

# REPORT FROM DIVISIONS AND OTHER COMMITTEES 2019/2020



**Ir Dennis HUI King Wai**  
Chairman, Aircraft Division



**Ir Prof Richard SO Hau Yue**  
Chairman, Biomedical Division



**Ir Alcohol MOK Kwok Ho**  
Chairman, Building Division



**Ir Dr Anthony LO Chi Wah**  
Chairman, Building Services  
Division



**Ir Thomas LAU Ming Yu**  
Chairman, Civil Division



**Ir LEUNG Chun Sing**  
Chairman, Control, Automation &  
Instrumentation Division



**Ir Tony YEUNG Kwong Tung**  
Chairman, Electrical Division



**Ir John CHAN Kwan Wing**  
Chairman, Electronics Division



**Ir Thomas CHAN Chung Tak**  
Chairman, Environmental Division



**Ir Thomas CHUNG Chit Chun**  
Chairman, Fire Division



**Ir Prof Joseph CHI Wuh Jian**  
Chairman, Gas & Energy Division



**Ir Chris LEE Tsz Leung**  
Chairman, Geotechnical Division

## June 2019

### Information Technology Division:

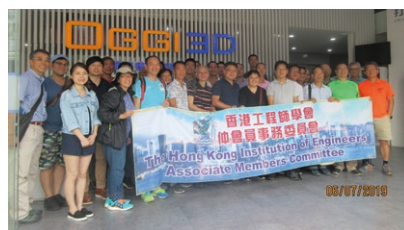
The annual Robocon contest aimed at inspiring and stimulating students' interest in robotics and STEM. Working in teams, students applied robotic technologies and artificial intelligence (AI) to create robotic prototypes designed to complete a set of tasks. A record 13 teams from seven higher education institutions participated in the Asia-Pacific Robot Contest 2019 Hong Kong Contest.



## July 2019

### Associate Members Committee:

Around 30 participants joined a technical visit organised by the AMC to study the operation of a 3D Printer factory in Shunde, China, on 6 July 2020.



### Biomedical Division:

The BM Division participated in 「第一屆生物醫學工程創意競賽之『愛·創耆樂』設計賽」 on 13 July 2019. Designed to foster the innovative spirit of primary and secondary school students for biomedical engineering, the event invited future engineers to showcase their creativity and the fruits of a STEM education. Four committee members joined the competition's judging panel and provided comments and recommendations on possible enhancements as well as on the technical and commercial feasibility of the submitted projects.



### Building Services Division:

Themed "Innovative Water Management", the Water Conference 2019 took place on 12 July 2019. Eight speakers delivered presentations on topics like fresh water supply, water safety management at healthcare facilities, water conservation, sewage treatment, nano technology application, leakage management and energy efficiency designs. The guest of honour, Ir C L Wong, Director of Water Supplies, delivered a keynote speech on the innovative development of Hong Kong's water supply system. More than 180 guests and members attended the conference.





**Ir Dr NG Chak Man**  
Chairman, Information  
Technology Division



**Ir Prof Patrick LEE Po Cheung**  
Chairman, Logistics &  
Transportation Division



**Ir Dr Eric LIU Sai Lok**  
Chairman, Manufacturing &  
Industrial Division



**Ir Raymond WAN Wai Man**  
Chairman, Materials Division



**Ir Richard CHAN Chi Wai**  
Chairman, Mechanical, Marine,  
Naval Architecture & Chemical  
Division



**Ir Prof Vincent Simon HO**  
Chairman, Nuclear Division



**Ir Prof Ben YOUNG**  
Chairman, Structural Division



**Mr Tommy CHAN Fai Ki**  
Chairman, Associate Members  
Committee



**Ir Dr LAU Chi Keung**  
Chairman, AP/RSE/RGE  
Committee



**Ir PAU Wai Keung**  
Chairman, Safety Specialist  
Committee



**Ir Rachel NG Hoi Ching**  
Chairman, Young Members  
Committee

### Information Technology Division:

Targeting junior secondary students, the Mini Robocon competition was introduced in 2018 as an extension of Robocon, the annual robotics competition for university students in the Asia-Pacific region. Around 500 contestants participated in the Hong Kong Secondary School Students Mini Robocon Contest 2019 organised by the IT Division on 21 July 2019.



### Logistics & Transportation Division:

On 19 July 2019, the LT Division arranged a technical visit to the Hong Kong International Airport (HKIA) for 20 participants. The visit provided an invaluable opportunity for participants to understand HKIA's evolution into a world class smart airport as they explored HKIA's smart airport ecosystem and smart infrastructure, from its travel smarter, myTAG and automated self-serviced check-in to its innovative use of face as single token for a journey.



### Materials Division:

The Division organised a technical visit to a glass-fibre reinforced polymer (GFRP) factory in Guangzhou on 6 July 2019. The event offered an excellent opportunity for knowledge transfer between professionals from Hong Kong and the Greater Bay area. The 30-member delegation also learned about how the factory made use of composite GFRP materials in tunnel and cavern works to provide a permanent reinforcing solution suitable for projects with a 50, 100 or even 120 years lifetime.



### Mechanical, Marine, Naval Architecture & Chemical Division:

A group of engineers from the MC Division participated in the Reef Check 2019 on 14 July 2019 to support the conservation of marine life.



## August 2019

### Civil Division:

The CV Division organised the “Engaging the Young – Tsing Yi IVE STEM Summer Camp” on 7 August 2019. Aimed at introducing secondary school students to life as a professional engineer, the event attracted around 50 enthusiastic students.



### Control, Automation & Instrumentation Division:

The CA Division held a seminar on “A Preliminary Sharing of Strength and Opportunities of Hong Kong Professionals for Sustainable Development in Belt and Road/Greater Bay Area” on 26 August 2019. Delivered by Ir Prof Louis Lock, the seminar investigated the opportunities and challenges engineers may expect to encounter in these places. Around 100 participants attended the seminar.



### Electronics Division:

On 27 August 2019, the EN Division organised a technical seminar on “The Evolution of Cyber Security Landscape” for 40 participants. Delivered by Mr Wilson Wong of the Hong Kong Internet Registration Corporation Limited, the seminar reviewed Hong Kong’s cyber security situation and potential preventive measures.



The same month, the Division arranged a technical visit to InnoTours@EMSD InnoZone as part of their Smart Innovation Series, during which 25 participants enjoyed exhibits on topics like the Internet of Things (IoT), automation, artificial intelligence and energy efficiency technologies.



### Environmental Division:

The EV Division held a technical seminar on “Public Engagement for Long-term Decarbonisation Strategy” on 16 August 2019. The event featured Mr C Y Lam, Convenor, Support Group on Long-term Decarbonisation Strategy, Council for Sustainable Development, and Mr Darwin Leung of the Policy for Sustainability Lab, Centre for Civil Society and Governance, The University of Hong Kong.



### Geotechnical Division:

A 25-member delegation joined a technical visit to the Netherlands organised by the GE Division on 25-31 August 2019 to learn about global practices on land reclamation, coastal resilience and spatial urban design.



## September 2019

### Biomedical Division:

Ir Prof Richard So and Ir Karon Lo published an article in Mingpao Jump to share their insights and experiences about the career prospects and future development in the field of biomedical engineering.

### Environmental Division:

The EV Division arranged a technical seminar entitled “Review of the Air Quality Objectives” on 23 September 2019. Presented by Mr C W Tse, Under Secretary for the Environment, the HKSAR Government and Mr Dave Ho, Assistant Director (Air Policy) of Environmental Protection Department, the HKSAR Government, the event attracted 60 participants.



### Manufacturing & Industrial Division:

The MI Division organised a technical seminar on “Smart Manufacturing – How to Use Digitalisation/Management to Improve Productivity?” on 7 September 2020. Three distinguished industry speakers shared their experience on smart manufacturing with around 130 participants. A panel discussion was also arranged after the sharing session.



### Mechanical, Marine, Naval Architecture & Chemical Division:

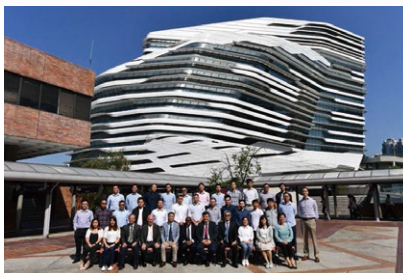
A technical seminar entitled “First Female Qualifies as Chief Engineer on Seagoing Vessels in Hong Kong” was held on 5 September 2019. Ms Joanna Kwok, the first woman in Hong Kong who qualified as a chief engineer of seagoing vessels, shared her experience in breaking the glass ceiling in a male-dominated industry.



## October 2019

### Aircraft Division:

The AC Division collaborated with Cranfield University to deliver a 10-day Hong Kong Airworthiness Course to 30 participants at The Hong Kong Polytechnic University’s Aviation Services Research Centre on 14-25 October 2020. Recognised by the Hong Kong Civil Aviation Department, this course is also covered by the Professional Training and Examination Refund Scheme under Maritime and Aviation Training Fund.



### Associate Members Committee:

Around 30 participants joined a technical visit organised by AMC to study the operation of a fire equipment manufacturer in Shunde, China, on 19 October 2020.



### Building Division:

On 19 October 2019, 11 participants joined a technical visit to the Safety Experience Training Centre of the Hong Kong Institute of Construction, Kwai Chung Campus organised by the BD Division. In addition to learning about the importance of work safety on construction sites, they gained a better understanding of the hidden and potential dangers associated with various types of equipment and machines on site.



The same month, the Division organised a technical visit to the Tseung Kwan O Data Centre for 30 participants, during which a site walk was arranged for them to experience the high-standard technical suite on site and the safe and efficient production line in the flying factory.



### Building Services Division:

Held from 15 October to 26 November 2019, the Joint Comprehensive Certificate Course on HVAC & R System in Buildings 2019 offered by the BS Division attracted more than 2,000 participants who followed 12 classes featuring in excess of a dozen speakers.



### Electrical Division:

More than 300 participants attended the EL Division’s 37th Annual Symposium under the theme of “Innovation for Engineering Advancement”. Speakers from the public and private sectors, academic institutions, utility companies and the Airport Authority presented eight technical papers. The opening address was given by President Ir Ringo Yu. Mr K K Ling, Director of Jockey Club Design Institute for Social Innovation, the Hong Kong Polytechnic University acted as keynote speaker while Ir Prof H C Man, Dean of Faculty of Engineering at the same institution delivered the closing address. A renowned standup comic also presented a special talk on innovation.



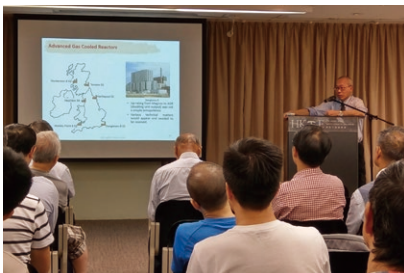
### Gas & Energy Division:

Around 30 participants joined a study tour to Foshan on 25-27 October 2019 to get familiarised with the technology and operation of fuel cell light rail transit, hydrogen buses and filling stations in Mainland China, as the development of the hydrogen economy emerges as a future trend.



### Nuclear Division:

Held on 2 October 2019, a technical seminar on “A Tale of the British Gas-Cooled Reactor Programmes” attracted 50 participants. Speaker Ir Richard Fung explained rationale for using gas-cooled reactor (GCR) technology while highlighting the challenges and possible solutions associated with the use of this technology.



## November 2019

### Aircraft Division:

The AC Division organised a technical visit to the Singapore Airshow 2020 on 10-13 February 2020. Several meetings and visits to local engineering institutions and aviation organisations were cancelled due to the COVID-19 pandemic but the delegation’s 19 members still managed to enjoy the flying and aircraft static displays, forums and networking sessions held as part of the Airshow.



### Building Division:

A delegation comprising 30 members visited the Zhuhai Plant of China State Hailong Construction Technology Company Limited on 23 November 2019. Participants had the opportunity to learn about the company’s modern production line for precast units – Design for Manufacturing and Assembly (DfMa) and Modular Integrated Construction (MiC).



### Civil Division:

The Student Liaison Group of the CV Division arranged two sessions of job-seeking information sharing and mock interviews for around 30 university students in November 2019 to help students prepare for the upcoming the job-seeking season.



### Control, Automation & Instrumentation Division:

The China Instrument and Control Society invited the CA Division to join the 2019 World Sensors Summit held on 8-10 November 2019 in Zhengzhou, China. The 10-member delegation was led by Ir Prof Louis Lock, who also shared his insights about how experts in the field of control, automation and instrumentation engineering can play a role in the Greater Bay Area.



### Electronics Division:

A technical seminar on “Wireless Drone Deployment – Past and Near Future” was held on 6 November 2019. Mr Stanley Lau, Civil Aviation Department of the HKSAR Government, gave an overview of the development of Unmanned Aircraft System (UAS), using examples from commercial and DIY wireless drones. He also shared and discussed the current and future drone applications with the 40 participants.



### Fire Division:

Held on 7 November 2019, the “Modular Integrated Construction Seminar” was organised jointly by the FE Division, The Institution of Fire Engineers (IFE) Hong Kong Branch, The Chartered Institute of Plumbing and Heating Engineering – Hong Kong Branch and The Hong Kong Polytechnic University to exchange knowledge across various disciplines. The event attracted a full house of 140 participants.



The same month, the FE Division co-organised a technical seminar on “Staircase Pressurisation System” with IFE Hong Kong Branch. Elaborating on the design of staircase pressurisation systems used in modern building applications, the oversubscribed event attracted in excess of 140 participants.



### Gas & Energy Division:

The EG Division arranged a visit to Macau on 23 November 2019. The 40-member delegation toured various natural gas facilities and applications, including the gas receiving station, network control centre and CNG filling station of Nam Kwong Natural Gas Company Ltd. They also went to MGM Cotai to understand the site’s energy saving strategies and overall LV and MV distribution system.



### Materials Division:

On 2 November 2019, 30 participants joined a technical visit to a glass factory in the Greater Bay Area organised by the MT Division. The trip enabled participants to gain new insights about the glass manufacturing, from glass cutting, tempering, and jumbo size fabrication to lamination, heat soaking and quality control. The visit also helped promote knowledge transfer and sharing between Hong Kong and the Greater Bay Area.



### Safety Specialist Committee:

The SSC held a technical seminar on “Adopting Agile Project Management for Innovation” on 1 November 2019 for 100 participants. The presentation outlined the agile project management approach in innovation projects, highlighting that innovation is key to succeed in today’s fast-changing business environment. Since high degrees of uncertainty are inevitable in both the solution requirements (what to do) and the use of technology (how to do it), agile project management is an effective approach in tackling these challenges.



## December 2019

### Civil Division:

Co-organised by the Civil Engineering and Development Department (CEDD) and the CV Division, the Joint CEDD-HKIE International Conference 2019 was held on 2 December 2019 under the theme of “Intelligent and Sustainable Development from Reclamation and Beyond”. Covering a range of reclamation-related topics including climate change and resilience, technology and design, urban planning, social and economic benefits, smart city and sustainable development, the event attracted more than 370 participants.



### Logistics & Transportation Division:

Held by the LT Division on 3 December 2019, the International Symposium on Road Congestion Charging fostered discussions and knowledge exchange about road congestion charging among international experts, local scholars, professionals and the public. Speakers from the United States, the United Kingdom, Singapore, Australia and Sweden shared innovative ideas and practical solutions with 160 participants. Ir Frank Chan, Secretary for Transport and Housing, acted as the event's guest of honour.



### Materials Division:

The MT Division hosted a technical seminar on "SAS Thread Bar Systems and Their Application". Held on 18 December 2019 and featuring Mr Torsten Voss of Stahlwerk Annahutte (SAH), a world-renowned German specialist in the manufacture of steel bars and thread bar systems, the event attracted 50 participants who were introduced to innovative thread bar systems, high strength steel (up to grade 950) and ultra-low temperature steel for applications under cryogenic condition down to  $-165^{\circ}\text{C}$ .



### Young Members Committee:

On 14 December 2019, 20 participants joined a technical visit to the Stanley Sewage Treatment Works, which is the largest secondary sewage treatment works and the first sewage treatment works built inside caverns. The visit allowed the participants to explore the treatment process while witnessing the project's environmental and community benefits.



The YMC also arranged a delegation to Hunan (湖南工程文化考察團) on 21-29 December 2019, with a theme of "Railway • Water • Resources • History • Culture" (「鐵路 • 水資源 • 歷史 • 文化」). During this nine-day tour, the 19-member delegation learned more about the electric locomotive and machinery industries while investigating the utilisation of water resources in Hunan Province. The group also visited Zhangjiajie and Hengshan and learned about the Tujia culture.



## January 2020

### Environmental Division:

Held on 8 January 2020, The HKIE Environmental Division Annual Reception 2019 attracted 200 participants, including guest of honour Ms Maisie Cheung, Permanent Secretary for the Environment/ Director of Environmental Protection. The Annual Reception is one of the EV Division's most important events which seeks to foster discussions between members and guests on current environmental issues while strengthening their partnership in a casual and friendly atmosphere. It is also one Hong Kong's most prestigious and well-attended environmental events.



### Gas & Energy Division:

The EG Division held a seminar on 4 January 2020 to share insights about plate tube evaporative condensed chiller, a technology used to save energy. The seminar was followed by a technical visit to a chiller installation project at the E&M factory of the Water Supplies Department. Around 45 participants joined the event.



### Geotechnical Division:

On 11 January 2020, the GE Division arranged a site visit to Cross Bay Link, Tseung Kwan O, for a group of 25 participants interested to learn about the latest developments in reclamation and marine geotechnics in Hong Kong.



### Manufacturing & Industrial Division:

A technical visit to BYD (比亞迪) Shenzhen and ZTE (中興通訊) was arranged by MI Division and co-ordinated by Shenzhen Association for Science and Technology. The 20 participants gained a better understanding of the latest developments in electro-automotive manufacturing technology, 5-G technology and related applications.



### Mechanical, Marine, Naval Architecture & Chemical Division and the Young Members Committee:

The MC Division and the YMC jointly organised the “Young or Ready Series: A Route to become a Professional Mechanical Engineer”. Held on 7 January 2020, the event invited experienced engineers and assessors of the professional assessment from the Mechanical Discipline to share their views and give tips to young members interested in attempting the professional assessment.



### Young Members Committee:

Held on 18 January 2020, the “Leadership Training Camp – Try & Go” gave 50 engineering students and young members the opportunity to explore their talents and passion, appreciate teamwork, and develop skills to be future leaders via a series of group-based activities.



### Safety Specialist Committee:

The SSC held its 14th Student Project Competition on 14 January 2020. Aimed at promoting safety engineering and scientific innovation, the competition gives engineering students from sub-degree to doctoral levels a platform to showcase their engineering capabilities and share the learning process in safety regime. A total of 10 students took part in the competition. The Assessment Panel comprised Ir Dr C M Ho, Ir Paul Chan, Ir W K Pau, Ir Kelvin Leung and Ir Simon Tsui.



## February 2020

### Structural Division:

Launched between February and May 2020 the Structural Excellence Award 2020 aimed at promoting excellence in structural engineering while conferring professional recognition to fellow structural engineers for their outstanding achievements in structural engineering. This year, six Grand Awards, 12 Commendation Merits and seven Finalists were bestowed.

### Structural Division:

The ST Division organised a technical visit to the West Kowloon Cultural District on 18 January 2020 during which 30 participants explored the Lyric Theatre Complex. Pitched at a centre of excellence set to showcasing the best of Hong Kong and international dance and theatre, it will feature a 1,450-seat lyric theatre, a 600-seat medium theatre and a 270-seat studio theatre.



## March 2020

### Building Services Division:

In view of the COVID-19 outbreak, the BS Division and the Construction Innovation and Technology Application Centre of the Construction Industry Council jointly organised two webinars on “Building Services Design and Installation Against the Outbreak of COVID-19” in March 2020. The events were well received by an overwhelming attendance of 1,400 participants. The speakers included Ir C K Wong, Ir Antonio Chan, Ir Colin Chung and Ir Dr Francis Yick.



## April 2020

### Aircraft Division:

The AC Division introduced the HKIE Aviation Scholarship for Outstanding Engineering Students. A judging panel composed of Past Chairmen interviewed five candidates, before selecting two awardees who were each presented a prize of HK\$10,000 in a ceremony held after the Division’s Annual General Meeting on 24 April 2020.



### Nuclear Division:

The NE Division held a technical seminar on “Fusion Plasma Technology from Nuclear Power to Industrial Applications” on 17 April 2020. Ir Prof Herman Tsui presented the challenges associated with fusion technology and the successful applications of air sanitiser in the fight against COVID-19 to approximately 60 attendees.



## May 2020

### Biomedical Division:

Around 40 participants joined a seminar titled “COVID-19 Supporting Front Line from a Medical Manufacturer’s Perspective” on 11 May 2020 during which Ir David Wong, shared how to fight COVID-19 from the perspective of medical device manufacturer.



### Control, Automation & Instrumentation Division:

Held under the theme of “Knowledge Transfer • Our Commitment for the Future”, The CA Division 2019/2020 Paper Award attracted 20 papers submitted under the categories of undergraduate, postgraduate and working professionals. Ir Dr S L Mak was the Chairman of the Organising Committee of the Award, which selected nine outstanding papers. Winners were revealed during the Division’s Annual General Meeting, held on 8 May 2020.



### Electrical Division:

The EL Division arranged a series of technical seminars during the Session, inviting local and overseas experts across various areas of electrical engineering to deliver talks on topics ranging from hardware electrical systems to design thinking in engineering. In May 2020, the Division held the first webinar on “Innovative Ways to Execute E&M Projects”. Held during the COVID-19 pandemic, it attracted more than 240 participants.



### Geotechnical Division:

Delivered as a webinar, the GE Division's Annual Seminar focused on "Geotechnical Engineering Excellence and Essentials – Quality Assurance for Design and Construction". Featuring two keynotes and the presentation of 15 papers, it was well received by around 400 participants, both in Hong Kong and overseas.



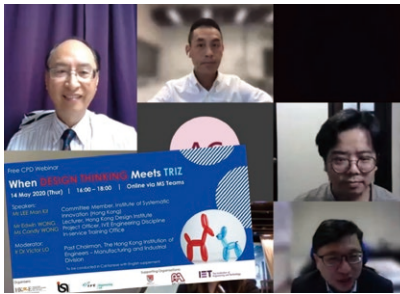
### Logistics & Transportation Division:

Two students won the Best Student Paper Awards 2019 organised by the LT Division. The winning papers – "Workflow Study of Internet of Things (IOT) Application for Smart Manufacturing" and "Expanding the Capacity of Fulfilling Logistics Service Through Emergent Vehicle Routing Optimisation Technologies" – both explore how the use of advance technology can enhance operational efficiency and improve risk management.



### Manufacturing & Industrial Division:

Held on 14 May 2020 by the MI Division, the webinar "When Design Thinking meets TRIZ" aimed at promoting innovation by broadening innovative thinking and enrich the understanding of innovation methodologies. Design Thinking and Theory of Inventive Problem Solving (TRIZ) experts shared their views, showcased examples and discussed the strengths and weaknesses of both these approaches. The webinar, which attracted around 400 participants, concluded with a panel discussion.



### Civil Division and Safety Specialist Committee:

The CV Division and the SSC conducted a joint technical visit to the temporary quarantine camp at Penny's Bay on 16 May 2020 during which Vice President Ir Aaron Bok gave a briefing on the challenges associated with building the camp on this 7 hectares site. Being the results of the joint effort of three government departments and three contractors, the project of 110 modules was completed in only 72 days, a feat made possible by using modular integrated construction technology.



## June 2020

### Electrical Division:

More than 400 participants joined the four professional short courses offered by the Electrical Division in June 2020. Experienced engineers, professors and industry practitioners were invited to deliver courses covering the latest technology and regulations in electrical engineering. Due to the COVID-19 pandemic, both classroom lectures and online broadcasting were arranged simultaneously for each class to allow participants to attend either in-person or online.

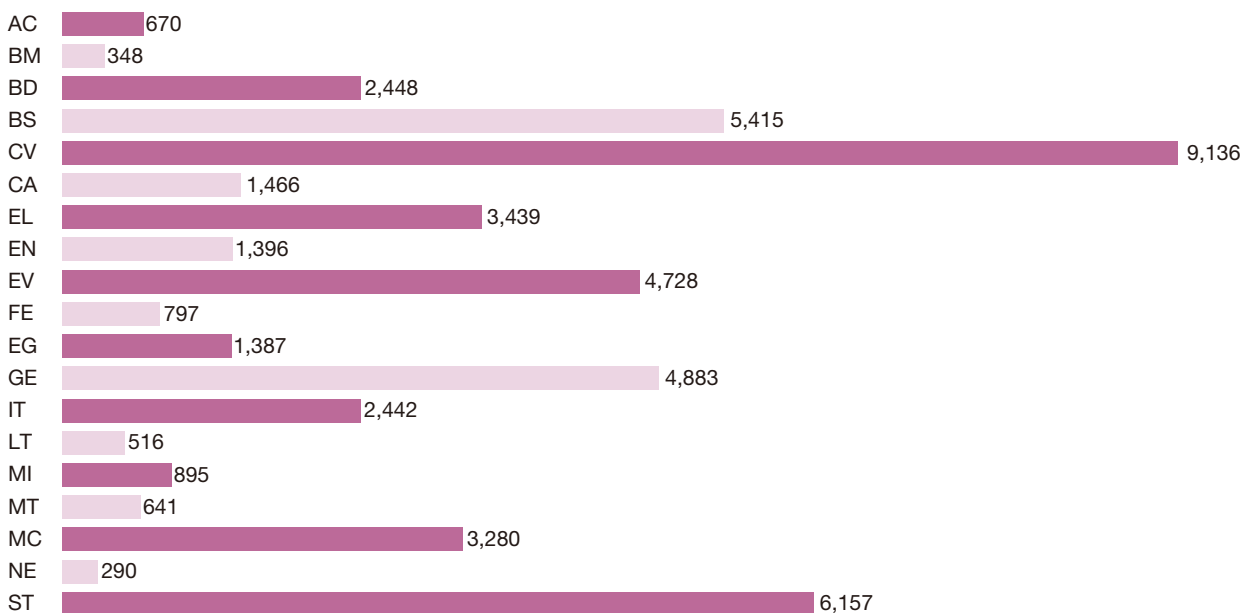
## Membership of Divisions/Committees

(As at 23 June 2020)

Division		Membership
Aircraft Division	AC	670
Biomedical Division	BM	348
Building Division	BD	2,448
Building Services Division	BS	5,415
Civil Division	CV	9,136
Control, Automation & Instrumentation Division	CA	1,466
Electrical Division	EL	3,439
Electronics Division	EN	1,396
Environmental Division	EV	4,728
Fire Division	FE	797
Gas & Energy Division	EG	1,387
Geotechnical Division	GE	4,883
Information Technology Division	IT	2,442
Logistics & Transportation Division	LT	516
Manufacturing & Industrial Division	MI	895
Materials Division	MT	641
Mechanical, Marine, Naval Architecture & Chemical Division	MC	3,280
Nuclear Division	NE	290
Structural Division	ST	6,157

Committee		Membership
Associate Members Committee	AMC	833
Safety Specialist Committee	SSC	6,821
Young Members Committee	YMC	3,938

### Division



### Committee

