the common cable insulations. Certainly, this volume of heat will accelerate the burning of other adjacent materials and may help spread the fire in a

building but importantly, in order to generate the heat energy, oxygen needs to be consumed. The higher the heat of combustion (MJ/Kg), the more oxygen is needed, so by choosing insulations (even if Halogen-Free) with high fuel elements, it is adding significantly to at least four of the primary dangers of fire to humans: Temperature rise, Oxygen depletion, Toxic gas emission, and Flame spread.

Conclusion

The popularity of "Halogen-Free" properties while ignoring the other toxic elements of fire, and the correlation to smoke, heat, and oxygen-depletion is a clear admission that we do not yet understand the subject very well, nor can we easily define the dangers of combined toxic elements or human physiological response to them. It is important however that we do not continue to design with only 'half an understanding' of the problem. While no perfect solution may exist for organic-based electric cables, we can certainly minimise these critically important effects of fire risk with a more holistic understanding. To this end, commercially-available non-organic cable systems can provide a more holistic solution to the polymeric HFFR cable paradox.

Mr Richard Hosier has worked in the Electro-Technology industry throughout the Asia Pacific region for 36 years. During this time, he has specialised in Electrical Cables and Power Distribution, particularly in Essential Wiring Systems which enable Life Safety and Fire-Fighting equipment. He has undertaken significant research into the changing Built Environment and in moving the needs for increased security in the face of high-density populations in multi-purpose transportation, and also commercial and residential buildings. His extensive research and on-the-field findings point to the most urgent need for a critical review of existing Cable Test Standards and Building Regulations, as well as a stronger responsibility framework in "Fit for Purpose" Design and Engineering.



Mr Hosier's specialties are in Fire Safety of Electrical Cables and Essential Wiring System Design. He has published White Papers, Technical Articles and also authored two JI-CABLE Papers on the Fire Performance of Cables. He frequently lectures to authorities and designers on the subject of Electrical Cable and Wiring System Design throughout the Asia/Pacific, Europe & UK. He is a:

- Member - SECA (Singapore Electrical Contractors and Licensed Electrical Workers Association).
- Fellow - Institute of Company Directors Australia.
- Member - Fire Protection Association Australia.
- Winner of the UK Institute of Fire Protection Officers (IFPO) Technical Trophy Award in 2014.
- Guest Lecturer - Shanghai University of Science and Technology on irradiation in the W&C industry.

On behalf of the Australian Electrical and Electronics' Manufacturers Association, Mr Hosier has served on three Australian and New Zealand Standards Technical Committees for the development of Electric Cable and Fire Performance Standards, viz.:

- EL 1 Sub-Committee AS/NZS 3008.1 - Current - Ratings for Cables, up to 0.6/1KV
- EL 37 Committee AS/NZS 3013 - Classification for Fire and Mechanical Performance of Wiring Systems
- EL 3 Sub-Committee AS/NZS 4507 - Cables, Fire Performance

Mr Hosier graduated from the UNSW/Australian Graduate School for Management in General Manager Programme in 1996 and obtained a Brighton Tech. UK. Dip. EE in 1975. Since 2020, he is with Marmon Electrical Group as a Consultant for International Business for Asia-Pacific and the Middle-East. He can be reached at richard.hosier@marmonglobal.com

SINOVA Simply Efficient



Molded Case Circuit Breakers



Miniature Circuit Breakers



Air Circuit Breakers



Cap Duty Contactors



Definite Purpose Contactors

SENTRON Protection & Switching Devices



Residual Current Circuit Breakers



Power Monitoring Devices

A Comprehensive Portfolio of Low-Voltage & Medium-Voltage Products Featuring Siemens Trusted Quality

SCAN TO
FIND OUT
MORE



SIRIUS Industrial Controls



Contactors, Overload Relays & Motor Starter Protection



SIMOCODE



Soft Starters



Plug-in Relays



Safety Relays



Commanding & Signalling Devices

Medium-voltage Components



Vacuum Circuit Breakers



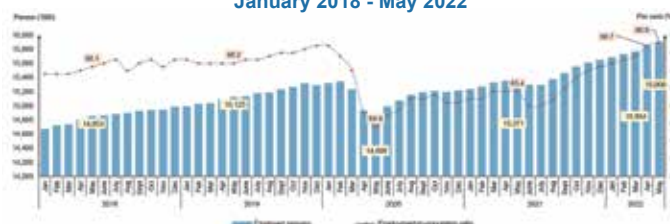
Vacuum Contactors

Malaysian Economic Statistics Review

Volume 7/2022: Labour Scenario

In line with the transition phase to endemic, Malaysia's economic situation improved, with all economic activities including activities prohibited from operating ('negative list') by Majlis Keselamatan Negara (National Security Council) continuing to operate during the month. Moreover, the COVID-19 situation remained under control with no significant increases in daily new cases, and low death rate was reported. Favourable economic activity during the month spurred demand for Goods and Services, thus creating more opportunities for businesses to recover their losses. In addition, the labour market was also expected to expand as more demand and supply of labour prevailed in the market to meet the growing demands of economic activities. Thus, the labour force situation remained resilient during the month with steady employment growth while unemployment continued to decline. The number of employed persons in May 2022 increased further by 46.5 thousand persons (+0.3%) to record 15.90 million persons (April 2022: 15.85 million persons). Similarly, the employment-to-population ratio that indicates the country's ability to create employment, rose 0.1 percentage points to 66.8 per cent as against 66.7 per cent in the previous month. By way of year-on-year comparison, the number of employed persons remained in an upward trend, with an increase of 3.4 per cent (+529.2 thousand persons), as compared to 15.37 million persons in May 2021. Accordingly, the employment-to-population ratio grew 1.4 percentage points (May 2021: 65.4%), as shown in Chart 19.

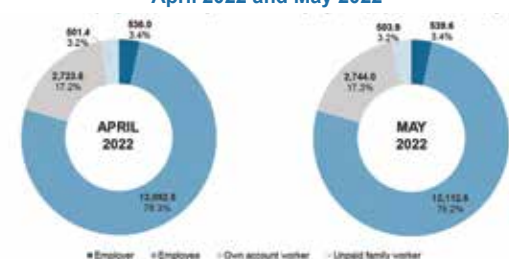
Chart 19: Employed Persons and Employment-to-Population Ratio, January 2018 - May 2022



Source: Department of Statistics, Malaysia

Further analysis by the Economic Sectors revealed that the Services Sector continued to record positive employment growth, particularly in activities of Wholesales & Retail Trade; Information & Communications; and the Food & Beverage Services. On the contrary, the number of employed persons for the Mining & Quarrying Sector remained on a declining trend while the Agriculture, Manufacturing and Construction Sectors persisted on a positive trend. By status in employment, the Employee's Category contributed to the largest composition of employed persons of 76.2 per cent, and increased 0.2 per cent (+20.1 thousand persons) to record 12.11 million persons as compared to the previous month (April 2022: 12.09 million persons). Meanwhile, the Own-Account Workers Category also improved with an addition of 20.4 thousand persons (0.7%) to record 2.74 million persons (April 2022: 2.72 million persons). This Category largely was due to the Daily Income Earners, working as Small Business Operators, such as Small Retailers; Hawkers/Sellers in Markets and Stalls; as well as Smallholders (Chart 20).

Chart 20: Employed Person by Status in Employment, April 2022 and May 2022



Source: Department of Statistics, Malaysia

In May 2022, the unemployment rate remained at 3.9 per cent while the number of unemployed persons dropped 1.8 per cent (-11.6 thousand persons) to record 637.7 thousand unemployed persons. Compared to May 2021, the unemployment rate decreased by 0.6 percentage points compared to 4.5 per cent in the same month a year earlier. Similarly, the number of unemployed persons was also on a declining trend for fourteen consecutive months, with a decline of 12.4 per cent or equivalent to 90.4 thousand persons (May 2021: 728.1 thousand persons) as depicted in Chart 21.

Chart 21: Unemployed Persons and Unemployment Rate, 1982 - 2021 and January 2020 - May 2022



Source: Department of Statistics, Malaysia

The majority (83.7%) of unemployed persons were those who were available and were actively seeking a job, or also known as Actively Unemployed. Among this Group, more than half (58.6%) were unemployed for less than three months while 6.9 per cent were those who had been in long-term unemployment for more than a year. Meanwhile, the number of the Inactively Unemployed or Discouraged Group who believed that there were no jobs available, decreased further by 2.5 per cent (-2.6 per thousand persons) to 103.8 thousand persons (April 2022: 106.4 thousand persons) as shown in Chart 22.

Chart 22: Unemployed Persons by Category and Duration of Unemployment, April 2022 and May 2022



Source: Department of Statistics, Malaysia

During the month, the number of labour force posted a month-on-month increase of 0.2 per cent (+35.0 thousand persons) to register 16.54 million persons (April 2022: 16.50 million persons). Subsequently, the Labour Force Participation Rate (LFPR) rose marginally to 69.5 per cent (April 2022: 69.4%). When comparing with the same month of the previous year, the number of labour force improved 2.7 per cent to record 438.9 thousand persons (May 2021: 16.10 million persons). Hence, the LFPR increased by 1.0 percentage points as compared to 68.5 per cent in May 2021 (Chart 23).

Chart 23: Labour Force and LFPR, 1982 - 2021 and January 2020 - May 2022



Source: Department of Statistics, Malaysia



Founded in Spain in 1958

General Purpose Drives

0.75 to 850 KW range

FEATURES

- High performance
- Improved energy savings
- Multi-function
- Easy to use
- Longer lifespan

APPLICATIONS

- Pump
- Fan
- Conveyor
- Machine Tool
- Roller



DESEA SDN BHD (566667-U)

Level 19, Tower B, Plaza 33, No.1, Jalan Kemajuan, Seksyen 13, 46200 Petaling Jaya, Selangor, Malaysia
TEL: (603) 7883 6133 FAX: (603) 7883 6188

www.himel.com



Online Content

MATRADE ETA Grants

Beginning 2022, MATRADE had introduced the Empowering Trade Association (ETA) Grants aimed at driving the export agenda and to intensify collaboration between the private and public sectors, especially in enhancing the export eco-system.

The Government acknowledges the contributions of Trade Associations and their important roles as the communication channel between Government and private sectors in strengthening relationship, collaboration and trade development. Trade Associations are the main driver in promoting exports among their members. Through the MATRADE ETA Grants, promotions of the high-tech, high-value and sustainable sectors will be intensified to enable more Malaysian companies to participate in the global value chain, apart from exploring new markets. The vast networks between Trade Associations in Malaysia and abroad will also increase bi-lateral or regional relations between Malaysia and partner countries.

TEEAM applied for the ETA Grants and was successful in securing the Grants to participate in three international exhibitions, namely:

- Electric & Power Vietnam 2022 (7 to 9 September 2022),
- Electric & Power Indonesia 2022 (14 to 17 September 2022), and
- 3E XPO 2022 Philippines (10 to 12 November 2022).

TEEAM is delighted that the Association had been entrusted by MATRADE to host three Malaysia Pavilions in the above-mentioned international exhibitions. TEEAM members are highly encouraged to pro-actively participate in these subsidised exhibitions and benefit from them.

Subsequently, MATRADE's E&E, ICT and M&E Team held a brief Virtual Meeting with TEEAM to get an update on the progress of the three programmes and to enlighten TEEAM on the claim procedure and also the assistance from MATRADE to enhance the missions. MATRADE also highlighted the sales KPI expectations from the participating members.

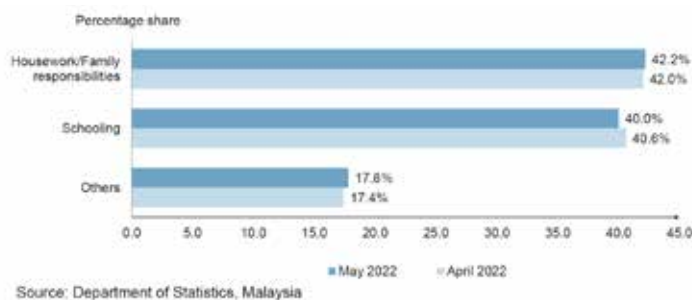
TEEAM wishes to record its sincere appreciation and heartfelt thanks to MATRADE for the great support extended to the Association.



..... Continue Malaysian Economic Statistics Review Volume 7/2022: Labour Scenario

The number of persons outside of the labour force in May 2022 remained on a downward trend for ten consecutive months with a reduction of 10.1 thousand persons (-0.1%), to record 7.26 million persons as compared to 7.27 million persons in April 2022. Housework/Family Responsibilities was the main reason for outside labour force, contributing a share of 42.2 per cent, followed by the Schooling/Training Category of 40.0 per cent (Chart 24).

Chart 24: Share of the Outside Labour Force by Reasons for Not Seeking Work, April 2022 and May 2022



The market crisis of rising commodity prices has an indirect impact on Malaysia's economic development. Rising prices of goods will lead to inflation which will affect the country's economic recovery. In addition, China's Zero-COVID Policy has caused shortages and delays in the supply of materials, thus affecting the global market, especially in the

Manufacturing Sector. However, the operation of all Economic Sectors and Social Activities is observed as a contributing factor to the increase in demand for labour. In addition, the influx of foreign labour into the country to address labour shortages in certain industries is also foreseen as a positive element in ensuring that the labour market remains stable albeit at the expense of increased competition and a tight labour market. As a result, the labour market is anticipated to be in a positive recovery momentum in the upcoming months, despite the impending effects of global inflationary pressure.

The full publication of MESR Volume 7/2022 can be downloaded from the DOSM Website at www.dosm.gov.my

Acknowledgment

Source: MESR Volume 7/2022, published by the Department of Statistics, Malaysia (DOSM).

Department of Statistics, Malaysia

Block C6, Complex C,
Federal Government Administrative Centre,
62514 Putrajaya, MALAYSIA

Tel. : +603-8885 7000 Fax : +603-8888 9248

Portal : <http://www.dosm.gov.my>

Facebook : www.facebook.com/StatsMalaysia

Twitter : <http://twitter.com/StatsMalaysia>

Instagram : <http://instagram.com/StatsMalaysia>

State Associations News

Johor Bahru Electrical & Electronics Association

No.7-01, Jalan Bentara Luar, Taman Iskandar,
80050 Johor Bahru, Johor Darul Takzim.

Tel: +607 - 333 8174 Fax: +607 - 224 1923

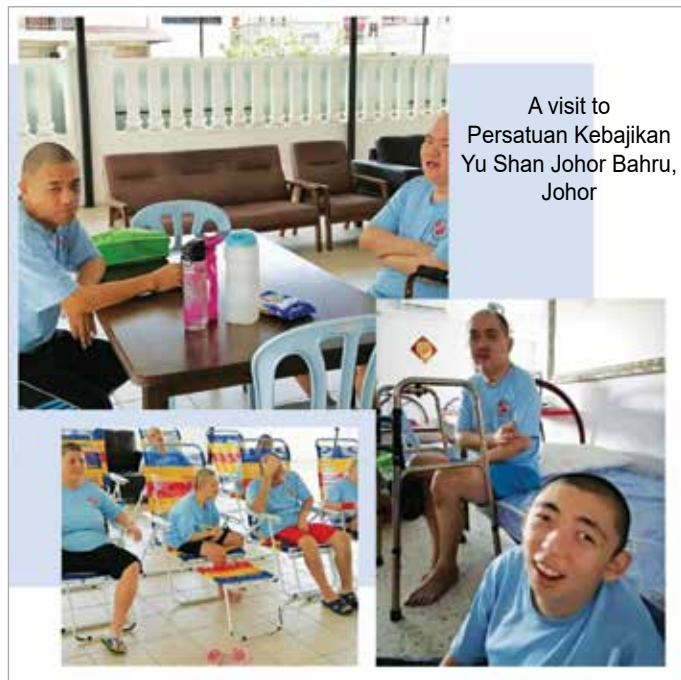
E-mail: info@jbeea.com.my

Website: www.jbeea.com.my



CSR Activity

Persatuan Kebajikan Yu Shan Johor Bahru, is a private welfare home for people who are Orang Kurang Upaya - OKU (Under-privileged) and need special care. To operate and sustain such places definitely requires funds coming in on a regular basis. However, of late, it was brought to one of JBEEA Committee Member's attention that the Centre was short of funds, and that it was advertised to the public. The Johor Bahru Electrical and Electronics Association (JBEEA) pro-actively made a brief visit sometime at the end of May 2022, donated a sum of RM1,000.00 and presented some food aids to them. For those who would like to make a contribution to help the welfare home, you may contribute to Persatuan Kebajikan Yu Shan Johor Bahru, Johor, Ambank Account No. 8881028994386 or RHB Account No. 20114700068052.



Technical Seminar

A Technical Seminar was held on 16 June 2022 at Renaissance Johor Bahru Hotel. The Seminar was organised by CHINT Global and Alpha Automation (Selangor) Sdn Bhd and co-organised by Johor Bahru Electrical and Electronics Association. The aim of the seminar was to introduce the latest innovative energy solutions, technical skills and industry updates. There were more than a hundred participants who are contractors, consultants, developers, suppliers, manufacturers, M&E maintenance staff, technical sales personnel and others. Participants were accredited with IEM-CPD Hours and CIDB-CCD Points.



CHINT's Electrical Solutions & Technical Seminar 2022

CHINT Global and Alpha Automation (Selangor) Sdn. Bhd. would like to invite you to join us at "CHINT's Electrical Solutions and Technical Seminar 2022".

Touring different states in Malaysia, we bring you the latest innovative energy solutions, technical skills, and industry updates. Hear from our experienced professionals in the industry to disclose first-hand knowledge required to enhance work efficiencies and valuable solutions that will inspire you.

Register now and save the date!

DATE: 16 June 2022
TIME: 08:30am to 04:30pm
VENUE: Renaissance Johor Bharu, Johor

JOIN US & WIN Lucky Draw!

REGISTER NOW

IEM-CPD 5 CPD Hours! **CIDB-CCD Pending Approval**

ALPHA AUTOMATION (SELANGOR) SDN BHD
 Tel: +603 5555 5555 Fax: +603 5555 5555 Email: info@alphaautomation.com
 1, Jalan Perindustrian 1, Kawasan Perindustrian, Seremban, 70300 Seremban, Selangor

ALPHACHINT

THE PROGRAMMES

0830 Registration | Light Breakfast
 0900 Welcome Speech
 Mr. Steven Lim Hwee Teoh
 Jointed Bodies Knowledge and Electronics Association
 Mr. Tay Xiang Lian
 Executive Director, Alpha Automation (Selangor) Sdn. Bhd.
 0910 Introduction
 Mr. Tan Jiat Heng
 Head, Sales Manager, Alpha Automation (Selangor) Sdn. Bhd.
 0930 TOPIC 1
 Challenge the Standard Specification of REC 62271 to Be Better & Low Cost Learning
 Technical Director & Ambassador of CHINT Global - Singapore Singapore in REC 62271 - REC System of Conditions Assessment Schemes
 LUCKY DRAW
 1030 Lunch Break
 1045 TOPIC 2
 MV & HV | How to Minimise ENVIRONMENT & COST Impact in Your Projects?
 Mr. Jeyo See
 Director of A&A, CHINT Global
 LUCKY DRAW
 1145 TOPIC 3
 AFDD | Why is Arc Flash Protection a Must?
 Mr. Jeyo See
 Technical Engineer, CHINT Global
 LUCKY DRAW
 1230 Lunch Break
 1400 TOPIC 4
 Solar Photovoltaic (PV) System & EV Charging Solutions
 Mr. Lee Kian Boon
 Project Manager, Alpha Automation (Selangor) Sdn. Bhd.
 LUCKY DRAW
 1500 Coffee Break
 1515 TOPIC 5
 State-of-the-art Power Factor Correction & Power Quality Solutions
 Mr. Lukman Mohd
 Director, Product Marketing PFC & PQS, TCM Electronics (M)
 1545 TOPIC 6
 Product Range, Application & Selection of Power Quality Solutions
 Mr. Auli Sachin Kumar
 Manager, Product Marketing PFC & PQS, TCM Electronics (M)
 LUCKY DRAW (GRAND PRIZE)
 1630 Seminar Ends



Sabah Electrical Association
Lot No. 3-3-R, Beverly Hills Plaza,
Jalan Bundusan, 88300 Kota Kinabalu, Sabah.
Tel: +6088 - 712 358 Fax: +6088 - 717 358
E-mail: pes233sabah@gmail.
Website: www.pes-sabah.org

CNY Visit from SESB

On 18 January 2022, a delegation from Sabah Electricity Sdn Bhd (SESB) paid a visit to Sabah Electrical Association (PES), and handed over a Chinese New Year Basket to them. The objective of the visit was to re-connect the relationship of both parties after the long pause due to the country's Movement Control Orders (MCOs). Besides that, SESB also introduced their newly-launched "mySESB" mobile apps for end-users to manage their own electricity usage, and SESB would also like to have more collaboration with PES in times to come.

PES Vice President I, Mr Aldrin Wong, was present to receive the delegation from SESB. He mentioned that there would be a Courtesy Visit to SESB soon in line with what was being planned by PES after the new Office-Bearers were inducted.



Visit to IKMKK for the Safety Month Programme 2022

PES paid a visit to Institut Kemahiran MARA Kota Kinabalu (IKMKK) on 5 July 2022. The main aim of the visit was to discuss in detail regarding the Safety Month Programme which was organised by IKMKK. The PES Delegation comprised President, Mr Lawrence Yapp; Vice President, Mr Aldrin Wong; PES Office Secretary, Ms Marcyella and Ms Noor from Demi Cerah Construction Sdn Bhd. They were warmly received by IKMKK's Director, Puan Nazahiyah Mat Isa together with Deputy Director (KPHP), Mr Lazarus Alip; Deputy Director (HEA), Mr Zaki Mohamad; Occupational Health & Safety Co-ordinator, Mr Haji Dimyati; Head of the Electrical Programme, Mr Sabaruddin and IKMKK's fellow staffs.

Since it was the first meet-up, both parties took the opportunity to introduce briefly the objectives and directions of their respective Institution and PES as an Association. The discussion was carried on with the topic of students' internship and the collaboration with PES to assist the electrical students on their internship, through members of PES. They also discussed organising Training Sessions with Suruhanjaya Tenaga (Energy Commission) and seeking ST's endorsement for Chargemen A0 & A1 and Wiremen PW4 Certifications.



PES 25th AGM and Election 2022

PES 25th Annual General Meeting (AGM) was successfully held on 25 June 2022 at PES premises in Kota Kinabalu. During the AGM, the election of new Office-Bearers for the term 2022-2023 took place, with many new faces joining the line-up. The Election results for the new term were as follows: -

PES Office-Bearers for the Term 2022-2023

President	Lawrence Yapp Kong Fen
Vice President I (President Elect)	Aldrin Wong Fung Lyong
Vice Presidents II	Clarence Chong Pow Onn
Secretary	Ho Shi Yin
Assistant Secretary	Roslan Serin
Treasurer	Ir. Alexander Richard
Assistant Treasurer	Lai Tet Vui
Committee Members:	Chin Fui Ming, Foong June Choy, Fo Ying Foh, Ir. Albert Chia Ket Shin, Shah Freed Datuk Awang Sham William Hew Wai Lam, Yong Yee Sun and Chia Cheng Hui

The ceremony of handing over office from Mr Leslie Jong to the new President, Mr Lawrence Yapp, was represented by PES Vice President I, Mr Aldrin Wong.

TEEAM wishes a warm welcome and congratulations to the newly-elected PES Office-Bearers for the year 2022-2023.



H₂b

ANALYTICAL SERVICES
SDN BHD



Transformer and Tap Changer Oil Testing Laboratory

Reliability

50 years of experience in testing and diagnosing transformer and tap changer.

Test reports include Condition Codes with comments and recommendations based on IEEE, IEC, ASTM standards, and relevant limits where appropriate.

Accreditation & Certification

ISO 17025:2017
ISO 9001:2015
ISO 14001:2015
ISO 45001:2018

Research and Development

Continuous Research and Development focused on electrical equipment and insulating systems.

Value Added Service

Consultant provides general discussion and assistance in interpretation of reports.

Provides technical updates and training seminars.

Analytics You Rely On

TJH2B Analytical Services Sdn. Bhd. (823336-T)

16, Jalan Industri USJ 1/6,
Taman Perindustrian USJ 1,
47600 Subang Jaya, Selangor.

Tel: +603 8023 6408 / 6409
Email: sales@tjh2b.com.my
Website: www.tjh2b.com.my



Sarawak Electrical Association

2nd Floor, Lot 412, Lorong 11D,
Off Jalan Ang Cheng Ho, 93450 Kuching, Sarawak.
Tel: + 6019 - 886 5846 Fax : + 6082 - 45 1234
P.O. Box 16 , 93700 Kuching, Sarawak.
Email : sarawakelectrical@gmail.com

SEA Annual General Meeting 2022

The Sarawak Electrical Association (SEA) held its 2022 Annual General Meeting (AGM) on 27 March 2022 at SEA premises in Kuching, Sarawak. During the AGM, SEA Chairman, Kapitan Francis Chew, raised a few issues where SEA Contractors and the Consumers were facing problems on connection of Electricity Supply since the last two years during the COVID-19 pandemic and MCOs' period. These issues were subsequently highlighted by the Media, whereby Sarawak Energy immediately arranged for an Engagement Session with SEA.

SEA-Sarawak Energy Engagement Session 2022

On 31 March 2022, Sarawak Energy paid a Courtesy Visit to SEA for an Engagement Session. SEA voiced its members' issues, and they looked forward to a close working relationship with Sarawak Energy. It was a very fruitful engagement for both parties. At the end of the highly beneficial Session, Ms Christina Lai (Sarawak Energy's Customer Care Manager) presented a Souvenir to Kapitan Francis Chew (SEA Chairman).



Meeting with EIU on Guidelines for Electric Meter Cabinet

A meeting was hosted by the Sarawak Electrical Inspectorate Unit (EIU) at the Meeting Room, Level 8, LCDA Tower, Ministry of Utility and Telecommunications, Sarawak on 30 June 2022. Mr Syed Mohamad Fauzi Shahab, Director of Electricity Supply Sarawak, chaired the meeting and gave an Opening Remark whilst Mr Mollie Anak Urai of EIU gave a presentation.

The Guidelines for Electric Meter Cabinet were presented by Mr Selamat Wong of Sarawak Energy.

The SEA Delegation comprised the Chairman, Kapitan Francis Chew; Vice Chairman, Dato' Sri Ir. Peter Lu; Secretary, Mr Sim Meng Chung and Member, Dr. Jye Lu. The Chairman of ACEM Sarawak Branch, Ir. Wong Leong Teck, was also present.

The Guidelines for Electric Meter Cabinet Requirements were discussed, finalised and all parties cordially agreed to set the effective date for implementation.



e-Customer Experience (eCX) implementation by Sarawak Energy

Sarawak Energy has introduced an e-filling "paperless" application for electricity supply. Electrical Installation Contractors are thus responsible and have to strictly comply with all Regulations or Circulars set by Sarawak Energy.

Sarawak Energy conducted an eCX Training on 6 July 2022 at Wisma SESCO, Kuching. The turnout was overwhelming. SEA Chairman, Kapitan Francis Chew, together with some 50 Contractors, attended the eCX Training. As a beginning step, Sarawak Energy's eCX e-filling initiative is being introduced in Kuching City, whereby it will then be implemented in other Divisions by the end of this year.



The Perak Electrical Association

No. 12-A, Jalan Datuk Mahmud,
31650 Ipoh, Perak Darul Ridzuan.
Tel: +605 - 254 1502 Fax: +605 - 250 9145
E-mail: peaipoh@gmail.com

PEA Annual General Meeting 2022

The Perak Electrical Association (PEA) held its Annual General Meeting (AGM) on 20 March 2022 at the PEA premises in Ipoh. There was an election of new Office-Bearers for the year 2022-2023. Mr Wan Kam Weng was re-elected as the President for another term.



PEA Office-Bearers for the Term 2022-2023

President	Wan Kam Weng
Deputy President	Kong Wan Fook
Vice Presidents	Wong Ngen Wah Cheah Koon Yeong Au Wai Yeen Wong Kok Mun
Secretary	Chong Kwong Yuen
Vice Secretary	Chun Chung Heng
Treasurer	Lau Sin Leong
Vice Treasurer	Lai Koon Loy
Correspondence (Chinese)	Ngeow Khong Seng
Correspondence (English)	Cheah Kong Yew AMP
Correspondence (Bahasa Malaysia)	Low Chi Men
Social Secretaries	Tiew Kah Wei Ngoi Ah Tee
Welfare Officers	Fook Chee Ming Chin Hoo Keat
Information & Technology	Ong Kean Seng Hew Tai Seac Hong Meow Keong
Committee Members	Hoo Xin Kai Ng Yew Cho Foo Ken-Khuan Wong Seng Yin Low Kam Yoong Kan Kok Meng Lee Khar Seng Law Kah Ching Jerry Poon Nik Zen

METALTECH & AUTOMEX 2022

The 2022 Edition of METALTECH & AUTOMEX took place from 22 to 25 June 2022 at the Malaysia International Trade and Exhibition Centre (MITEC), Kuala Lumpur. TEEAM was one of the strong Supporting Organisations. For 26 years, METALTECH & AUTOMEX has faithfully pioneered the growth of the Metalworking, Machinery plus the Robotics and Automation Industries in Malaysia. It is the first dedicated business event to represents the various sectors of the Manufacturing Industry including Electrical & Electronics, Automotive, Aviation, Food & Beverages, Plastics & Rubbers, Pharmaceuticals and Medical Technology.

The Opening of METALTECH & AUTOMEX 2022 was officiated by the Guests of Honour, The Honourable Senator Datuk Lim Ban Hong, Deputy Minister of International Trade and Industry. Invited guests from TEEAM's contingent were Mr Siew Choon Thye (President), Ir. Chang Yew Cheong (Deputy President), Mr Chris Yow (Assistant



Ribbon-Cutting Ceremony by the VIPs.

Honorary Treasurer), Mr Choo Wei Seng (Council Member and Safety & Compliance Chairman), Mr Suresh Kumar Gorasia (Past President) and Ms Winnie Khong (Executive Secretary). They were present to show TEEAM's strong support. Other strong delegation visits were from MEIF, MEMA, SAMENTA, MATA, MSTMA and MAIA. The participating TEEAM members were from Harvest Engineering, KVC Industrial, Mal-Autonics, Power Solutions and Total Metering.

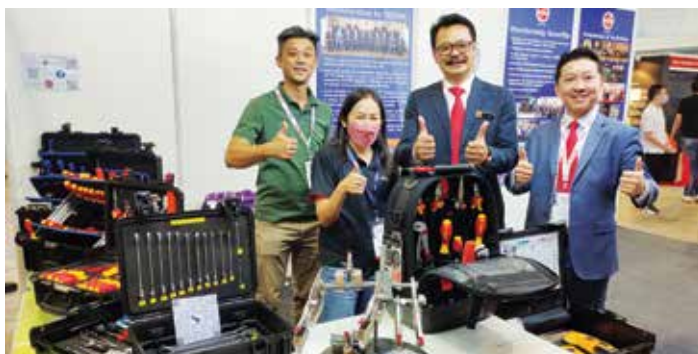


The Honourable Senator Datuk Lim Ban Hong, Deputy Minister of International Trade and Industry delivering his Keynote Address at the Opening on 23 June 2022.

Snapshots at METALTECH & AUTOMEX 2022



Snapshots at METALTECH & AUTOMEX 2022



..... Continue State Associations News

Swearing-In Ceremony of PEA New Office-Bearers

The Swearing-In Ceremony of PEA Office-Bearers for the New Term 2022-2023 was held at the HLT Seafood Restaurant. The oath-taking event was held under the witness of PEA Honorary Presidents and Advisors on 17 April 2022.



Other State Association Members' contacts:



Electrical Association of Sarawak & Sabah

No. 2A/F, 2nd Floor, Hardin Road, 96000 Sibul, Sarawak.
Tel: +6084-319 949 Fax: +6084-325 112, 346 114
E-mail: sibuccci@gmail.com



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



Penang Electrical Merchants' Association

No. 171A, Malacca Street, 10400 Penang.
Tel: +604 - 229 0195 Fax: +604 - 228 4233
E-mail: pema_pg@yahoo.com Website: www.pema.org.my



Persatuan Kekompeteran Penjaga Jentera & Pendawai Elektrik Perak (PKPPE)

13B, Medan Bendahara 2, Medan Bendahara,
31650 Ipoh, Perak
Email: pkppe.2001@gmail.com



Facebook

Sandakan Electrical Engineering Association, Sabah

Block B-2, Lot No. 25, Bandar Utama,
Batu 6, Jalan Utara, 90000 Sandakan, Sabah.
Tel: +6089 - 666 963 Fax: +6089 - 669 936
E-mail: seschin@hotmail.com



Accessories



Connector, Multi Range Line Tap, Phase Distribution Block.

Protector Trip Relays.



What Does 2022 Hold for Malaysia's Renewable Energy Scene?

Ko Chuan Zhen

As COVID-19 continues to slowly become part of the next normal for industry leaders, the shifting economic landscape has businesses focused on bouncing back and strengthening competitive advantage.

With the sustainability commitments made in the 26th UN Climate Change Conference of the Parties (COP26) [1], many nations such as USA, Australia and Europe have pledged to achieve net-zero carbon emissions by 2050, which is also echoed by us here in Malaysia, to be carbon neutral as early as 2050. To accelerate the commitment, Renewable Energy has been widely adopted by nations worldwide with output from wind and Solar Photovoltaic (PV), which had increased by 270TWh and 170 TWh [2] respectively, according to the International Energy Agency (IEA).

Even with the acceleration of renewable electricity, there are still major events that play a role in shaping its growth such as the on-going global energy shortage, [3] environmental crisis, [4] rising raw renewable energy material costs [5], and locally in Malaysia, a clear Green Agenda [6] and Sustainability target of 31% of Renewable Energy (RE) in installed capacity by 2025.

Malaysia Emerges From the Global Energy Crisis Foresight of Effective Regulators

The world is currently in the throes of an energy crisis, with gas shortages in Europe and coal shortage pressures in China and India amid high demand, which has sent utility prices surging [7].

With this ongoing energy crisis, Malaysians will likely emerge with little to no minimal impact, thanks to the Government's decision [8] to cap prices and subsidise the difference through the current Electricity Tariff Structure. The Government has also announced that it will revise the electricity tariff from 2022-2024 [9] to ease the financial burdens of Malaysians. As for building owners, energy bills have experienced an increase due to the revised Imbalance Cost Pass-Through (ICPT), increasing the need for more sustainable energy solutions, making clean energy a scalable option and a way to advance their Environmental, Social and Governance (ESG) journey.

In our view, this crisis is a clear sign of the world's urgent need for further energy solutions. Moreover, as our country's tariff system has proven resilient, we feel that the best way to meet carbon-neutral goals is through renewable energy penetration, given its cost competitiveness.

RE: Momentum Kept Thanks to Government-Led Initiatives

A Rystad Energy Analysis [10] showed that the surging cost of manufacturing materials and shipping could threaten 56% of the 90GW of global utility solar developments planned for 2022.

Though concerning, we believe Malaysia will keep its momentum in renewable energy projects, with the 12th Malaysia Plan and Budget 2022 championing sustainability, come this year.

Firstly, the 12MP had announced carbon tax credits, [11] which will tax companies burning fossil fuels by volume or weight of emissions from anywhere in their supply chain. With its soon-coming implementation, businesses should leverage this opportunity to avoid potential penalties.

Besides that, the national Stock Exchange institution, Bursa Malaysia, had announced its goal to be carbon-neutral by 2022 [12]. We foresee that companies will be more inclined towards clean energy, which will increase their competitive advantage at more competitive pricing.

In COP-26 involved countries such as Malaysia, corporations have committed to lowering their carbon emissions, sourcing sustainable raw materials with low to no impact on carbon emissions, in order to enhance competitiveness and cost structure.



Solar Photovoltaic (PV) rooftop setups for businesses and homes.

Additionally, on-going Government policies such as the Net Energy Metering (NEM) scheme [13] continue to spur solar adoption by allowing for electricity bill rebates with solar setups in residential, business and Government sectors, leading to attractive ROI offers.

The scheme's quota allocation to businesses, i.e., the NEM Net Offset Virtual Aggregation (NOVA), has proved popular, being quickly over-subscribed [14] a few short months after its announcement. This same allocation was given an extension, made available in November 2021, which already has an uptake of over 40%.

Businesses that have already adopted such sustainability practices are sure to benefit from this move, with the recent increase in their TNB bills coupled with their energy-intensive manufacturing processes, and this will strengthen their ESG journey.

The Rising Demand of Affordable Solar for Malaysian Households

Despite the solar PV material price hike [15] reported by Rystad for 2022, in the long term, solar systems have seen an 85% cost decline over the past decade [16]. They remain the most cost-competitive energy resource in the market.

Surge Protection Devices



Model-DV M TT



**5 YEARS
WARRANTY**

**Protection against lightning
current amplitude 200 kA (10/350 μ s)**



Section of DEHNventil[®]
spark gap

- **Combine Type I & II** - encapsulated (non-exhausting) triggered spark - gap technology
- Extremely low voltage protection level (U_p) ≤ 1.5 kV for terminal equipment
- Type tested for Easy Coordination to equipment Type 1 + Type 2 + Type 3 (≤ 5 m)
- High short - circuit current withstand capability (I_{SCCR}) of 50 kA_{rms} to 100 kA_{rms}
- Type tested by **KEMA** to the latest IEC61643 -1/-11

Power Factor Capacitor



**5 YEARS
WARRANTY**

**Impregnated with a dielectric fluid,
non hazardous, bio-degradable vegetable oil.**

- Higher partial discharge appearance level (Added Insulation)
- Excellent corona protection
- Higher dielectric resistance to transient current & voltage
- A greater gas absorption capacity
- A moisture barrier
- Low thermal resistance to overcome HIGH loads

TUV certified to IEC60831-1 & -2

**Protection Against Case Rupture Even Without
Series Reactor in HIGH HARMONIC distortion conditions
Proven "Long Life Expectancy" Projects > 10Years**

Epson Toyocom, Taiyo Uden, Penfibre, Hospital Besar, New Strait Time, Telekom Exchange, NSCC, Compound, Mid-Valley, Jaya Jusco, Western Digital, P.U.B. Johor River, Mines Mall, Kaneka, Maltrad, Sirim, UiTM, Mimos, Ajinomoto, SamLing Plywood Factory, Wisma UOA, Lot 10, etc.



Model-RG2
(1.5mm T Steel Case)



Wise Pro Sdn Bhd 199601008707
(NO.381055P)

No.8, Pusat Teknologi Sinar Meranti, Jalan IMP 1/3, Taman Industri Meranti Perdana, 47120 Puchong, Selangor
Tel : +603-8066 6491/6492/6493 Fax : +603-8052 6649 (Sales) Mobile No. +6017 - 492 1474, +6012 - 543 5515

E-mail : info@wiseprocorsa.com.my

www.wiseprocorsa.com.my

As this trend continues, the solar industry will likely boost efforts to explore new configurations and business models. We feel that 2022 could see the industry expanding to new, residential markets. With an untapped rooftop potential of over 3 million landed houses,[17] the potential for adoption is certainly great in Malaysia.

However, the consumers' main barrier to adoption is financing, followed by low awareness of existing Government initiatives, as residential solar uptake has been markedly lower than in businesses [18]. A rent-to-own scheme[19] was introduced to make solar affordable to Malaysia's home owners without upfront cash or bank loans, enabling them to gain up to 90% monthly bill savings [20].

The Increase of Signed Corporate Solar Power Purchase Agreements (PPAs)

Although clean energy is an ideal for corporate organisations to achieve net-zero, there are many questions about its cost and accessibility, signalling the need for more flexible clean energy financing solutions. One financing solution in particular, a Power Purchase Agreement (PPA), i.e., a solar lease-to-own solar financing solution, [21] has been adopted by widely-known corporations such as Facebook, [22] AT&T [23] and others.

Through it, businesses would not need to pay any upfront investment, zero Capital Expenditure (CAPEX), and gain recurring and reduced electricity tariffs at no upfront CAPEX over a lease-to-own tenure. Aimed at optimising cash-flow, building owners can enjoy lower electricity tariff rates, saving on their monthly TNB bills.

Pro-active Government Measures for Sustainability in Malaysia & To Battle Global Climate Crisis

Malaysia pushes on with its energy transition, with existing Government initiatives and new commitments, made in the face of a global energy crisis, rising manufacturing costs, and mounting pressure from an environmental crisis.

Given this momentum, we see solar and renewables joining mainstream conversations. Still, we feel that our pace of expansion should be speeded up, as it is presently seen to be recorded at a rate that is too slow to stop climate change anytime soon [24]. According to the IEA, the amount of renewable capacity (global) from 2021-2026, is expected to be 50% higher from the past five years, thanks to stronger support from Government policies and more ambitious clean energy goals announced before and during COP26. However, even with the rapid growth of RE, faster deployment of renewable energy across key sectors is needed to reach net-zero, calling for not just quicker actions in RE but for us to forge stronger collaborations between the public sector and private sector, in order to accelerate our climate contributions.

As stakeholders of the planet's future, there is an urgent need for us as a nation to fast-track our sustainable efforts in order to battle climate change, especially in fast-growing economies such as that of Malaysia.



This article is contributed by **Mr Ko Chuan Zhen**,
Group CEO & Co-Founder of Plus Xnergy.
He can be reached at hello.pvh@plusxnergy.com

References

- [1] <https://ukcop26.org/>
- [2] <https://www.iea.org/news/global-co2-emissions-rebounded-to-their-highest-level-in-history-in-2021>
- [3] <https://asia.nikkei.com/Opinion/World-needs-a-long-term-plan-to-avoid-repeat-energy-crises>
- [4] <https://theconversation.com/cop26-left-the-world-with-a-climate-to-do-list-here-are-5-things-to-watch-for-in-2022-172024>
- [5] <https://oilprice.com/Latest-Energy-News/World-News/Major-Cost-Increase-Threatens-Solar-Power-In-2022.html>
- [6] <https://www.mof.gov.my/en/news/press-citations/budget-2022-highlights-summary>
- [7] <https://www.cnbc.com/2021/11/04/gap-between-renewable-energy-and-power-demand-oil-gas-coal.html>
- [8] <https://www.energywatch.com.my/blog/2021/11/08/malaysia-stands-strong-amid-a-global-energy-crisis/>
- [9] <https://www.nst.com.my/news/nation/2022/01/761563/government-will-revise-electricity-tariff-year-2022-2024-reduce-peoples>
- [10] <https://www.rystadenergy.com/newsevents/news/press-releases/most-of-2022s-solar-PV-projects-risk-delay-or-cancellation-due-to-soaring-material-and-shipping-costs/>
- [11] <https://www.theedgemarkets.com/article/mysay-carbon-pricing-and-its-future-malaysia>
- [12] <https://www.thestar.com.my/business/business-news/2021/09/23/bursa-malaysia-aims-to-be-carbon-neutral-by-2022>
- [13] <http://www.seda.gov.my/reportal/nem/>
- [14] <http://www.seda.gov.my/reportal/nem/>
- [15] <https://oilprice.com/Latest-Energy-News/World-News/Major-Cost-Increase-Threatens-Solar-Power-In-2022.html>
- [16] <https://www.iea.org/data-and-statistics/charts/evolution-of-solar-pv-module-cost-by-data-source-1970-2020>
- [17] <https://www.theedgemarkets.com/article/special-report-reform-fast-becoming-only-choice>
- [18] <http://www.seda.gov.my/reportal/nem/#1612232945366-24058b5f-0be6>
- [19] <https://www.plusxnergy.com/solutions/energy-generation/solar-for-home/>
- [20] <https://www.plusxnergy.com/solutions/energy-generation/solar-for-home/>
- [21] <https://www.plusxnergy.com/what-is-solar-ppa-and-why-does-your-business-need-it/>
- [22] <https://pv-magazine-usa.com/2021/10/25/facebook-signs-ppa-for-160-mw-of-solar-in-virginia/>
- [23] <https://www.pv-tech.org/att-signs-virtual-power-purchase-agreements-for-155mw-of-us-solar/>
- [24] <https://www.eurasiareview.com/17102021-expansion-of-wind-and-solar-power-too-slow-to-stop-climate-change/>



SUARA TEEAM 2022

Successful targeting of your services or products will improve your business and company's image. "Suara TEEAM" is the official information news medium for our members, consultants, Government departments, trade missions, embassies, plus local and foreign electrical and electronics associations. Therefore, targeting the right market with your company's advertisements often means the difference between better profits versus losses.

Our attractive advertisement rates are an economical way for your company to promote your products or services, targeted to a specific

market. For added value to our Advertisers, the Suara TEEAM newsletter is also posted in the TEEAM website and social media after publication, and e-copy is also circulated.

For advertising enquiries, please contact:

TEEAM Secretariat
E-mail: thila@teeam.org.my





旺盛电器电子有限公司 (627660-W)

SB ELEKTRIK & ELEKTRONIK SDN BHD

No. 48, Jalan BRP 1/2, Bukit Rahman Putra, 47000 Sungai Buloh, Selangor, MALAYSIA.
Tel: 03-6140 3792 (HL) Fax: 03-6140 1984 E-mail: sbelektrik48@yahoo.com



Ceiling Fan



Ceiling Fan



Ceiling Fan with LED



16" Wall Fan



Shower Heater



Wall Exhaust Fan



LED Street Light



LED Highbay Light



LED Panel Light



LED Surface Downlight



Solar Panel LED Flood Light



LED Flood Light



Stainless Steel Jug Kettle



PP Jug Kettle



Rice Cooker



Blender with Grinder



Insect Killer



D8 Series T-Adaptor

Schneider Electric

Sino

MEGA KABEL

KDK

SB ELECTRICAL

CHINT LEDVANCE

SIEMENS DEKA



BRANCH:

1

SB ONE ELECTRICAL SDN BHD (1199139-M)
No. 48A, Jalan BRP 1/2, Bukit Rahman Putra,
47000 Sungai Buloh, Selangor, MALAYSIA.
Tel: 03-6140 3792 (HL) Fax: 03-6140 1984
E-mail: sb1eletrical68@gmail.com

2

SB TWO ELECTRICAL SDN BHD (1217570-V)
Lot 2140D, Jalan Welfare, Kg. Baru Sg. Buloh,
47000 Sungai Buloh, Selangor, MALAYSIA.
Tel: 03-6156 6898 Fax: 03-6157 6898
E-mail: sb2eletrical@gmail.com

3

SB THREE ELECTRICAL SDN BHD (1240533-H)
No. 21, Jln. Bulan U5/170, Bdr. Pinggiran Subang,
40150 Shah Alam, Selangor, MALAYSIA.
Tel: 03-7831 2332 Fax: 03-7845 9933
E-mail: sb3adm.eletrical@gmail.com

4

SB FOUR ELEKTRIK & HARDWARE SDN BHD
(1430082-V)
7, Jalan Teknologi 3/6C, Taman Sains Selangor,
47810 Petaling Jaya, Selangor, MALAYSIA.
H/P: 017-374 2227 (Kelvin), 011-1634 0463 (Hans)

Power Quality - Harmonics Amplification Caused by Resonance and Risks of Overloading Capacitors (Part 1)

Alex Looi Tink Huey, Ir. Tay Siang Hui and Ir. Mohammad Rhaiz Bin Abdul Aziz

What is Power Quality (PQ)? According to the International Electrotechnical Commission (IEC) and the Institute of Electrical and Electronics Engineers (IEEE), power quality is an Electromagnetic Compatibility (EMC) requirement, taking for example, the compatibility between the electricity supply or the source and the load that is connected to it [1]. The IEC 61000-1-2: Electromagnetic Compatibility refers to EMC as the ability of the device, equipment, or system to function satisfactorily in its electromagnetic environment without introducing intolerable electromagnetic disturbances to anything in that environment. Hence, it is important to ensure that the equipment do not generate electromagnetic disturbances which may affect other devices, as well as being immune to Electromagnetic Interference (EMI) up to a certain level. The IEEE 1159: IEEE Recommended Practice for Monitoring Electrical Power Quality and IEEE 1100: IEEE Recommended Practice for Power and Grounding on the other hand, refer to power quality as the concept of powering and grounding electronic equipment in a manner that is suitable for the operation of an equipment, and is compatible with the supply system and other connected equipment.

Power quality disturbances can be categorised as short duration PQ disturbances and, continuous and steady state PQ disturbances. Short duration PQ disturbances include voltage sags (dip), voltage swells, voltage transients, and momentary interruption. Meanwhile, continuous and steady state PQ disturbances include harmonics distortion, flickers, voltage variations (unbalance), and frequency variations.

With reference to Tenaga Nasional Berhad's (TNB's) Electricity Supply Application Handbook (ESAH), TNB shall supply electricity to the main in-coming terminals or Point of Common Couplings (PCC) between the consumer and TNB, with general electromagnetic environment statistics as per IEC 61000-2-4, and IEC/TR 61000-2-8 [2]. The consumer is required to ensure that all electrical equipment which are to be connected to TNB's supply system is electromagnetically compatible with the electromagnetic environment stated by TNB, i.e., the voltage unbalance (negative

phase sequence voltage) allowable limit shall not exceed 2% for one (1) minute; the allowable limit for Total Harmonic Distortion Voltage (THDV) % at the PCC is 5% for TNB supply system of 400V and below; and etc.

Harmonics are a common problem for today's electrical distribution system in industrial and commercial buildings where computers and power electronics are heavily utilised [3]. The IEEE 519 Standard defines harmonics as a sinusoidal component of a periodic wave or quantity having a frequency that is an integral multiple of the fundamental frequency (50Hz). Harmonics cause distortions of voltage and current variations due to the changes in frequencies and deviations from the pure sinusoidal waveforms of voltage and current. Harmonics are generally caused by non-linear loads associated with power electronic converters such as Variable Speed Drives (VSDs) for chillers, fans and pumps, Un-interruptible Power Supplies (UPS), rectifiers, electronic devices such as computers, printers, etc. Harmonics can cause disturbances such as nuisance-tripping, malfunction or failure of sensitive equipment (that are used in laboratories, control centers, etc.), and damages including over-heating of power cables and transformers, as well as power losses.

Excessive levels of harmonics distortion can be detrimental to the electrical system and connected equipment leading to disruption of operations and equipment failure. In this article, we will be focusing on harmonics amplification caused by resonance. Under normal operating conditions, harmonics distortion may not exceed the acceptable limits set by the standards. In spite of that, with the presence of parallel resonance in the electrical system, distortions of voltage and/or current can be amplified significantly [4].

What is resonance? We have to dive back to our earlier article on "Understanding Grid-Connected Solar Photovoltaics (PV) Impact on your Power Factor (PF)". Industrial and commercial consumers are required to maintain a high power factor, as there will be a power factor surcharge for not maintaining the power factor of 0.85 and above for consumers taking supply at 33kV and below from TNB (*does

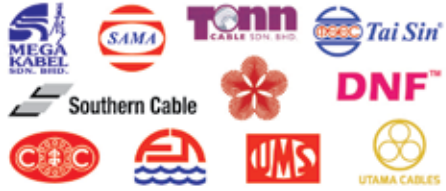
not apply for domestic consumers) [5]. Inductive loads are the predominant load in a typical (traditional) electrical system such as electric motors, transformers, chokes, etc. Inductive loads cause low power factor issues which in turn create losses in the system and over-sizing of electrical equipment. Low power factor conditions can be resolved by installing power factor correction capacitors or capacitor banks which are also known to be the largest source of compensating capacitive reactive power, and which are commonly used in the electrical system. However, it is important to note that you cannot simply add capacitor banks to a system without understanding how their presence can affect the electrical system.

For resonance to occur, a few conditions must be fulfilled. The first condition is the existence of non-linear loads in an electrical system that act as the source of harmonics that flow throughout the network. This is also the reason why harmonics distortion was not an issue until the burgeoning of electronic products and equipment. The single-phase non-linear loads such as single-phase air-conditioning units, phase angle-controlled ceiling fans, computers, electronic lightings (such as LEDs), switch-mode power supply, etc., generate Triplen harmonics. Triplen harmonics are odd multiples of the third harmonic (3rd, 9th, 15th, etc.). Three-phase non-linear loads such as three-phase VSDs, three-phase arcing devices, etc., generate odd harmonics which are odd multiples of the fundamental, e.g., the 6-pulse rectifier VSD generates 5th, 7th, 11th, 13th, 17th, 19th, etc., order harmonics. Balanced three-phase but non-sinusoidal currents are drawn from these loads. Typically, the harmonics generated by these loads are a gamut of mixtures of harmonics super-imposed on each other.

The second condition is that the circuit would have a combination of inductance and capacitance components that form an LC circuit. The contribution of inductance in the circuit is predominantly from cables, transformers, and electric motors, whereas the contribution of capacitance in the circuit is predominantly from stray capacitance from cables and capacitors (specifically from power factor correction capacitors). A pure or ideal capacitive impedance is inversely proportional to frequency.



Tel: 603-9223 9818 Fax: 603-9223 7818

		
Cables & Wires	Copper Strips	DB, MB, SB, & MCB
		
Emergency Lights & Keluar Signs	Fans & Water Heaters	Fittings
		
Floodlights & Street Lanterns	GI & PVC Pipes	Isolators & Change Over Switches
		
Joints & Termination Kits	Lamps	Lighting Columns
		
Switches	Testers	Trunking & Cable Trays
		



It is a frequency-dependent resistance (impedance). In complex numbers (*Maths) terms, it is quantified by the imaginary '-j' component indicating that it leads the voltage. Co-incidentally, a pure or ideal inductive impedance is directly proportional to frequency. It is also a frequency-dependent resistance (impedance). In complex numbers (*Maths) terms, it is quantified by the imaginary '+j' component, indicating that it lags the voltage. As the frequency or the harmonic order increases, the inductive reactance of the electrical system increases and the capacitive reactance decreases [6].

Thus, resonance occurs at a particular harmonics frequency where the circuit's inductance component '+j' cancels the circuit's capacitance (i.e., capacitive) component '-j', resulting in a very low total circuit impedance.

At this particular harmonics frequency, it will see the combined capacitance and inductance as a low impedance path, thus drawing large current (at that harmonics frequency) to that point. When the circuit's capacitance and inductance are in series when this phenomenon occurs, series resonance will occur. Vice-versa, when the circuit's capacitance and inductance are in parallel when this occurs, it is known as parallel resonance. Every circuit in a system will have a natural frequency formed by the combination of the total capacitance and inductance. If the harmonics frequencies generated by the non-linear loads do not coincide with the circuit's natural frequency, resonance will not occur.

A simple analogy of the harmonic's source and victim can be illustrated by multiple radio station towers and a radio as illustrated in Figure 1. The radio station (source) represents the integer multiplied by the power frequency (50Hz) order of harmonics generated by the linear and non-linear loads (e.g., 50Hz (1st harmonic or fundamental frequency), 150Hz (3rd order), 200Hz (4th order) and so on). The radio is the representation of a circuit (victim). When the radio is tuned to a natural frequency that coincides with one of the broadcasted harmonics frequencies (150Hz in this case), the sound will be amplified, and music starts playing from the radio. In this case, resonance is useful to amplify the small signal broadcasted by the radio tower which is located far away. The radio can be tuned to different resonance channels to amplify at different frequencies broadcasted by the radio tower.

In a power system electrical circuit, the switching of the power factor correction capacitors for capacitive reactive compensation is analogous to tuning the radio to different channels. If one of the capacitor banks' switching patterns and circuit inductance combination (be it series or parallel) creates a natural frequency

that coincides with one of the harmonic frequencies, resonance will occur. This will cause high harmonics frequency currents to flow into the group of capacitor banks, thus seriously damaging them due to over-heating or causing voltage stress damage to its insulation [7]. This again reinforces the point that blindly adding power factor capacitors in the system does not solve the harmonics issue. It is the goal of the designer or specifier to ensure that the circuit's natural frequency does not coincide with the harmonics generated by the non-linear loads or alternatively cancel

off the harmonics generated by the non-linear loads.

As illustrated in Figure 2, harmonics current will see a low impedance at the resonance circuit. During parallel resonance, a large current will flow from the harmonic source (non-linear loads) to the transformer and power factor correction capacitors' circuits. In Part 2 (forthcoming issue), we will be discussing on how to calculate the parallel resonance frequency, and sharing solutions on preventing parallel resonance in the electrical system.

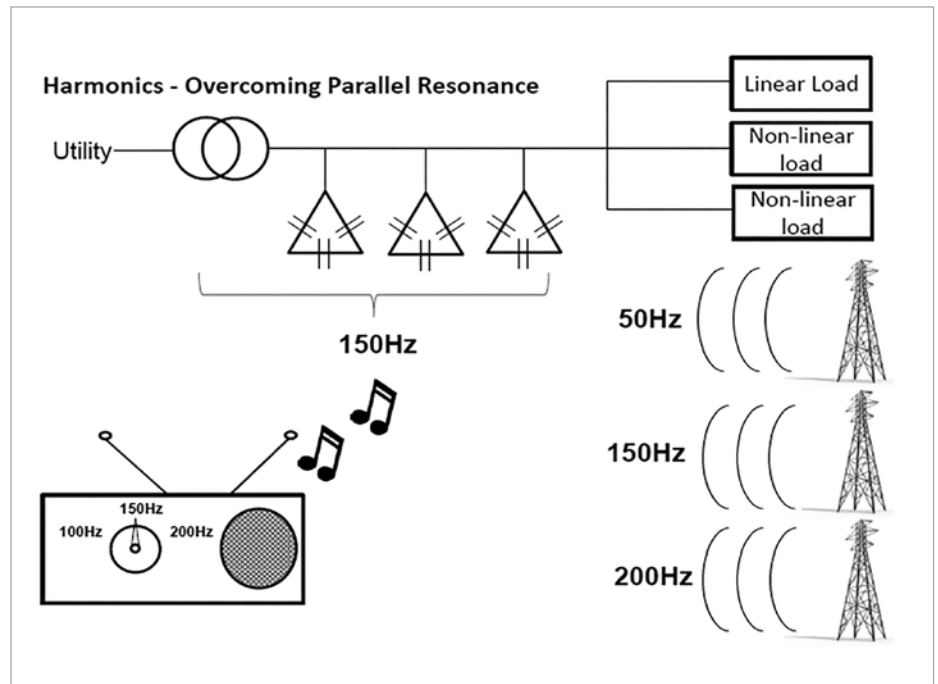


Figure 1: Analogy of Parallel Resonance (Radio Station Towers and Radio)

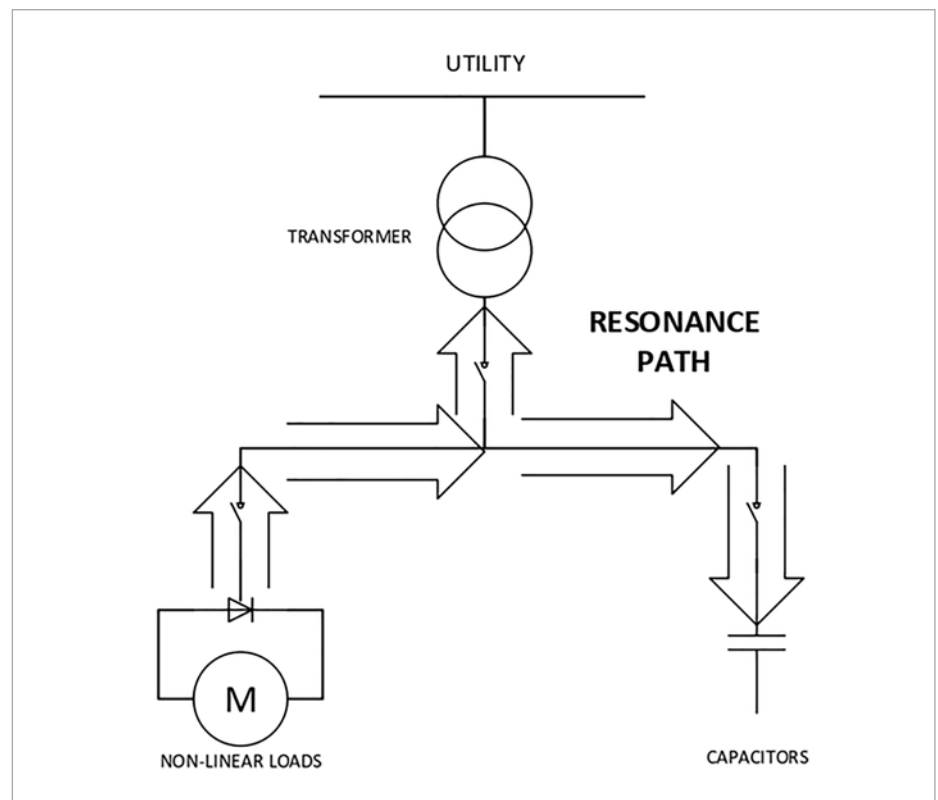


Figure 2: Schematic Diagram of a Parallel Resonance Circuit

FIREMAN INTERCOM SYSTEM

(ADDRESSABLE TYPE)

PE-AFI-1280



KEY FEATURES

- Non-polarized two-wire for communication, cost effective for wiring.
- Connect up to 158nos of PE-AHS-128 Addressable Fireman Intercom Handset.
- Conferencing to maximum 3 extension Intercom Handset.
- Support up to 9-hours voice recording.
- 999 event logs.
- Two tone LCD display 128x64, displaying 64 characters.
- Support off-line software and USB programming.

✓ **FREE limited edition "PROGRAM ELECTRONIC" USB flash drives.**

✓ **FREE in-house training.**

OVERVIEW

The PE-AFI-1280 Fireman Intercom is a fully addressable system operating on non-polarized two-wire open bus offer a fast, reliable and high-quality telecommunication for emergency fire control and consists of Addressable Fireman Intercom Handset (PE-AHS-128).



CONCEAL TYPE



SURFACE TYPE



**PROGRAM
ELECTRONIC**

PROGRAM ELECTRONIC SDN BHD

Co. No. 150048-W

12, Jalan TPP 5/6, Taman Perindustrian Puchong,
Subang Hilir, Seksyen 5, 47160 Puchong,
Selangor Darul Ehsan, Malaysia.

Tel : 03 8062 4766 Fax : 03 8062 4822



admin@programelectronic.my



www.programelectronic.my

References

1. Tenaga Nasional Berhad, Power Quality, TNB, 2021. <https://www.mytnb.com.my/energy-efficiency/power-quality>
2. Tenaga Nasional Berhad, Electricity Supply Application Handbook version 3.1, TNB, 2019. https://www.mytnb.com.my/themes/user/mytnb/pdf/2020_ESAH_Complete_v3.1.pdf
3. M. Krarti, "Chapter 4 - Utility Rate Structures and Grid Integration", Optimal Design and Retrofit of Energy Efficient Buildings, Communities, and Urban Centers, pg. 189-245, 2018. <https://www.sciencedirect.com/science/article/pii/B9780128498699000041>
4. J. Lokar, J. Dolenc, B. Blažić, and L. Herman, "Harmonic Resonance Identification and Mitigation in Power System Using Modal Analysis, Energies, 2021. Accessed on: July 3, 2022. <https://www.mdpi.com/1996-1073/14/13/4017/pdf>
5. Tenaga Nasional Berhad, Power Factor, TNB, 2022. <https://www.tnb.com.my/commercial-industrial/power-factor>
6. D. J. Carnovale, "Power Factor Correction and Harmonic Resonance: A Volatile Mix", Eaton/Cutler-Hammer, 2003. <https://www.eaton.com/content/dam/eaton/products/low-voltage-power-distribution-controls-systems/power-factor-corrections/power-factor-correction-harmonic-resonance-white-paper-IA02607001E.PDF>
7. ABB, Technical Application Papers: Power Factor Correction and Harmonic Filtering in Electrical Plants, ABB, 2008 (Online link is not available).

Note: Part 2 will be published in Suara TEEAM 84th issue.

Mr Alex Looi Tink Huey has two Bachelors' Degrees: in Electrical & Electronics Engineering and 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 & low voltage electrical equipment, power system studies, power quality analysis, efficient energy management, and preventive maintenance programme. He is currently the Deputy Chair of the ASEAN Federation of Engineering Organisations (AFEO) Energy WG and elected Committee Member of the IEM Electrical Engineering Technical Division (EETD), and Chairman of the Activities Organising Committee. He is also an IEC (International Electrotechnical Commission) Young Professional and serves as a Committee Member in IEC TC 111: Environmental Standardisation for Electrical and Electronics Products and Systems, IEC SEG 10: Ethics in Autonomous and Artificial Intelligence Applications Committee, and IEC SEG 11: Future Sustainable Transportation Committee. He is an AFEO Honorary Member, a Registered Electrical Energy Manager (REEM) with the Energy Commission of Malaysia, Associate ASEAN Engineer (AAE), and a Certified Infra-red Thermographer. He is also a TEEAM Member.



Ir. Tay Siang Hui is currently working as a Technical Marketing Manager at Mikro Sdn Bhd. He obtained his BEng (Hons) Degree from Sussex University, UK; MSc. Eng from Multimedia University Malaysia and MBA from Universiti Malaya, and has more than 20 years of experience in the Electrical and Electronics (E&E) industry. Prior to joining Mikro, he worked at the O.Y.L. Research and Development Centre, developing inverter-type air-conditioning systems for variable speed control of induction and permanent magnet brushless DC compressors. At Mikro, he develops products such as VCB controllers and power factor controllers, and has vast experience in areas such as power factor compensation system, protection system, protective relay and their applications.



Ir. Mohammad Rhaiz Bin Abdul Aziz graduated with a Bachelor's Degree in Electrical & Electronics Engineering and Master of Electrical Engineering from Universiti Tenaga Nasional (UNITEN). He is a certified Professional Engineer with Practising Certificate from the Board of Engineers Malaysia (BEM). He is also a Member of the Institution of Engineers, Malaysia (IEM). Currently, he is working as a Manager (Distributed Generation) at Tenaga Nasional Berhad (TNB). His responsibilities include conducting confirmation connection check studies, reviewing technical drawings, and managing Testing and Commissioning (T&C) applications for RE application to TNB.



Webinar on Energy Efficiency

TEEAM in collaboration with Schneider Electric Malaysia, successfully organised a Webinar on Energy Efficiency (EE) – The Real-World Possibilities on 15 July 2022 through the online Webex Platform. The highly informative Webinar, which drew a good attendance of 74 online participants, was organised by TEEAM Vice-President of the Engineering Construction & Services Group, Ir Kok Yen Kwan.

Three distinguished panellists from different sectors were invited to share their expertise:

- Mr Gregers Reimann, Managing Director of IEN Consultants Sdn Bhd.
- Ir. Jack Chan, Head of Energy Sector, NK Engineers Sdn Bhd, and
- Mr Ch'ng Eng Yong, Sales Manager of Digital Energy, Schneider Electric Malaysia.

Amongst some of the most relevant topics discussed during the Webinar were the possibilities of what energy-efficiency brings and also real-world case samples of

successful implementation; the adoption of futuristic & modern technologies, and the importance of commissioning, measurement & verification of energy data in driving EE measures. All the Speakers made their sessions highly interesting by giving polling questions to stimulate

participation and interactivity amongst the participants.

The Webinar successfully capped off with an interactive Q&A session moderated by Ir. Kok Yen Kwan. The Webinar was approved with BEM CPD hours and ST CDP points.





(510254-T)

NOTICE TO THE PUBLIC

**PLEASE BE INFORMED THAT
VSD AUTOMATION SDN BHD IS THE SOLE
AND EXCLUSIVE SMART METER
DISTRIBUTOR OF HOLLEY TECHNOLOGY
LTD PRODUCTS UNDER THE BRAND
"HOLLEY".**

FOR ANY INQUIRIES, YOU MAY CONTACT:

1) CORPORATE OFFICE

ADDRESS: BLOCK A, 1ST FLOOR, UNIT 106, 107 & 108,
RADIA OFFICES BUKIT JELUTONG,
NO. 3 PERSIARAN ARKED, BUKIT JELUTONG,
SECTION U8, 40150 SHAH ALAM, SELANGOR.

OFFICE NO: +603-7890 4463 | FAX NO: +603-5131 8862

2) MANUFACTURING OFFICE

ADDRESS: NO. 30, JALAN SUNGAI JELUH 32/192,
SEKSYEN 32, KAWASAN PERINDUSTRIAN
KEMUNING,
40460 SHAH ALAM, SELANGOR.

OFFICE NO: +603-5122 8860 | FAX NO: +603-5131 8862



Email: sales@vsdautomation.com
Official Website: www.vsdautomation.com

New Members

The following new members have been approved and accepted by the TEEAM Council from February 2022 - August 2022. 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!

VSD Automation Sdn Bhd No. 30, Jalan Sungai Jeluh 32/192, Kawasan Perindustrian Kemuning, Seksyen 32, 40460 Shah Alam, Selangor Darul Ehsan. Tel: +603-5122 8860 Fax: +603-5131 8862 E-mail: sales@vsdautomation.com Website: www.vsdautomation.com Contact Person: Cik Siti Azbaiyah Binti Baharudin <i>Business: Supply & manufacture of smart utility meters; provision of energy related systems & services for power generation, transmission & distribution. Sole distributor for "Holley" smart meters.</i>	Tyco Electronics (Malaysia) Sdn Bhd Wisma Prosper, 13th Floor, Block B, Kelana Centre Point, No. 3, Jalan SS 7/19, Kelana Jaya, 47301 Petaling Jaya, Selangor Darul Ehsan. Tel: +603-7806 7760 Fax: +603-7805 2831 E-mail: eric.mah@te.com Website: www.te.com Contact Person: Mr Eric Mah Yee Hoong <i>Business: Trading of electrical & electronics interconnection system and acts as sales agent for its related companies.</i>
Shanghai STEP Electric Corporation No. 599, Meiyu Road, Jiading District, Shanghai, China. Tel: +86-21-3101 0622 E-mail: overseas@stepelectric.com Website: www.stepelectric.com Contact Person: Mr Jerry Zhao <i>Business: R & D and manufacturing motion control system, robotics and ac drives.</i>	Swift Energy Sdn Bhd Lot 48521 (PT25145) Batu 6, Off Jalan Bukit Kemuning, Section 34, 40470 Shah Alam, Selangor Darul Ehsan. Tel: +603-5162 5511 Fax: +603-5162 5522 E-mail: enquiry@senergy.com.my Website: www.senergy.com.my Contact Person: Mr Tan Bin Chee <i>Business: Provide solution base engineering design, electrical and instrumentation equipment.</i>
Keng Boon Chi No. 21, Jalan 8/36, Bukit Sri Bintang, Kepong, 52100 Kuala Lumpur. Tel: +6012-335 3311 E-mail: sunward.electrical@gmail.com <i>Business: BO Chargeman / PW4 Wireman.</i>	TEC Power Electrical Supply Sdn Bhd No. 22, Jalan 30A/119, Taman Taynton View, Cheras, 56000 Kuala Lumpur. Tel: +603-9130 4306 E-mail: admin@tecpower.com.my Contact Person: Mr Tan Chow Teck <i>Business: Electrical trading.</i>
Pekat E & LP Sdn Bhd No. 3A, 5 & 6, Cubic Space, No. 6, Jalan Teknologi 3/4, Taman Sains Selangor 1, Kota Damansara, 47810 Petaling Jaya, Selangor Darul Ehsan. Tel: +603-2300 8010 E-mail: bradley@pekatgroup.com Contact Person: Mr Bradley Tan Kwang San <i>Business: Lightning & earthing systems.</i>	Hi-Essence Cable Sdn Bhd Level 8, No. 2, Jalan Industri PBP 2, Taman Industri Pusat Bandar Puchong, 47100 Puchong, Selangor Darul Ehsan. Tel: +603-8074 6988 Fax: +603-8074 6999 E-mail: he@he-cable.com Website: www.he-cable.com Contact Person: Mr Edmund Chong <i>Business: Cable manufacturer.</i>
Unit Concept Sdn Bhd No. 7, Jalan Astaka U8/83, Bukit Jelutong Industrial Park, 40150 Shah Alam, Selangor Darul Ehsan. Tel: +603-7845 6082 Fax: +603-7845 8267 E-mail: davidliaw@unitconcept.com Website: www.unitconcept.com Contact Person: Mr David Liaw <i>Business: System integrator, manufacturer, electrical trading & EPC.</i>	Grand Elecont Engineering Sdn Bhd No. 102, Jalan Taming Enam, Taming Jaya Industrial Park, 43300 Balakong, Seri Kembangan, Selangor Darul Ehsan. Tel: +603-8961 6713 Fax: +603-8961 6843 E-mail: info@grandecont.com.my Contact Person: Mr Loong Wan Sang <i>Business: Trading, engineering and electrical contractor.</i>
Antstec Sdn Bhd No. 25, 1st Floor, Jalan Perniagaan Seri Juru, Pusat Perniagaan Seri Juru, 14100 Simpang Ampat, Pulau Pinang. Tel: +6019-388 3064 E-mail: jeffreytai@antstec.com.my Website: https://antstec.com.my/ Contact Person: Mr Jeffrey Tai Hwee Siong <i>Business: Automation system design, SCADA & PLC automation solution, panel fabrication and installation, onsite installation & cabling, instrumentation, project management, testing and commissioning.</i>	Hong Seng Power Sdn Bhd PMT 1287, Lorong Perusahaan Sungai Lokan 3, Kawasan Perusahaan Sungai Lokan, 13800 Butterworth, Penang. Tel: +604-356 2623 Fax: +604-356 2829 E-mail: vinthp@hs-grp.com Website: www.hs-power.com.my Contact Person: Mr Teoh Hai Peng <i>Business: Generator sets, spareparts & accessories for diesel engine & marine gearbox.</i>

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	WP
VITZRO TECH	W/WN	WN	-	CTTS
Transfer speed	$\geq 55\text{ms}$	Delay adjustable	$\leq 20\text{ ms}$ *To CBEMA /ITIC Curve	7-50ms

*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



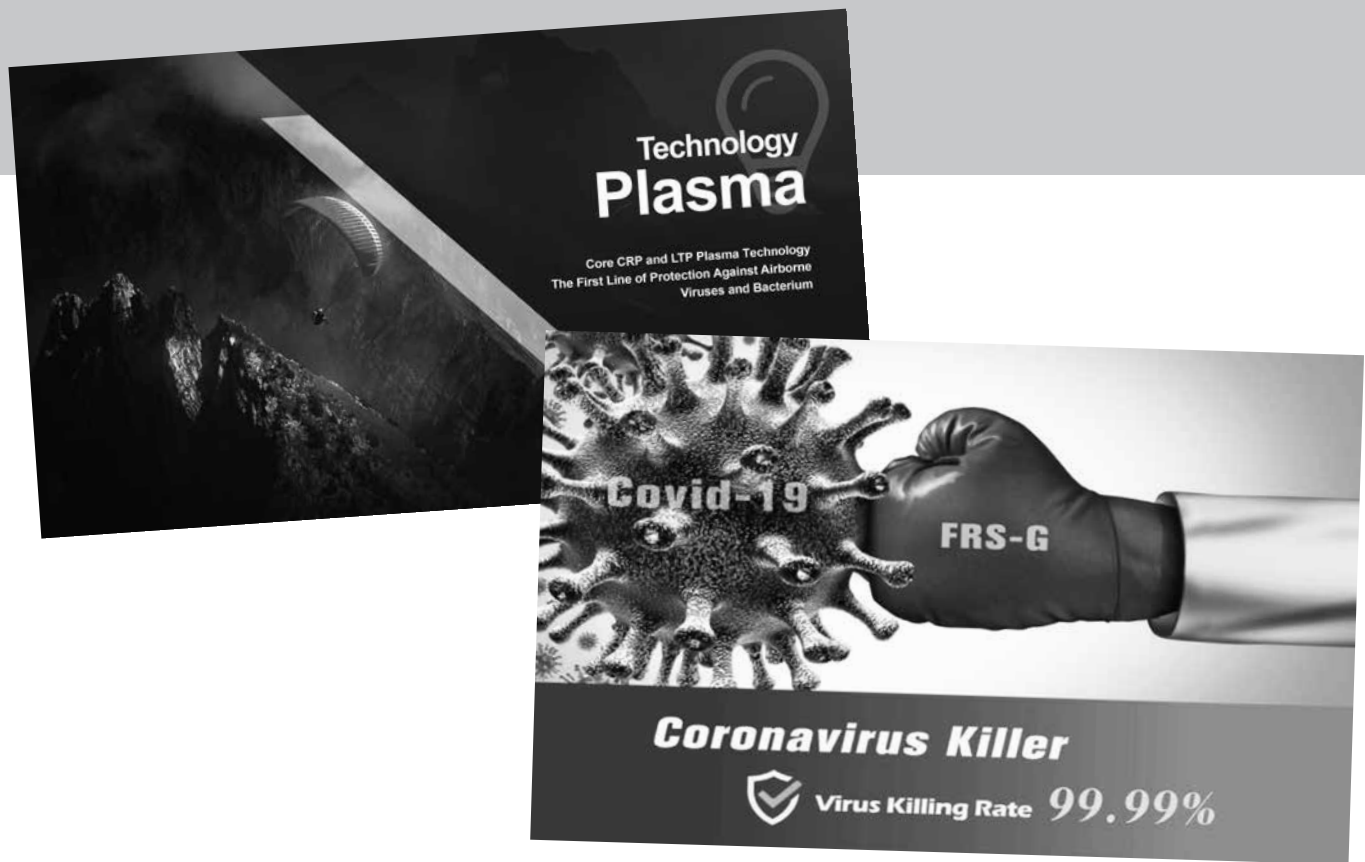
Wise Pro Sdn Bhd 199601008707
(NO.381055P)

No. 8, Pusat Teknologi Sinar Meranti, Jalan IMP 1/3, Taman Industri Meranti Perdana, 47120 Puchong, Selangor
Tel : +603-8066 6491/6492/6493 Fax : +603-8052 6649 (Sales) Mobile No. +6017 - 492 1474, +6012 - 543 5515

Inovo Electrical Sdn Bhd No. 50, Jalan KP 3, Kawasan Perindustrian Kota Puteri, 48100 Batu Arang, Selangor Darul Ehsan. Tel: +603-2779 1690 , 2779 1691 E-mail: inovo.bz@gmail.com Website: www.inovo.my Contact Person: Mr Wong Hong Yew <i>Business: Wholesale of electrical & electronics products (lighting).</i>	Sin Lien Siong Electric (M) Sdn Bhd Lot 8262, Jalan Permata 1, Arab Malaysian Industrial Park, 71800 Nilai, Negeri Sembilan. Tel: +606-794 1313 Fax: +606-794 1333 E-mail: sinliensiongacc8262@gmail.com Contact Person: Ms Tan Shean Fang <i>Business: Distributor and dealer in electrical cables, fittings and appliances.</i>
Caramay Malaysian Sdn Bhd Lot No. 2952, Lorong Bakau 1, Kawasan Perusahaan Perabut, Sungai Baong, 14200 Sungai Bakap, Pulau Pinang. Tel: +604-582 0796 E-mail: caramaymalaysian@gmail.com Contact Person: Mr Vicee Lo Vui Chee <i>Business: Cables & wires manufacturing.</i>	Stardex Trading Sdn Bhd No. 1998C, Jalan Perusahaan 3, Taman Industri Selesa Jaya, 43300 Seri Kembangan, Selangor Darul Ehsan. Tel: +603-8961 8999 E-mail: accountall@stardexgroup.com Contact Person: Mr Hwang Chee Hian <i>Business: Wholesales of electrical and electronic items.</i>
Gruppe Marketing Sdn Bhd No. 16, Jalan Anggerik Mokara 31/50, Kota Kemuning Section 31, Shah Alam, 40460 Selangor Darul Ehsan. Tel: +603-5525 4133 Fax: +603-5525 4122 E-mail: info@gruppelighting.com Website: www.gruppelighting.com Contact Person: Mr Edvine Siew <i>Business: Professional lighting solution (outdoor).</i>	Risotech Solutions Sdn Bhd No. C-08-08, Sunway Nexis Business Suites, Jalan PJU 5/1, Kota Damansara, 47810 Petaling Jaya, Selangor Darul Ehsan. Tel: +6012-375 5155 E-mail: hello@rise.careers Website: http://rise.careers/ Contact Person: Mr Siow Jat Shern <i>Business: Online employment technology development.</i>
Dynamic Electrical Sdn Bhd PTD 42332, Jalan Seelong Jaya 17, Mukim Senai, Daerah Kulai, 81400 Senai, Johor Darul Takzim. Tel: +6012-755 8608 E-mail: info@debusduct.com/ fiona@debusduct.com Website: www.debusduct.com Contact Person: Mr Dowson Lau / Ms Fiona Chew <i>Business: Manufacturing of busduct.</i>	Kyudenko Malaysia Sdn Bhd No. 59-8, the Boulevard Mid Valley, No. 1, Medan Syed Putra, 59200 Kuala Lumpur. Tel: +603-2282 6588 Fax: +603-2202 0553 E-mail: isabell@kyudenko.com.my / purchase@kyudenko.com.my Website: http://kyudenko.co.jp Contact Person: Mr Ryan Lee Kim Fang <i>Business: M & E engineering & construction.</i>
Mean Well Malaysia Sdn Bhd No. 77, Jalan TPK 2/8, Taman Perindustrian Kinrara, Seksyen 2, 47180 Puchong, Selangor Darul Ehsan. Tel: +603-8070 8120 Fax: +603-8070 8121 E-mail: enquiry@meanwell.com.my Website: www.meanwell.com.my Contact Person: Mr WS Wong <i>Business: Trading of power supply/converter.</i>	Tekno Bumi Sdn Bhd No. 51 & 52, Jalan 11, Kosmopleks, Bandar Baru Salak Tinggi, 43900 Sepang, Selangor Darul Ehsan. Tel: +603-8705 1122 Fax: +603-8705 4133 E-mail: tbsb@teknobumi.com.my Website: www.teknobumi.com.my Contact Person: Encik Mohd Azhar Bin Khalid <i>Business: Electrical contractor and trading of telecommunication & electrical products.</i>
Mok & Co Services Sdn Bhd No. 19, Jalan 51A/223, Seksyen 51A, 46100 Petaling Jaya, Selangor Darul Ehsan. Tel: +6012-884 5963 E-mail: admin@mokandco-eng.com Website: www.mokandco-eng.com Contact Person: Mr Gary Mok Kong Hon <i>Business: Electrical engineering, oil & gas.</i>	JT Techtronics Sdn Bhd No. 32-1-1, Jalan 2/101C, Block D, Cheras Business Center, 56100 Kuala Lumpur. Tel: +6016-319 9391 E-mail: jt.techtronics@gmail.com Website: www.custronics.com Contact Person: Mr Jim Loo <i>Business: LED electronics KANBAN ANDON display design and manufacturer.</i>
Multi Wire Sdn Bhd Plot 510, Kawasan Perindustrian Cendana, Fasa 2, 08000 Sungai Petani, Kedah. Tel: +604-422 3133 E-mail: multiwire@gmail.com Contact Person: Mr Khoo Soo Han <i>Business: Manufacturing of cables & wires.</i>	KT Lee Wire & Cable Sdn Bhd PT 517, Jalan PBR 23, Kawasan Perindustrian Bukit Rambai, 75250 Melaka. Tel: +606-351 8188 Fax: +606-351 0987 E-mail: ktleewire.acct@gmail.com Contact Person: Mr Yau Kian Leong <i>Business: Manufacturing of wire and cable.</i>
Siow Jat Shern No. 15, Jalan TP 1/2, Tiara Putra, 47000 Sungai Buloh, Selangor Darul Ehsan. Tel: +6012-339 9861 E-mail: siowjackson@gmail.com <i>Business: Competent engineer.</i>	Join us now if you are not a TEEAM member yet! Contact: +603-9221 4417 E-mail: philia@teeam.org.my  www.teeam.org.my  @teeam_my  teeam.org.my/  @teeam_my  teeam my

Can your Air Purifier kill Viruses?

Use our Sterilising Plasma Air Purifiers to kill Viruses 99.9%



Suitable for Hospitals, Restaurants, Schools and Offices use.



QCB Technologies Sdn Bhd (893370-H)

32-2, 2nd Floor, Ruby Complex,
Jalan Kancil, Off Jalan Pudu,
55100 Kuala Lumpur, Malaysia.
Tel/Fax: 03-9076 0250

Sales Agent Wanted
Contact Mr. Charles Lee
012-208 4518

Plasma Technology Air Purifier

What is Plasma?

Plasma is a kind of ionised gas. Due to the existence of ionised free electrons and charged ions, plasma exhibits high conductivity and strong coupling effect with an electromagnetic field. The plasma state is widespread in our universe and is often regarded as the fourth state of matter (also known as the “super gas state”).

Plasma contains a large number of active ions, high-energy free groups and other components, and it is very easy to take on chemical reactions with bacteria, molds and spores, virus protein and nucleic acid. Plasma can destroy microbes and disturb the survival function of microbes, such that it will make all kinds of microbes to die quickly.

After the plasma sterilisation experiment, bacteria and virus particles will all be full of holes when you see them through electron microscope images. This is due to the Breakdown Etching Effect caused by the high kinetic energy of the electrons and ions. High-speed particles in the plasma break the microbial molecular bonds, to finally produce non-toxic volatile compounds such as CO_x, CH_x, etc.

For some metallic medical instruments which can withstand high temperature, the organic matter on metal instruments can be degraded directly by using strong active plasma.



Corona Ring Plasma (CRP) needle-type plasma and high-voltage electrostatic dust removal module technology air purifier.

Properties of Plasma (Source: Wikipedia)

Electric discharges produced in the gas from the high-voltage side of the piezoelectric transformer have properties which are also found in the corona discharges and in the dielectric barrier discharges. While the former mode occurs when the high-voltage side of the piezoelectric transformer is operated far from the electric grounds, the latter mode occurs when it is operated close to the electric grounds separated by a dielectric. Near the open electric grounds, the piezoelectric transformer produces periodic sparks. Transition to the electric arc does not occur because of the limited power rating of the transformer. The typical power of such transformers is of the order of 10W. The efficiency of the plasma generation reaches 90% while the remaining 10% of the power is lost due to mechanical heating of the piezoelectric transformer.

Due to low electric currents, typical for the dielectric barrier and the corona discharges, the piezoelectric direct discharge produces a non-equilibrium plasma. This means that its constituent electrons, ions and the neutral gas particles have different kinetic energy distributions. The temperature of the neutral gas within the plasma volume remains lower than 50° C. At the same time, the electrons and the ions reach

energies of 1 – 10 eV. This is 300 – 3,000 times higher than the average energy of the neutral gas particles. The densities of the electrons and the ions reach $10^{-16} - 10^{-14} \text{ m}^{-3}$. Since most of the plasma volume consists of cold neutral gas, the plasma is cold. However, the very energetic electrons and ions excite atoms and molecules, producing large amounts of short-lived chemical species, making this plasma chemically very active.

Needle-Type Plasma and High-Voltage Electrostatic Dust Removal Modules



The high polymer is used as dielectric material for air sterilisation and purification by a strong electric field. The needle-type plasma and high-voltage electrostatic dust removal module adopts a two-stage plate structure. The ionisation segment is a pinhole structure. The 11,000-13,000V voltage makes the needle-type plasma to release a large number of high-concentration ions, which collide with the dust particles moving in the air and charge it. The high-voltage electrostatic dust removal module is a flat plate structure. The electric field generated by the dielectric material at a voltage of 3,000V exerts a strong attraction on the charged particles moving in the air and absorbs nearly 100% of the moving particles in the air.

The high-voltage electrostatic dust removal module is made of non-metallic materials (i.e., Graphene polymer material) by using 3D printing technology, and is combined with a driving circuit. It overcomes the disadvantages of traditional metal static electricity to produce ozone and spark arc discharge, and has a powerful function of efficient sterilisation and adsorption of particles as small as PM0.01.

The needle-type plasma is a specially-designed ioniser which can continuously produce a high concentration of ions. When charged bacteria flow through the electric field, they will be surrounded by ions. Enough negative ions will penetrate through the porous cell wall, then penetrate into the cell interior, destroy the cell electrolyte, damage the cell membrane, and thus kill the cell. At the same time, bacteria and viruses are attached to the particles. When the particles are absorbed by the high-voltage electrostatic dust removal module, they are carbonised at 3,000V high pressure, and completely killed.

The killing power of the traditional air disinfection method on the micro-organisms in the air is limited due to the different kinds of micro-organisms. However, the high-voltage electrostatic dust removal module is not based on the type of micro-organism, but on the particle size of the bacteria. It can capture particles at a minimum of 0.01µm, so it has a broad spectrum of bactericidal action.

POWERDUCT SERIES

Extruded Aluminium Housing With Cooling Fin

FULLY TYPE TESTED BUSDUCT UNIT SYSTEM
IEC 61439-6



ISO 9001:2005
Certificate



ISO 14001:2015
Certificate



DEKRA
Certificate



SINGAPORE GREEN BUILDING
Certificate



Award



LIGHTING SERIES



COMPACT BUSWAY



POWER PLUG BUSDUCT SDN BHD (545918-D)

No.17, Jalan SiLC 1/4,
Kawasan Perindustrian SiLC,
79200 Iskandar Puteri, Johor, Malaysia.
Johor Darul Ta'zim, Malaysia.



+607-532 1988



+607-532 1922



+607-532 1177

www.ppbc.com.my



ASTA

CCA

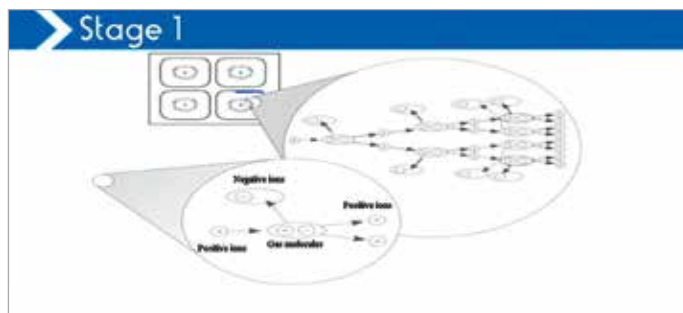
KEMA

DEKRA

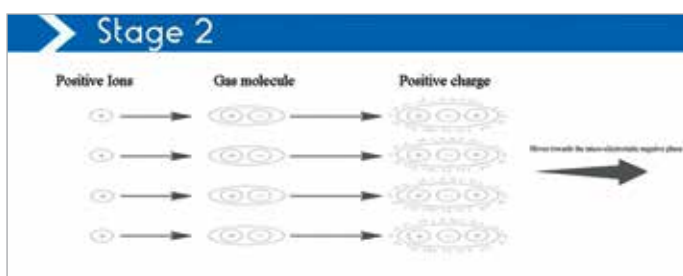
KEMAUR



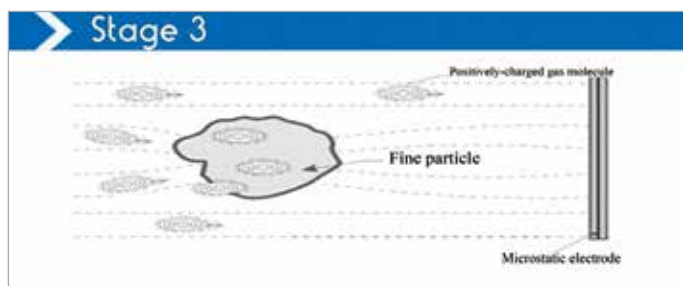
Dust Collection Principle



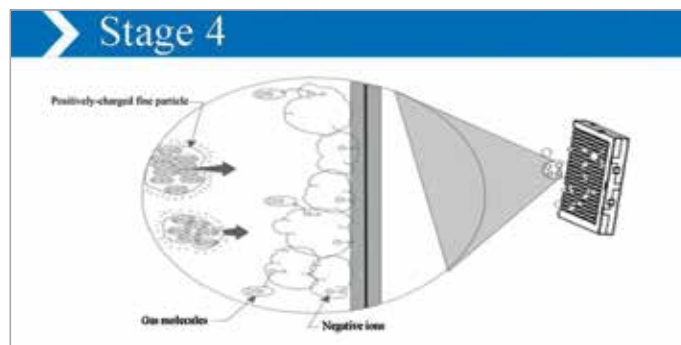
Stage 1: Needle-type plasma adopts ionisation technology to generate corona and release ions through high voltage. The ions collide with air molecules and generate more ions, forming an avalanche effect.



Stage 2: After being far away from the corona area, the positive and negative ions will be adsorbed by the surrounding air molecules, so that the gas molecules will have a positive or negative charge and move towards the micro-electrostatic negative or positive pole plate under the action of a strong electric field.



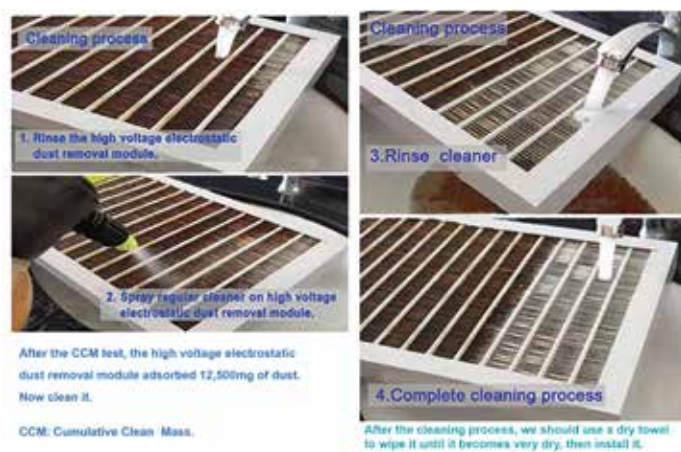
Stage 3: Fine particles block the flight of positively-charged air molecules and stick to them. These fine particles absorb the positively-charged molecules until they become saturated. The fine particles then have enough positive charges.



Stage 4: The fine particles with positive or negative charge move towards the negative or positive pole plate under the action of the dense micro-electrostatic matrix electric field, and are firmly adsorbed by it. The particles are then absorbed by the high-voltage electrostatic dust removal module, and they are carbonised at 3,000V high pressure, and thus completely killed.

The Cleaning Method

The Cleaning Method of the high-voltage electrostatic dust removal module is simple and easy. It can save a lot of filter consumables. The function of the CRP line-type plasma module is the same as the CRP needle-type plasma and the high-voltage electrostatic dust removal module, but they are only different in structure.



For enquiries, please contact **Mr Charles Lee of QCB Technologies Sdn Bhd**
at Tel: +603-90760250/Fax: +603-90760250 or E-mail: qcb-tech@live.com



TEEAM Bowling Tournament 2022

Date : 25 September 2022 (Sunday)
Time : 1.00 pm – 6.00 pm

Venue : Sunway Megalanes,
Sunway Pyramid Shopping Centre, Petaling Jaya.

For registration, please contact
Ms Philia at Tel: +603-9221 4417 E-mail: philia@teeam.org.my

Advertisers' Index

<i>Company</i>	<i>Page</i>	<i>Company</i>	<i>Page</i>
Alpha Automation (Selangor) Sdn Bhd	32	Samajaya Electrical Trading Sdn Bhd	72
Chi-Tak Electrical (Selangor) Sdn Bhd	4	SB Elektrik & Elektronik Sdn Bhd	70
DESEA Sdn Bhd	58	Schneider Electric Industries (M) Sdn Bhd	12
DNF Cable Sdn Bhd	OCB	Siemens Malaysia Sdn Bhd	56
EPI Marketing Sdn Bhd	28, 29	Stantric Sdn Bhd	66
Fajar Cables Sdn Bhd	42	Streamtec Industrial Sdn Bhd	26
EITA Power System Sdn Bhd	1	Success Electronics & Transformer Manufacturer Sdn Bhd	30
Fuseline Electric & Engineering Sdn Bhd	54	Sun Power Automation Sdn Bhd	IFC
Insteel (Malaysia) Sdn Bhd	46	Terasaki Electric (M) Sdn Bhd	22
Isolation Technology (M) Sdn Bhd	IBC	TJH2B Analytical Services Sdn Bhd	62
Gruppe Lighting Solution Sdn Bhd	20	Tonn Cable Sdn Bhd	2
KDK Fans (M) Sdn Bhd	6	United MS Cables Mfg Sdn Bhd	16
Kyodo Pipe Sdn Bhd	24	Utama Switchgear Sdn Bhd	36
Lima Technologies (Malaysia) Sdn Bhd	44, 45	VSD Automation Sdn Bhd	76
Master Tec Wire & Cable Sdn Bhd	10	Wise Pro Sdn Bhd	14, 48, 68, 78
Mal-Autonics Sensor Sdn Bhd	8	Wong Electrical & Teak Wood Sdn Bhd	40
Maxguard Switchgear Sdn Bhd	38	Wong Electrical & Teak Wood (Sel) Sdn Bhd	52
QCB Technologies Sdn Bhd	80		
Power Plug Busduct Sdn Bhd	82		
Program Electronic Sdn Bhd	74		

Remarks : IFC-Inside Front Cover
IBC-Inside Back Cover
OBC-Outside Back Cover

TEEAM Badminton Tournament 2022

22 & 23 October 2022 (Sat & Sun)
Sports Forum PJ, Section 16, Petaling Jaya

For registration, please contact Ms Philia.
Tel: +603-9221 4417
E-mail: philia@teeam.org.my

For enquiries, please contact the
following Committee Members:
Datuk Jacky Chen: +016-221 4909
Lim Chong: +012-298 5120
Danny Au: +019-219 6918
Lihna: +016-221 0000
Winnie: +016-283 9023





SAFETY FIRST

**Do YOU know we fabricate HIGH
QUALITY enclosures too?**



ISOTECH

enables me to have a premium and reliable products –
which makes **ISOTECH** a quick and economical
choice of solution.

www.isotech.my



ISOTECH

Your Engineering Partner



Bringing Power to your world

PRODUCTS AVAILABLE

- * **PVC**
MS2112-3 : 2009 / IEC60228 / BS6004
- * **PVC / PVC**
MS2102 : 2007 / IEC60502-1 / BS6346
- * **PVC / SWA / PVC**
MS2103 : 2007 / IEC60502-1 / BS6346
- * **XLPE / PVC**
MS2104 : 2007 / MS2106 : 2007 / IEC60502-1 / BS5467
- * **XLPE / AWA / PVC**
MS2105 : 2007 / IEC60502-1 / BS5467
- * **XLPE / SWA / PVC**
MS2107 : 2007 / IEC60502-1 / BS5467

