SUBMISSION TO THE HKIE EXECUTIVE

REPORT OF
33RD CONFERENCE OF THE ASEAN FEDERATION OF ENGINEERING ORGANISATION
AND
22ND YOUNG ENGINEERS OF ASEAN FEDERATION OF ENGINEERING ORGANISATION CONFERENCE

23 - 26 NOVEMBER 2015 | PENANG, MALAYSIA

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1 INTRODUCTION

1.1 Background

The 33rd Conference of the Association of Southeast Asian Nations (ASEAN) Federation of Engineering Organisation (CAFEO 33) in conjunction with the 22nd Meeting of Young Engineers of ASEAN Federation of Engineering Organisation (YEAFEO 22) is the highlighted event of the ASEAN Federation of Engineering Organisation (AFEO).

AFEO commenced in 1973, from the engineering convention held between The Institution of Engineers Malaysia (IEM) and The Institution of Engineers Singapore (IES). The IEM/IES Engineering Convention was held primarily for the purpose of promoting interaction and relationship for their members in view of their common historical background and geographical similarities. IEM and IES took turns to host the convention. In 1976, while preparing for the 3rd IEM/IES Convention it was decided that all other ASEAN countries would be invited. In 1980, an agreement was signed for the formation of the AFEO. The formal date for the establishment of AFEO was 8th August 1982. AFEO is a non-governmental body affiliated with the ASEAN Secretariat. Its members are the national Institutions/Organisations of engineers of the ASEAN countries. AFEO is an organisation of the national engineering/technological institutions of the ten ASEAN member countries including Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam.

CAFEO has been held annually at the different member institutions in a rotating alphabetical order since 1982. CAFEO historically attracts more than 200 foreign and 300 local engineering professionals from various industries, fields and sectors. CAFEO 33, hosted by IEM, was held at Penang, Malaysia this year.

Besides organising the annual conference known as CAFEO hosted in rotation, member institutions also held the yearly AFEO government board meeting. The idea that AFEO should also look into the interest of young engineers was first introduced at the 11th AFEO government board meeting in Philippines in 1992. In 1993 the committee of young engineers was set up and in 1994, the bylaws of the formation of a young engineer group were approved and the definition of the Young Engineer was agreed. The group name was the Young Engineers of ASEAN Federation of Engineering Organisation (YEAFEO). Its mission is to be a dynamic and progressive organisation that leads to the development of young engineers in the ASEAN region. YEAFEO represents the young engineers of the national engineering organizations under AFEO, comprising members engaged in the common professional interest of engineering, aware of the important role of engineering to the advancement of the social, economic, and industrial development of the ASEAN region; concerted in the effort to elevate and improve the quality of life of the ASEAN people's dynamic actions and productivity to increase employment opportunities and equitable distribution of wealth among the masses of the ASEAN nations, to participate actively in any industrial and technological programs of ASEAN, desirous of exchanging and sharing engineering technology; concerned in basic professional right, cognizant of the need to establish harmony and relationship among the members. This year is the 22nd board meeting of YEAFEO.

In the current age where technology is advancing at an unprecedented rate, engineering designs are evolving to integrate these innovative developments. However, climate change and rapid urbanization pose unique challenges for both developed and developing countries. As such, an appropriate and timely theme has been chosen for CAFEO 33, "From Lights to Bytes: ASEAN Engineering Evolution & Future Challenges", which aims to identify and share the engineering solutions that integrate technological advancements with environmental and sustainable engineering design in areas of infrastructure, transportation, energy, and information systems. A sub-theme on engineering education and women in engineering in developing countries aims to provide proper resources and information to increase the competence of the engineering field in developing countries.

This year, five delegates, namely Ms FUNG Man Yui, Candy (Deputy Chairman), Ms Emily Hay Ting YU (Committee Member), Mr YAN Fu Ho, Dick (Helper), Mr LAM Ho Lun, Alan (Helper) and Mr WU Tsz On, Daniel (Helper) represented the Young Members Committee of the Hong Kong Institution of Engineers (HKIE-YMC) to attend the CAFEO 33 and YEAFEO 22.

1.2 Objective

The purposes and objectives of the conference are:

- To promote understanding, goodwill and co-operation among engineers in the member national engineering organizations;
- To promote and exchange ideas, experiences and discuss problems of common interest among national engineering organisations and their members; and
- To support and assist the purposes and objectives of the AFEO as stated in its Constitution and By-laws.

2 CAFEO 33 & YEAFEO 22

CAFEO 33 was held from 23 November to 26 November 2015 at Penang, Malaysia. Details of the program are given in Appendix A.

2.1 23rd November 2015 (Heritage Hunt and Welcome Dinner)

Heritage Hunt
On a morning of wonderful weather in Penang, the Institution of Engineers, Malaysia - Young Engineers Section (IEM-YES) arranged a meaningful event: the heritage hunt. It was an ice-breaking game as well as an introduction of George Town to participants who are from ASEAN countries, especially for those newcomers. We were divided into groups, accompanied with one to two YES members and started our game at 10am. Each group received a map, hints and protective sunscreen arm sleeves, thanks to YES. After several mighty photos and videos were taken, contingents were jogging into the alleys and finding out the answers. The streets filled with joyous teams.

YEAFEO delegates were grouped with delegates from various countries to work together and complete tasks in the Heritage Hunt

We very much appreciated YES's wonderful organization, as they had placed helpers and photographers around every hunting point. We were grateful to have the aid from them throughout the game. Also the photographers recorded our joyful moments which was compiled into a DVD. We were very touched to receive this gift when we were leaving Penang.

Welcome Reception
A welcoming dinner was hosted in the evening by IEM at Equatorial Hotel Penang and CAFEO 33 was officially started by the inspiring speeches and participation of all delegates from different countries. The reception programme included a welcoming

speech from Y.B. Tuan Danny Law Heng Kiang, Executive Councilor of Penang State Tourism Development, who encouraged us to try the world-famous street food of Penang, followed by energetic live music. It was a great opportunity for YEAFEO delegates to meet and chat with new delegates from different countries and have a reunion with old friends. Together with the fruitful sharing and exchanges with the delegates from other countries, we had a very enjoyable and memorable night in the welcoming reception.

2.2 24th November 2015 (Opening Ceremony, YEAFEO Governing Board Meeting and Country Report)

Opening Ceremony

The opening ceremony of CAFEO 33 was grandly hosted at Hotel Equatorial Penang to welcome all CAFEO and YEAFEO delegates. The ceremony started with representatives from each country entering the grand hall with their national flags and flag bearers wearing traditional dress from each respective country. Welcoming speeches from Penang State officials T.Y.T. Tun Dato' Seri Utama Haji Abdul Rahman Bin Haji Abbas, Supreme Head of Penang State and Y.A.B. Tuan Lim Guan Eng, Penang State Chief Minister, and representatives of CAFEO, as well as the elegant traditional dancing performance with the local music gave a grand and inspiring opening for the conference.

Traditional dancing performance during the opening ceremony

YEAFEO Meeting

Following the official opening ceremony, the YEAFEO Governing Board Meeting commenced to discuss three main issues: Graduate Section, Publication and Disaster Preparedness. These main issues had been identified by the Governing Board during their mid-year meeting in Vietnam. The board and all YEAFEO members in attendance were split into three groups to discuss the details of each topic.

The institutions in ASEAN countries were facing the same problem as Hong Kong: many engineering students switched to other industries after their graduation due to better stability, higher salaries and other factors. Each country shared their experience,

including Hong Kong, and several solutions were proposed to keep graduates staying in the engineering industry. They included:

1. Being a bridge between colleges and the industry, and providing internship for students;
2. Organizing competitions to increase the interest of engineering;
3. Mutual recognition among AFEO so that chartered engineers can work throughout the region easily;
4. Establishing scholarship for students to encourage their study; and
5. Providing job training scheme for outstanding students to work in famous engineering company.

For Publication, it was proposed to publish a monthly issue that includes articles written by YEAFEO members, young engineers, and university students. The current newsletter is only available to YEAFEO members, and includes more administrative content. The aim is to make the publication available to all young engineers and students of ASEAN countries as well as other interested regions, such as Japan and Hong Kong.

Four main projects were put forward to improve the disaster preparedness in the ASEAN region. Firstly, by setting up Geographical Information Systems (GIS), pertinent information, such as locations of higher ground during flooding, can be efficiently disseminated to those in need through cell phones. It was noted by several country representatives that not everyone has a smart phone, and the systems must be developed for use with analog cell phones as well.

Secondly, useful tools such as emergency mobile tracker can also be implemented once cell phones become more widely used. Many representatives noted that the focus should be placed on educating those in disaster prone areas on how to prepare for and respond to disasters and empowering them to take a proactive role in protecting themselves. Thus, YEAFEO will select a local area for study, evaluating and sharing their findings with the nearby schools to educate them on preparedness.

Third, YEAFEO proposed to set up an official account to provide immediate financial support to ASEAN countries during emergency and recovery. The idea was initially to send supplies and materials; however, the logistics and cost of this proved to be uneconomical. Therefore, an official AFEO account will be set up, and the funds will be proposed to be utilized when disaster occurs in one of the ASEAN countries.

Lastly, YEAFEO will head a knowledge-sharing publication regarding rescue, rehabilitation, and long-tern recovery to share expertise in these areas. The aim is for this publication to spark discussion and local seminars and workshops within each member country.

YEAFEO representatives from each of the attending countries presented their country report, sharing the young sector's year in review and highlighting notable events that were organized. Several of the AFEO countries continue to actively strengthen their cooperation and had organized delegation trips to other AFEO countries to gain first-hand understanding of current engineering innovations and challenges. Furthermore, in the past years of natural disasters within the Asia Pacific region, AFEO countries have

extended their aid by providing materials and monetary donations to those in need in other countries. It was inspiring and heart-warming to see the care this young engineering group have developed for the other AFEO countries, and is a quality our young engineers should aspire towards.

After the meeting, each ASEAN country and guest country exchanged gifts to connect with each other.

Representatives from all YEAFEO member countries

2.3 25th November 2015 (Technical Visit & Closing Ceremony)

Technical Visit: SPICE Development Project

The SPICE Development Project stands for the Subterranean Penang International Convention and Exhibition Centre. The purpose of this project is to rehabilitate the area and develop it to be a new general public area in Penang city for business and recreation uses. This area was originally the Penang International Sports Arena (PISA) which was completed in the year 2000 and included the main arena, the Aquatic Centre and a multi-storey car park.

To fulfill this, the area expanded the uses of underground area and green area and it now contains five main components: a multiple purpose Convention Centre, public green and retail space, SPICE Arena, indoor aquatic centre and a 4-star hotel. The project was operated by Penang Island City Council and SP Setia Berhad as a public-private partnership project. The entire construction project would cost around RM350 million.

The illustration overview of the SPICE project

In this technical visit, the architect introduced the project and touched on major challenges that the project team had to overcome. The overall project covers 25 acres of land and began in 2012. Before the project received the go-ahead, the thoughts and opinions of various stakeholders, especially the high concentration of non-governmental organizations (NGOs), were heard in public consultations. The biggest concern the public had was the existing traffic problems, and feared that the project would only exacerbate the problem, creating more congestion. A traffic consultant was employed early on to study the traffic impact to the surrounding major roads during and after construction and propose proper traffic management. Another concern the public raised was the loss of the existing green space, which prompted the design of the large span green rooftop. Through continued public consultation and use of new materials, the project is set to become a community centric space and the newest attraction in Penang upon its completion in late 2016.

The engineer representatives from Ove Arup, the engineering consultant of the SPICE project, then presented the two main structural components of the project - the large span green rooftop public park and the iconic roof at the main entrance.

The main challenges for the large span green rooftop public park are:

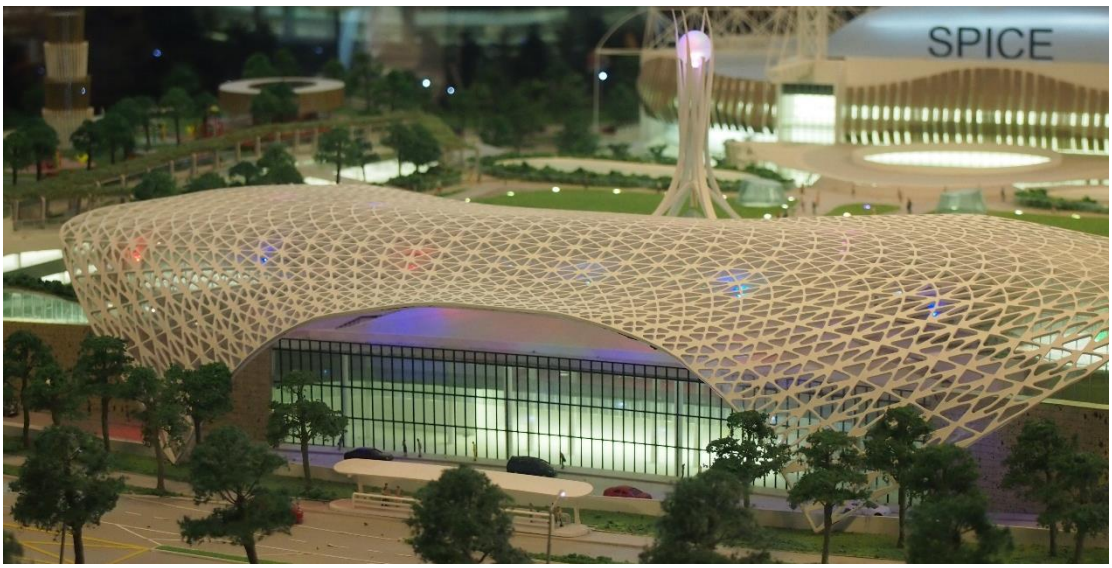
1. The large span roof with area of approx. 386ft x 234ft is covering on top of the convention hall;
2. Heavy loading from the vegetation on the roof; and
3. The live load on the rooftop garden generate additional vibration to the structure.

To solve these problem, the engineer decided to apply space frame, a steel frame is formed by numerous rigid triangular frames, which can provide a strong, rigid and lightweight structure, and supported by steel trusses. The space frame is commonly used for large span roof while it is appropriate to be applied for structure that contains sufficient of construction clearance.

The large span green rooftop (under construction)

The other problem for growing vegetation above the roof is it may cause potential water leakage to the convention centre. In order to solve this problem, a slope was applied to the roof and a comprehensive watering and drainage system was specially designed for the garden. Hence, the water can be used for watering the plants and runoff effectively.

In order to stream-line the construction process, prefabricated steel component is widely used for the installation of the roof. Since the welding process requires additional manpower and workmanship during the installation, the engineer has specially designed the node elements, which is formed by numbers of pin plates at various angles connected with the central tubular. The node element allows the worker to simply install the roof with bolts and nuts, improving the efficiency of the construction process.



The iconic roof of the main entrance

Furthermore, the engineer representatives explained the construction of the iconic roof at the main entrance. The iconic roof has an irregular curvy geometry and spans over 115m between six supports. The roof is made out of rectangular hollow sections and composites into a membrane structure. The main challenges are the slenderness and the large span of the roof, which leads to a deflection problem.

To solve the challenge, the engineers analyzed the wind load with the wind tunnel test and the structure with finite element structural programme - GSA. The model of the structure and the adjacent buildings were formed and placed into the wind tunnel. This process is particularly important for understanding the behavior of this complex structure under the wind load with a return period of 50 years. Then the structure was analyzed on its behavior to catenary effect and the members' buckling capacity under compression.

Another technique was applied during the construction by increasing the degree of freedom (roller joint) at some of the supports during erection of the roof. Hence there will be no additional stress built up in the members due to construction. The support will then be enhanced to pin joint permanently after the completion of the construction.

In conclusion, the project rehabilitates the original area with some innovative structures and improves the living standard and the value of the area.

The Hong Kong delegates and the engineer representatives of the SPICE project

The revamped sports arena, now known as SPICE arena

Closing Ceremony

The closing ceremony was hosted on the third night of the program. The aim of the closing ceremony is to mark an official end of the conference, and to conclude the works done in CAFEO 33 this year. Besides an anniversary dinner and closing speech by Y.B. Tuan Chow Kon Yeow, Penang State Executive Councilor for Local Government, Traffic Management & Flood Mitigation, the ceremony also included presentation of ASEAN Engineering Achievement Award, flag hand over to the new president of CAFEO 34, and performance of delegates from ASEAN countries and other foreign delegates. We, delegates from Hong Kong, role as an observer, are glad to give a performance on stage as well. Same as last year, there was a singing performance with few popular songs in Hong Kong. We took this opportunity to show our passion and send our warmest regard to CAFEO, YEAFEO and all the participants there. With the support of delegates from other countries, it was a memorable and unforgettable experience for all of us.

The Host Country's lively performance

Our Hong Kong delegates gave a spirited team performance

2.4 26th November 2015 (Technical Visit)

Technical Visit: Mengkuang Dam

The Mengkuang Dam, completed in the 80's, is the second dam of the State of Penang. As an outlying island to the Malaysian Peninsula, water resource has long been an important factor for the development of Penang Island and has always been a challenge for

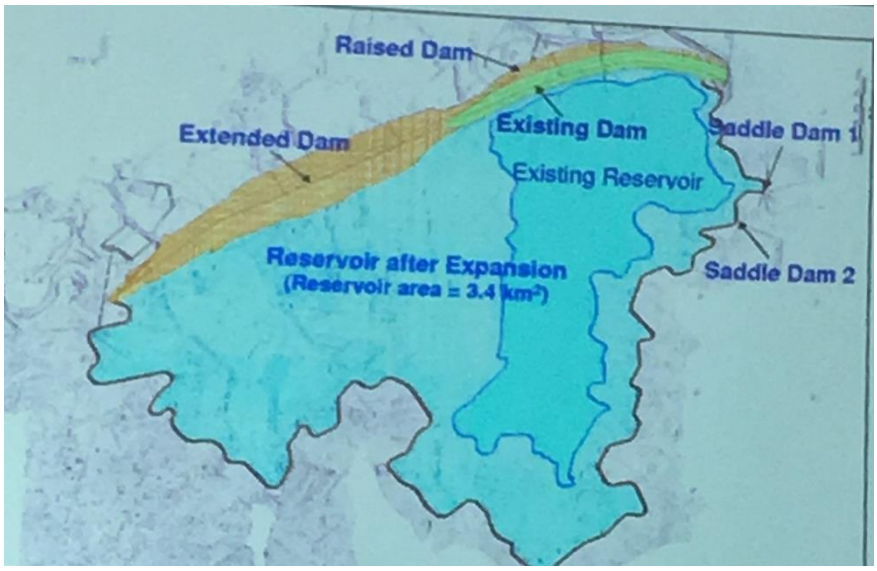
engineers in tackling the geographical constraints with technologies and innovative ideas. The dam is built as an effective way of water catchment and to provide stable water supply to the Island.

One of the Draw-off Towers of the Mengkuang Dam

Penang has been rapidly developing in recent years, in a broad range from tourism and commerce to high-tech manufacturing, and all these industries hunger for water. The capacity of the existing reservoir is projected to be insufficient for further development and purchasing water from nearby states is not a long-term solution as it would be affected by Malaysia's ever-changing political atmosphere.

Hence, to ensure the economical development and socio-cultural stability of the State, an expansion project has been proposed and is divided into two phases for completion:

Phase 1: Construction of dam and associated works;
Phase 2: Raw water transfer pipeline and pump station.



Overview of the expansion project

The first phase of the project alone costs RM 607M (approximately HKD 10.8B) and was completed in two stages, where Stage 1 is the construction of a new dam and related works while Stage 2 is the heightening of the existing embankment dam and its associated works. Some technical and contractual facts are quoted as follows:

Stage1:

- New dam on the left valley (47m high and 2km long)
- Draw-off tower No.2
- Draw-off and diversion tunnel
- Valve house No.2
- 2km 2.2m diameter steel pipe.

Stage2:

- Heightening existing embankment dam (by 11m and 1km long)
- Modification of draw-off tower and existing spillway
- New low level draw-off structure
- Plugging of existing draw-off culvert
- Valve house no.1
- Labyrinth spillway
- Saddle dams
- Perimeter road
- Emergency water release structure.

Challenges, as like any projects, always come along with the path that leads to the realisation of a big idea. The engineers, no matter they are consultants, contractors, or the government, worked together to solve the problems and made the project come true.

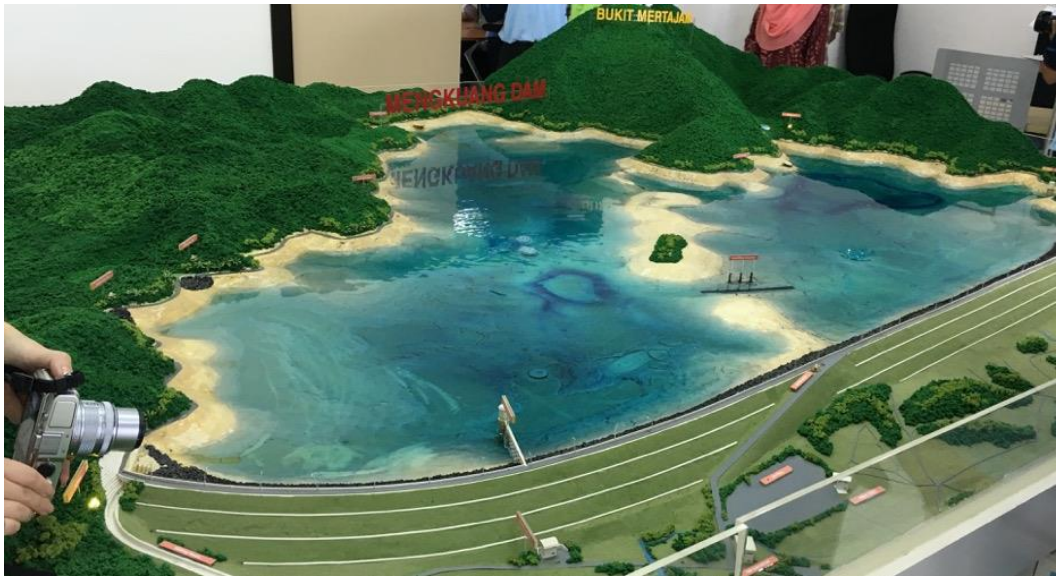
The very first hurdle they faced was that there was a commercial quarry operation near to the construction site of the dam, in which the operation would affect the safety and stability of the dam. By liaising closely with various government departments, including the Department of Minerals and Geoscience, the Water Supply Department and the Economic Planning Unit of the State Government, and collaborating with the quarry company, they came out with an agreement and compromise for both parties to finish their duties safely.

The team then discovered in the left abutment excavated by quarry operation there existed fractured granite zone and hydrothermal altered rocks, which are factors that would lead to water leakage and landslides. Risk management was taken as a prevention to possible hazards. Analysing and recording all the possible risks in risk registers, the engineers had conducted computer simulation to find out the critical area that would be subjected to the most stress after completion and filled with water in full capacity, together with other weak points. Various risk mitigation measures had been taken in constructing the dam.

Many tonnes of construction materials were needed in the construction and the collection and transportation would not be an easy job. Mid-way through the project, the engineers lacked materials - replacement materials had to be used and the proposed height limits of excavation of rocks was lowered. Moreover, the issue was solved by purchasing materials form the commercial quarry company near to the construction site of the dam. Through continued good relations, the engineers were able to overcome another hurdle.

The expansion project has been successful through good planning, project management, contractor management, government's assistance and intensive problem solving during the whole project's span. Penang will soon be equipped with an essential tool that would keep her growing for years. The State Government together with the engineering firms that participated in the project may bring forward the experiences gained in future projects and provide aid to other states in the country.

As an engineer based in Hong Kong, it is a rare and valuable chance to observe the construction of a large-scale infrastructural project in modern water supply system. The unique experience gained in this visit would benefit us all in our pursuance of an engineering profession.



Model of the expanded Mengkuang Dam

Technical Visit: SanDisk Storage Sdn. Bhd., Penang

Located at the mainland side of the State of Penang, the SanDisk factory enjoys several advantages in the new development area which is designated by the State Government as industrial use. The plant is one of the largest among SanDisk's plants in the South East Asia. With lower labour cost, a large source of talents both locally and from neighbouring countries and worldwide shipment through the Strait of Malacca, the area is attracting more investments and is expected to be an important manufacturing and high-tech hub of the State.

The visit was guided by a senior staff of the factory, with an introduction to the history of solid-state storage (commonly known as hard-drives and memory disks), the business of SanDisk in the South East Asia and its ties with Malaysia in shaping the area. Apart from manufacturing, the company takes customer satisfaction into accounts and therefore the factory is as well a call centre, handling enquires from consumers of the area.

We have then got the chance to see the plant with our own eyes. Putting on the necessary gears for preventing the precise automated process from external dusts and dirt, a brief tour was started from the raw material area, all the way to the long manufacturing process and troubleshooting area.

It is a great chance and a good piece of experience visiting the plant, as not one of our delegates are from manufacturing industry or supply chain. Although cameras were forbidden inside the plant because of proprietary processes, we have still appreciated the precision and elegance of the plant and enjoyed the unique visit very much.

The reception area of the SanDisk plant

3 HKIE-YMC's PARTICIPATION IN YEAFEO 22

In the past few years, delegates from the HKIE-YMC have attended the conference as guests and observers. Other invited guests and observers include engineering organisations of young engineers from Japan, Australia and Canada. Over the past years, by attending the conference, young engineers from the HKIE-YMC gained valuable exposure to international conference as well as experience sharing opportunities with young engineers from the various participating countries.

In YEAFEO 22, the YMC delegates attended the YEAFEO board meeting as observers and three main issues were discussed: Education and Training, Publication and Disaster Preparedness. Through the lively discussions within each group, one could feel the passion the YEAFEO young engineers had for contributing to the betterment of society. They understood their responsibility and believed in the engineer's ability to improve the world around us. Our passionate discussions were very inspiring to all young engineers in attendance.

The YEAFEO Country Report Session was held after the board meeting. Representatives from all countries, including Hong Kong, took turns to give a brief introduction on their organizations. Our Deputy Chairman, Ms Candy FUNG took the opportunity to introduce the HKIE and the HKIE-YMC and our five delegates to the audience. Our Committee Member, Ms Emily YU presented several representative engineering projects of Hong Kong to allow the other countries' representatives to gain a better understanding the unique challenges we face due to climate change, land supply and rapid urbanization, and our innovative engineering solutions to tackle these problems. She further invited the audience to visit Hong Kong and the HKIE in the future for technical exchange. We received cordial welcome from the other delegates and had meaningful discussions with them during the networking opportunities throughout the conference.

Introduction of Hong Kong engineering by our delegates

The delegates have also attended the technical seminar and technical visit of the conference. Different speakers were invited to present the topics related to Integrated public transportation system in urban development, Electrical, electronic mechanical, information and communication technology engineering, Engineering and technology for sustainable infrastructure design, Chemical and environmental engineering development, and Engineering education and woman engineering in developing countries. The five young engineers have learned new technical knowledge and ideas in these areas.

There was a closing ceremony on the evening of 25th November 2015. After the ceremony, each country needed to conduct a performance during the farewell dinner. The Hong Kong delegates danced to and sang the songs that were representative of our energetic city, the Hong Kong SAR, and delegates from all countries joined us on stage.

In all, the CAFEO 33 and YEAFEO 22 was a splendid occasion for young engineers to expose themselves to new experiences, to learn more and to contribute their knowledge.

Group photo of YEAFEO delegates

4 BEHIND THE CONFERENCE

Behind the conference, we were highly connected with the local engineers and YEAFEO young leaders who took time to show us around to get a better understanding of this city and Malaysia during our free time.

Despite the unpleasant weather due to the wet season, we got around George Town, the old city centre and Capital of the state of Penang, with the guidance from the local engineers. The town was founded by British Captain Francis Light in 1786 and named after the King George III. From the classy old architectures, we could feel the history of the old Penang City, when it was once the biggest trading port in the region and controlled the trade route between mainland China and India. The old architectures also displayed the mixture of race and culture, from the local Malays, British, Indian and Chinese since the establishment of the city. The town was recognized as a World Heritage Site by UNESCO in 2008.

Pengkalan Weld, a main street of George Town, Penang

Old Chinese buildings in George Town

Beyond the architecture, the street art in George Town was another element that made this city charming. The street art was originally created by the Lithuanian artist Ernest Zacharevic and they have simply brought the city to life. The street art set us a big challenge to try to capture all of them in photograph within a limited time.

"Little Children on a Bicycle", just one of many murals on the streets of Penang

The mix of cultures in Penang city also brought us the mix of tastes. With the aid of the local engineers, we were fortunate enough to experience the various food and drinks in Penang, from Chinese to Indian, from Malaysian to Western. Every night after the conference, the extremely friendly local engineers organised social dinners and networking drinks events alongside with other young delegates from different ASEAN countries at the best food spots of the city. It was a great opportunity for us to meet some new friends and chat with the engineers with some local food and pints, after an entire day of hard work. All of us gained valuable knowledge on the engineering, daily life and culture of different countries, and most importantly the friendship.

Seafood dinner with YEAFEO delegates, organised by IEM

The entire trip was very enjoyable and this has to credit to the fantastic arrangement by the local engineers.

Selfie with the local engineers

5 CONCLUSION

Delegates from HKIE-YMC have fulfilled the following objectives through participating in the CAFEO 33 and the YEAFEO 22:

- To gain exposure to large scale international conference;
- To nurture the leadership and communication tactics of our younger generations;
- To gain knowledge on sustainable development and the current practice of other countries;
- To broaden knowledge through sharing with young engineers from other countries;
- To have technical knowledge / ideas / cultural exchanges with engineers worldwide;
- To extend the network of our young engineers with delegates from other countries;
- To increase the horizon of young engineers through the participation;
- To promote the Hong Kong Institution of Engineers (HKIE) to other countries; and
- To promote the Young Members Committee of HKIE to other countries.

The initiative of the participation of CAFEO 33 and YEAFEO 22 of HKIE-YMC was in line with the mission and core values of the institution to sustaining excellence in the engineering profession. In the past few years, delegates from the HKIE-YMC attended the conference as guests and observers. The CAFEO 33 and YEAFEO 22 this year was a valuable experience for professional engineers, especially young engineers. The five YMC delegates have gained exposure to attending large scale international conference, increased their engineering knowledge, improved communication skills and developed inter-personal qualities to work with engineers of different countries. Next year, CAFEO 34 and YEAFEO 23 will be held in the Philippines in November 2016. The HKIE-YMC will continue to encourage more young engineers to attend this meaningful event.

6 ACKNOWLEDGEMENT

We would like to express our sincere gratitude to the HKIE by sponsoring our delegates to attend the CAFEO 33 and YEAFEO 22 held in Malaysia. We would also like to give thanks to the Institution of Engineers Malaysia (IEM) for their excellent arrangement of the conference. They have planned an itinerary rich in content for all the delegates to enjoy a wonderful, memorable and educational conference.

The Hong Kong delegates at CAFEO 33 / YEAFEO 22

7 FEEDBACK

Candy Fung's Feedback

This was a promise last year, thanks I have the chance to join the YEAFEO delegation again this year. We have been friends with Malay since the YEAFEO in Cambodia. I have visited Penang before and I love this place. All the things are nice. In such a relax place, it's great that we met old and new friends, as well as exchanging some social profiles.

In 3-day conference plus 1-day heritage hunt, we shared our culture and technical knowledge. I've got a deeper understanding about the challenges of being an engineer in Malaysia and the political relations. At the same time, we enjoyed the Malay food and Indian food every day. Malay are so kind and treated us very well. I truly believe our friendship will last long.

I am really appreciated to have this opportunity again to encounter these friends, to strengthen our connections and share experience with them. This memory will be engraved in my heart; I enjoyed it and had a lot of fun. This event is strongly recommended, on behalf of our personal development and network expansibility. Simultaneously, the HKIE and all engineering disciplines in Hong Kong shall be promoted to other ASEAN countries. Last but not least, please let me take this opportunity to send my gratitude to the HKIE to provide this chance to us. Thanks to the host country for taking care of us. Thank you to my partners, Alan, Emily, Daniel and Dick; this trip let me know more about them. Thank you. I'm looking forward to our next congregation.

Dick Yan's Feedback

As a member of the Hong Kong delegation team to the 33rd CAFEO, I am glad to be one of the five representatives from various sectors of the industry, on behalf of the HKIE-YMC to attend the YEAFEO, to share with them the engineering challenges in Hong Kong and to understand that of other developed and developing countries in the area.

The delegation is of a broad spectrum, with technical conferences, site visits, "Women in Engineering" and on-stage performance, I have gained experiences and knowledge that would take years to learn back in the ordinary work life in Hong Kong.

Throughout the 3-day conference, technical seminars were held in parallel acknowledging the fruitful results of academic studies from the 10 participating ASEAN countries, as well as the practical experiences obtained in combating the unique challenges of their own that brought by nature, such as flooding in Thailand and the lack of water in Singapore. Site visits were followed to supplement the seminars.

Apart from the seminars, the conference addressed the common situation across the globe, which is that male engineers are the mainstream of talents in the industry. Yet in ASEAN countries, the concept of "Women in Engineering" has been well known and would be a force for their path to the first world, which I think Hong Kong may make reference to it.

The conference was closed by a *Country Gala.* Our delegation prepared and performed a dance to illustrate the culture of Hong Kong as a closing remarks to the rewarding conference. This is a part that required the most collaboration and communication with my fellow teammates and contributed much to my personal growth.

Aiming to facilitate the information and experience exchange of the engineers from ASEAN countries in the CAFEO, though Hong Kong is currently not a member of ASEAN, we are being kindly and respectfully invited to the conference. Being Asia's World City, the conference has inspired me thinking of it may be a steppingstone in bringing Hong Kong seizing the opportunities of the One-Belt-One-Road policy by promoting Hong Kong' professional engineering services to ASEAN countries for the betterment of the countries and the development of Hong Kong's engineers.

I would like to thank again the hospitality of the people of Penang and the HKIE for offering me the precious chance to attend the 33rd CAFEO, which has contributed to growth in both my technical and personal aspect, broadening horizon, applying local

experiences in an international scale, and at the same time aligns with the objectives of my Scheme A Training in various skills such as communication and leadership.

Daniel Wu's Feedback

The delegation to Penang, Malaysia is an unforgettable and valuable learning experience for me in terms of both broadening my horizon and acquiring engineering related knowledge. It did broaden my horizon to meet young engineer from different countries, it was a good opportunity to learn how the engineering field is like in their countries, and it was great to share the working experience with each other.

Moreover, the opening ceremony was quite impressive. Participants were holding their own national flag while entering the grad hall, and all of them were joining the ceremony with great joy and passion. And there was a great dancing performance and inspiring during the opening ceremony.

During the delegation, some social activities had been held. It was great to travel some famous sightseeing spot there and learn the history and background about Penang. Also, there was a site visit to SPICE project during the delegation. It was a great learning opportunity to learn from the engineers involved in the project and they were keen to share their valuable experience working there. We also had a sharing after the site visit, it was great to know about the difference in engineering practice in different countries.

Finally, the delegation was ended in a grand closing ceremony. The greatest part was the performances organized by different countries - some were giving dancing performance in their local style, some were singing songs and I was impressed by the Kung Fu performance made by the delegates from Japan. The delegation was a good opportunity to know more about Penang, and know more how the engineering field developed in different countries.

Emily Yu's Feedback

My second trip to CAFEO was another unique experience. This engineering conference that brings together engineers from various cultures and backgrounds is not only a fantastic place to meet people from all walks of life, it is also an occasion to learn - about engineering, about yourself, and about the world. Everyone comes to this conference with an open heart and open mind, ready to share their own views and experiences while simultaneously fascinated to hear about yours, and that is the biggest reason I am always excited to go to CAFEO.

Another exciting part about CAFEO is getting to experience the local culture from the locals' point of views. Malaysia's engineers are passionate and friendly – they made every effort to make sure that we were well looked after. They took us to their local hangout spots, good places for local food, and were basically our tour guides, on top of their duties for the conference. I hope that we can show them the same hospitality when they decide to come for a delegation visit! In fact, we have made many friends from our trips to CAFEO. We always meet up with those who do happen to stop by in Hong Kong.

The technical aspects of the conference broadened our engineering and world views. Climate change and rapid urbanization were two themes that echo throughout the ASEAN countries. Engineers shared their concern of the problems that are increasingly common, such as flash flooding and intense rainfall, and ineffective disaster preparedness, and their innovative ideas to tackle these problems. The YEAFEO group is also actively reaching out to young engineers across the ASEAN region, hoping to expand their engineering knowledge by connecting with other countries and understanding the unique engineering problems different countries face due to different political, geographical, and cultural makeup.

I am delighted to have been able to share this experience with my four friends, three of whom attended CAFEO for the first time. It was an experience in itself just observing their reactions to new encounters! Throughout the conference, we shared our thoughts and views, learning from each other. We also made a wonderful team and were encouraging and patient with one another during our brief time working together. We have all grown personally from this trip. I must send my heartfelt gratitude to the HKIE for your support. I also send my sincerest thanks to our friends in Malaysia and everyone at the conference. I'm looking forward to seeing everyone again!

Alan Lam's Feedback

In this delegation to Penang city, Malaysia, I think it was a fantastic experience to me. Penang city on its own is a historical city with multi cultures. I can easily find yourself surrounded by environment of Chinese, Malaysian or Indian. The mix of architectures, street art and history made the treasure hunt in George Town on the first day very challenging and fun.

During the conference, I was impressed with the open ceremony when the representatives entered into the hall with their own flags. This made me feeling myself is participating an international event and was proud of myself to be representing Hong Kong.

I also felt excited when I was working with young engineers from different countries. I was impressed with the manner of the Japanese delegates, the passion of the Malaysian delegates, and the friendliness of the Myanmar delegates. I wish I could have met more people in limited time of the delegation.

The site visit to SPICE project was my first time to visit a sport complex and arena with large span roof, and I had gained vulnerable knowledge on designing large span structure.

Last but not least, the closing ceremony was also a memorable night, especially the performance from different delegates. I hope other guests would also enjoyed the canton pop we presented.

Appendix A
Conference Programme

33rd CAFEO 2015 Programme Schedule

22.11.15 Sunday	23.11.15 Monday	24.11.15 Tuesday	25.11.15 Wednesday	26.11.15 Thursday
Arrival for Golfers at Penang Registration Non-Golfers, if any Free and Easy) **0900 – 2000**	Golf Competition **0630 - 1230** Treasure Hunt **1000 - 1400** Arrival of Officials, Foreign Delegations, Presidents and etc AFEO/YEAFEO/AER/WEAFEO Registration of Conference Delegates and Participants **0900 – 1800** Free and Easy (OWN LUNCH) **0730 – 1300** Working Group A (Education and Capacity Building WG) **1300 - 1500** Working Group B (Transportation and Logistic WG) **1300 - 1500** Working Group C (Energy and Environmental WG) **1400 - 1500** Working Group D (Disaster Preparedness, Mitigation and Management WG) **1400 – 1500** Tea Break **1500 – 1530** Award Meeting **1530 – 1630** Free and Easy **1630 – 1830** Welcoming Reception AER/AAE/AET/AAET/AT/AAT Certificate Presentation **1830 – 2100** End Event Free and Easy	Arrival of delegates, Registration of Conference Delegates and Participants Arrival of VIP Guests Arrival of Guests of Honour **0800 – 0900** Official Opening of CAFEO 32 Speeches, conferment of Hon. Patron and Visit Exhibition Hall **0900 – 10.30** VIP viewing the exhibition booth until **11.30** Tea Break **1000 - 1030** AER Meeting **1030 - 1300** YEAFEO Workshop session 1030 – 1300 WE-AFEO Board Meeting (Woman Section) **1030-1300** Technical Seminar CAFEO 33 conference **10.30-1300** **Lunch** **1300 – 1400** **Country Report** **1400 – 1530** Tea Break **1530 – 1600** Country Report (continue) **1600 – 1700** YEAFEO Board Meeting (Young Engineers) **1630 - 1800** WEAFEO Meeting (Woman Section) 1630 – 1800 End Event Free and Easy	FEIAP Meeting **0900 - 1100** YEAFEO Young Engineers Country Report **0900 – 1100** WE-AFEO (Woman Section) Country Report **0900 - 1100** Technical Seminar CAFEO 33 conference **0900 - 1100** Tea Break 1100 - 1130 AFEO Governing Board **1130 – 1230** YEAFEO Young Engineers Activities **1130 – 1230** WE-AFEO (Woman Section) Country Report **1130 – 1230** Technical Seminar CAFEO 33 conference **1130 – 1230** Lunch 1230 – 1330 Technical Seminar CAFEO 33 conference **1330 – 1530** YEAFEO Young Engineers Activities **1330 – 1530** WE-AFEO Forum (Woman Section) **1330 – 1530** Technical Seminar CAFEO 33 conference **1330 – 1530** Tea Break **1530 – 1600** Free and Easy **1600 – 1800** Closing Ceremony Closing Banquet & IEM Penang Branch 48th Anniversary Dinner Presentation of ASEAN Engineering Achievement Award Conferment of Distinguished Hon Fellow Conferment of Hon Fellow Conferment of Hon Member Performance of delegates from ASEAN Countries and other foreign delegates Flag Hand over to the incoming President of CAFEO 33 **1800 – 2200** Free and Easy	CAFEO delegates to attend Technical Visits to **Optional 1** Mengkuang Dam & Solar Plant **Optional 2** Batu Kawan Industrial Park, Bayan Lepas free trade zone & Motorbike Plant **Optional 3** Water Front Development And Steel Fabrication Plant **0900 - 1800** End Event Free and Easy

Appendix B
Financial Report