

# REPORT FROM DIVISIONS AND OTHER COMMITTEES 2021/2022



**Ir Donny CHAN Wai Keung**  
Chairman, Aircraft Division



**Ir Prof Raymond TONG Kai Yu**  
Chairman, Biomedical Division



**Ir Anthony KWONG Hui Lok**  
Chairman, Building Division



**Ir Raymond TAM Siu Lun**  
Chairman, Building Services  
Division



**Ir Michael FONG Hok Shing**  
Chairman, Civil Division



**Ir Prof SUN Dong**  
Chairman, Control, Automation &  
Instrumentation Division  
(Up to Jun 2022)



**Ir LEUNG Yiu Hong**  
Chairman, Electrical Division



**Ir LEE Che Kit**  
Chairman, Electronics Division



**Ir CHOI Chung Ming**  
Chairman, Environmental Division



**Ir LAI Kam To**  
Chairman, Gas & Energy Division



**Ir Prof LO Sai Huen**  
Chairman, Fire Division

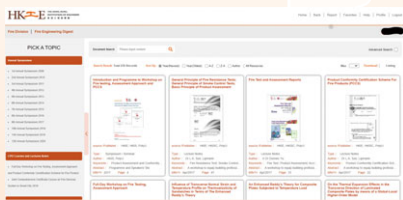


**Ir Tony HO Ying Kit**  
Chairman, Geotechnical Division

## June 2021

### Fire Division:

The FE Division launched the Fire Engineering Digest for all HKIE members. This is a repository of professional papers delivered by renowned speakers who presented at the Division's annual symposiums and seminars of the Division, scientific and technical treatises related to fire safety engineering, investigation reports, rules and regulations. We are also planning to upload related photos, videos and webinar recordings.



## July 2021

### Manufacturing, Industrial and Systems Division:

The HKIE MIS Industry Award 2021 was organised by the MI Division to celebrate the achievements of industries in Hong Kong for enhancing manufacturing productivity, product quality and innovation in actual industrial context. The final presentation of the Award took place on 31 July 2021 as 15 organisations (including government departments, private companies, professional bodies and manufacturers) were invited to share insights about their successful manufacturing projects.



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

On 10 July 2022, 30 students of St Paul's School (Lam Tin) participated in the MC Division's BlueTech STEM Programme. Consisting of three sessions: (i) lecture and laboratory experiments, (ii) site visit to Government dockyard; and (iii) underwater experiment and games, the programme allowed students to understand, feel and realise how and what mechanical principles contribute to their diving experiences.





**Ir Dr George SZE Lee Wah**  
Chairman, Information  
Technology Division



**Ir Dr Paul TSUI Hon Yan**  
Chairman, Logistics &  
Transportation Division



**Ir Peter SI Kit**  
Chairman, Manufacturing,  
Industrial & Systems Division



**Ir Prof Joseph MAK Yiu Wing**  
Chairman, Materials Division



**Ir Stanley LUI Kam Leung**  
Chairman, Mechanical, Marine,  
Naval Architecture & Chemical  
Division



**Ir Ryan LAM Chun Man**  
Chairman, Nuclear Division



**Ir Ben TSE Wai Keung**  
Chairman, Structural Division



**Mr Daniel YIP Toa Sun**  
Chairman, Associate Members  
Committee



**Ir Kevin MAN Kwoon Yin**  
Chairman, Safety Specialist  
Committee



**Ir Ken WONG Hei Long**  
Chairman, Young Members  
Committee



**Ir Dr LAU Chi Keung**  
Chairman, Authorised Person/  
Registered Structural Engineer/  
Registered Geotechnical  
Engineer Committee

## August 2021

### Biomedical Division:

A technical visit to the Medical Centre of The Chinese University of Hong Kong was arranged for 80 participants on 7 August 2021. The visit enabled attendees to appreciate the state-of-the-art technologies and equipment used in healthcare.



## September 2021

### Geotechnical Division:

The GE Division held an event entitled “Becoming an Engineer” for Secondary 5 and 6 students on 25 September 2021 to enable them to prepare themselves for becoming an engineer. The event was well received by 300 participants. Featuring informative presentations delivered by experienced engineers from the industry and academia, the event also included interactive group discussions supported by more than 30 young and energetic engineers.



### Materials Division:

25 members joined a technical visit to Golik Steel Reinforcing Bar Prefabrication Yard organised by the MT Division on 4 September 2021. This visit focused on how the company’s developed innovative and highly automated plants to produce prefabricated steel components and tackle high construction costs and labour shortage.



### Safety Specialist Committee:

The SSC organised a visit to the Lyric Theatre Project Office on 18 September 2021 to gain understanding about how it used digital management to enhance safety. The visit introduced the 20 participants to the digital 5G Smart Control Centre used in a mega scale construction and featuring CCTV with PA system, dashboard, DfMA/ MiMEP and BIM.



## October 2021

### Aircraft Division:

In response to comments that the new competence-based assessment approach made the application for the HKIE membership more difficult and that the guidelines for application became more complicated, the AC Division hosted a sharing session on 15 October 2021 to detail the core competencies assessment flow and the common areas that candidates may miss or be unable to demonstrate during the assessment. Delivered by Ir W C Cheung, Chairman of the HKIE Aircraft Discipline Advisory Panel, the workshop was attended by 20 participants.



### Biomedical Division:

The BM Division participated in InnoCarnival 2021 organised by the Innovation and Technology Commission (ITC) from 23-31 October 2022 in Hong Kong Science and Technology Park. More than 500 people visited the Division's booth during the event.



### Civil Division:

The CV Division arranged two online presentations, respectively on "Smart Site Management System" and "Application of Constructible BIM technology Using Mixed Reality Helmet with HoloLens for Engineering Design and Construction" for InnoCarnival 2021 held on 23 and 26 October 2021. The presentations attracted more than 500 participants.



### Electrical Division:

Themed "Powering the New Normals", the EL Division's 39th Annual Symposium was held on 21 October 2021. The hybrid event focused on new developments and applications related to electrical engineering to keep pace with the current trends and the new normal. Around 350 participants attended the event both onsite and online. Immediate Past President Ir Prof P L Yuen delivered the opening address while Past President Ir Prof C C Chan acted as keynote speaker and Ir Eric Pang, JP, Director of Electrical and Mechanical Services Department of the HKSAR Government gave the closing address. Presentations were made by ten local, Mainland and overseas speakers during the event.



### Electronics Division:

A group of members joined a visit to the EMSD Inno Zone and Inno Foyer organised by the EN Division in October 2022.



### Gas & Energy Division:

Jointly organised by the EG Division and the Institution of Gas Engineers & Managers (IGEM) Far East District Section, a webinar entitled "Initiative on Food Waste and Sewage Sludge Co-digestion to Harvest More Renewable Energy" was held on 21 October 2021. Nearly 200 participants joined the webinar delivered by speakers from the Drainage Services Department of the HKSAR Government.



### Nuclear Division:

A total of 107 participants joined a virtual tour to CLP Power Low Carbon Energy Education Centre at the City University of Hong Kong on 23 October 2022. The tour provided a full spectrum of information about nuclear energy, ranging from fundamental knowledge, reactor principles, nuclear power plant operation and safety and the nuclear fuel cycle to radiation principles, radiation in our daily life and the future development of nuclear energy.

### Safety Specialist Committee:

The webinar on “New Era of VR Technology: Application on Disaster Preparedness and Response Training in the field of Railway Industry” was organised by the SSC on 28 October 2021. More than 140 members participated online. The webinar introduced the use of VR technology for safety awareness training and featured examples of how it can be used to train personnel.



### Young Members Committee:

Twenty young engineers joined the technical visit to Tin Hau Temple in Cha Kwo Ling organised by the YMC on 16 October 2021. The visit brought participants from the past to the present renovation works at Tin Hau Temple by sharing interesting traditional Chinese wisdom together with the various considerations involved in temple conservation projects.



On 30 October 2021, the YMC jointly organised with the HKIE Continuing Professional Development Committee a “Heritage Visit and Art Jamming at Cattle Depot”. The participants were led by an experienced tour guide in an in-depth exploration on the Grade II historic building in Cattle Depot and the stories of the local community.



## November 2021

### Logistics & Transportation Division:

A webinar on “Northern Metropolis Development Strategy – Concepts and Drives” was held on 29 November 2021. The transportation planning proposed in the Strategy, especially the new railway links, was highlighted by Prof K K Ling, Strategic Planning Advisor for Hong Kong/Shenzhen Co-operation of the Policy Innovation and Co-ordination Office. More than 330 participants attended the webinar.



### Manufacturing, Industrial and Systems Division:

Themed “Preparing for Re-industrialisation – The New Future of Advanced Manufacturing”, the MI Division's Annual Conference 2021 was held on 11 November 2021 in hybrid mode. Distinguished speakers from the industry and academia were invited to share their insights on how to apply advanced technologies such as artificial intelligence, big data and analysis, blockchain technology and Internet of Things to the re-industrialisation of Hong Kong. President Ir Edwin Chung delivered a welcome speech and the Guest of Honor was Dr David Chung, JP, Under Secretary for Innovation and Technology of the HKSAR Government. Around 300 participants joined this hybrid event.



### Safety Specialist Committee:

Organised by the SSC on 17 November 2021, a webinar entitled “Review 3 Accident Cases in Lift Installation & Control Measures for Preventing Similar Occurrences” attracted more than 400 participants. In addition to sharing overseas lift incident cases and suggestions to prevent lift accidents with the audience, the webinar also introduced the scaffoldless method which was endorsed by the Government as an alternative method, as well as the robotic method (nobody working in lift shaft) which is under development.



### Structural Division:

The Annual Seminar 2022 of the ST Division was held under the theme of “Application of Computation and Digitisation in Structural Engineering” in hybrid mode on 18 May 2022. Around 250 participants attending physically and online. Ms Clarice Yu, JP, Director of Buildings, Buildings Department of the HKSAR Government, served as guest of honour, while eight distinguished overseas and local speakers from the industry and academia shared their insights, experiences and innovative ideas from recent researches in structural engineering and their application in construction projects.



### Young Members Committee:

With the aim of teaching basic business etiquette to help young engineers in building up their first impression, the YMC organised a “Workshop on Business Networking Skills – Polished Professional Inside and Out” on 27 November 2021. The workshop was attended by 30 young members.



## December 2021

### Aircraft Division:

Some 80 participants attended a talk on “New Regulatory Regime for the Operations of Small Unmanned Aircraft (SUA) in Hong Kong” organised by the AC Division on 9 December 2021. Ir Kevin Chiu of the Civil Aviation Department and Mr Robert Taylor of Cathay Pacific Airways, introduced the new SUA regime which is regulated under a risk-based approach. The talk also covered the facilitating measures provided to the engineering discipline under the new SUA regime.



### Biomedical Division:

The BM Division organised a “Webinar Sharing of recent China MedTech Show” on 30 December 2021 for 28 participants. The speaker, Ir Raymond Fu, introduced the international Medical Device Trade Fair and discussed recent Medtech innovations and market trends.

### Building Division:

The BD Division arranged a technical visit to the Hong Kong Palace Museum for 30 participants on 18 December 2021, before its official opening in July 2022. The Hong Kong Palace Museum is an important art and cultural facility located in the West Kowloon Cultural District. It showcases exhibits from Beijing’s Palace Museum.



### Building Division, Civil Division and Environmental Division:

Jointly organised by the three HKIE Divisions, the Guangdong Technology Association and the Macao Institution of Engineers, the 10th Guangdong Hong Kong Macao Greater Bay Area Sustainable Development Conference was held on 18 December 2021. Themed “聚焦「雙碳目標」 共建生態灣區”, the event was held in dual modes in both Zhuhai and Hong Kong and was well received by participants across the Greater Bay Area. Engineering professionals from these three locations shared their views on the sustainable development strategies needed to achieve carbon neutrality.

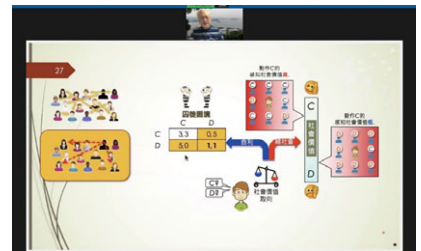
### Gas & Energy Division:

The EG Division organised a technical visit to H Zentre for 25 participants on 18 December 2021. Prior to the visit, the participants attended a sharing session about a gas desiccant dehumidification system at the Towngas Headquarters, where they were introduced to the latest developments in dehumidification technologies, including the Integrated PAU with Desiccant Wheel, an award-winning invention. During the visit at H Zentre, participants also learned about a successful project of adopting gas desiccant dehumidification with solar thermal system, which was awarded the 2021 Innovative Energy Project of the year by the Association of Energy Engineers.



### Information Technology Division:

The IT Division held a webinar on “Interactions of Agents in Virtual Societies: How They Learn and What We Learn” on 7 December 2021. More than 100 participants joined the webinar delivered by Ir Prof H F LEUNG of The Chinese University of Hong Kong.



## January 2022

### Materials Division:

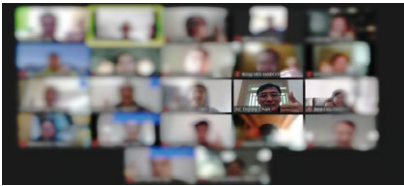
Held on 17 January 2022, the webinar on “High-entropy alloys (HEA) – Progress and prospects” explained a new concept of alloy design, known as high entropy alloys. It was proposed that new alloys may be formed by mixing at least five metallic elements in near-equal proportions. This approach opened up a huge composition space for the discovery of new alloys for various applications. The webinar attracted around 200 participants.



## February 2022

### Aircraft Division:

In partnership with the British Standards Institution (BSI) Hong Kong, the AC Division organised the Aerospace Quality Management Systems Lead Auditor Training on 21-25 February 2022. A total of 20 delegates attended the course.



### Gas & Energy Division:

The webinar entitled “Innovative Pressure Regulator Solutions for Natural Gas Applications” was jointly organised by the EG Division and the IGEM Far East District Section on 24 February 2022. The 200 participants explored the features of IM regulator as comparisons with traditional pressure regulator for natural gas and hydrogen applications were highlighted.



### Materials Division:

The MT Division held a webinar on “Roles of Stainless Steel Pipes in Re-plumbing Works” on 28 February 2022. Attended by around 200 participants, the webinar introduced the application of stainless steel pipes in re-plumbing works and new installation methods that can shorten the replacement and installation time.



### Structural Division:

The Structural Excellence Award aimed to promote excellence in structural engineering as demonstrated through research, design and construction of buildings and structures completed within the last two years. This year, 13 projects and 5 research paper were submitted. On 19 February 2022, an assessment meeting was arranged for the judges to discuss and make their final decision. The Division created a YouTube channel to post the videos of all Grand Award projects in order to raise public awareness of the Structural Excellence Award and increase exposure of all the Grand Award winners.

## March 2022

### Civil Division:

Held to celebrate the World Engineering Day 2022, a half-day webinar entitled “Building a Smart, Green and Resilient City – The Case of Tung Chung New Town Extension” was jointly organised by the CV Division and the Civil Engineering and Development Department of the HKSAR Government. Well received by 900 participants, the webinar covered wide-ranging topics related to Tung Chung New Town Extension, including the concept of a smart, green and resilient city, technology of deep cement mixing method, smart living by common utility tunnel as well as sustainable developments of eco-shoreline, river parks and the revitalisation of rivers.



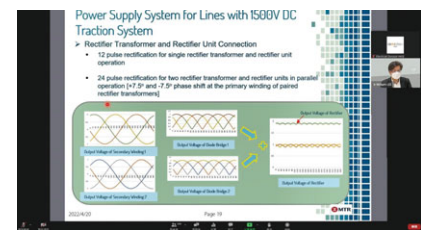
### Nuclear Division:

More than 230 participants joined the webinar on “Service Robots for Safety Inspection and Maintenance of Large Structures” organised by the NE Division on 27 March 2022. This webinar covered various issues such as applications of service robots in nuclear reactor cooling pipe inspection, temperature sensor installation on a nuclear reactor pressure vessel, support frame metal cutting, tiled wall inspection and pipe inspections.

## April 2022

### Electrical Division:

Around 730 members joined four classes of Professional Short Courses with the theme of “Smarter Design for our Electrified Living”. Organised by the EL Division in April 2022, the courses featured experienced engineers and industry practitioners from consultants, suppliers and railway operators who were invited to share their insights about the latest knowledge relating to electrical systems under rapid development and active exploration.



### Nuclear Division:

Held on 14 April 2022, the webinar on “Safety Decision Making” was attended by nearly 300 participants. This webinar explored means and tools to facilitate safety and enhance risk decision making by referencing safety principles such as GAME (Globalement Au Moins aussi bon/Equivalent), MEM (Minimum Endogenous Mortality) and the ALARP (As Low As Reasonably Practicable) framework.

## May 2022

### Fire Division:

The FE Division invited entries for outstanding Fire Engineering projects and researches for participation in the Fire Engineering Excellence Award 2022, which was held in October 2021. Five projects were shortlisted and the results of the Award – including the details of the winning projects – were advertised via a newspaper supplement published in May 2022.



On 6 May 2022, the FE Division hosted its Annual Symposium for more than 280 participants. Held as webinar, the theme of the Symposium was “Fire Safety Performance of Building Materials” given the topic’s relevance for society in general. Mr Andy Yeung, Director of Fire Services, Fire Services Department of the HKSAR Government was the Guest of Honour. Eight papers on scientific research and practical/legislation issues were presented by overseas researchers and local professionals.



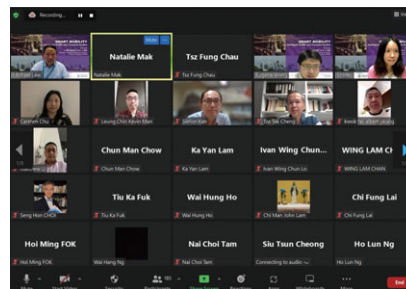
**Geotechnical Division:**

Held on 13 May 2022, the GE Division’s Annual Seminar provided a platform for practitioners and academia to share their insights and generate ideas for further enhancing the capability and engineering practice to shape the future of Hong Kong. The event featured two keynote speeches by Ir John Kwong, JP of the Development Bureau of the HKSAR Government and Ir Barry Sum of MTR Corporation Limited, as well as more than 40 technical papers covering a variety of topics relevant to geotechnical engineering under the theme of “A New Era of Metropolis and Infrastructure Development in Hong Kong – Challenges and Opportunities to Geotechnical Engineering”. Around 700 participants attended the webinar.



**Logistics & Transportation Division:**

The LT Division organised a webinar on “Smart Mobility – Intelligence traffic and transportation” to update members about the latest status of various smart mobility initiatives as outlined in the Smart City Blueprint for Hong Kong 2.0 published by the Government in December 2020 and how they would enhance the mobility of Hong Kong citizens. Held on 23 May 2022, more than 220 participants listened to the presentation made by Ir Michael Law of the Transport Department of the HKSAR Government.



**June 2022**

**Associate Members Committee:**

A group of 16 participants joined a technical visit to the Kowloon Motor Bus (KMB) Maintenance Depot in Kowloon Bay organised by the AMC on 10 June 2022. During the visit, participants gained more understanding about the operation of the bus maintenance centre while the staff of KMB also introduced the future electric bus to be used in Hong Kong.



The same month, Mr Daniel Yip, Mr Indi Wong and Mr K C Leung delivered a Career and Membership Talk to 30 students of the Higher Diploma in Civil Engineering at IVE (Tuen Mun). During the 1.5-hour talk, the speakers introduced the HKIE, provided details about the application process to become a HKIE member and shared insights about site construction and management of current projects in Hong Kong.



**Building Division:**

With approval of the Learned Society Board, the BD Division signed a Memorandum of Co-operation with The Chartered Institute of Building (Hong Kong) and The Hong Kong Institute of Construction Managers in June 2022. The Division aims to strengthen connections with its counterparts in terms of knowledge exchange and to organise joint activities.



The same month, the Division also organised a technical visit to the Kai Tak Sports Park, a world-class sports infrastructure in Hong Kong featuring a new 50,000-seat main stadium with a retractable roof for major sports events and public enjoyment. A total of 30 participants joined this visit held on 18 June 2022.



### Information Technology Division:

With the aim of stimulating the interests of students from local tertiary institutions in robotics development, the IT Division co-organised the Robocon Hong Kong Contest on 26 June 2022. Around 100 students participated in the event.



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

The MC Division organised the STEM x Marine Vehicle Design and Construction Competition on 11 June 2022. 150 Students entered the event to design and build an underwater marine vehicle (UMV) using 3D modelling and printing technologies and compete for the best engineering performance.



## July 2022

### Electrical Division:

A hybrid seminar on “Introduction about Mutual Recognition Agreement (MRA) between Guangdong Society for Electrical Engineering (GSEE) and the Hong Kong Institution of Engineers (HKIE) for Electrical Engineers” was held on 9 July 2022 to promote and encourage HKIE members to apply for GSEE membership. At the seminar, speakers, Ir Dr Edward Lo, Chairman of the HKIE Electrical Discipline Advisory Panel, Mr Yang Xu, Executive Director cum Chief Secretary of GSEE and Mr He Jie, Director of General Department of GSEE, introduced the background and objective of the MRA and the GSEE. Details about obtaining a GSEE’s electrical engineer qualification and the application process for the MRA were also discussed.



### Geotechnical Division:

A virtual site visit to the Trunk Road T2 Project was organised on 30 July 2022. Attracting an overwhelming attendance of around 1,000 participants, the visit showcased challenging subsea tunnelling works such as a pair of 14m-diameter TBM and application of other innovative and smart technologies, including Distributed Fibre Optic Sensing, LiDAR, GNSS, InSAR and the award-winning technique “3S Tunnel Defect Inspector”.



## August 2022

### Civil Division:

The CV Division organised the Best Final Year Project Award 2021/22 to celebrate local civil engineering undergraduates for outstanding final year projects that might help promote advancement in the civil engineering industry. Formed by Division Committee members, the judging panel comprised a wide spectrum of industry stakeholders, including clients, consultants, contractors and scholars. Interview sessions were held in July 2022 and three grand prizes and six merit awards were presented in August 2022.



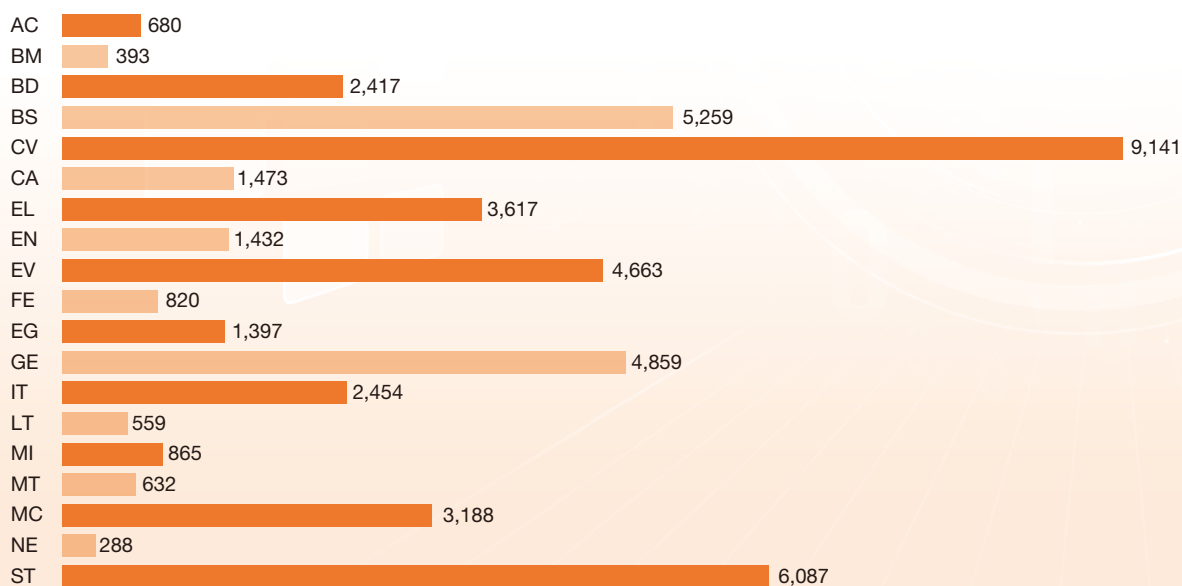
## Membership of Divisions/Committees

As of 24 August 2022

Division		Membership
Aircraft Division	AC	680
Biomedical Division	BM	393
Building Division	BD	2,417
Building Services Division	BS	5,259
Civil Division	CV	9,141
Control Automation & Instrumentation Division	CA	1,473
Electrical Division	EL	3,617
Electronics Division	EN	1,432
Environmental Division	EV	4,663
Fire Division	FE	820
Gas & Energy Division	EG	1,397
Geotechnical Division	GE	4,859
Information Technology Division	IT	2,454
Logistics & Transportation Division	LT	559
Manufacturing, Industrial & Systems Division	MI	865
Materials Division	MT	632
Mechanical, Marine, Naval Architecture & Chemical Division	MC	3,188
Nuclear Division	NE	288
Structural Division	ST	6,087

Committee		Membership
Associate Members Committee	AMC	723
Safety Specialist Committee	SSC	7,379
Young Members Committee	YMC	3,854

### Division



### Committee

