

Chairman's Message



It has been my great honour to be the Chair of CA Division 24/25 Session.

I am pleased to disclose that Session 24/25 is a fruitful one, as far as the CA Division (CAD) is concerned. Taking this golden opportunity, I have to express my sincere thanks to the Committee Members including the Observer and Convenors for having all the important activities like, Annual Dinner, International Summit, seminars at the HKIE, events of secondary schools, such as, The Finals and Award Presentation Ceremonies of the Wind Turbine STEAM Innovation Competition for the Hong Kong Primary and Secondary Students 2024 at South Tuen Mun Government Secondary School, etc. and various delegations have been/would be conducted with quality.

During the Annual General Meeting (AGM) of our Division, a PPT will be furnished to summarize the key events, such as the seminars in the HKIE with the details of attendees at the HKIE and online. It is necessary for me to render my sincere gratitude to Ir Louis YIU and Ms Crystal CHAN for their invaluable contributions.

For the CAD 24/25 Annual Dinner at Royal Plaza Hotel on 18th March 2025, the significant input from that Organizing Committee (OC) i.e., Ir Billy CHOW, Ir Tommy CHEUNG, Ir Dr Jacky WEN, Mr. CC TANG, etc. must be highly appraised. We had the senior officials, e.g., Ir Raymond POON, JP, Director of Electrical and Mechanical Services, Electrical and Mechanical Services Department, Ir Dr Ming GE, Commissioner for Industry (Innovation and Technology), Innovation, Technology and Industry Bureau, Mr. Ping Ho CHO, Assistant Director/Mechanical and Electrical, Water Supplies Department, Mechanical and Electrical Branch, Ir Dr the Hon WK LO, GBS, MH, JP, Legislative Council Member of HKSAR, Mr Joe Eddie Chou Kit WU, Legislative Assembly Member of Macao SAR and President of the Macau Institute of Engineers (AEM), Ir Eric MA, President, Ir Dr Barry LEE, MH, Immediate Past President, Ir Prof Frank CHAN, Deputy to the National People's Congress and Vice President, Ir Rupert LEUNG, Vice President, Ir Prof Alfred SIT, Chief Executive and Secretary, Ir Prof CC CHAN, GBS, Academician, Chinese Academy of Engineering, and industry leaders, such as Ir Prof Ricky LEUNG, Executive Director, Engineering & Technology, Airport Authority Hong Kong, Ir Francis CHENG, Managing Director, The Hongkong Electric Co. Ltd., Ir HK CHAN, Chief of Operations Engineering, Services & Innovation, MTR Corporation Ltd. & essential industry leaders like, Mr. Ivan SHANG, Senior Vice President, Siemens Ltd (China), Mr Davy GUO, Vice President, Siemens Ltd., Mr. Lindel SUN, Vice President, China Mobile (Hong Kong) Innovation Research Institute, and academics i.e. Prof Kenneth LEUNG, Dean, School of Energy and Environment, City University of Hong Kong, Ir Prof Philips WANG, Dean, School of Science and Technology, Hong Kong Metropolitan University, Dr Tze Shan LAM, Assistant Executive Director of Vocational Training Council, Vice Principal of Hong Kong Institute of Vocational Education (Tsing Yi) and Deputy Academic Director, Engineering Discipline, etc.

The delegations to various cities on Mainland were critical for the success of our flagship events; it was the root cause for having key members of the engineering professional bodies and related organizations in China

to participate/support our delegations. The delegation to Guangxi was definitely worthwhile to be emphasized as the senior officials were with us for a sound discussion of collaborations of related learned society activities and further potential cooperation with our CAI discipline. There would be a 2-day delegation to Ningbo held at the end of May 2025. The courtesy visit to Ningbo Municipal United Front Work Department and Ningbo Polytechnic is under arrangement. Furthermore, a 2-day delegation to Heyuan would likely be organized in June 2025. The courtesy visits to Heyuan Municipal United Front Work Department, the Heyuan Municipal Association for Science and Technology and Heyan Polytechnic could likely be held.

It is a great pleasure to share that many of our ‘partners’ have substantial contributions to our International Summit. The ‘Bona Fide’ relationship has thus been explicitly demonstrated, and we have been working together for the benefit of the members, profession and the society at large. I am indebted to the International Summit – Main Plenary OC, especially Ir Dr Tony LEE, OC Chairman, for the tremendous effort rendered; as a result, it is believed that the event could very likely to be professionally conducted in Hong Kong Metropolitan University on 13th May 2025. For the International Summit – Part 2 OC, especially Ir Billy CHOW, his outstanding leadership for the said activity in Chengdu on 22nd April 2025 deserve our great salute without hesitation.

It is thrilled to announce that we have a table tennis team. The team members are as follows:

Captain – Ir Prof Eddie LOCK

Coach – Mr CC TANG

Advisor – Ir Prof Louis LOCK

Key Players – Ir Steve LO, Mr Andy TAM, Mr Edric TANG and Ir Dr Gary TSE

I have been treasuring my chairmanship of 24/25 Session, and I do hope we shall have similar support from the members, senior officials, professionals, academics and industrialists from Hong Kong and Mainland again.

Thank you very much!

Ir Prof Louis LOCK

AP(HK)MBA DBA HonDEng HonFUCLan HonFInstMC HonFSOE HonFIPlantE HonFGDIE HonFIIUS, HonFIIM

FHKIE RPE CEng CEnv Senior Engineer (Professor Level)

Chairman (24/25 Session)

The HKIE Control, Automations and Instrumentation Division

Flagship Events

1. CAD 24/25 Annual Dinner – Ir Billy CHOW

The gathering was held at Royal Plaza Hotel on 18th March 2025. It is hoped that the division members, related professionals and guests from government, utilities, consultants, contractors etc. could enjoy a friendly gathering and share the updated/best practices and experiences. Ir Raymond POON, JP, Director of Electrical and Mechanical Services and Ir Dr Ming GE, Commissioner for Industry (Innovation and Technology) and Immediate Past Chairman of the CAD, delivered Keynote Addresses and officiated the event with the senior officials like, Mr. Ping Ho CHO, Assistant Director/Mechanical and Electrical, Water Supplies Department, Mechanical and Electrical Branch, Ir Dr the Hon WK LO, GBS, MH, JP, Legislative Council Member of HKSAR, Mr Joe Eddie Chou Kit WU, Legislative Assembly Member of Macao SAR and President of the Macau Institute of Engineers (AEM), Ir Eric MA, President, Ir Dr Barry LEE, MH, Immediate Past President, Ir Prof Frank CHAN, Deputy to the National People's Congress and Vice President, Ir Rupert LEUNG, Vice President, Ir Prof Alfred SIT, Chief Executive and Secretary, Ir Prof CC CHAN, GBS, Academician, Chinese Academy of Engineering and industry leaders, such as, Ir Prof Ricky LEUNG of Airport Authority Hong Kong, Ir Francis CHENG of The Hong Kong Electric Co. Ltd., Ir HK CHAN of MTR Corporation Ltd, representatives of local tertiary institutions, e.g., Prof Kenneth LEUNG of Hong Kong College of Technology, Ir Prof Philips WANG of Hong Kong Metropolitan University, Dr Tsz Shan LAM of Vocational Training Council and distinguished guests from counterparts of Mainland, like, Prof YH LIU of Guangdong Automation Association/Guangdong Mechanical Engineering Society, Prof GX LIU of Guangdong Institution of Engineers, Mr YF LI and Mr DC AN of Shenzhen Automation Association, Mr. ZR ZENG and Ms QL GUO of Shenzhen Experts United Association, etc. As mentioned before, I have to express my sincere thanks to the OC especially Ir Billy CHOW, OC Chairman, for his valuable contributions.

2. CAD 24/25 International Summit – Main Plenary and Part 2 – Ir Dr Tony LEE and Ir Billy CHOW

The International Summit – Main Plenary is a 2-day event with the theme of “CA Engineers Linking AI, Low Altitude Economy and New Quality Productive Forces”. The 1st Day of the event will be held in hybrid mode at Hong Kong Metropolitan University on 13th May 2025. Ir Prof Dong SUN, JP, Secretary for Innovation, Technology and Industry, Ir Roger WONG, JP, Director of Water Supplies, Ir Raymond POON, JP, Director of Electrical and Mechanical Services, Ir Dr the Hon WK LO, GBS, MH, JP, Legislative Council Member, Ir Prof CC CHAN, Academician of Chinese Academy of Engineering, Ir Rupert LEUNG, Vice President and Ms Emma THOMPSON, Executive Director, Society of Operations Engineers, UK have accepted to deliver keynote/special addresses in the morning session of the 1st Day of the event. Distinguished guests from counterparts of Mainland such as Mr. Joe Eddie Chou Kit WU of The Macau Institute of Engineers, Prof GX LIU of Guangdong Institution of Engineers, Mr. HH WANG of Guangxi Association for Science and Technology, Mr YH WU of China Instrument and Control Society will deliver their special addresses in the first part of the afternoon session. There will be a panel discussion with topic of “The Challenges and Opportunities of CAI Engineers for Low Altitude Economy in Greater Bay Area” right after the break. The guests from counterparts

of Mainland, e.g., Dr J YANG, President of Shenzhen Automation Association, Ms. QL GUO of Shenzhen Experts United Association, etc. The panel discussion will be chaired by Ir PK LEE, JP and co-chaired by Ir CM CHAN. A number of professionals and academics will deliver their presentations regarding the latest development and implementation of emerging technologies for Low Altitude Economy such as AI technology, IoT, robot application in different industries and so on. My heartfelt gratitude to the OC, especially Ir Dr Tony LEE, OC Chairman, for his dedication and the continuous support from the senior officials and the industry leaders, like Airport Authority Hong Kong, Thee Hongkong Electric Co. Ltd., China Mobile Hong Kong Co. Ltd., MTR Corporation Ltd., etc. For Day 2 of the event, the visits to InnoZone of the Headquarters of Electrical and Mechanical Services Department and the Legislative Council Complex and meetings with Ir Dr Ming GE and Ir Dr the Hon WK LO are under arrangement.

In the Part 2 of the event, there will be 4 academics to share their expertise on Application of Simulation and Emulation on Control and Automation, Introduction of Digitalized Factory, Application of Robotics in Construction Industry and BIM Integrated Online Monitoring Platform. right after the welcoming and opening addresses. Heartfelt gratitude to the OC especially, Ir Billy CHOW, Ir Tommy CHEUNG, Dr Lisa SHAM, and Mr Ryan LI for their unfailing support.

3. CAD 24/25 Technical Seminars/Webinars – Ir Louis YIU and Ms Crystal CHAN

The details of the CAD 24/25 Technical Seminars/Webinars are presented in the table below.

Date	Topics	Guest Speakers	Number of Participants (on-shot and online)
30 th Jul 2024	Exploring Safety Improvements through Proactive Use of the Smart Site Safety System in Hong Kong	Ir Dr Leo FUNG	Around 640 participants including 620 participants (online) and 20 participants (on-spot)
31 st Oct 2024	Transforming VR Construction Training through BIM and Multiplayer System	Ir Julian YAM and Mr. Desmond HO	Around 400 participants including 380 participants (online) and 20 participants (on-shot)
21 st Nov 2024	Electric Vehicle Charging Solutions	Ir Ian LEE	Around 450 participants including 11 participants (on-spot) and 430 participants (online)
6 th Dec 2024	Panel Discussion on “Role of CAI Professionals for New Quality Productive Force”	Ir Billy CHOW, Ir Dr Tony LEE, Dr Lisa SHAM, Ir Prof CM CHAN, Ir Dr Leo FUNG and Ir Prof Eddie LOCK	Around 320 participants including 20 participants (on-spot) and 300 participants (online)

19 th Dec 2024	Structural Performance of Wire Arc Additively Manufactured High Performance Steel	Ir Dr Yancheng CAI of Hong Kong Metropolitan University	Around 310 participants including 300 participants (online) and 10 participants (on-spot)
23 rd Jan 2025	Implementation of Advanced Metering Infrastructure by Water Supplies Department in Hong Kong	Ir Charles LAW of Water Supplies Department, The Government of the HKSAR	Around 400 participants including 380 participants (online) and 20 participants (on-spot)
12 th Mar 2025	Automatic Inspection Robot - InspeSpider	Mr Herman CHOW and Mr Aries LAM of Hong Kong Productivity Council	Around 611 participants including 600 participants (online) and 11 participants (on-spot)
6 th May 2025	Megawatt Charging System (MCS) for Electric Vehicles	Mr. Ethan CHEN	TBC

4. CA 24/25 Paper Competition – Ir Prof Eddie LOCK and Dr Lisa SHAM

The captioned competition was organized by the Control, Automation & Instrumentation Division (CAD) and co-organized by the Institute of Measurement and Control, Hong Kong Section with the aim to promote the Control, Automation & Instrumentation technologies and to encourage young / potential engineers and technologists to join us.

The candidates/participating teams were invited to furnish a Paper related to the theme of “Automating Nexus, CA Engineers Linking AI, Low Altitude Economy and Sustainability” or any paper related to “Control, Automation and instrumentation Technologies” to support the event.

12 papers with quality were received before the deadline of submission. The best paper(s) were selected by the Judging Panel. The selection was based on the academic merit, innovativeness and potential application of the ideas, and writing style of the papers. Each awarded paper was awarded with a cash prize and a certificate. Awards would be presented at the prize presentation ceremony in Hong Kong. The awarded papers would be published in an edited book.

The results of the submission are disclosed in the following table.

Level(s)	Title(s) of Awards	Topic(s) of Paper(s)	Awardee(s)
Tertiary Level	Outstanding Paper	Design Optimization for Green and Reusable Sand-based Motor Housing	CY MA, SH REN, LR YAN, Max TM CHOY, ZY QIN and Tony SH WONG
Undergraduate Level	Outstanding Paper(s)	The Improvement of the Existing Way for Practical Measurements of Lift Systems	TC NG
		An Investigation of the Singal Integrity for Mitigation of	CK MAK

		Electromagnetic Interference for High-speed Connector at Shau Kei Wan MTR Station	
Postgraduate Level	Paper(s) of Excellence	Transformable Pipeline Maintenance Robot for Underground Pipe Rehabilitation	Colin PY CHAN, CH SO, CY HO, ZJ QU, KH KOH, TH WONG, KH SHIU, M FARHAN and King WC LAI
		Implementation of Artificial Intelligence for District Cooling System (DCS) at Hong Kong-Zhuhai-Macao Bridge Hong Kong Port	Oscar KC CHAN, Rocky HF LAU and Christopher YH CHAO
		The Engineering Applications of Electromagnetic Induction Technology for Scale Prevention in Water Processing Systems	YCR HO and CC LEE
Working Professional Level	Outstanding Paper(s)	AI-Driven Railway Regulator Inspection Planning System: Enhancing Railway Safety Inspection Prioritization and Incident Management	Coe MY CHIU
		Enhancing Train Availability through Insulated Overlaps for the Overhead Rigid Conductor Rail System in the Shatin Central Link Project of MTR	PH MAN
		Artificial Intelligence-assisted, Data-informed Automatic Damage Identification based on Guided Ultrasonic Waves	L XU
		Feasibility of Achieving Fast ROCOF-based LOM Protection- A Case Study of Hong Kong Distribution Network	SH WONG, D LIU, C BOOTH, MH CHOW, A Dysko, MH CHOW and Q HONG
		阻抗匹配與鞭打發力	王林及王靜遠

I have to express my sincere gratitude to the OC, especially, Ir Prof Eddie LOCK, OC Chairman and Dr Lisa SHAM, Co-Chairman and the members of Judging Panel of the key event for their significant contributions.

Note of Appreciation

Sincere gratitude to the OC Chairmen and their members of the key events for their significant contributions! Moreover, I have to show my appreciation to our Office Bearers, Ir Billy CHOW, Ir Tommy CHEUNG and Ir Kent LAM for coordinating the general/normal operations of our Division; Committee Members, like Ir Ivy CHAN & Ir Giselle Yip, and Ex-officio Members, i.e., Ir Paul CHAN, Representative of SSC and Mr. CC TANG, Representative of AMC and Mr William LI, Representative of YMC, Co-opted Members and Convenors, like Ir Prof CM CHAN. Ir Dr Leo FUNG, Ir Dr Stephen LAM, Ir Dr Jacky WEN & Dr Lisa SHAM for their great support to the success of our CAD flagship events have to be appropriately appraised/recorded. Again, allow me to give my sincere thanks to Ir Louis YIU and Ms. Crystal CHAN for their coordination of seminars/webinars at the HKIE and Ir KM LO for his contributions to the CAD webpage.

Positions	Names in Full
Chairman	Ir Prof Louis Fat Shing LOCK
Immediate Past Chairman	Ir Dr Ming GE
Deputy Chairman	Ir Billy Man Hon CHOW
Honorary Secretary	Ir Tommy Ho Yeung CHEUNG
Honorary Treasurer	Ir Kent Wing Keung LAM
Public Service Committee (PSC) Representative	Ir Giselle Chung Wa YIP
Continuing Professional Development Committee (CPDC) Representative	Ir Ping Kuen LEE, JP
Council Member (Division)	Ir Dr Shu Lun MAK
Discipline Representative	Ir Alain Siu Wah TANG

CAD Membership

The total number of CAD members is 1,433 as of 7th April 2025.