



2017台北世界大學運動會 The 2017 Taipei Summer Universiade

林口國宅暨選手村新建工程
Athlete's Village &
Linkou Public Housing

55棟比賽及訓練場館整修工程專案管理
Project Construction Management for Reconstruction
of 55 Competition & Training Venues



亞新工程顧問(集團)公司
MAA Group Consulting Engineers
BANGKOK BEIJING HONG KONG MACAU
SHANGHAI SINGAPORE TAIWAN YANGON

MAA Bulletin

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Founded in 1975, **MAA** (Moh and Associates) is a leading Asian engineering and consulting service provider in the East and Southeast Asian region focused in the areas of infrastructure, environment, buildings, land resources, and information technology.

To meet the global needs of both public and private clients, **MAA** has a full range of engineering capabilities providing integrated solutions ranging from conceptual planning, general consultancy and engineering design to project management.

MAA employs over 1000 employees with companies in the Greater China Region (Beijing, Shanghai, Chengdu, Hong Kong, Macau, Taipei) and Southeast Asian Region (Bangkok, Singapore and Yangon), creating a strong professional network in East/Southeast Asia.

MAA's business philosophy is to provide professional services that will become an asset to our clients with long lasting benefits in a rapidly changing social-economic environment. **ASSET** represents five key components that underline **MAA's** principles of professional services:

project **A**dvanced Technology
client's **S**afety
Satisfaction
Economical Solution
Timely Completion

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2017 臺北世界大學運動會

29TH SUMMER UNIVERSIADE



"Largest multi-sport event in the world apart from the Olympic Games"

TAIPEI 2017 SUMMER UNIVERSIADE

The Universiade is an international multi-sport event, organized for university athletes by the International University Sports Federation (FISU). The name is a combination of the words "University" and "olympiad". The Universiade is the largest multi-sport event in the world apart from the Olympic Games.

The 2017 Taipei Summer Universiade was held from August 19th to 30th, and included 14 compulsory sports (athletics, basketball, fencing, football, gymnastics, rhythmic gymnastics, judo, aquatics (swimming, open water), water polo, diving, table tennis, tennis, volleyball, and taekwondo) and 7 optional sports (archery, badminton, baseball, golf, roller sports, weightlifting and wushu) as chosen by the host city. The FISU President

praised the hosts for providing athletes with great competition venues, and allowing the Universiade to achieve tremendous success throughout the 13 days of competitions.

MAA was engaged by the Taipei City Government to provide Project and Construction Management (PCM) services for the reconstruction of 53 venues (including 29 competition venues and 24 training venues) and two buildings which functioned as dormitories for the volunteers, as well as provided space for international forums. All 53 venues were to meet FISU's requirements, including its regulatory, environmental protection, and conservation principles.





Site A & B of Linkou Public Housing

While undertaking the PCM project of 55 venues, MAA coordinated interfacing and communications between 29 relevant agencies, 26 design & supervision units and 34 contractors. MAA also has to ensure each venue met the requirements from 11 different Universiad executive committees within an urgent schedule. MAA's team were split into four project offices (Taipei, Linkou, Taoyuan, and Hsinchu), with each engineer responsible for up to five project concurrently, resulting in completion of all 53 venues in time for operation in the Universiad. By upgrading these venues not only served to provide the Universiad with top-quality competition spaces, but will allow Taipei to host more of such memorable events in the future.

Not only was MAA tasked with renovation and upgrading competition venues, the event required housing and accommodations for delegates from 150 nations during the duration of the competition. In Taiwan's first Athlete's Village

at Linkou, accommodations were provided for up to 12,000 international and national delegates. Other services which the Athlete's Village were tasked to provide included transportation, security, catering, medical services, culture and entertainment areas, religious places of worship, and a fitness center.

The Athletes' Village consisted of 4 sites, totaling 34 buildings from 12 to 21 stories above ground. The residential zone comprised of site A, site B, and site C with 8 buildings, 6 buildings, and 9 buildings each respectively. Apart from the residential zone, the international zone was located at site D and was comprised of 11 buildings. Once the competition is completed, the Athletes' Village will be repurposed to provide public housing for low-income families. The public housing would provide much needed affordable housing located in Taipei's metropolitan area.



On-site discussion with clients



To embody the essence of Linkou, which is also known as the “Home of the Wind”, wind motifs and themes were integrated into the design of Site A and Site B of the Athletes’ Village. The building design incorporated these elements into its daylighting and shading design, and emphasized the effects of winds onto the buildings. Decorative columns and beam-like flanges for the façade and streamlined adornment on the roof were incorporated to transform the potentially oppressive feeling from dense building massing into an elegant and unique skyline in Linkou.

MAA was engaged by Taipei City Government in August, 2013 to provide Project & Construction Management(PCM) services for the project, major service are as follows:

- Consultation of bidding strategies and review of relevant documents
- Design review and supervision
- Construction supervision and performance management
- Assistance for the client’s acceptance, occupancy and commissioning

During the implementation process of the project, MAA was recognized with several awards including “The 2015 Public Construction Safety Golden Awards”, “The 2016 Outstanding Award for Concrete Project”, “The 2016 Taipei City Distinguished Public Construction Award” and “The 2017 PMI (Project Management Institute) Taiwan Best Practice on Project Management Award”.



Taipei City Mayor Ko, Wen-Je (right3) and MAA staff Ms. Chen Sz-Lin (left2), Mr. Chang, Cih-Chiun (left3), Mr. Wu, Ding-En (right2) and Mr. Hsu, Chun-Chiang (right1) at the Appreciation Banquet for 29th Summer Universiade

SEAGS 50th Anniversary 1967-2017

50th Anniversary Symposium of SEAGS

14-15 September 2017
AIT Conference Center
Asian Institute of Technology
Thailand

THE SEAGS 50TH ANNIVERSARY SYMPOSIUM



The Southeast Asian Geotechnical Society (SEAGS) 50th Anniversary Symposium was held on 14th -15th September 2017 at the Asian Institute of Technology Campus in Bangkok. The symposium was jointly organized by the Thai Geotechnical Society and the Southeast Asian Geotechnical Society of ISSMGE. As the Founding President, Dr. Za-Chieh Moh was invited to deliver the opening address entitled “Vision, Mission and Accomplishments of SEAGS”. For his contribution to the SEAGS, Dr. Moh was presented with the Certificate of Highest Recognition by the Society. The auspicious occasion jointly chaired by Dr. Noppadol Phienwej, current President of SEAGS

and Dr. Suttisak Soralump, President of TGS, was attended by more than 150 delegates from over 20 countries. Many of the distinguished figures in the geotechnical arena attended the celebration cum symposium, including Prof. Roger Franks, President of ISSMGE, Prof. Ikuo Towhata, VP for Asia ISSMFE, Past President and Secretary General of the SEAGS Dr. C. D. Ou, Dr. John Li, Dr. C.T. Chin, Prof. K. Y. Yong, Dr. T.A. Oai, Dr. John Nelson and Dr. D.T. Bergado. Also present were Prof. Charles Ng, newly elected President of ISSMGE, and Prof. S. S. Lin, Chairman of the AGSSEA.



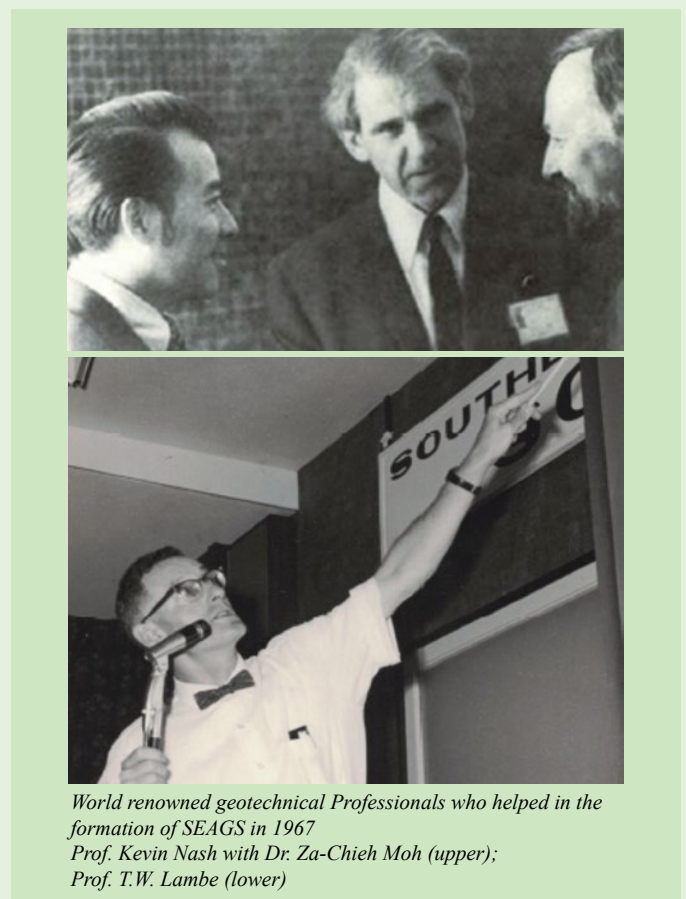
Dr. Za-Chieh Moh received the Certificate of Highest Recognition by the Southeast Asian Geotechnical Society

History: (excerpt from “50 Anniversary Symposium of SEAGS” Bulletin No.3)

The SEAGS was founded in 1967 by Dr. Za-Chieh Moh as a regional society to include Thailand Malaysia, Singapore, Philippines, Hong Kong and Taiwan and other societies in Asia at a time where no other national societies existed. It now has a membership of over 200. Its members are very active in soil mechanics and foundation engineering, engineering geology, rock mechanics, geo-environmental engineering, and geosynthetic engineering.

The Association of Geotechnical societies in South-East Asia (AGSSEA) is an enlarged Society of SEAGS and promoted by SEAGS to bring all National Societies of SE Asia under one umbrella. The objectives of the Association are the promotion of co-operation among geotechnical societies in SE Asia; and assistance to member societies who currently have limited number of members.

Thai Geotechnical Society, TGS, was originally formed as one of technical committee of the Engineering Institute of Thailand, EIT, under HM The King patronage in 1993. From then on, it has played an active role in promoting technical advances and research activities in the field of geotechnical engineering in Thailand. With the increasing demand in its activities, the committee decided to establish TGS in 2008 and joined the International Society for soil Mechanics and Foundation Engineering in the same year. Currently, the Thai geotechnical engineers are estimated to be around 2,000 actively working in the country where there is increasing demand for geotechnical expertise.



*World renowned geotechnical Professionals who helped in the formation of SEAGS in 1967
Prof. Kevin Nash with Dr. Za-Chieh Moh (upper);
Prof. T.W. Lambe (lower)*

TAIPEI MRT 30th ANNIVERSARY 1987-2017

CELEBRATION OF THE 30TH ANNIVERSARY OF TAIPEI CITY GOVERNMENT DEPARTMENT OF RAPID TRANSIT SYSTEMS



Taipei City Government DORTS 30th Anniversary

When the Taipei City Department of Rapid Transit Systems (DORTS) was founded on 23rd February 1987, it gathered many of Taiwan's top professionals from various disciplines, including domestic and international planning, design, construction, and operations. DORTS has applied this talented pool of experts towards MRT construction for the past 30 years. DORTS has not only elevated Taipei's international competitiveness and reputation, but has been ranked as the 25th longest MRT network (136.6km) and 20th highest traffic volume (2 million passengers per day) amongst 170 global cities with subway systems. From 2004 to 2008 and in 2015, DORTS was ranked number one for system reliability in the Community of Metros (CoMET) and the Nova benchmarking group of metros (Nova). In celebration of the 30th year anniversary of DORTS, DORTS held a special celebratory event on 23rd February. The event was hosted by the



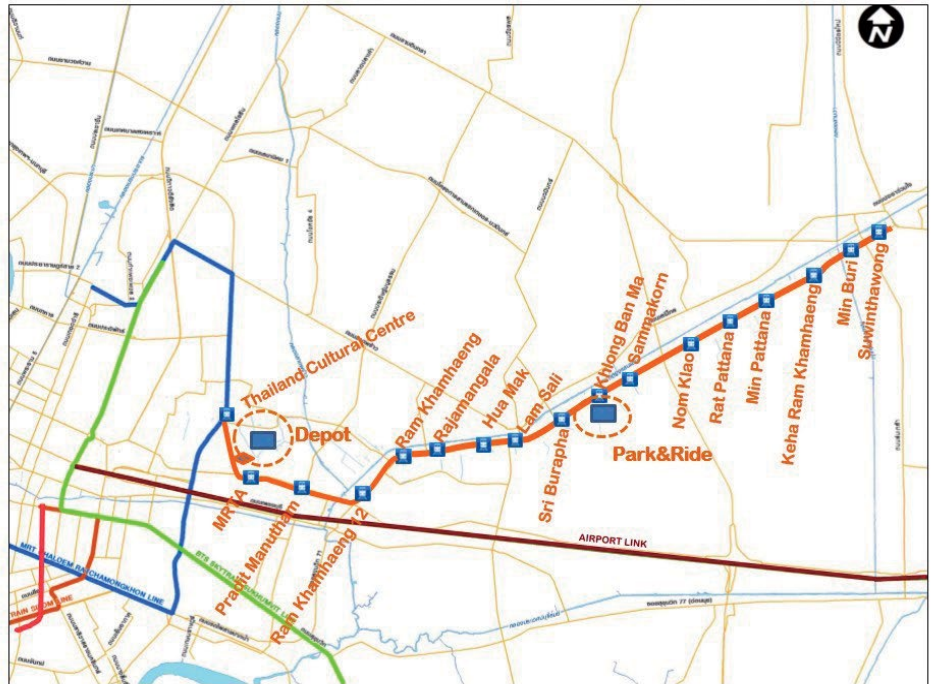
Frozen Method for Soil Improvement (left); Shield Machine (upper right); Deep excavation of a MRT station (lower right)

DORTS not only to demonstrate its appreciation to the support and devotion of engineering consultants, but also emphasized that Taipei MRT is the only metro project in the world which implement Geotechnical Engineering Special Consultants (GESC) for its projects. It is with honor that MAA has been commissioned as the GESC for all four phases. As the GESC, MAA assisted DORTS in planning, design, and construction phases by solving geotechnical issues through economical and safe solutions. Chairman Dr. Za-Chieh Moh, President Mr. Chien-I Hsu, Chief Technical Officer Mr. Chung-Cheng Kao and Executive Senior Vice President Mr. Richard Moh of MAA were invited to celebrate the 30th DORTS anniversary, and wishes DORTS for 30 more brilliant years to come.

Source: DORTS, Taipei City Government

MRT ORANGE LINE (EAST) PROJECT THAILAND CULTURAL CENTER – MIN BURI (SUWINTHAWONG SECTION), THAILAND

The MRT Orange Line (East) Project is an approximately 22.5 km. heavy rail transit system containing underground and elevated sections. This Project includes 13.7 km. underground section with 10 stations, 8.8 km. elevated section with 7 stations, a depot with operation center and one Park & Ride facility. The alignment of the Project begins at Thailand Cultural Center station of MRT Chalem Ratchamongkhon Line, runs through MRTA area toward Rama IX road, turns left to and runs along Ramkhamhaeng road, then passes Lam Sari Intersection and Kanchanapisek Intersection and terminates at Suwinthawong station which is located nearby Ramkhamhaeng – Suwinthawong road junction method. For the tunnel passing through the north second freeway, special measures shall be taken to overcome the settlement due to shallow cover. The viaducts/bridges are constructed by CIP, MSS and BCM methods. The primary responsibility of MAA consists of performing the duties and exercising the authorities of the Project Management Consultant and Construction Supervision Consultant (PMSCS) to control the following Civil



Bangkok MRT Orange Line Route Map

Works Contracts:

- **Contract 2** - Civil Works
(Underground Structures)
Ramkhamhaeng 12 to Hua Mak
Station
- **Contract 3** - Civil Works
(Underground Structures) Hua Mak
to Khlong Ban Ma Station

• **Contract 6** - Civil Works (Trackworks)

The service started in June 2017 and is expected to be completed in October 2020.

NGA MOE YEIK BRIDGE, YANGON, MYANMAR

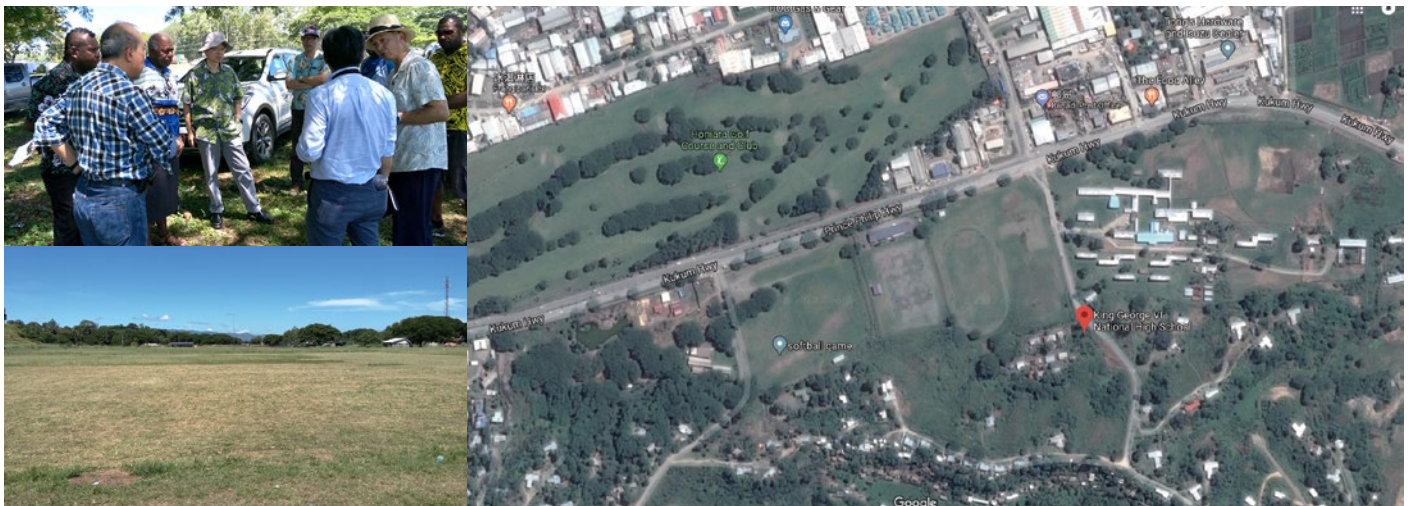
In order to improve the transportation convenience, Yangon City Development Committee (YCDC) decided to build a bridge crossing Pazundaung creek and connects Okkalapa Township, Thit Sar street to New Dagon Township, Ngar Man Aung Paya street.

MAA was engaged by YCDC as construction supervision consultant to implement international practice of QA/QC system into public work, aiming to enhance the public work quality in Yangon city. This project is the first public infrastructure project in YCDC involving an international consultant company. The service period was from April to September 2017.



Nga Moe Yeik Bridge, Yangon

PRELIMINARY PROJECT EVALUATION OF THE MAIN STADIUM IN SOLOMON ISLANDS



Site evaluation of the main stadium in Solomon Islands

The Solomon Islands has been selected as the host country for the 2023 Pacific Games, a sport event with participation exclusively from countries around the South Pacific Ocean. The Main Stadium

will hold up to 10,000 audiences, with functions such opening & closing ceremonies, track and field races, football matches, etc. MAA was commissioned by the Ministry of Foreign Affairs of the

ROC to provide a preliminary assessment on site suitability, stadium functions, etc. The service period was from February to May 2017.

THE LE BASSAC, PHNOM PENH, CAMBODIA

Taiwan developer, Four Season Construction Co., Ltd., with MAA Engineering Consultants International as its PCM and construction supervision consultants, announced their brand new residential development Le Bassac, to be built in the heart of Phnom Penh, Cambodia. The groundbreaking ceremony was held on 24th October 2017.

Located at the junction of Norodom Boulevard and Street 294, this development combines the expertise of renowned international architect and designer, C. Y. Lee, and one of the subsidiaries of the world's largest construction company (by revenue), the China State Construction Engineering Corporation (CSCEC): Straits Construction and Development Company, Ltd. MAA Engineering Consultants International has been engaged by the developer to provide PCM and construction supervision services to ensure high construction quality for this project. The proposed residential building will be 33 storey high with deep excavation up to 36m below ground level which will be the deepest excavation in the city.

Although situated in a business district, the Le Bassac has been envisioned to become “an oasis of calm and nature”. The development will have vast amounts of surrounding landscaped greenery and views overlooking the Mekong River. With an emphasis on resident well-being and health, the project plans to include a swimming pool, fitness center, and an online international medical connection center.



MAA's Vice President Mr. Tu-Hsing Lee at the contract signing ceremony (rear left 5)



Façade of Le Bassac Residential Building

Le Bassac will consist of 33 stories above ground, with 28 residential floors containing two to three bedroom units, targeted towards comfortable family living. Full-sized parking spaces for each household will also be available in a well-lit underground parking structure. Located 250m from the Independence Monument, future residents will be able to easily access necessary amenities such as; banking services, commercial office buildings, retail stores, cafés and fine dining restaurants.

From the conception stage of Le Bassac, the developers stated that “concern for the environment has been a primary focus”. Energy conservation, sustainable management practices and the latest green building standards were integrated into the design of the structure. Le Bassac is estimated to be completed by October 2020.

Source: <https://www.realestate.com.kh/news/LEBASSAC/>

MANDALAY DISTRICT COMMUNITY CENTRE, MYANMAR

To improve local access to education material and to provide libraries with quality indoor and outdoor spaces, IPRD and DKKF established a series of cost-effective central libraries and mobile library programs in every region, state and main cities of Myanmar. The basic requirements of the community center are (1) Multi-functioned hall which can hold special event and workshop for local people. (2) General reading room (3) Stack room (4) ICT room and (5) Garage for mobile library truck. The project in Mandalay is to improve an existing office building to community center and construction of garages. MAA was engaged by DKKF since October 2016 to implement 3 Library renovation projects in Mandalay, Magway and Ayeyarwaddy. MAA was mainly responsible for conceptual design, project management and construction supervision. As a construction supervision consultant, MAA also implemented international practice of QA/QC system into public work, aiming to enhance the public work quality in Myanmar.

The opening ceremony for the Mandalay District Community Centre co-sponsored by the Information and Public Relations Department (IPRD) and the Daw Khin Kyi Foundation (DKKF), under the supervision of the Ministry of Information, was held on 1st September 2017 in Pyigyitagon Township, Mandalay Region.



Dr. Thant Thaw Kaung, Central Executive Member of DKKF, addressed at the Opening Ceremony (left)



Union Minister for Information Dr. Pe Myint visits Mandalay District Community Centre

Present at the ceremony were Dr. Pe Myint, Union Minister for Information, Dr. Zaw Myint Maung, Chief Minister of the Mandalay Region Cabinet and ministers of Mandalay Region Cabinet, U Maung Pe, director-general of IPRD, Dr Thant Thaw Kaung, central executive committee member of DKKF.

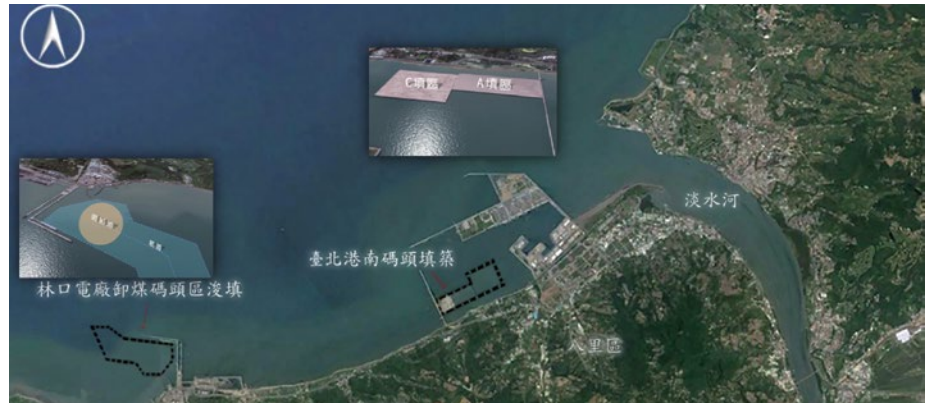
Source: <http://www.globalnewlightofmyanmar.com/mandalay-district-community-centre-opened/>

PCM SERVICES FOR THE LINKOU POWER PLANT RENEWAL EXPANSION PLAN HARBOR BASIN DREDGING AND TAIPEI HARBOR SOUTH TERMINAL LAND RECLAMATION PROJECT, TAIWAN

MAA was engaged by the Honghua Construction Co. for PCM services for the dredging work near Linkou Power Plant and land reclamation at the Taipei Harbor South Terminal. The dredging area is located in the northern section of the Linkou Power Plant in New Taipei City, with a dredging area of approximately 148ha. The main reclamation ground is located in Bali district located at Taipei Harbor South Terminal C with a reclamation area of approximately 52 ha.

The Linkou Power Plant plans to upgrade its capabilities by incorporating supercritical coal-fired technologies. To enable these systems, coal must be imported internationally by collier bulk carriers. The water depth of the existing coal unloading port and canal are insufficient for standard 150,000 ton colliers, necessary to power three supercritical coal-fired fuel generators (capable of generating up to 800 MW each). For the dredging process, Honghua Construction Co. acquired the services of the world largest cutter suction dredger (CSD) “JFJ De Nul”, capable of cutting powers up to 7,600 kW, to shorten the schedule of this project. Honghua Construction Co. also acquired the services of the Trailing Suction Hopper Dredger (TSHD) “Charles Darwin” and open barges. These crucial equipments for the dredging were required to dredge against hard mud rock and resist the wave force caused by north east monsoon winds.

MAA was engaged by Honghua Construction Co., Ltd. to provide PCM



Taipei Harbor South Terminal Reclamation Area



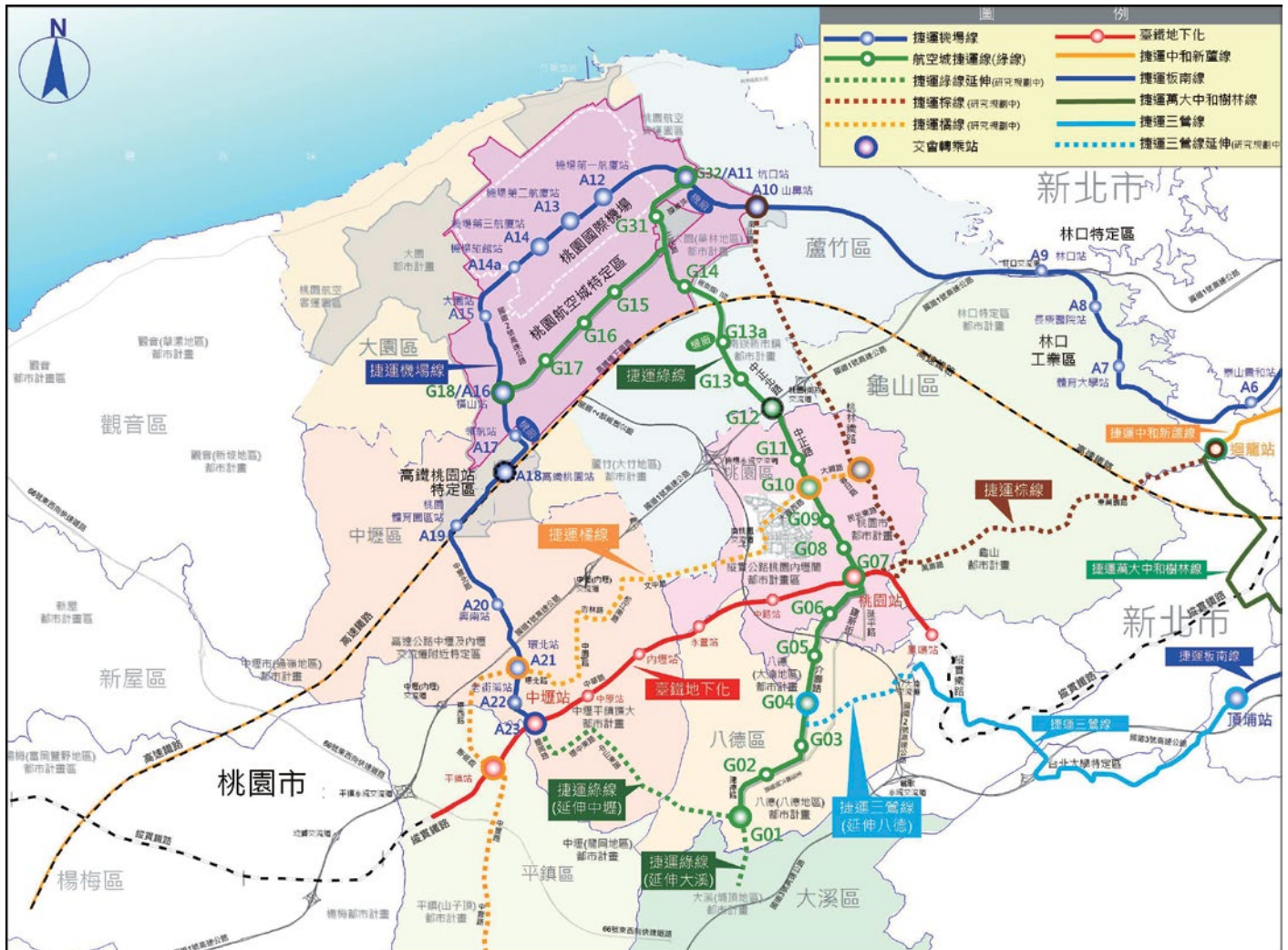
World Largest Cutter Suction "JFJ De Nul"

services for the following:

- 148 hectares dredging at the Linkou Harbor, estimated total excavation of 5.1 million cubic meters
- Dredging of pebbles & rock formations(SPT-N> 100).
- Taipei Harbor South Terminal Land Reclamation of approximately 62 hectares, estimated land reclamation amount of 8.1 million cubic meters
- Other constructions at the reclamation area include existing embankment repair, new secondary height up embankment
- Harbor dredging, land reclamation, environmental protection, port shipping maintenance

The project began in April 2017 and is expected to be completed in October 2018.

TAOYUAN METROPOLITAN AREA RAPID TRANSIT SYSTEM- AEROTROPOLIS RAPID TRANSIT SYSTEM PROJECT, TAIWAN



Taoyuan Aerotropolis MRT Green Line Route Map

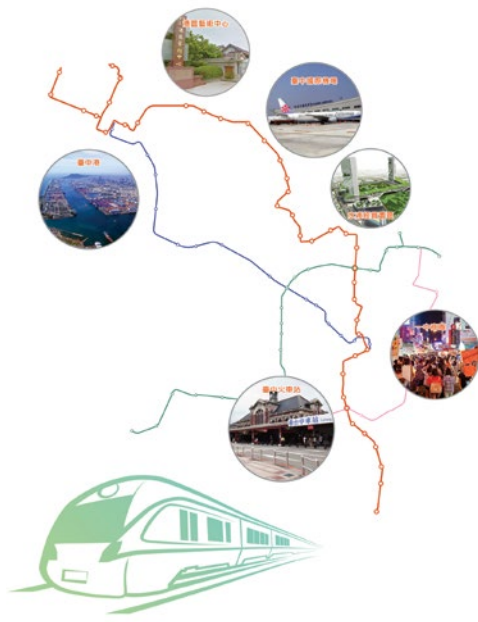
The Aerotropolis Rapid Transit System is a planned 28.1 km mixed (elevated and underground) rapid transit line serving the greater Taoyuan Metropolitan Area. With 21 stations (10 underground and 11 elevated), this Project will help form the eastern backbone for Taoyuan's railway system. The Aerotropolis Line will serve not only the existing Taoyuan Metropolitan Area, but also the planned Aerotropolis development area. The mainline consists of 14 stations, bisecting at station G14 into two lines which will connect with the current Taoyuan Airport

Line. The main route begins at Bade Area and connects to the A11 station of the Taoyuan Airport Line, while the branch line begins at G14 station and connects to the the A16 station of Taoyuan Airport Line. MAA was engaged by the Taoyuan City Government to provide PCM & general consultancy services including:

- Review of existing preliminary design, design review & construction supervision of the civil and environmental control systems along the G01 to G06 route (total length approx. 7.4 km)

- Review of existing preliminary design, design review & construction supervision of building services, elevator and escalator works for G01 to G06 stations
- Review of existing preliminary design, design review & construction supervision of railway engineering works for the entire project.

FEASIBILITY STUDY FOR TAICHUNG SHUANGGUANG LRT LINE AND REVIEW OF TAICHUNG RAPID TRANSIT NETWORK SYSTEM MASTERPLAN, TAIWAN



Taichung ShuangGuang LRT Line

To expand the Taichung MRT System to provide its services to the Greater Taichung Area, MAA was engaged to review and upgrade the existing Taichung MRT Masterplan and provide feasibility studies for Taichung ShuangGuang Road Light Rail Transit System. The proposed ShuangGuang LRT line will connect Taichung Harbor and Taichung Airport, two major locations of international traffic.

This LRT line plans to promote tourism industries and economic development

of locations in Taichung, and satisfy the increasing needs of the public for commuting and public transportation services. The feasibility study will evaluate the optimal route alignment for this project, as well as the feasibility and strategies for its implementation. The Taichung City Government aims to gain early approval for the future LRT project through a comprehensive study.

The project began in June of 2017 and is expected to be complete by December 2020.

QUALITY & SAFETY MANAGEMENT, AND SUPERVISION FOR THE CHUNG-LI SEWER SYSTEM BUILD, OPERATE AND TRANSFER (BOT) PROJECT, TAIWAN

MAA was commissioned by the Taoyuan City Government to monitor, inspect, and certify the quality of works performed by the concessionaire of the “Chung-Li Sewer System Build, Operate and Transfer (BOT) for Promotion of Private Participation”, which is responsible for the construction, operation and maintenance management of wastewater treatment plant, public sewer pipelines and its connection to household in Chung-Li District. The Chung-Li Sewer System BOT Project is a crucial project expected to handle about 246,250 meters of public sewer pipe network and 199,973 sewer household connection- pipes, including a wastewater treatment plant capable of handling at least 156,800CMD. The concession period including construction and operation will be for a total of 35 years.



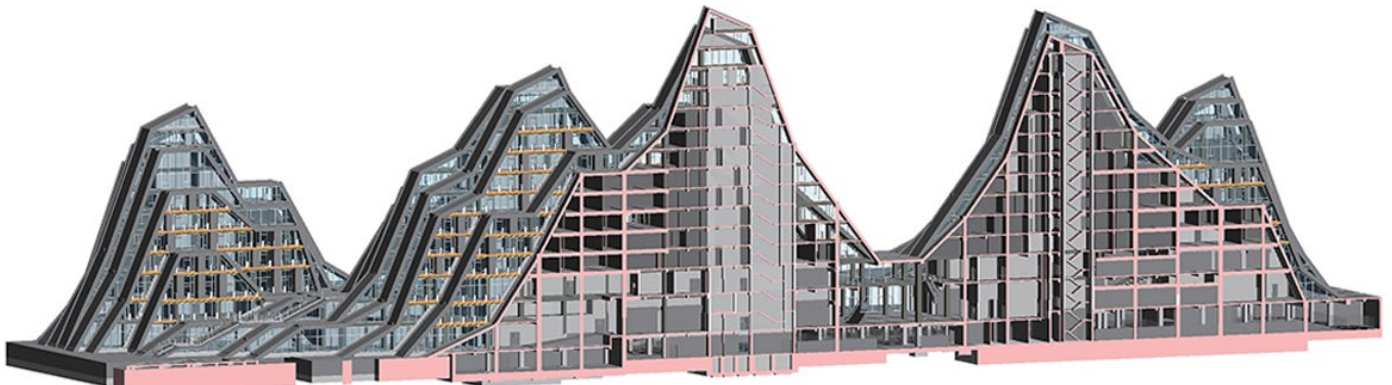
Chung-Li Sewer System Pipeline Distribution

Apart from the responsibilities described above, MAA is also responsible for providing reports and results from certification documents to the



concessionaire and the government authorities. The contract period for MAA's services in this project is from June 2017 to December 2023.

HUILANWAN SUNRISE VILLAGE, HUALIEN, TAIWAN



BIM Model of Huilanwan Sunrise Village

Huilanwan Sunrise Village, located at the intersection of Hualien Provincial Highway 11 and Hai'an Road, within the Whirl-Lan Bay special district. It is a modern oasis; an eco beach resort which incorporates green, healthy, active and cultural lifestyles for complex's older residents. BIG Architects adopts a language of mountain and sea in Hualien. The green roof can maximize the comfort of micro climate and the vegetation is integrated with the special structural system as its main concept of "mountain". The occupants can overlook

the Pacific Ocean while enjoying the comfort brought by the sustainable design approaches. In 2014, the Huilanwan Sunrise Village received the Architizer A+ Awards for Architecture + Aging and the French MIPIM Awards ("The Golden Palm Award" for the international real estate industry) for Future International Real Estate Architecture. In 2015, it received international recognition once again as it became the only building in Taiwan selected into the "Hot to Cold: an Odyssey of Architectural Adaptation" exhibition held by the National Building

Museum in Washington, U.S.A. MAA was commissioned to provide BIM consulting services including:

- Pre-construction BIM modeling
- Clash detection
- Construction Sequencing
- BIM consultancy for construction stage
- BIM consultancy for hand-over stage

The service started in June 2016 and is expected to be completed in December 2019.

ENVIRONMENTAL IMPACT ASSESSMENT FOR TAIPEI MRT MINSHENG-XIZHI LINE, TAIWAN

Located in Taipei City and New Taipei City, the Minsheng-Xizhi line is planned to stretch a total of 19.63 km in length, including a 17.4 km main line and a 2.23 km branch line, and will contain eight underground stations, ten elevated stations, and one depot located at the Shehou area in Xizhi. In accordance with Article 7 of "Standards for Determining Specific Items and Scope of Environmental Impact Assessments for Development Activities" published by the Environmental Protection Administration of Taiwan, an environmental impact

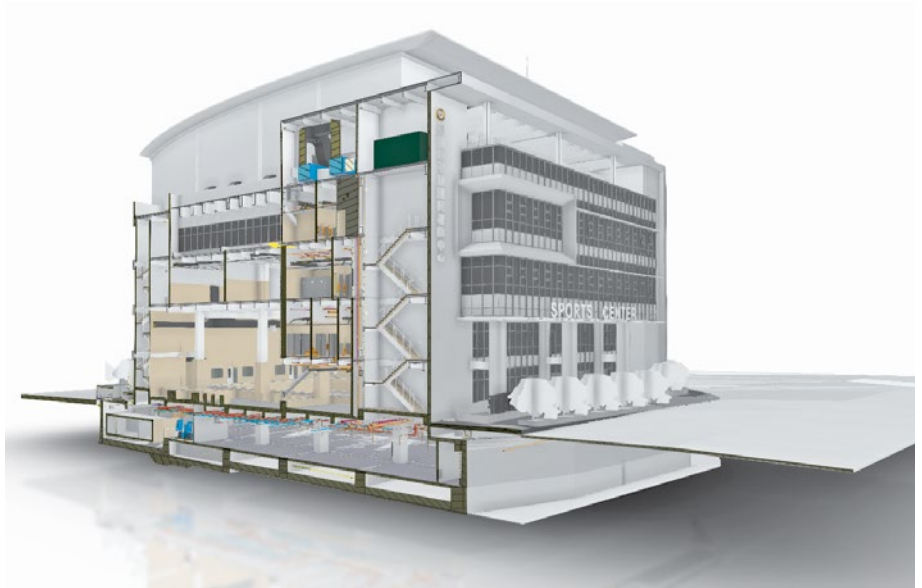


assessment is necessary for new metro rapid transit systems or extensions of existing systems over 1km. MAA was engaged by the Taipei City Government to provide environmental impact

assessment consulting services for this project. The service started in April 2017 and expected to be completed in January 2020.

PING ZHEN SPORTS CENTER, TAOYUAN CITY, TAIWAN

MAA was commissioned to provide BIM management consulting services for the Ping Zhen Sports Center Project. This project is a public sports center with four-stories above ground and one basement level, and a total gross floor area of 10,638.94 m². The center includes a swimming pool, a retail center, and a gym. The weather resistant coating was applied to the external portions of the building, and the building is enclosed with aluminum composite panels and a curved metal roof. External lighting is designed to illuminate the sports center at night to form a stunning urban landscape. To promote the sports and recreational activities according to Taoyuan administrative goals, the Ping Zhen Sport Center embodies a great athletic ambience through its state of art facilities and careful layout. MAA's scope of services includes:



Ping Zhen Sport Center

- Architectural, structural and MEP BIM modeling.
- BIM integration for clash detection and program study in design stage.
- BIM integration for constructability study in construction stage.
- 4D construction sequencing
- Generating 2D drawings from BIM

P ROFESSIONAL ACTIVITIES

- *Professional Activities*
- *Professional Awards / Honors*
- *International Meetings*
- *Seminars and Conferences*
- *Technical Publications*

► Professional Activities

GROUNDBREAKING CEREMONY FOR CHINA LIFE INSURANCE TAIPEI HOTEL, TAIPEI, TAIWAN

China Life Insurance acquired the 13,389m² site area on a 70-year land lease to build a landmark Taipei Hotel. With an estimated cost of NT 14.1 billion, the hotel aims to build a 90m-high mixed-use building for office, hotel, and retail purposes. The building will have 19 floors above ground and 3 floors below,

with a total floor area of approximately 87,737m². MAA was appointed to provide PCM and construction supervision services for this monumental project. MAA's President Mr. Chien-I Hsu and Executive Senior Vice President Mr. Richard Moh were invited to attend the ground breaking ceremony on 15th February 2017. This project scheduled for completion by the end of 2019.



MAA's ESVP Mr. Richard Moh (left) at the Ceremony



MAA's President Mr. Chien-I Hsu (left 2) Attends the Groundbreaking Ceremony

ESTABLISHMENT OF YOUNG ENGINEER COMMITTEE OF CHINESE INSTITUTE OF ENGINEERS



MAA's Senior Engineer Dr. Jung-Feng Chang (front right 1) at one of the CIE Young Engineer Committee activities, the "2017 Resource Sharing Camp"

MAA's Executive Senior Vice President Mr. Richard Moh founded the Young Engineer Committee under the Chinese Institute of Engineers (CIE) in January 2017. CIE is one of the oldest-established and largest multimodal professional organizations in Taiwan, consists of more than 18,000 members from a variety of engineering disciplines across the industry, the public sector, relevant organizations and academic institutions.

With the increase in globalization of industries and the rapid development of advanced information communication technologies, engineers must continuously challenge themselves to create innovative solutions by adapting to these global trends. By enhancing the breadth and depth of knowledge in engineers, they are able to use an integrated approach to solve present and future issues. To foster the growth of young engineers into future leaders and holistic engineers, Mr. Richard Moh founded the CIE-YE to encourage engineers to develop broader knowledge, continue further education, and increase exposure to internationalization.

The Young Engineer (YE) Committee, chaired by Mr. Richard Moh, and the Education Committee, chaired by Dr. Fuh-Sheng Shieu, of the CIE jointly hosted the 2017 Resource-Sharing

Camp in National Chung Hsing University (NCHU), Taichung, Taiwan on October 28th. More than 30 students and staffs/faculties attended the seminar. As president of NCHU, Dr. Fuh-Sheng Shieu delivered the opening speech for this event. The event was organized by the vice chairman of the Education Committee, Dr. Ching-Chih Tsai.

The event began with each student chapters' representatives outlining their activities over the past year, and each chapter's expectations and challenges for the coming year. Winners of Distinguished Young Engineer, Engineer, and Engineering Professor Awards next shared their experiences with the attendees. Dr. Jung-Feng Chang, Senior Engineer at MAA and secretary of the YE Committee, was one of the distinguished speakers introducing CIE's vision and mission to the audience. Dr. Chang was accompanied by Miss Guo, a fellow committee member of the YE who is also an alumnus of NCHU.

This three-hour seminar was filled with wonderful and constructive discussion and interactions between speakers and students. Each attendee was able to participate and gain a meaningful experience by the end of the event.

► Professional Awards / Honors

THE 16TH PUBLIC CONSTRUCTION GOLDEN QUALITY AWARD



MAA's former Kaohsiung Office Manager Mr. Che-Chung Chen (left 3) attends Field Evaluation to Sen-O Naval Base for Golden Quality Award

On 21st December 2016, Public Construction Commission held the 16th Public Construction Golden Quality Award ceremony. MAA received the Golden Quality Award for Project and Construction Management of the New Construction of Sen-O Naval Base. The Ministry of National Defense purchased twelve P-3C antisubmarine aircrafts from the US in 2013, which were stationed in the Sen-O Base to ensure the external security of the sea lines of communication(SLOC) in Taiwan. The Sen-O Base's construction project plans included new hangars, parking aprons, accommodations and other facilities that comply with the needs of the P-3C fleet. These included:

- 5 new steel structure buildings which have high ceiling and long spans
- 1 new reinforced-concrete structure building with 1 level above ground and 3 levels basement
- Power, MEP, sewage, fire prevention, and HVAC works for the naval base

To optimize the functions of the naval base, the project implemented US Military design standards. The high standards



MAA's President Mr. Chien-I Hsu (left 2) Receives 16th Public Construction Golden Quality Award ceremony

for naval base operations to accommodate Taiwan's fleet will allow the base to meet the requirements for military tasks. Flood control mechanisms such as detention pools and other ecological disaster prevention techniques were implemented to enhance the base's capabilities. As the PCM consultant, MAA performed a wide scope of services, including review of master plan and design, procurement processes, and construction supervision.

2017 TAIPEI CITY DISTINGUISHED PUBLIC CONSTRUCTION AWARD

On 16th August 2017, MAA received Taipei City Distinguished Public Construction Award by Taipei City Government for project: Taipei MRT Circular Line Section contract CF660B.



2016 DR. ZA-CHIEH MOH RECEIVED THE LIFETIME ACHIEVEMENT AWARD

On 30th November 2016, Dr. Za-Chieh Moh received the Lifetime Achievement Award at annual Conference of the Chinese Road Federation.



2017 APPLIED DISASTER PREVENTION TECHNOLOGY QUALITY AWARD

On 21st September 2017, MAA received the “Applied Disaster Prevention Technology Quality Award” 防災科技應用技術優質獎 founded by Taiwan Association of Disaster Prevention Industry for “Fall Prevention System of Construction Opening” 營建工程開口處施工墜落防止之機制



2017 M&A AWARD: PROJECT AND CONSTRUCTION FIRM OF THE YEAR – ASIA

MAA was selected to win the 2017 M&A Award: Project and Construction Firm of the Year – Asia by Corporate Insider which is the most influential corporate news site with a deep focus on the Mergers & Acquisitions, financial, law and accountancy industry verticals in UK.



► Seminars and Conferences

THE 46TH AITAA GBM



The 46th AIT Alumni Association Governing Board Meeting was held at Howard Civil Service International House in Taipei from 3rd-6th November 2017. Nearly 300 delegations from 20 countries attended this annual AITAA event including delegates from the Association of Southeast Asian Nations (ASEAN), six countries from south Asia, Australia, South Korea, Hong Kong, Macau, United States, etc..

Asian Institute of Technology (AIT), established in 1959, was initially founded by the Southeast Asia Treaty Organization (SEATO) as an international Graduate School of Engineering to provide higher education and develop highly qualified and committed professionals. AIT is one of Asia's most internationally diverse graduate schools, funded by a number of governments, international organizations, foundations, and private sector individuals from around the world.

AIT has a unique international character, with 70% of its 2,000 plus student population hailing from outside its host country, from all corners of Asia and the rest of the world. In 2015, AIT was adjudged the world's top-ranked international university by the EU-funded U-Multirank 2015 institutional ranking. Today's AIT graduates are a who's who of success stories in both the public and private sectors in more than half the world's countries.

To promote Taiwan's economic development, the Taiwan government has been sending outstanding talents to AIT for postgraduate studies since 1970. Most of Taiwan's AIT alumni returned to Taiwan after graduation and devoted themselves to Taiwan's Ten Major Construction Projects and the 6-Year National Construction Plan. In 2000, Taiwan's AIT alumni numbered over 800, with many noteworthy individuals who were essential to Taiwan's economic development.

The AIT Alumni Association (AITAA) was established in 1969 to strengthen the bonds between AIT alumni, and with AIT. The Republic of China AIT Alumni Chapter was established in October 1970. As of May 2016 AITAA includes more than 21,000 alumni from 101 countries/territories, and has since held 45 governing board meetings. This year, AITAA Governing Board Meeting was held in Taipei, where the R.O.C. AIT Alumni Chapter also hosted the "International Workshop on recent advances on smart cities in Taiwan" on 5th November.

As the Honorary President of the Organizing Committee of the 46th AITAA GBM, Dr. Za-Chieh Moh, Chairman of MAA Group, has been a major supporter for the event. From 1965 to 1976, Dr. Moh was Professor, Vice President, and Provost at AIT (named SEATO Graduate School of Engineering before 1968). During his tenure in AIT, Dr. Moh was responsible for the development of geotechnical engineering both at the university, and in the region. Dr. Moh has also furthered the overall academic development of the Institute. Today, many of AIT's graduates belong to FEIAP member countries and hold prominent positions in academic institutions, governmental agencies and industries. In 1999, Dr. Moh received Honorary Doctor of Technology from AIT in recognition of his devotion to the academic development of AIT.

Source: <https://www.ait.ac.th>
<https://www.46aitaagbm.tw/aitaa/>



19TH INTERNATIONAL CONFERENCE ON SOIL MECHANICS AND GEOTECHNICAL ENGINEERING (ICSMGE) & 6TH INTERNATIONAL YOUNG GEOTECHNICAL ENGINEERS' CONFERENCE (IYGEC6)



Dr. Za-Chieh Moh Attends the Session of TC305 of the 19th ICSMGE



Dr. Za-Chieh Moh Gives a Speech at the 6th IYGEC

The 19th ICSMGE was held on 17th – 22nd September 2017 in Seoul, Korea. MAA's Chairman, Dr. Za-Chieh Moh was invited to deliver a talk entitled "Geotechnical Infrastructure in Taipei Metropolis" under the session "TC305 Geotechnical Infrastructure for Megacities and New Capitals". In addition, the 6th IYGEC was held on 16th -17th September 2017 in Seoul as well. MAA's Chairman Dr. Za-Chieh Moh was invited to deliver a keynote lecture entitled "Ethics and Leadership". MAA's ESVP Mr. Richard Moh also attended the lecture and had a lot of interactions with young geotechnical engineers presented at the Conference.



Mr. Richard Moh at the 6th IYGEC



SYMPOSIUM ON PAST AND FUTURE DEVELOPMENT OF GEOTECHNICAL ENGINEERING, MACAU



Dr. Za-Chieh Moh at the Symposium on Past and Future Development of Geotechnical Engineering

On 27th October 2017, The Symposium on Past and Future Development of Geotechnical Engineering was organized by Macau Association for Geotechnical Engineering at Macau Culture Center and co-organized by Guangdong Rock Mechanics & Engineering Society, Chinese Taipei Geotechnical Society, Hong Kong Geotechnical Society, Macau Institution of Engineers and Civil Engineering Laboratory of Macau. MAA's Chairman Dr. Za-Chieh Moh was invited to deliver a speech entitled "Development and Challenges of 3D GIS and BIM Applications in Geotechnical Engineering – Case studies of railway and land development projects".

ISARC 2017



The 34th International Symposium on Automation and Robotics in Construction

The 34th International Symposium on Automation and Robotics in Construction (ISARC 2017) was held in National Taiwan University of Science and Technology, Taipei, Taiwan, from June 28th to July 1st, 2017. ISARC has been organized by members of the International Association for Automation and Robotics in Construction (IAARC) to address the needs and concerns of a global community in all fields of construction, including civil and building engineering, machine automation,

robotics applications to construction, infrastructure networks, construction and environmental sustainability, Information Technology innovations, planning, logistics, etc. Over 200 delegates and speakers from more than 30 countries were invited to expend their knowledge and to share ideas. MAA's engineer Ms. Yi-Lun Cheng of BIM Centre was invited to deliver a speech titled "MAA total BIM Solutions: Now and Beyond".

SMART CITIES OF A NEW SI-VILIZATION

On 26th October 2016, the Forum titled, “Smart Cities of A New Si-vilization” was held by Taiwan’s Ministry of Economic Affairs, National Development Council and Acer Inc. The main goal of the forum is to introduce the concept of developing a global Silicon Valley and the wealth of opportunities it presents to Asia. As the final event to wrap up the company’s 40th anniversary celebration, Acer invited government and industry leaders to discuss and share their thoughts about the future of global technology. MAA’s Advanced Engineering Chief Technical Officer Mr. Chung-Cheng Kao was invited to give a speech entitled ”Smart City Infrastructure- An Integrative Approach”.



Mr. Chung-Cheng Kao at the Forum for Smart Cities of A New Si-Vilization

► Technical Publications

Chang, J.F., Chou, C.R., Moh, Z.C. (2017), *"Proximity Effect on Closely Spaced Shield Tunnels-Analysis, Design, and Feedback"*, The 19th International Conference on Soil Mechanics and Geotechnical Engineering, Sep.17-22, Seoul, Korea.

Chang, J.F., Chen, C.W., Wu, D.E., Chou, C.R., Masahiro Furuta, Hung, M.S., Mitsuhiro Okuma, Wu, B.L (2017), *"Design Considerations for Ecological Sustainability, Energy Conservation and Carbon Reduction : An Example of an Underground Cable Project"*, Sino-Geotechnics, No.152, pp.65-74. (in Chinese)

Chao, H.C., Chang, J.F., Hu, Y.H. (2016), *"Wave Frequency Equation for Pile Foundation"*, Sino-Geotechnics, No.149, pp.85. (in Chinese)

Chen, C.T., Huang, W.C., Cheng, K.Y. (2017), *"The use of BIM in New Taipei City Library for construction and operation"*, Journal of Chinese Institute of Engineering, Vol.90, No.4, pp.124-133. (in Chinese)

Chen, D.J., Mitsui, E.T., Kao, F.M. (2017), *"台電大林～高港潛盾洞道工程－急曲線設計及施工概述"*, Journal of Professional Geotechnical Engineers, No.14, pp.14-23. (in Chinese)

Chen, J.F., Chang, J.F., Lai, Y.F., Chao, C.R., Hsieh, Y.H. (2016), *"Construction Difficulties and Resolutions of MRT Shield Tunneling in Mixed Grounds"*, The 15th Cross Strait Seminar on Tunnels and Underground Construction, Aug 12-15, Changsha, Hunan, China. (in Chinese)

Chen, J.F., Huang, T.M., Su, T.C., Huang, Y.C. (2017), *"Engineering Strategies of Taipei Fault for East Extension Project of Taipei MRT Xinyi Line"*, Central Geological Survey, Vol.36, No.2, pp.56-59. (in Chinese)

Chen, J.F., Tseng, H.C., Mitsui, E.T. (2017), *"Case study on Shield Tunneling through Bridge Foundations"*, Proceedings of the 17th Conference on Current Researches in Geotechnical Engineering, Aug 30-Sep 01, Yilan, Taiwan. (in Chinese)

Hsu, K.H., Tseng, H.C., Chou, C.R., Lin, C.J., Wang, C.J., Shen, K.C. (2017) *"動力夯實前導試驗案例分享—以台北港南碼頭A填區為例"*, Professional Engineer Journal, Vol.77, pp.36-45. (in Chinese)

Hwang, R.N. (2016), *"Back Analyses in Forensic Geotechnical Engineering"*, Forensic Geotechnical Engineering, Springer, Indian, Chapter 9, pp.131-144.

Hwang, R.N., Chen, B.S., Wu, T.E., Duann, S.W. (2016), "*Damage to a Metro Tunnel Due to Adjacent Excavation*", Forensic Geotechnical Engineering, Springer, Indian, Chapter 25, pp.369-378.

Hwang, R.N., Moh, Z.C. (2017), "*Deep Excavations in Taipei Metro Construction*", Construction, Geotechnical Engineering Journal of the SEAGS & AGSSEA, Vol. 48, No. 2.

Lai, Y.F., Su, T.C., Hsieh, Y.H. (2016), "*Case Study on Design Consideration and Quality Management of Shield Tunneling*", Sino-Geotechnics, No.150. (in Chinese)

Li, H.Y., Liu, C.W., He, Y.C., Chan, H. (2017), "*淺談BIM技術在土木工程設計的應用*", Journal of Chinese Institute of Engineers. Vol.90, No.3, pp67-79. (in Chinese)

Liu, Y.Y., Chang, J.F., Huang, Y.C., Yu, C.Y. (2017), "*Study on Asymmetric Pressure Behavior of Deep Excavation -The Taipei MRT Case*", Proceedings of the 17th Conference on Current Researches in Geotechnical Engineering, Aug 30-Sep 01, Yilan, Taiwan. (in Chinese)

Tseng, H.C., Liu, Y.Y., Yu, J.L., & Liao, H.J. (2016), "*Improve the Procedure of Anchor Lift-off Test and the Interpretation of Results*", Sino-Geotechnics, Taipei, Taiwan, No.149, pp.51-58. (in Chinese)

Yu, C.J., Huang, T.M., Weng, S.C. (2017), "*Applied BIM Technology on Rail Transportation Engineering Design*", Journal of Chinese Institute of Engineering, Vol.90, No.3, pp.89-98. (in Chinese)

P PERSONNEL PROFILES



Kung-Lung LO
羅 坤 龍

Dr. Kung-Lung Lo joined MAA in April 2017 as Manager of Kaohsiung Office. He received his Bachelor's degree of Surveying Engineering, Chung-Cheng Institute of Technology in 1974 and Master's Degree in Photogrammetric Surveying from National Cheng-Kung University in 1980. In 2015, Dr. Lo received his Doctoral Degree in Civil Engineering from National Kaohsiung University of Applied Science. He is also a Registered Professional Surveying Engineer in R.O.C..

Dr. Lo has considerable experience in all aspects of land redevelopment, including land acquisition, land expropriation, resettlement, etc. in particular for railroad projects. Dr. Lo has demonstrated his leadership and management strengths in Taiwan Railways Administration's Railroad Grade Separation projects, over 200 km long in total, through all stages of implementation, which received many national public infrastructure engineering awards. His particular knowledge in systems approach, land redevelopment and management, risk assessment and construction management has proven invaluable.

He also specializes in Surveying Engineering, such as survey planning and execution for large-scale areas, engineering applications in Geographic Information System (GIS) and Unmanned Aerial Vehicle (UAV), and construction land acquisition and development.

Apart from Dr. Lo's extensive experience working for the military, government agencies, universities, and in the private sector as well, Dr. Lo has received numerous awards from the Executive Yuan, the Ministry of National Defense and the Chinese Society for Surveying Engineering for his accomplishments.



Chung-Jung YU
游 中 榮

Mr. Chung-Jung Yu was promoted to Manager of BIM Management and Engineering Integration Center in July 2017. Mr. Yu obtained his bachelor's degree in Civil Engineering at Tamkang University in 1996 and received his master degree in Applied Geology at National Central University in 1998. His major studies include slope stability, tunnel engineering, rock mechanics, GIS, remote sensing and engineering geology. Mr. Yu joined MAA in 1999 and was assigned to work on the Taiwan High Speed Rail Project Contract C220 design in October 2000. He was then assigned to the Geomatics Department, primarily working on GIS applications and environmental geology investigations. Major projects at MAA undertaken by Mr. Yu also included the Zoning of Landslide - Landslip Geologically Sensitive Areas - Nantou County, the Investigation of Potential Debris Flow Torrent in 2012, the Investigation on Debris Flow Torrents and Geological Sensitive Area of Debris Flow Disaster and Establishment of Geographic Information System (GIS) and databank on public utilities of Lienchiang County phase II etc. Mr. Yu is a Registered Professional Geotechnical Engineer. He is also a member of the Geological Society of China, the Chinese Society of Photogrammetry & Remote Sensing and Taiwan Professional Geotechnical Engineers Association. To date, he has participated in 15 technical papers published in various engineering journals and research papers.



Yu-Chi LIN
林育祺

Mr. Yu-Chi Lin was promoted to Manager of Project & Construction Management Dept. II in September 2017. Mr. Lin received both his bachelor's and master's degrees in structural engineering from National Taiwan University of Science and Technology in 1995 and 1997. Mr. Lin has worked for Ta-Hsing Engineering Consultant Co. (1995-1996), the National Defense Medical Center (1997-1999) and MAA (1999-current). His experience ranges from structural analysis and design to project construction management. Structural analysis and design projects include the Wan-Son Building, the Wan-Gar-Fu Shopping Mall fire damage assessment and the Grand Hotel fire damage assessment. His major projects for project construction management include the Taiwan Hakka Cultural Center Miaoli Park, the National Taiwan Technology University school building construction (turnkey contract), the relocation of the National Taichung Library and the Kaohsiung Indoor Stadium (BOT project), etc. As for professional registration, Mr. Lin is a Registered Professional Structural Engineer, R.O.C., a Professional Building Interior Decoration Personnel, R.O.C., a Professional Public Construction Quality Management Personnel, ROC. and Professional Procurement Personnel, ROC. He was nominated as Chairman of the Young Engineers Committee of the Chinese Association of Engineering Consultants (2015-2018).



Chi-Chieh HUANG
黃琦傑

Mr. Chi-Chieh Huang was promoted to Deputy Manager of Taichung Office in June 2017. Mr. Huang received his bachelor's degree in Traffic Engineering from Feng Chia University in 1992. After graduation, he joined MAA as a civil engineer and was responsible for the road design of Nanliao-Chutong Expressway. Mr. Huang was the first in MAA to adopt the use of LAND DESKTOP (DCA) for road design, improving efficiency of the team to reduce project schedules. Mr. Huang is experienced in project management for many large-scale public developments, as well as industrial development planning throughout Taiwan. Since 2010, Mr. Huang has been involved in the Changhua High Speed Rail Station Transit-Oriented Development Project, providing PCM services including preliminary design. Mr. Huang is also responsible for the Shueinan Economic Park Central Park Landscape Project, providing PCM services for the implementation and management for the planned 67hA park.



Shyan-Ching JANG

鍾賢慶

Mr. Shyan-Ching Jang was promoted to Deputy Manager of Project & Construction Management Dept. I in September 2017. Mr. Jang graduated from the National Taiwan University in 1986 and received his M.S. degree from the Carnegie-Mellon University in Civil Engineering in 1990. After graduation, Mr. Jang worked as a Structural Engineer in T.Y. Lin International and as Deputy Manager in Prosperity Engineering Corp., during which his major works included bridge detail design works of Taiwan Area Sun Yat-Sen National Freeway Widening Project for Contract 11, 14, 15 and 27, Macarthur Bridge No.2 in Taipei City and Pinlin interchange of Taipei-Ilan Expressway, planning and design of Chai-Yi Winery Buildings project, and detail design of R.O.C. Air Force Human Centrifugal Building Project. Mr. Jang joined MAA in 1994 and was responsible for the design of several viaduct sections in the Nantou Section of the second Freeway, design of Landside Road System for the Suvarnabhumi Airport, preliminary design of the Taiwan High Speed Rail project for BOT tendering. Mr. Jang was responsible for the Project Management and interface coordination for the Linkou public housing and the 2017 Summer Universiade Athletes' Village Construction Management and Supervision Project from 2014 until project completion in 2017. Mr. Jang is a member of Mechanics Science Association and Agricultural Engineer Association.



Kuo-Hsiung CHENG

陳國雄

Mr. Kuo-Hsiung Cheng was promoted to Technical Manager of Project & Construction Management Dept. I in September 2017. Mr. Cheng obtained his Bachelor's degree in Harbor & River Engineering from National University of Marine Science & Technology in 1992. Mr. Cheng joined MAA in 1990 and had been involved in construction supervision for several major public construction, such as Second National Freeway Kuanxi section & Nantou section, Nanfang Au Bridge renovation, Ilan Cingjhou Bridge construction, Kaohsiung broadband duct construction, etc. Mr. Cheng is also the project manager of First Phase of Danhai LRT System and responsible for construction supervision and project management. He is a Registered Professional Civil Engineer, ROC, Quality Control Engineer, ROC and Class C qualified Labor Safety and Health Management.



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