



Successful 107th Meeting of REAAA Governing Council in Manila



Council members at the 107th REAAA Council meeting

The REAAA Governing Council held its 107th meeting which was also the 2nd Council Meeting for the 16th Council Term on 20th July 2017 in Pasay City, Manila, Philippines. The meeting was successful, with 24 of the 36 Council members attending. A total of 83 delegates from eight countries (Australia, Indonesia, Japan, Korea, Malaysia, Philippines, Taiwan and Thailand) attended the meeting, with Indonesia forming the largest delegation with 30 delegates. Mr Keiichi Tamura represented PIARC and Ms Ei Myo, the Deputy Director of the Department of Highways, Ministry of Construction, Myanmar, was an observer.

The President, Mr Romeo S Momo, extended his sincere appreciation to all Council members for giving up their time to attend the meeting. The President conveyed apologies from those Council members who were unable to join the meeting.

Reports were tabled by the Honorary Secretary-General, the Finance Committee, Technical Committee, Membership Promotions Committee, Enhance Revenue (Advertisement), the Young Professionals Committee and the rebranding of the Website. Several important decisions were made and key proposals adopted, including the election of Chairs of the various Committees. The duties of the Vice Presidents, Council members and Co-Opted Council members were endorsed. Preparation for the 108th REAAA Council meeting, and input into forthcoming events in REAAA member countries and collaboration with PIARC was also addressed.

The Finance and Membership Committees made a sincere request to local Chapters and Council members to help in the collection and remittance of overdue membership subscriptions.

Details of the Governing Council members for the current term are presented in this edition of the Newsletter.

The Governing Council for the 16th Council Term: 2017-2021

President

Engr Romeo S Momo (Philippine)

Immediate Past President

Dr Achmad Hermanto Dardak (Indonesia)

Past President

Dato' Sri Ir Dr Judin Abdul Karim (Malaysia)

Vice President

Mr Peter Damen

General Manager, Australian Road Research Board (Australia)

Vice President

Dato' Sri Ir Dr Roslan Md Taha

Director General, Public Works Department (Malaysia)

Vice President

Mr Katsuji Hashiba

Japan Road Association (Japan)

Honorary Secretary-General

Ir Haji Zulakmal Haji Sufian (Malaysia)

Honorary Treasurer-General

Ms Lydwina Marchiela Wardhani (Indonesia)

Council members:

Australian Chapter

Public Works Department, Brunei

Brunei Chapter

Indonesian Road Development Association (IRDA)

Directorate of Public & Highway of the Republic of Indonesia

Express Highway Research Foundation, Japan

Korea Expressway Corporation, Korea

Korean Chapter, Korea

Malaysian Highway Authority, Malaysia

Road Engineering Association of Malaysia

New Zealand Transport Agency, New Zealand

New Zealand Chapter, New Zealand

Road Engineering Association of the Philippines

Philippines Chapter, Philippines

Land Transport Authority, Singapore

China Road Federation, Taiwan

CECI Engineering Consultant, Inc., Taiwan

Roads Association of Thailand

Co-opted Council Members

Mr Kieran Sharp (Australia)

Mr Destiawan Soewardjono Simeon (PT Wijaya Karya (Persero) Tbk, Indonesia)

Mr Rachman Arief Dienaputra (Indonesia)

Mr Yasumasa Torii (Japan)

Mr Asao Yamakawa (Japan)

Mr Hyungpil Jun (MOLIT, Korea)

Mr Kwang-ung Hwang (Korea)

Dato' Ir Dr Dennis Ganendra (Malaysia)

Datuk Nik Airina Nik Jaffar (Malaysia)

Prof. Dr Wong Shaw Voon (MIROS, Malaysia)

New REAAA President: Engr Romeo S Momo



Undersecretary Romeo S Momo commenced his public service career at the Philippine Department of Public Works and Highways in 1974 as a Civil Engineering. He worked mainly at the CARAGA region holding various positions, including Regional Director, before his promotion to Undersecretary in June 2008.

He obtained his Bachelor of Science in Civil Engineering (BSCE) degree in 1974 from the University of Mindanao and became a licensed Civil Engineer in 1975. He was awarded a Masters degree in Public Administration from Bukidnon State College in 1997.

He is a two term National President of the Philippine Institute of Civil Engineers (2013 & 2012); Past President of the Rotary Club of Butuan District and Jacinto D Elpa Alumni Association; Past Assistant Governor, District 3860, of Rotary International; and the Past First National President of the League of Infrastructure Directors of the Philippines. He is currently the National President of the Road Engineering Association of the Philippines (REAP) and he is active in the activities of the American Society of Civil Engineers.

In June 2013, he was awarded the *Certificate of Completion for Leaders in Development Programs* from the John F Kennedy School of Government Executive Education at Harvard University.

He was the recipient of the Most Outstanding Field Executive Award for 2003 & 2004 and was voted the Most Outstanding Civil Engineer in the Philippines in 2017.

EDITORIAL BOARD

Editor-in-Chief

Ir Haji Zulakmal Haji Sufian

Ms LM. Wardhani

Mr Kieran Sharp

Datuk Nik Airina Nik Jaffar

Dato' Ir Dr Dennis Ganendra

Editor/Writer

Mrs Zalilahwati Latif

Editorial Assistant

Mrs Fariza Ibrahim

PUBLISHER

The Road Engineering Association of Asia & Australasia

46 B, Jalan Bola Tampar 13/14, Section 13, Shah Alam, Selangor, Malaysia

Tel: +603-5513 6380; +603-5524 6380 Fax: 603-5513 6390 Website: www.reaaa.org

E-mail: exec.sec@reaaa.net & reaaa.technical@gmail.com

PRINTER

Al-Hikmah Sdn. Bhd.

(049195)

Lot. 447, Jalan Perusahaan 2, Bandar Baru Sungai Buloh

47000 Sungai Buloh, Selangor Darul Ehsan

REAAA GOVERNING COUNCIL: Officer Bearers (2017-2021)

The REAAA Governing Council comprises representatives from government departments, research institutions, national road associations and individual members of outstanding eminence and long experience in science and practice of road engineering.

President - Engr Romeo S Momo



- Mr Momo was awarded Bachelor of Science in Civil Engineering from the University of Mindanao in 1974 and a Master in Public Administration degree from Bukidnon State College in 1997.
- He has spent 42 years in the Philippine Public Service. He was Undersecretary of the Philippine Department of Public Works and Highways.
- He is the National President of the Road Engineering Association of the Philippines (REAP).
- He was the National President of the Philippine Institute of Civil Engineers (PICE) in 2012-2013.
- He was awarded with the *Certificate of Completion for Leaders in Development Program* from the John F Kennedy School of Government Executive Education at Harvard University in June 2013.
- Mr Momo was the recipient of the Most Outstanding Field Executive Award for 2003 & 2004 and voted the Most Outstanding Civil Engineer in the Philippines in 2017.

Immediate Past President - Dr Achmad Hermanto Dardak



- He was the Vice Minister of the Indonesian Ministry of Public Works.
- He is the Honorary Past President of Indonesia Road Development Association.
- His career spans 30 years in the Indonesian civil service. He is a former Vice Minister of the Indonesian Ministry of Public Works.
- He is a former Chairman of the Association of Indonesian Students of Australia (1987) and Chairman of the Road Development Indonesia (2007-2011).
- He was Vice President of REAAA from 2009-2013 and President of REAAA from 2014-2017.

Past President - Dato' Sri Ir Dr Judin Abdul Karim



- Dato Judin has a Doctor of Philosophy degree in Civil Engineering from the University of Southern California and a Master's degree in transportation planning from the University of Birmingham, UK.
- He is currently Chairman of the Construction Industry Development Board Malaysia (CIDB) Holdings Sdn Bhd and Chairman of Malaysia Resources Corporation Berhad.
- He is a former Chief Executive of CIDB, the Director General of the Public Works Department (PWD) Malaysia and Past-President of the Road Engineering Association of Malaysia.
- He is a member of the International Road Federation's Honorary Committee.
- He was Immediate Past President of REAAA from 2014 to 2017.

Vice President - Australian Road Research Board (ARRB)



- ARRB joined REAAA as an institutional member in 1974. It has been instrumental in establishing the technical arm of the association since its inception and holds the position of Chair of the Technical Committee.
- ARRB is represented by **Mr Peter Damen**, General Manager, Research & Consulting.
- Mr Damen has a Bachelor of Civil Engineering degree from Queensland University of Technology.
 - He is a Fellow of the Chartered Institute of Transport and Logistics, Australia., an Executive Board Member of the Global Road Safety Partnership, and a member of the Institute of Transportation Engineers (ITE), USA.
 - He is the Chairman of the Executive Steering Committee of the Australian Driverless Vehicle Initiative and a Board Member of the National Asset Centre of Excellence.

(continued overleaf)

Vice President - Public Works Department of Malaysia (PWD)



Public Works Department (PWD) Malaysia was elected as an Institutional member of REAAA in 1974 and has been involved in the activities of REAAA since its formative years. It is a Federal Government Department which undertakes national infrastructure development.

PWD, Malaysia is represented by **Dato' Sri Ir Dr Roslan Md Taha**, the Director General of PWD.

- Dato' Sri Ir Dr Roslan has a Doctor of Philosophy degree in Environment from the University of Wales, Aberystwyth, U.K. in 1998.
- He was appointed Director of the State of Negeri Sembilan in 2007, Deputy Director-General (Infrastructure) of the PWD in 2015 and Director General in 2016.
- Dato' Sri Ir Dr Roslan represents the PWD as the PIARC First Delegate of Malaysia.
- He is currently the President of Board of Engineers Malaysia (BEM), President of Malaysian Structural Steel Association (MSSA), Chairman of Network of Accreditation Bodies for Engineering Education in Asia (NABEEA) and President of Road Engineering Association of Malaysia (REAM).

Vice President - Japan Road Association



The Japan Road Association (JRA) is a non-profit organization established in 1947. It has been an institutional member of REAAA since 1974.

JRA is represented by **Mr Katsuji Hashiba**. He is representing JRA as the Chair of the REAAA International Committee.

- Mr Hashiba was awarded a Master's of Civil Engineering from Hokkaido University in 1981.
- He is currently Vice President of Nippon Engineering Consultants Co. Ltd, having been attached to the Ministry of Construction, Japan, from 1981 to 2013.
- He is a member of the International Committee of the Japan Road Association (JRA).
- He worked at the Organization for Economic Cooperation and Development (OECD) for several years at its headquarters in Paris.

Honorary Secretary-General - Ir Haji Zulakmal Haji Sufian



• Ir Haji Zulakmal Haji Sufian is currently the Senior Director of Roads Branch, Public Works Department (PWD) Malaysia.

• He was the Director of the Road Facility Maintenance Branch at the PWD Malaysia.

• Has worked at the PWD for 32 years. He has published more than 50 papers and co-authored more than ten road specifications and guidelines for the PWD and Road Engineering Association of Malaysia.

• He was a member of PIARC Committee D2 (Flexible and Semi-Rigid Pavements) Working Committee from 2009 to 2012 and a member of PIARC Committee TC 1.3 (Climate Change) from 2012 to 2015. He is currently a member of PIARC Committee TC D.1 (Asset Management).

Honorary Treasurer-General - Ms Lydwina Marchiela Wardhani (Nonon)



• Ms Lydwina Marchiela Wardhani (Nonon) commenced her working career in engineering & management consultancy services with Mott Macdonald International Ltd in 1999.

• She is currently Infrastructure Director of PT Jababeka Tbk.

• She joined the Indonesian Road Development Association (IRDA) in 2003 as Vice Chairman of the International Relations section.

• She was appointed a Co-opted Member of the REAAA Governing Council in 2014.

• She is also the Chair of the REAAA Sub-Committee on Enhance Revenue and a member of the IRDA Committee for International Relations.

GOVERNING COUNCIL MEMBERS

REAAA Australian Chapter - Mr Kieran Sharp



• The REAAA Australian Chapter was established in 1988.

• It is represented by Mr Kieran Sharp, Senior Business Development Manager at the Australian Road Research Board (ARRB).

Public Works Department Brunei - Haji Amer Hishamuddin Pokapss Hj Zakaria



- PWD Brunei's vision is to develop infrastructure and provide services to improve the quality of life of the people of Brunei and the environment. Its responsibilities include the planning, design, and implementation of road projects in the country.

- PWD Brunei has been an Institutional Member of REAAA since September 1992.
- It is represented by Haji Amer Hishamuddin, Director-General of the PWD, Brunei.

REAAA Brunei Chapter - Mr Mazlan Salim



- The Brunei Chapter was established in 2002.
- It is represented by Mr Mazlan Salim, the Acting Director of Roads of the Public Works Department, Brunei.

Directorate General of Highways, Ministry of Public Works Indonesia - Dr Arie Setiadi



- The Directorate General of Highways, Ministry of Public Works Indonesia, was elected a Governing Council member in 2012.
- The Ministry of Public Works is responsible for the Government of Indonesia's public works.

- Represented by Dr Arie Setiadi, Director-General of Highways, Ministry of Public Works & Highways, Indonesia.

Indonesian Road Development Association (IRDA) - Ir Hedyanto W Husaini



- The Indonesian Road Development Association (IRDA) is a non-profit organisation founded in 1975 with the objective of promoting and advancing the development of roads and road transport in the country.

- The IRDA was elected as an Institutional member of REAAA in 1975.
- The IRDA is represented by Ir Hedyanto W Husaini, the Chairman of the IRDA.

Express Highway Research Foundation of Japan (EHRF) - Mr Koji Kuroda



- The Express Highway Research Foundation of Japan (EHRF) (Kosoku Doro Chosakai) was established in 1957. It is a research organization initiated by the Japan Highway Public Corporation, Japan Society of Transportation Economics, Japan Automobile Manufacturers

Association Inc., Petroleum Association of Japan, and the Civil Engineering Contractors Association Inc.

- The EHRF has been an Institutional Member of REAAA since 1978.
- The EHRF is represented by Mr Koji Kuroda, President, Japan Expressway International Co. Ltd.

Korea Expressway Corporation (KEC) - Dr Hyun Ho CHOI



- The responsibilities of the Korea Expressway Corporation (KEC) include the design, construction, expansion, repair and maintenance of roads; the establishment and management of access to convenient facilities; the development of areas adjacent to expressways; and research and development in related fields.

- The KEC has been an Institutional Member of REAAA since 1988.
- The KEC is represented by Dr Hyun Ho CHOI, Senior Researcher, Korea Expressway Corporation Research Institute.

REAAA Korean Chapter - Dr Sung-Hwan KIM



- The Korean Chapter was established in 2001.
- The Korean Chapter is represented by Dr Sung-Hwan KIM, Chairman of the REAAA Korean Chapter.

(continued overleaf)

Malaysian Highway Authority (MHA) - Datuk Ir Haji Ismail Mohd Salleh



- The Malaysian Highway Authority (MHA) was established in 1980. Its mission is to establish a network of toll expressways which is safe, efficient, comfortable and complete with all necessary facilities and amenities serving the people of Malaysia.

- The MHA has been an Institutional Member of REAAA since 1981.
- The MHA is represented by Dato Ir Haji Ismail Mohd Salleh, the Director General of the MHA.

Road Engineering Association of Malaysia (REAM) - Ir Mohamad Zulkefly bin Sulaiman



- The Road Engineering Association of Malaysia (REAM) - previously known as the REAAA Malaysian Chapter - was established in 1993. Its objectives are to promote and advance the science and practice of road engineering and related professions as well as to formulate and establish standards, guidelines and specifications for road engineering in Malaysia.

- The REAM has been an Institutional Member of REAAA since 1998. It is also manages the Malaysian Chapter of REAAA.
- The REAM is represented by Ir Mohamad Zulkefly bin Sulaiman who is the Honorary Secretary General of REAM and also the Senior Director of Civil Engineering and Structure Branch, Public Works Department (PWD) Malaysia.

New Zealand Transport Agency (NZTA) - Ms Janice Brass



- The NZ Transport Agency (NZTA) is a Crown entity established on 1 August 2008. It brought together the functions of Land Transport New Zealand and Transit New Zealand to provide an integrated approach to transport planning, funding and delivery.

- The NZTA has been an Institutional Member of REAAA since 2008.
- The NZTA is represented by Ms Janice Brass, the Technical Services Manager of the NZTA.

REAAA New Zealand Chapter - Mr Grant Bosma



- The New Zealand Chapter has been an Institutional Member of REAAA since 1996.
- Grant Bosma, the Chairman of the New Zealand Chapter, is currently Industries Divisional Manager with Fulton Hogan in Nelson, New Zealand.

Road Engineering Association of the Philippines (REAP) - Mr Willy T Go



- The Road Engineering Association of the Philippines (REAP) is one of the country's largest organization in road engineering. Its members are mainly those involved in the planning, design and construction of roads.
- The REAP has been an Institutional member of REAAA since 1990; however, it's involvement dates back to the 2nd REAAA Conference, held in Manila in 1978.

- The REAP is represented by its Vice President, Mr Willy T Go.

REAAA Philippines Chapter - Mr Jaime A Pacanan



- The REAAA Philippines Chapter was established in 2002.
- It is represented by Mr Jaime A Pacanan, the President of the Philippine Chapter. He was formerly the Undersecretary of the Department of Public Works and Highways.

Land Transport Authority (LTA), Singapore - Mr Yap Cheng Chwee



- The Land Transport Authority (LTA) of Singapore is a statutory board under the Ministry of Transport, spearheading all land transport developments in Singapore. Established in 1995, its mission is to "Connect people and places, enhance travel experience". It is responsible for the building of roads and their operation and maintenance.

- The LTA has been an Institutional Member of REAAA since 1997.
- It is represented by Mr Yap Cheng Chwee, Group Director, North-South Corridor, Land Transport Authority.

(continued on next page)

China Road Federation, Taiwan - Dr Yung-Hui Chou



- The China Road Federation (CRF) Taiwan was established in 1961. It is a non-profit and non-political civil organization. Its purpose is to assist the government in promoting road construction and to keep abreast with international road organizations for exchange of experiences and technologies.

- The CRF has been an Institutional Member of REAAA since 1977. It has been actively involved in REAAA activities including the organizing of the 3rd and 8th REAAA Conference in 1981 and 1995 respectively.
- The CRF is represented by its President, Dr Yung-Hui Chou.

CECI Engineering Consultants, Inc., Taiwan - Dr Chou Lie-Liung



- CECI was established in 1969 primarily for the purpose of uplifting Taiwan's technology and assisting in the economic development of Taiwan and other developing countries. Over the years CECI has undertaken some of the region's biggest civil, architectural, structural and electrical/mechanical engineering projects, and has actively expanded its scope of services into new areas of work, including Geographical Information Systems (GIS), Global Positioning Systems (GPS), Intelligent Transportation Systems (ITS), e-commerce and biotechnology.

- Represented by Dr Chou Lie-Liung, the Chairman of CECI Engineering Consultant, Inc.

Roads Association of Thailand (RATH) - Mr Aram Kornsobut



- The Roads Association of Thailand (RATH) was previously known as Better Roads Association of Thailand. Its main objectives include promoting the modernization of highways and highway transportation and coordinating better understanding between the public and private

sectors as well as other non-profit organizations.

- The RATH has been an Institutional member of REAAA since 1973 and hosted the first REAAA Conference at Bangkok in 1976.
- The RATH is represented by Mr Aram Kornsobut, the President of RATH.

CO-OPTED MEMBERS

Mr Kieran Sharp (Australian Road Research Board)



- Kieran Sharp is a Senior Business Development Manager at the Australian Road Research Board (ARRB).

- He has been a co-opted member, and Chair of the Technical Committee of REAAA, since 2002. He is an Honorary Member of REAAA.

- His extensive experience in the research field will greatly benefit REAAA, in particular for the production of the REAAA Journal and technical reports and technical input into REAAA Conferences.

Mr Destiawan Soewardjono Simeon (PT Wijaya Karya (Persero) Tbk, Indonesia)



- Mr Simeon is an Operation Director of PT Wijaya Karya (Persero) and also the Chairman of International Marketing at the Indonesian Road Development Association.

Mr Rachman Arief Dienaputra (Ministry of Public Works & Housing, Indonesia)



- Mr Dienaputra is the Director of the Road Network Development, Directorate General of Highways, Ministry of Public Works & Housing, Indonesia.

Mr Yasumasa Torii (Express Highway Research Foundation of Japan)



- Mr Torii has a Master's degree in Civil Engineering from the University of Tokyo, Japan.

- After many years serving as a Council member, Mr Torii now represents the Express Highway Research Foundation of Japan. He will provide a link between

the previous REAAA Technical Subcommittees and the new Technical Committee, particularly in the area of pavements. He is a co-opted member of the Technical Committee as well as the Governing Council.

(continued overleaf)

Mr Asao Yamakawa (Nippon Koei Co. Ltd, Japan)



- Mr Yamakawa has a Bachelor's degree In Civil Engineering from Tokyo University and a Master's degree in transportation planning from the University of Birmingham, UK.

• He was previously a member of the governing Council representing the Japan Road Association. He is currently the Director and Vice President of Nippon Koei Co. Ltd, Japan.

Mr Hyungpil JUN (Ministry of Land, Infrastructure and Transport (MOLIT), Korea)



- Mr Hyungpil JUN is the Director-General for Road Policy, Ministry of Land, Infrastructure and Transport at MOLIT.

Mr Kwang-ung HWANG (Korea)



- Mr Kwang-ung HWANG joined REAAA as an Institutional member in 1988. He has played a leading role in the promotion and development of REAAA in Korea. He was the President of the REAAA Korean Chapter from 2001 to 2009.

• He is the President of Kunhwa Consulting & Engineering Co. Ltd, Korea.

• He served on the REAAA Governing Council for many years. He is an Honorary Member of REAAA.

Dato' Ir Dr Dennis Ganendra (Minconsult Sdn Bhd, Malaysia)



- Dato' Ir Dr Dennis Ganendra has previously served as the Honorary Secretary-General of REAAA for three Council Terms. He is a member of the Board of Directors of Minconsult Sdn Bhd, Malaysia.

• He serves as the Coordinator of the REAAA Fellowship Program.

Datuk Nik Airina Nik Jaffar (UEM Group Berhad, Malaysia)



- Datuk Nik Airina Nik Jaffar is the Group Chief Business Development Officer of UEM Group Berhad.

• She is a Fellow of the Chartered Institution of Highways and Transportation (CIHT) UK and Vice-Chairman of CIHT Malaysia. She also

serves as the Honorary Treasurer of the Intelligent Transport System (ITS) Association of Malaysia and Council Member of REAM.

• In 2013 she was co-opted to the Governing Council to serve as the Financial Assistant of REAAA.

Professor Dr Wong Shaw Voon (Malaysia Institute of Road Safety Research (MIROS))



- Established in January 2007, MIROS functions as a one-stop centre for the generation and dissemination of road safety information through the print media and a concerted training programme. MIROS carries out case studies and evaluates current road safety procedures

and generates information that will form the core of its evidence-based intervention programmes to enhance road safety.

• Professor Dr Wong Shaw Voon, Director General, represents MIROS.

15th REAAA Conference 2017

The 15th REAAA Conference was held on 20-24 March 2017 at the Nusa Dua Convention Center in Bali, Indonesia. The theme of the Conference 'Road for Better Living', emphasised the important role that roads play in connecting transportation networks and logistic services and promoting economic and rural development. However, road development should also ensure that quality of life, culture, heritage and health of the society is enhanced.



The Conference was co-sponsored by REAAA, the Ministry of Public Works and Housing, Indonesia, the Indonesia Road Development Association and the International Road Federation (IRF Global).

The themes of the Conference were:

1. Road safety and intelligent transport systems
2. Green construction and sustainability
3. Road development as a driver of growth
4. Road financing schemes/public private partnerships
5. Other topics related to road development

In addition to the plenary and technical sessions, the trade exhibition, technical and cultural visits and social events, other events included:

- Workshop on Pavement Management Systems
- 4th REAAA Business Forum
- 105th and 106th REAAA Governing Council meetings
- 15th REAAA General Meeting
- 12th Heads of Road Authorities (HORA) Meeting
- 11th Young Engineers & Professionals (YEP) meeting
- Presentation of Katahira Awards to the authors of the best papers who were under 40 years of age
- Presentations to winners of Mino Best Project Award
- Acknowledgement of latest REAAA Honorary Members

A total of 579 delegates from 24 countries attended the conference, with the greatest number of delegates coming from Indonesia (248), Philippines (100), Japan (70) and Malaysia (69). Whilst most of the delegates were from REAAA member countries, other countries represented included the USA, India, Vietnam, China, Spain, Mongolia, Tanzania, Pakistan, Nepal, Italy, France and Bangladesh. A total of 62 papers were presented in the technical sessions, with the presenters representing 12 countries.

The Conference Proceedings can be downloaded from the REAAA website at <http://reaaa.org/>

Brief reports on the Business Forum, Katahira Awards, Honorary members and the Mino Best Project Award are included in this edition of the Newsletter. Also included are details of the members of the Governing Council for the current term and a profile of the new President of REAAA, Mr Romeo S Momo from the Philippines.

Sri Fersney Hedwinanto, Institute of Road Engineering, Indonesia



Election of Latest Honorary Members of REAAA

Under Constitution Clause 4(3)(a)(i), a nominee for Honorary Membership of REAAA must be:
A person of outstanding eminence and long experience in the science and practice of some phase of road engineering and who has contributed outstanding services to the Association may be elected to Honorary membership by the recommendation of the Council and the approval by members carrying a simple majority vote by ballot.

The REAAA Secretariat received 13 nominations from member countries for Honorary Membership for the 15th REAAA Council term. A Scrutinising Committee was set up by the REAAA Governing Council to oversee the election process for the Honorary Membership. The members of the Scrutinising Committee were: Dato' Sri Dr Judin Abdul Karim (Malaysia - Chairman), Dr Che Hassandi Abdullah (Honorary Secretary-General), Mr Kieran Sharp (Australia), Mr Tri Tjahjono (Indonesia), Dato' Ir Haji Ismail Md Salleh (Malaysia) and Mr Yap Cheng Chwee (Singapore).

As a result, the following members were elected:

Mr Gerard Waldron, Mr Philip Ladner, Mr Raymond Farrelly - Australia

Mr Poedji Rahardjo, Mr Ruslan Diwiryo - Indonesia

Dr Kyung Soo Yoo, Mr Keon Chang Cho - Korea

Dato' Ir Han Joke Kwang, Dato' Ir Chew Swee Hock - Malaysia

Mr Richard Steel, Mr Mike Rudge - New Zealand

Mr Jaime Pacanan - Philippines

Dr Mao Chi-Kuo - Taiwan

The Hon. Basuki Hadimuljono, Minister of Public Works and Housing, Indonesia, presented the Honorary Memberships at the opening ceremony of the 15th REAAA Conference in Bali, Indonesia, on 22nd March 2017.

Dato' Sri Dr Judin Abdul Karim
Chairman of Scrutinising Committee



Latest Honorary Members of REAAA and the Hon. Basuki Hadimuljono, Minister of Public Works and Housing, Indonesia

REAAA Mino Best Project Award

The Mino Best Project Award was established in 2016 to recognise outstanding road and/or bridge projects which have recently been constructed in the Asian and Australasian region. The Mino fund was donated by the late Mr Sadamu Mino, who was the Association's 10th President from 1998 to 2000.

The winning projects were selected from six entries proposed and submitted by REAAA Council Members. The judging panel was selected from REAAA Council Members and the evaluation was carried out based on specific criteria agreed to by the Governing Council.

The memberships of the Mino Best Project Award Committee was: Mr Katsuji Hashiba (Chairman - Japan), Mr Kieran Sharp (Australia), Dr Tri Tjahjono (Indonesia), Dr Sung Hwan Kim (Korea), Mr Zulakmal Bin Sufian as the (Secretariat - Malaysia), Mr Abdul Fatak Pandapatan (Philippines) and Dr Yung-Hui Chou (Taiwan).

Sumitomo Mitsui Construction Co. Ltd contributed USD3,000 to support the Mino Best Project Award. This provided the trophies, plaques and certificates awarded to the winners.

The following winning projects were awarded as the Mino Best Project Award from the President of REAAA.

Category I - High Volume Road

Project	Country	Companies
Nhat Tan Bridge Construction	Socialist Republic of Vietnam	Project Management Unit No.85, Ministry of Transport (Socialist Republic of Vietnam) IHI Corporation, IHI Infrastructure Systems Co. Ltd, Nippon Engineering Consultants Co. Ltd., Chodai Co. Ltd., Sumitomo Mitsui Construction Co. Ltd., Vinaconex Engineering Construction & Investment, JSC, Transport Engineering Design Incorporation & Tokyu Construction Co. Ltd.
Central Spine Road Package 3	Malaysia	Public Works Department, Malaysia Pasukan Projek Pembangunan Wilayah Ekonomi Pantai Timur (ECER), Iktisas Ingenieurs Sdn. Bhd, Konsortium Pembinaan Kaleigh Sdn. Bhd & Hanawin Sdn. Bhd.

Category II - Community Road

Project	Country	Companies
Multi-purpose Community Road in Mongolia	Mongolia	Infrastructure Development Institute (IDI), Japan Ministry of Road and Transport Development of Mongolia
Remote Area Mining & Community Road	Australia	Glencore Xstrata, Australia SMEC, Lucas Total Contract Solutions & Polyroad Stabilising

The Inaugural Mino Best Project Awards were presented by Dr Hermanto Dardak and Mr Katsuji Hashiba at the Closing Ceremony and gala dinner during the 15th REAAA Conference in Bali.

Mr Katsuji Hashiba
Chair of Mino Best Project Award Committee

Presentation of Katahira Awards at 15th REAAA Conference



The Katahira Award was established in 1991 in memory of the late Dr Nobutaka Katahira who was the Association's President for the 5th Council term from 1983 to 1986. Dr Katahira willed a significant sum of money to REAAA to encourage keen participation among young engineers in the promotion and advancement of science and technology in road development and road-related engineering in the region. The Governing Council for the 6th term decided to use the donation to set up the Katahira Fund. Katahira Awards have been regularly made available to eligible authors who submit papers for presentation at REAAA Conferences.

Authors who submit papers for REAAA Conferences are invited to nominate for the Katahira Award if they meet the following conditions:

- The author must be under 40 years of age at the time of the submission of the paper. Where there is more than one author, only the first or second named author must be under 40 years of age.
- The author must be either an Ordinary/Associate member of REAAA or an employee of an Institutional Member of REAAA at the time of the submission of the paper.
- Where there is more than one author, one member of REAAA as co-author is sufficient for eligibility for the award. It is not essential for that author to be under 40 years of age. However, either the first or second author must be under 40 years of age as stated above.
- The paper must not have been published elsewhere in the same form.

Papers are judged according to the following criteria:

- **originality:** level of academic or theoretical work and/or practical application
- **level of innovation:** creativity in adaptability/modification of existing practice
- **technical excellence:** high level of technical accuracy and standard of reporting, including ease of understanding
- **relevance to region**

The Katahira Award Judging Panel worked closely with the Conference organizers who screened eligible

papers which were then forwarded, through the REAAA Secretariat, to the members of the Katahira Award Judging Panel for their evaluation. The members of the judging panel were:

- Mr Kieran Sharp (Australia) - Chair
- Dr Tri Tjahjono (Indonesia)
- Dr Koji Kuroda (Japan)
- Dr Che Hassandi Abdullah (Malaysia)
- Dr Kian Keong Chin (Singapore)

The following six papers were deemed to be of a sufficiently high standard to justify receiving a Katahira Award:

- Evaluation of long-term effects for driving safety support service using vehicle-infrastructure cooperative ITS, by Kazuya Tamada, Hiroshi Makino, Shinji Itsubo & Hitoshi Yoshimura
- The effects of the installation of guide lights on driving operations, by Shota Sone, Shin Sasaki, Yoshitaka Motoda, Yasushi Takeyama, Hidekatsu Hamaoka, Kazuya Tokuta & Isao Kanazawa
- An expressway slope monitoring system utilizing WSN and data fusion technology, by Keiji Sakuradani, Keigo Koizumi, Toyokazu Murakami & Satoshi Tayama
- Highway rehabilitation project for sustainable environment development: a case study of National Highway Route No. 1, Tak-Kampangphet, Thailand, by Dr. Auckpath Sawangsuriya
- An evaluation on the effectiveness of motorcycle lanes in Malaysia, by Siti Zaharah, P Alvin Wai Hoong & MK Norfaizah
- Application of image processing technology to traffic counting, by Hirotaka Sekiya, Achmad Sidhi Purnawa, Handiyana Ariepin, Disi Mochamad Hanafiah & Naoyuki Kawamoto

Katahira & Engineers Inc. has contributed the amount of USD3,000 to support the Katahira Awards.

The winners were presented with their Katahira Awards at the Closing Ceremony and gala dinner of the 15th REAAA Conference by the President of Katahira & Engineers Inc., Mr Masato Nakamura and the President of Katahira International, Mr Masami Kimishima.

The papers will be published in the next edition of the *REAAA Journal*.

Koji Kuroda
Chairman, Katahira Fund Committee

Report on 5th REAAA Business Forum

The objective of REAAA Business Forums is to facilitate road sector business-to-business collaboration in the road engineering or related sectors and to enhance membership of REAAA from business persons, institutions or companies. The forums are held in conjunction with REAAA Council Meetings or Conferences.

The first three Business Forums were held in Bali in April 2014 (theme: 'Public Private Partnerships'), Sydney in October 2014 (theme: 'Road Technology Support and Products Related to Road Projects') and Tokyo in November 2016, which included a field visit to the Japan Highway Techno Fair 2016. They were very successful in facilitating business cooperation.

The 4th Business Forum was held in Bali on 23rd March 2017. It was organized by an ad hoc Committee chaired by Mr Destiawan Soewardjono, the CEO of PT Wijaya Karya Persero, Tbk. The theme for the 4th Business Forum was 'Expanding Opportunities for Infrastructure Investment in Developing Countries' which featured by prominent speakers from many countries. About 100 delegates attended the Forum.



*Participants in 5th REAAA Business Forum
(President Romeo S Momo is in the middle of the front row)*

The 5th REAAA Business Forum was held in Manila, Philippines, on 21 July 2017 to coincide with the 15th REAAA Conference and other associated events, including the 107th Governing Council meeting. The event was hosted by the Road Engineering Association of the Philippines (REAP) and the REAAA Philippine Chapter, which is chaired by Mr Mariano R Alquiza, the 2nd Vice President of REAP. The theme for the Business Forum was "GOLDEN ERA of INFRASTRUCTURE Development in Philippines...: build..., build..., build....". About 80 delegates attended the Forum, including the new President of REAAA, Mr Romeo S Momo.

The program for the 5th Business Forum was as follows:

Welcome: Ms Nonon Wardhani, Coordinator of REAAA Business Forum

Opening Address: Mr Mariano R Alquiza, Chairman of 5th REAAA Business Forum

Keynote presentation: Current status and way forward of road infrastructure in Myanmar, by Ms Ei Ei Myo, Deputy Director, Department of Highways Ministry of Construction, Myanmar

Speakers:

- Toll roads in the Philippines, by Engr Manuel M Bonoan, President, SKYWAY Operations & Maintenance Corporation (SOMCO), Philippines
- Investment opportunities in the Philippines, Maria Catalina E Cabral, Department of Public Works and Highways, Philippines
- CEBU Third Bridge, by Mr Allan G Alfon, President & General Manager, Cebu Cordova Link Expressway (CCLEC), Philippines
- Progress towards the introduction of autonomous vehicles into Australia, by Mr Kieran Sharp, Senior Business Manager, Australian Road Research Board & Chair of the REAAA Technical Committee, Australia
- Elevated structure solving the problem of big cities, by Mr Destiawan Soewardjono Simeon, PT Wijaya Karya (Persero) Tbk, Indonesia
- Road infrastructure development in Indonesia, by Dr Ir Arie Setiadi Moerwanto, Director General of Highways, Ministry of Public Works and Housing, Indonesia
- Internalization of Malaysian construction industry, by Mr Megat Kamil Azmi Megat Rus Kamarani, Senior General Manager, CIDB, Malaysia

Moderator: Jean Jacquelyn Nathania de Castro

It is hoped that, in the future, REAAA Business Forums will become an integral part of the REAAA agenda for REAAA so that they can continue to develop their potential by promoting growth in the road industry and encouraging more cooperation and collaboration between business entities from the many different countries in the region.

The REAAA Business Forum history, vision and mission, as well as information related to the Forums, can be accessed through <http://reaaabusinessforums.org/>. This page can also be accessed through the REAAA website. Input into this page is welcome.

Nonon Wardhani

REAAA Fellowship Program

At the 103rd REAAA Council meeting in Dubai in March 2016, it was agreed that REAAA would establish a Fellowship Program. The objective of the program is to provide financial support to REAAA members from developing countries to attend REAAA events as a speaker/delegate. Financial assistance from the sponsors meets travel and accommodation costs as well as a daily allowance for the invited Fellows.

Details of the seven Fellows who were supported by the Fellowship Program between October 2016 and July 2017 are as follows:

No	Event	Country	Participant	Sponsor
1	2 nd IRF Asia Regional Congress & Exhibition, Kuala Lumpur, Malaysia, 16 th - 20 th October 2016	Kingdom of Cambodia	Mr Somnieng, Deputy Director of Cabinet, Minister of Public Works and Transport	Minconsult Malaysia
2	4 th REAAA Business Forum,	Mongolia	Ambassador of Mongolia, Her Excellency Shagdar Battsetseg;	Committee of 4 th Business Forum, Indonesia
3	15 th REAAA Conference, Bali, Indonesia, 22 nd - 24 th March 2017	Pakistan	Mr Naveed Iqbal Wahla	
4		Bangladesh	Mr Khandaker Golam Mostafa	
5	Inaugural Mino Best Project Award, 15 th REAAA Conference, Bali, Indonesia, 22 nd - 24 th March 2017	Socialist Republic of Vietnam	Project Manager Mr Nguyen Le Minh	Japan Road Association
6		Mongolia	Director General Ms Dorjkhand Dashdorji	
7	5 th REAAA Business Forum in conjunction with REAP Convention 2017 and 107 th REAAA Council meeting	Myanmar	Ms Ei Ei Myo, Deputy Director, Department of Highways Ministry of Construction, Myanmar	Road Engineering Association of Philippines (REAP)

The Association would like to thank to Mr Katsuji Hashiba, Mr Koji Kuroda, Mr Yasumasa Torii and Mr Asao Yamakawa of the Japan Road Association, Ms Nonon Wardhani, the Coordinator of the Business Forum, Dato' Ir Dr Dennis Ganendra, Minconsult Malaysia, Mr Romeo S Momo, the President of REAAA, and the President of REAP for their proactive support and contribution to ensure the success of the REAAA Fellowship Program. REAAA wishes to make this a continuing program. To this end, support has been sought from the Governing Council to identify potential Fellows and potential sponsors for future programs.

Dato' Ir Dr Dennis Ganendra Fellowship Program (Coordinator)



From left to right:

Mr Siddik Siregar, Director Pt Wika Beton; Mr Prakosa, GM of Investment PT Wika Persero Tbk; Ms Lydwina Marchiela Wardhani (Nonon), Coordinator of the Business Forum; HE Shagdar Battsetseg, Mongolian Ambassador to Indonesia; Mr Destiawan Soewardjono, Director of Pt Wika Persero Tbk and Chairman of the 4th Business Forum.



Optimising assets to improve lives



A member of UEM Group

Total Asset Solutions

uemedgenta.com

We are here to improve your lives by offering results that matter and solutions that make a difference.

With over 25 years of experience in infrastructure maintenance management, UEM Edgenta is one of Malaysia's leading engineering design, project and network management and infrastructure maintenance specialists. We manage and maintain over 2,500 kilometres of expressways, as well as state and plantation roads across the nation.

We are also proud to have a significant presence in New Zealand, Australia, United Kingdom, United States and Canada, and notable highway projects across the globe in Indonesia, India and UAE.

As a leader in Total Asset Solutions, we are present throughout the entire asset life cycle to serve you better.

UEM Edgenta Berhad (5067-M)
Level 17, Menara UEM Tower 1, Avenue 7, The Horizon, Bangsar South City,
No 8 Jalan Kerinchi, 59200 Kuala Lumpur T: +603-2725 6688 F: +603-2723 6888 W: uemedgenta.com

Restructured REAAA Technical Committee

As a means of encouraging more technical input from members, in 2010, eight Technical Sub-Committees were established to operate as a subsidiary to the Technical Committee. With the noted exception of TC-2 (Pavements) and some occasional input from two or three other sub-committees, the initiative, whilst well intended, was a failure. As a result, the sub-committees have been discontinued (apart from TC-2, which will operate until Technical Reports TC-8 and TC-9, for which it is responsible, are published).

The goal of the REAAA Technical Committee is to:

meet the needs of members in terms of their professional development through the provision of technology interchange, technology transfer and other services which result in an enhancement of the quality of good road engineering practice, improved cooperation and a reduction in the duplication of effort.

(continued on next page)

11th Young Engineers and Professionals (YEP) Meeting



Delegates at Young Engineers & Professionals meeting

The 11th REAAA Young Engineers and Professionals (YEP) meeting was held during the 15th REAAA Conference.

The meeting was attended by 38 YEPs from Indonesia, Malaysia, Philippines, Taiwan, Japan and Korea. Some members of the Governing Council also attended the meeting to act as mentors.

The meeting commenced with updates from each member country represented. These play an important role in every YEP meeting because it allows all the YEPs to learn what activities, focussed at YEPs, are being conducted in each country and what activities could be adopted in their country.

All counties reported that they are actively promoting REAAA to YEPs in their countries to ensure the future sustainability of REAAA. The idea was endorsed by the REAAA President if the YEPs were to become the future leaders of REAAA. One of the issues raised during discussion was how ideas could be shared in terms of fostering activities in REAAA.

(continued from page 16)

The REAAA Technical Committee does not manage the conduct of research projects, this being the responsibility of each member country. However, the potential application of the outputs of this research to the region will form a fundamental part of the activities of the Technical Committee.

Membership of REAAA Technical Committee

The Governing Council endorsed the membership of the restructured Technical Committee at the 105th Council meeting in Bali in March 2017. The membership of the restructured REAAA Technical Committee is as follows:

Chapter/Country	Member	Organisation	E-mail
Australia	Mr Kieran Sharp (Chair)	Australian Road Research Board (ARRB)	kieran.sharp@arrb.com.au
Brunei	Mr Rafitra Razak	Public Works Department, Brunei	rafroads@yahoo.com
Indonesia	Dr Tri Tjahjono	Indonesian Road Development Association (IRDA)	tri.tjahjono@yahoo.com
Japan	Mr Katsuji Hashiba Mr Yasumasa Torii	Nippon Engineering Consultants Co. Ltd Express Highway Research Foundation of Japan	hashiba@ne-con.co.jp torii@seikitokyu.co.jp
Korea	Dr Choi Hyun Ho	Korea Expressway Corporation Research Institute	padre@ex.co.kr choihyunho@msn.com
Malaysia	Dr Siti Zaharah Ishak	Malaysia Institute of Road Safety Research (MIROS)	sitizaharah@miros.gov.my
New Zealand	Mr Grant Bosma	REAAA New Zealand Chapter	grant.bosma@fultonhogan.com lisa.pallister@extra.co.nz
Philippines	Mr Mariano Alquiza Mr Abdulfatak Pandapatan	Department of Labor, Philippines Department of Public Works & Highways, Philippines	noemi.reaaaphil@gmail.com
Singapore	Mr Lim Chong Teik	Land Transport Authority, Singapore (LTA)	lim_chong_teik@lta.gov.sg
Taiwan	Dr Yu-min Su	China Road Federation (CRF)	yuminsu@kuas.edu.tw
Thailand	Mr Aram Kornsobut	Roads Association of Thailand	aram.kornsombut@gmail.com
Young Professionals	Dr Jason Ni	China Road Federation (CRF)	jasonni521@hotmail.com

An Action Plan for the next term was endorsed by the Governing Council at the 107th Governing Council meeting in Manila in July 2017. The Action Plan will be lodged on the REAAA website.

All members are invited to contact their representative member of the Technical Committee if they have views regarding any issues that they believe could be addressed by the Committee, and communicated to the Governing Council, during the current term (2017-2020).

Kieran Sharp
Chair, REAAA Technical Committee

REAAA Technical Report TC-8: Compendium on Pavement Maintenance and Rehabilitation

Since its establishment in April 2010, REAAA Technical Subcommittee TC-2 (Pavements) - which is composed of representatives in the pavements field from 11 REAAA member countries - has conducted studies that address issues of mutual interest to its members.

In its first cycle (2010-2013), TC-2 selected 'pavement durability' as its theme. Achievements included the conduct of a workshop on the topic during the 14th REAAA Conference in Kuala Lumpur, Malaysia, in March 2013 and the publishing of REAAA Technical Report, TC-5 (Compendium on pavement durability) in July 2015.

One of the findings - that good maintenance practice results in a durable pavement - led to the selection of 'pavement maintenance and rehabilitation practices' as the theme for the second term (2013-2017). The study consisted of the following three tasks:

1. the preparation of national reports summarising current pavement maintenance/rehabilitation practices in REAAA member countries.
2. the preparation of an overview of pavement management systems currently adopted in REAAA member countries.
3. a survey of current practices associated with the recycling of pavement materials.

It was agreed that the third task (pavement recycling) would be reported in a separate compendium and published as Technical Report TC-9. Work on this compendium is nearing completion and it will be published later in 2017.

In terms of the first two tasks, a total of eight papers were submitted by authors from Australia, Indonesia, Japan, Korea, Malaysia, New Zealand and Vietnam/Japan which addressed the following broad issues:

- pavement management systems as applied to (toll) expressways/motorways (Japan & New Zealand)
- pavement management systems as applied to national highways (Japan & Malaysia)
- a case study (Japan and Vietnam)
- maintenance practices (Indonesia, Korea and Australia)

The survey found that many REAAA member countries use pavement management systems based on which routine

maintenance and periodical rehabilitation treatments are carried out. Some countries have established practices in which various types of pavement distresses are dealt with. In addition, it is encouraging that they have been trying to identify better ways in terms of construction methods and innovative materials.

The types and extent of the occurrence of pavement distress varies in relation to the pavement itself, its location, and traffic. That means that the successful use of a treatment in one situation or country may not be applicable to a situation in another region or country. However, the technical information provided in the report - and the background to the success, of failure of a particular treatment or strategy - is a good reference that should be shared among road agencies in the region.

In this regard, the continued exchange and sharing of relevant information among REAAA member countries is recommended in order that road agencies can stay abreast with the latest technologies and systems in the field of pavement maintenance and rehabilitation. This technology transfer process may result in some changes being required to existing specifications. However, it is apparent that only localized specifications can guarantee a successful application on a particular road or in a particular country.

The compendium has been published as REAAA Technical Report TC-8 and is available for downloading on the REAAA website. It includes the eight reports (published as Commentaries at the end of the report), one information sheet and three other responses to the questionnaire.

Achievements of REAAA Sub-Committee TC-2 (Pavements)

REAAA Technical Sub-Committee TC-2 (Pavements) was one of the eight sub-committees established at the 90th meeting of the REAAA Governing Council in April 2010 when it authorised the Strategy Map & Initiatives (2010-2012).

The Sub-Committee has managed the preparation and publication of the following technical reports:

(continued on next page)

World Road Association (PIARC) Technical Committee E.1: Adaptation Strategies and Resiliency

The World Road Association (PIARC) Strategic Plan includes Strategic Theme E: Climate Change, Environment and Disasters. The goal of this Strategic Theme is to increase resiliency and protect investments in transportation infrastructure from the impacts of climate change events while, at the same time, lessening the impact of road transportation on the environment. This Strategic Theme includes three Technical Committees, one of which is Technical Committee E.1: Adaptation Strategies and Resilience.

The activities of TC E.1 are divided into two working groups and a taskforce. The aim of Working Group 1 is to investigate and disseminate information about current adaptation strategies to increase the resilience of the road infrastructure. Working Group 2 involves refinement of the International Climate Change Adaptation Framework for Road Infrastructure and follow-up of its implementation. A Case Study Taskforce has also been developed. The outputs of these working groups are complementary with the results of Working Group 1 informing the refinement of the framework developed by Working Group 2.

The third meeting of the Committee was held in Brisbane, Australia, on 8th-11th May 2017. The primary focus of the meeting was to confirm the draft table of contents, and progress the collection of case study examples of work undertaken on climate change adaptation and resilience. Work is well advanced on the required tasks, with reports on track for release at the 26th World Road Congress in Abu Dhabi in October 2018.

In addition, an opportunity was taken to hold an International Workshop on 10th May. The workshop was attended by 45 participants and included keynote speakers from Germany, Mexico, the USA, France and Australia. The Workshop included discussion of the potential to overlay the PIARC International Climate Change Adaptation Framework within the Australian context. Additionally, it also provided an opportunity for Australian projects to be considered as case study examples to further supplement the work being undertaken in Working Groups 1 and 2 and by the Case Study Taskforce.

Members of PIARC Technical Committee E.1 from REAAA member countries include Caroline Evans (Australia), Katsunori Kadoyu and Yasushi Isogawa (Japan) and Tae Anh Choi and Joohye Kim (Korea). In addition, Keiichi Tamura is the Chair of Committee TC.3.1 (Disaster Management Manual). Mr Tamura represented PIARC at the 107th Governing Council meeting in Manila.

In November 2017, a joint international seminar and workshop will be held in Cuba between PIARC TC E.1, E.3 and A3 (Risk Management), together with the next scheduled Technical Committee meetings.

Caroline Evans
Australian Road Research Board
(Member of PIARC Committee TC.E.1)

(continued from page 18)

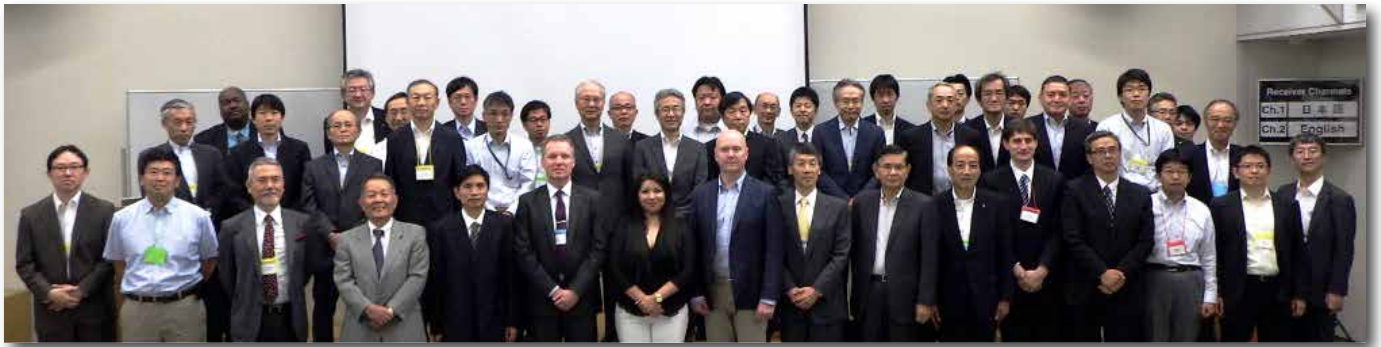
- TC-5: Compendium on pavement durability
- TC-6: Guide to the public-private partnership of road and highway projects
- TC-7: Incorporating Japanese pavement design practice for a community road in Mongolia
- TC-8: Compendium on pavement maintenance and rehabilitation

A fourth report (Compendium on pavement recycling practices) will be published later this year as Technical Report TC-9.

Although the Technical Sub-committees have been disbanded and a restructured Technical Committee commenced operations in March 2017, the life of Sub-Committee TC-2 has been continued until Technical Report TC-9 is published. 'Pavement technology' will continue to be a key focus of the Technical Committee in the current term.

Kieran Sharp
(Chair of REAAA Technical Committee)
Yasumasa Torii
(Owner of REAAA Technical Sub-Committee TC-2)

International Workshop on Disaster Management for Roads



Delegates at International Workshop on Disaster Management for Roads, 31st May 2017, Tokyo

An International Workshop on Disaster Management for Roads was held on 31st May 2017 at the Iidabashi Rainbow Building in Tokyo, Japan. The workshop was co-organized by the World Road Association (PIARC), REAAA, the Japan Road Association and Hanshin Expressway Company Limited. About 120 delegates attended the Workshop. The aim of the Workshop was to exchange information on the latest disaster management practices and to discuss future directions.

The Workshop was organised to take advantage of the fact that the members of PIARC Committee TC E.3 (Disaster Management) were in Tokyo for a Committee meeting. Several of the International Committee members contributed to the Workshop.

The program for the Workshop was as follows:

10:00 - 10:30 : Opening Session

- Welcome - Hiroaki Taniguchi, President of the Japan Road Association
- Shigeru Kikukawa, Vice-President of PIARC
- Katsuji Hashiba, Vice-President of REAAA
- Opening Remarks - Keiichi Tamura, Chair of PIARC Committee TC E.3 (Disaster Management)

10:30 - 11:45: Technical Session 1

- Efforts for recovery of roads from the 2016 Kumamoto earthquake, Kazuhiro Kiyasu (Japan)
- Emergency management and resilience, Herby Lissade (USA)
- Japan International Cooperation Agency technical assistance on road disaster risk management to the Government of El Salvador, Mikihiro Mori (Japan)

13:20 - 14:05: Keynote Presentation

- The age of mega disaster and risk governance - thinking creative for road and other infrastructures, Emeritus Professor Norio Okada, Kyoto University, Japan

14:05 - 15:20: Technical Session 2

- Strategy and practical use of temporary bridges and supporting structures, Jan Gruber (Czech Republic)
- Disaster management technologies in Hanshin Expressway, Y Adachi, M Okayama, N Arima & T Arakawa (Japan)
- Prediction and enhancement of resistance of RC bridge during service, Jianren Zhang (China)

15:40 - 17:20 Technical Session 3

- A methodology for emergency response decision-making with consideration of unexpected contingencies, M Onishi, K Seki, K Wakigawa & K Kobayashi (Japan)
- ICHARM's practices of flood hazard and risk assessment, Maksym Gusyev (Ukraine) and Y. Tokunaga & K Miyake (Japan)
- Development of the web-based disaster management manual, Shinjuro Komata (Japan)
- 'Future ready' impacts and what they mean to our highway networks, James Elliott (UK)

17:20 - 17:30 Closing Session

- Closing remarks, Hiroshi Sekimoto, Executive Director, Hanshin Expressway Co. Ltd.
- Closing remarks, Keiichi Tamura, Chair of PIARC Committee TC E.3 (Disaster Management)

PIARC Committee TC E.3 plans to conduct an International Seminar on Disaster Management in Vietnam in November 2018, hopefully in cooperation with REAAA. It will be a good opportunity for the REAAA member countries to obtain information about advanced disaster and risk management tools.

Katsuji Hashiba
Vice-President of REAAA



North Canterbury Transport Infrastructure Recovery

Following the 7.8 magnitude Kaikoura earthquake on 14 November 2016, which brought a million tonnes of rock and debris onto State Highway 1, work has been ongoing to reopen the main State Highway 1 and Main North Line rail link between Picton and Christchurch in New Zealand by the end of 2017.

Since the closure of State Highway 1 traffic has been diverted onto the alternate route via Murchison and the Lewis Pass. From a driving perspective, the alternate route is challenging - it is narrow and winding in many places, with single-lane bridges and speed restrictions. Vehicle numbers along this route have risen up to four-fold since State Highway 1 closed - 4,500 vehicles per day are now using this route with 1,000 of those heavy vehicles, compared with the 350 heavy vehicles pre-earthquake. Along with the sudden and unprecedented longer-term pressure this has put on the performance of the route, it has potentially significant safety impacts for both travellers and the local communities.

The immediate focus was placed on improving the safety and journey experience for all road users and affected communities on the route. After identifying the key issues, the New Zealand Transport Agency allocated NZ\$60M of funding to improve it, including:

- road widening, improved road markings, additional signage and guardrail
- the installation of temporary reduced speed limits through high-risk areas
- the installation of bailey bridges and traffic lights at high-risk one-lane bridges
- improved network resilience where slips and river scour were occurring
- the installation of pull-over areas and slow-vehicle bays to provide passing opportunities
- the provision of mobile phone hotspots in areas with poor/no coverage
- additional facilities provided for travellers and freight needs (toilets, parking, trailer swap areas, etc.)



The large increase in traffic also accelerated the deterioration of the pavement, with many sections failing over the first few months after the earthquake. A significant program of road rehabilitation and resealing was required; 77 km of improvements was delivered between December 2016 and April 2017 to allow a reasonable level of service to be provided over winter.

Road width was also a significant issue, with some sections as narrow as 5.8 m causing issues for passing trucks. As a result, a 40 km road widening program was also delivered alongside the pavement program. In addition to the physical works, Police presence has also increased, providing a valuable support for the community and the driving public.

A major issue has been ensuring that all those travelling during the winter have the information they need to make the right decision around when (and if) to drive the route. Overall it will help run the route as efficiently as possible and keep it open as much as possible.

While State Highway 1 is due to reopen at the end of the year, the alternate route will continue to provide a vital lifeline for years to come, with an ongoing focus on ensuring it stays safe and serviceable for its users.

Congratulations



Dr Kyung-Soo Yoo is considered to be a person of rich knowledge and vast experience in the roads sector in Korea and in the region. He has dedicated himself to the Korea Expressway Corporation (KEC) since 1977.

Dr Yoo's relationship with REAAA commenced more than 40 years ago as a junior engineer at the KEC. He has maintained this relationship as a senior engineer, Director and Senior Director at the KEC. In terms of the REAAA Governing Council, he has held positions as representative of the KEC, President of the REAAA Korean Chapter and, most recently, President of REAAA during its 13th term.

Dr Yoo played a leading role in the organization of the 13th REAAA Conference, held in Incheon, Korea, in 2009, and the 25th World Road Congress, held in Seoul in 2015. The success of both events led to Korea gaining the reputation as a leader in the roads and transport industry in the world. Currently, he is one of the Vice Chairmen of Korea Consultants International Co. Ltd. Dr Yoo was awarded Honorary Membership of REAAA in 2017.

On behalf of the REAAA Governing Council and all members of REAAA, I heartily congratulate Dr Yoo as the 2017 recipient of the IRF Professional of the Year.

Romeo S Momo, President of REAAA

News from IRF

19 September 2017

Established in 1951, IRF's Professional of the Year award recognizes eminent public, private and education sector professionals with an outstanding track record of leadership and commitment to the road transport industry. Over the years, the award has recognized some of the world's most influential transport leaders for their work in the field of advocacy, policy, research and educational programs in support of better, safer, and more sustainable road networks globally.

An IRF Fellowship Scholar, Kyung-Soo Yoo graduated from Ohio State University in 1980 before returning to the Korea Highway Corporation as a Highway & Traffic Engineer. In 2005, Dr Yoo was appointed to run the Highway & Transportation Technology Institute affiliated to the Korea Highway Corporation. He later took on a series of leadership roles across Korean and International Associations, including the Korea Road Association, the Korea Society of Intelligent Transportation Systems and the Road Engineering Association of Asia & Australasia. These positions were successively held as Korea grew in the international ranking of countries with the highest performing road system and a continuous record of declining road traffic injuries.

Accepting the award, Dr Yoo stated: "being an IRF member and receiving an IRF Fellowship has had a positive and dramatic impact on my whole life. With much responsibility, I am honored to be the 2017 recipient of the IRF Professional of the Year and I will do my best to continue to have a meaningful contribution to the road industry for the rest of my career".

IRF Chairman Eng. Abdullah A. Al-Mogbel noted "the award crowns an exceptional professional whose vision and efforts have contributed significantly to Korea's international standing and strengthened relations with the International Road Federation".

The award will be presented during the IRF Middle East & North Africa Regional Congress & Exhibition which takes place on October 29-31, 2017 in Dubai, UAE. For information on this event, please visit: <http://merc.irf.global>.

Congratulations

Ir Haji Zulakmal Haji Sufian has promoted to the Senior Director of Roads Branch, Public Works Department (PWD) Malaysia from 25 August 2017. Ir Haji Zulakmal is the Honorary Secretary-General of REAAA.



Ir Haji Zulakmal Haji Sufian receives an appointment letter from Dato' Sri Ir Dr Roslan Md Taha, Director General of PWD, Malaysia and also the Vice President of REAAA.

Ir Mohamad Zulkefly bin Sulaiman has promoted to the Senior Director of Civil Engineering and Structure Branch, Public Works Department (PWD) Malaysia from 25 August 2017. He is the Honorary Secretary General of REAM. The REAM is represented by the Honorary Secretary General of REAM.



Ir Mohamad Zulkefly bin Sulaiman receives an appointment letter from Dato' Sri Ir Dr Roslan Md Taha, Director General of PWD, Malaysia and also the Vice President of REAAA.

REAAA WELCOMES NEW MEMBERS

The membership of REAAA as at 30 June 2017 was 1,519. The REAAA Council and Chapters have approved the following 101 new members for the period between 1 October 2016 to 30 June 2017.

Honorary	13
Institutional	9
Life	19
Ordinary	52
Associate	8
Total	101

The List of new members approved at 107th REAAA Council Meeting in Manila, Philippines on 20 July 2017 is as follow:

Institutional Members

1. Nexco-Engineering Tohoku Co. Japan
2. Sunway Paving Solutions Sdn Bhd Malaysia
3. Malaysian Institute of Road Safety Research (MIROS) Malaysia
4. Nishimatsu Construction Co., Ltd Japan
5. PT. Wijaya Karya (Persero) Tbk Indonesia
6. THB Maintenance Sdn Bhd Malaysia

Life Members

1. William Patrick Berin Philippines
2. Norberto T. Gerente Philippines
3. Ray Andrew Molano Philippines
4. Eduardo Lagrimas Philippines
5. Melanio C. Briosis Philippines

Ordinary Members

1. Shota Sone Japan
2. Ahmad Syukri Bin Ibrahim Malaysia
3. Farid Azmeer Bin Ghazali Malaysia
4. Norman Bin Mohd Noh Malaysia
5. Siti Afzakaswani Ahmad Farouk Malaysia

6. Hazniza Hirman Malaysia
7. Qamarul Hazimin Makhtar Malaysia
8. Muhammad Zaki Bin Jaffar Malaysia
9. Hennie Rafhana Razak Malaysia
10. Ir. Jalaluddin Abas Malaysia
11. Muhammad Zulhilmi
Muhammad Zulkifli Malaysia
12. Jamal Abdul Nasir Bin Taharim Malaysia
13. Mohamed Asri Bin Johan Malaysia
14. Bong Kim Fatt Malaysia
15. Lee Mei Chin Malaysia
16. Yeoh Gim Heng Malaysia
17. Chin Su Hung Malaysia
18. Mohd Firdaus Ahmad Termizi Malaysia
19. Ir. Chan Teik Cheong Malaysia
20. Dato' Dr. Meor
Ab. Aziz Hj Osman Malaysia
21. Ir. Hj Mohamad
Zulkefly Sulaiman Malaysia
22. Ir. Zanaria Abu Bakar Malaysia
23. Dr. Mohd Rosli Mohd Hasan Malaysia
24. Ir. Chua Heok Guan Malaysia
25. Mohd Khairul Idham
Mohd Satar Malaysia
26. Zulhilmi Zakaria Malaysia
27. Ir. Romzi Mat Zainul Malaysia
28. Nur Khairunnisa Bakri Malaysia
29. Zakaria Ahmad Zabidi Malaysia
30. Ir. Dr. Lim Char Ching Malaysia
31. Khairul Anuar Muhari Malaysia
32. Mohd Hadzmir Yusoff Malaysia
33. Zarina Zahari Malaysia
34. Syed Mohd Faizal Said Ahmad Malaysia
35. Akmall Syahmeen Abd Muis Malaysia
36. Iftiffar Mohd Salud Malaysia
37. Mohd Syahrul Amin Yahya Malaysia

(continued on next page)

(continued from page 24)

- | | |
|-----------------------------|----------|
| 38. Muhammad Azizi Shaffie | Malaysia |
| 39. Mohd Nasharuddin Hashim | Malaysia |

Associate Members

- | | |
|-----------------------------|-----------|
| 1. Rachman Arief Dienaputra | Indonesia |
| 2. Poon Chee Seng | Malaysia |

The List of new members approved at 105th REAAA Council Meeting in Bali, Indonesia on 22 March 2017 is as follow:

Honorary Members

- | | |
|-----------------------------|-------------|
| 1. Gerard Waldron | Australia |
| 2. Philip Ladner | Australia |
| 3. Raymond John Farrelly | Australia |
| 4. Poedji Rahardjo | Indonesia |
| 5. Ruslan Diwiryo | Indonesia |
| 6. Dr. Kyung Soo YOO | Korea |
| 7. Keon Chang CHO | Korea |
| 8. Dato' Ir. Han Joke Kwang | Malaysia |
| 9. Dato' Ir. Chew Swee Hock | Malaysia |
| 10. Richard Steel | New Zealand |
| 11. Mike Rudge | New Zealand |
| 12. Jaime Abarsoza Pacanan | Philippines |
| 13. Dr. MAO Chi-Kuo | Taiwan |

Institutional Members

- | | |
|--|----------|
| 1. Engineering Laboratory Electronic (M) Sdn Bhd | Malaysia |
| 2. Kemaman Bitumen Company Sdn Bhd | Malaysia |
| 3. Dasan Consultants Co. Ltd | Korea |

Life Members

- | | |
|------------------------|-------------|
| 1. Mia Sandra P. Jayme | Philippines |
| 2. Emma Rodriguez | Philippines |
| 3. Rogelio Agron | Philippines |
| 4. Felisa Salvador | Philippines |

- | | |
|-----------------------|-------------|
| 5. Rellie Simbe | Philippines |
| 6. Bernadette Jacinto | Philippines |
| 7. Jocelyn Malab | Philippines |
| 8. Esmeraldo B. Bayot | Philippines |
| 9. Kang-Hoon LEE | Korea |
| 10. Young-Woo KIM | Korea |
| 11. Hoon-Hee HWANG | Korea |
| 12. Dong-Min YOO | Korea |
| 13. Insoo YEO | Korea |

(Status changed from Ordinary to Life)

- | | |
|-------------------|-------|
| 1. Cheol-Woo PARK | Korea |
|-------------------|-------|

Ordinary Members

- | | |
|------------------------------|-------------|
| 1. Tadashi Tsunematsu | Japan |
| 2. Minoru Sugimoto | Japan |
| 3. Mohd Helmy Shah Ramli | Malaysia |
| 4. Khairiah Nur Sharin | Malaysia |
| 5. Rosli Idrus | Malaysia |
| 6. Ir. Mohd Jafri Idris | Malaysia |
| 7. Gladys Gutierrez Tiburcio | Philippines |
| 8. Glenda Que Sareno | Philippines |
| 9. MA. Loida Fabro Bernabe | Philippines |
| 10. Karl Benedict Jacinto | Philippines |
| 11. Melquiades Jacinto Jr | Philippines |
| 12. Jong-Yoon LEE | Korea |
| 13. Sung-Gyu NOH | Korea |

Associate Members

- | | |
|---|----------|
| 1. Muhamad Zulizhar Zulkifli | Malaysia |
| 2. Muhammad Ikhwan Rozani | Malaysia |
| 3. Mohamed @ Zulkiflee
Mohamed Amin | Malaysia |
| 4. Muhammad Ibrahim Zainal | Malaysia |
| 5. Muhammad Akmal Alif
Mohamad Yunus | Malaysia |
| 6. Zol Bin Jantan | Malaysia |

APPLICATION FOR ADMISSION AS MEMBER (For Life, Ordinary or Associate Member)

Instruction to Applicant

1. Please fill in all particulars requested.
2. Applicant must state the grade of membership he is applying for
3. This form must be submitted together with the necessary Entrance and Annual Subscription fees.
4. Please delete whichever is not applicable.

A. PERSONAL PARTICULARS

1. Name in Full _____ Surname _____ Given Name _____
 2. Address _____
 3. Phone _____
 4. Fax _____
 5. Email _____
 6. Place of Birth _____
 7. Date of Birth _____
 8. Nationality _____
 Country _____ Postcode _____

B(i). STATEMENT BY PROPOSER*

1. Having known the applicant for _____ years, I recommend him, from personal knowledge, as in every respect worthy of the distinction of being admitted as a member of REAAA.

2. Name of Proposer _____
 Grade: Life / Ordinary / Associate Membership No _____
 3. Address _____
 4. Signature _____ Date _____

B(ii). STATEMENT BY PROPOSER*

1. Having known the applicant for _____ years, I recommend him, from personal knowledge, as in every respect worthy of the distinction of being admitted as a member of REAAA.

2. Name of Proposer _____
 Grade: Life / Ordinary / Associate Membership No _____
 3. Address _____
 4. Signature _____ Date _____

* Each applicant must have 2 (two) proposers.

C. EDUCATION

1. General Education
 Secondary Schools (Name & Place) _____ Examination passed & Grade awarded _____ Date _____
 2. Technical / Scientific Education
 Colleges / Universities (Name & Place) _____ Awards-Degrees indicating division of Engineering or discipline of study _____ Date _____

D. CAREER (State title of position, responsibility with brief details of nature of work)
 Position _____ Responsibility / Nature of Work _____ Date _____

E. MEMBERSHIP IN OTHER SOCIETIES / PROFESSIONAL INSTITUTIONS

F. PRESENT POSITION

1. Name of Employer _____
 2. Address of Employer _____
 3. Title of Position _____ Date of Appointment _____
 4. Responsibility / Nature of work _____

G. GRADE OF MEMBERSHIP APPLIED FOR

Life Ordinary Associate *(Please tick)*

H. UNDERTAKING TO BE SIGNED BY APPLICANT

I, the undersigned confirm that the information given in this application form is the best of my knowledge correct and that in the event of my admission as Life, Ordinary or Associate Member, I will be governed by the proposed Constitution of the Association as they are now formed or they may hereafter be altered.

Signature _____ Date _____

I. PAYMENT

I, hereby authorise / enclose my payment of RM _____ for the entrance fee and annual subscription.

Cheque / Bank Draft / Postal Order No. _____
 Payment by Credit Card Amex MasterCard Visa
(Tick whichever is applicable)

Credit Card No. _____
 Expiry Date: _____ Month _____ Year _____

Standing Order Instruction (Applicable to MasterCard and Visa only)

Yes No

I confirm the above information provided in this standing instruction is correct and true. In the event of any changes or cancellation of the instruction above, I shall keep REAAA informed in writing or by giving fresh standing instruction.

Signature _____ Date _____

MEMBERSHIP FEES (REAAA Constitution-Schedule A)

Entrance Fees	Annual Subscriptions
Ordinary & Associate Members	Ordinary & Associate Members
RM50.00 or Equivalent US\$	RM50.00 or Equivalent US\$
Institutional Members	Institutional Members
RM1100.00 or Equivalent US\$	RM850.00 or Equivalent US\$

Life Members

The membership fee shall be the Ordinary member's annual subscription (determined at the time of application to become a Life member) times; 55 minus the age of the applicant in whole year at the time of applying for the life membership.



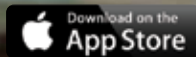
Expressways

PLAN YOUR JOURNEY

Download PLUS Mobile Apps Now!

The 'PLUS Mobile Apps', a smart application for smartphones or tablets, enables PLUS to disseminate the latest traffic information directly to expressway users and at the same time help them plan their journey on the highways. The mobile application also features various facilities offered along the expressway such as RSAs and lay-bys.

Download the app for FREE via Google Play or App Store. Search for 'PLUS Expressways'. You can also download the App by scanning these QR codes:



PLUSLINE 1 800 88 00 00
www.plus.com.my

PLUS
A member of UEM


 MINISTRY OF PUBLIC WORKS AND HOUSING
 REPUBLIC OF INDONESIA

EFFORT TO CONNECT THE COUNTRY: Technology Support And Basic Infrastructure

ANTAPANI RAINBOW BRIDGE

WITH the largest portion of infrastructure expenditure this year, amounting to 101, 4 trillion rupiah of the total 387 trillion rupiah, the Ministry of Public Works and Housing (MPWH) has a great responsibility to carry out the mandate to accelerate the national development. Some of the programs included in Strategic Plan (Renstra) 2015-2019 among others are developing the strategic areas, promoting water and food security, connectivity, and improving human settlements quality.

Related to connectivity in the road sector, the Ministry of PWH through its Research and Development Agency (Balitbang) has developed various appropriate and low cost technologies such as the Early Traffic Information System (SINDILA) that has been applied in several locations in Java, floating bridges and buildings, Asymmetrical Village Bridge (Judesa) and road structure strength measuring tool.

Corrugated Foammortar Pusjatan (CMP) technology has been launched and effectively used it. The CMP technology is developed by Center for Research and Development of Road and Bridge (Pusjatan), from Research and Development Agency of PWH Ministry which is the development of foam mortar technology used as substitute for barrow or subbase of Corrugated Steel Arch (light weight barrow technology of mortar foam with corrugated steel structure). It is usually used in narrow area since it can be built upright and does not require a retaining wall and a compactor because it can solidify by itself.

The other advantage of CMP is a 50 percent faster during construction period as compared to general concrete construction. This certainly can reduce the impact of economic losses due to congestion occurred in the construction period.

In addition, the consumption of materials in the CMP construction is also known lower than construction with concrete technology so that it is environmentally friendly. As for the use of corrugated steel, it provides benefit by accelerating construction time and more efficient in financing.

CMP technology was successfully applied for the first time on the Antapani flyover (FO) or it is also known as the Antapani Rainbow Bridge. The excess of this 340 meters



FLYOVER KLONENGAN



FLYOVER KESAMBI



FLYOVER DERMOLENG



FLYOVER KRETEK

long bridge are being built faster and cheaper, and it is also reaping praise from the Vice President, Jusuf Kalla, when inaugurated the bridge in January.

“This comes apparently to my jargon: cheaper, faster. If there are not something better, why wouldn’t we choose?” he said at the time.

Physically, the steel structures used in this flyover are corrugated or armco with three spans. The length for the middle span is 22 meters with a vertical free space height of 5,1 meters and the width of other span (u-turn) is 9 meters. In terms of cost, the construction of Antapani Rain-

Some examples of suspension bridges that have been built are suspension bridge of Kolelet, Rancawiru and Bojong Apus in Banten, Suspension Bridge of Kali Cimamingkis and Kali Senowo in Magelang, and recently inaugurated are Galeh and Suropadan Suspension Bridges in Temanggung, Central Java. The 90-meter long Galeh Suspension Bridge connects between Gandurejo Village and Kauman Village separated by the Galeh river. This bridge has a magnificent view scenic backdrop of Mount Sumbing. The



bow Bridge is only cost about 35 billion rupiah from ideally reaching 100 billion rupiah. While the working time is only six months, compared to conventional method that will take normally about a year.

CMP technology is also applied on four rail crossing flyovers built in Tegal and Brebes districts, Central Java. The four flyovers are Klonengan, Dermoleng, Kretek, and Kesambi which are located on the Tegal-Purwokerto road which becomes vital to link national road from north to south of Java.

Accelerated development of these four flyovers is specifically to support the traffic flow of homecoming (mudik) in Lebaran 2017. The length of each flyover are as follows: Dermoleng Flyover are 500 meters; Klonengan Flyover are 1.050 meters; Kesambi Flyover are 470 meters; and last Kretek Flyover with a length of 700 meters.

Suspension Bridge

Ministry of Public Works and Housing (MPWH) in its duty to serve the public, not only manages large-scale infrastructure such as roads, highways, and long-span bridges. Therefore, in addition MPUH also developing technology to support the connectivity acceleration, the MPWH beside focuses on providing basic infrastructure such as national roads they also get additional task to build short suspension bridges with spans less than 100 meters.

second suspension bridge is Suropadan which has 90 meters long, and it connects Soropadan Village and Kalikuto Village which are before separated by Elo River.

The Ministry of PWH itself, as confirmed by the Minister of PWH, Basuki Hadimuljono, is committed to build 60 suspension bridges connecting villages in Indonesia, not only in Java, but also in Sumatra, Sulawesi, NTT, NTB and even Papua. The construction of this small-scale suspension bridge not only to provides connectivity, but also a sense of security and comfort to local community for crossing. ■





Bina Puri Holdings Bhd is a public listed company on the Main Board of Bursa Malaysia with 42 years of work experience in civil and building construction both locally and internationally. The Group's diverse business activities include investment holdings, civil and building engineering management, property development, highway concession, quarry operations, manufacturing of construction materials, polyurethane system house, utilities and hospitality management.

BINA PURI HOLDINGS BHD (207184-X)

Wisma Bina Puri, 88,
Jalan Bukit Idaman 8/1,
Bukit Idaman, 68100 Selayang,
Selangor Darul Ehsan, Malaysia.
Tel: 603-6136 3333 Fax: 603-6136 9999
E-mail: corpcomm@binapuri.com.my

Bina Puri has successfully completed projects such as roads and highways, bridges and interchanges, waterworks, land reclamation works, residential and commercial buildings, hotels, hospitals, airports and government complexes.

The Group has international presence in that it has undertaken projects in Cambodia, China, United Arab Emirates, Saudi Arabia, Pakistan, Brunei Darussalam, Indonesia and Thailand. Our notable list of investment portfolios include the 33km toll highway linking KL- Kuala Selangor, the Main Place Residence and Mall at USJ 21 and Power Plants in Indonesia.



The Malaysian Construction Industry Excellence Awards (MCIEA) 2012 - Major Project Award



BrandLaureate Corporate Award for Best Brand in Construction 2011-2012



International Achievement Award awarded by CIDB for Malaysian Construction Industry Excellence Awards (MCIEA) 2011



International Achievement Award by CIDB for Malaysian Construction Industry Excellence Awards (MCIEA) 2008



Contractor Award G7 awarded by CIDB for Malaysian Construction Industry Excellence Awards (MCIEA) 2007



Prominent Player Award to the Group Managing Director, Y.Bhg Tan Sri Datuk Tee Hock Seng, JP by CIDB for Malaysian Construction Industry Excellence Awards (MCIEA) 2005

BUILDING CONSTRUCTION



Dewan Undangan Negeri Sarawak

CIVIL AND INFRASTRUCTURE CONSTRUCTION



LRT Ampang Line Extension

HIGHWAY CONCESSION



LATAR Ekspressway

QUARRY OPERATION AND CONSTRUCTION MATERIALS



Lorry Concrete Mixer

UTILITIES



Power Plant, Pulau Bangka, Indonesia

HOSPITALITY MANAGEMENT



Service Apartment, Brunei Darussalam

PROPERTY DEVELOPMENT



Main Place Residence and Mall, USJ 21, Subang Jaya





**ONE OF THE 1ST IN THE WORLD
TO BE CERTIFIED LEAD-SAFE**
Make Your Home Safe For Your Family



PREMIUM ROAD MARKING with **DAVIES TRAFFIC PAINTS**



DAVIES SafeTrack Thermoplastic

A thermoplastic type of resin specially designed for road markings.

Main Features

- Excellent reflective ability
- Fast drying speed (quick hardening ability)
- Excellent UV resistance
- Good durability and resistance to abrasion



CRB Traffic Paint

A premium quality traffic paint that provides long-lasting traffic lines.

Main Features

- Easy to apply
- Fast drying
- Excellent visibility and durability



Alkyd Traffic Paint

A traffic paint which is best suited for marking of asphalt and masonry surfaces.

Main Features

- Easy to apply
- Fast drying
- Long-lasting



SLOPE PROTECTION

KAPALONG - TALINGOD ROAD, BUKIDNON

Rock anchors and soil nails offer the possibility to stabilize steep slopes comprising of loose, disintegrated and weathered rock as well as soil. These so-called active systems provide a support to the rock surface as a combination of rock nailing to guarantee the over-all stability of the concerned slope section.

DEBRIS FLOW BARRIER

SANTA, ILOCOS SUR

Debris flows are natural hazards that combine flood, land and rock slide. They can occur after heavy rainfall where flooding entrains materials such as soil, rocks and trees channeling into a flow.



EXCLUSIVE DISTRIBUTOR OF

GEOBRUGG® 
BRUGG



ekoCHERAS MALL

2018年 新购物地标

详情请致电 **1800 88 3638**



Ekovest Capital Sdn Bhd (486071-X)
 Wisma Ekovest, No 118, Jalan Gombak, 53000 Kuala Lumpur.
 Email: leasing.ekocheras@gmail.com

www.ekocheras.com

2017 REAP National Convention
(Road Engineering Association of the Philippines)

Construction Method of Tunneling Work
(Open Cut Method, NATM Method, Shield Method)

July 20, 2017 (2:15PM - 2:45PM)
Grand Ballroom, Marriott Hotel, Manila, Philippines

Shimizu Corporation is a company known for its various tunneling works such as the following:



Open Cut Method at Jakarta MRT

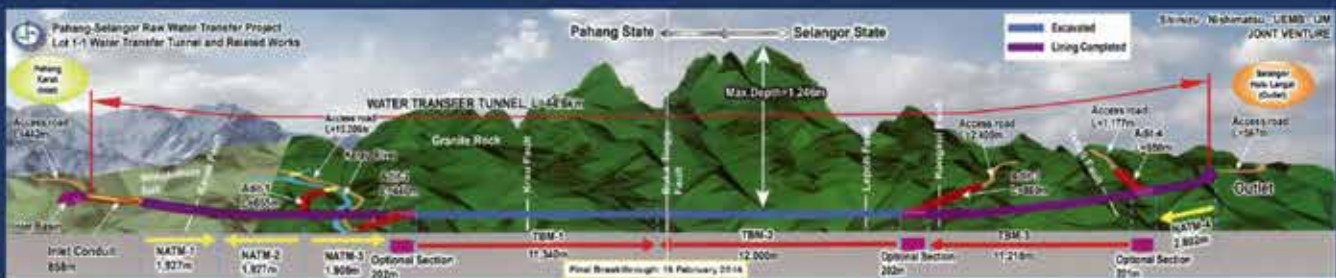
Shimizu Corporation is currently constructing the 1st MRT in Jakarta Indonesia & Ho Chi Minh Vietnam.



Shield Tunneling Method



Pahang - Selangor Water Transfer Tunnel is the longest tunnel in South East Asia with a total length of 44.6km. It was constructed by Shimizu Corporation using TBM & NATM





ROADCARE (M) SDN. BHD.



87-1, Jalan Kampong Pandan, 55100 Kuala Lumpur, Malaysia Tel: (+603) 9285 2257 Fax: (+603) 9285 4270



With vast experience, all round expertise and capabilities, through the application of advance technologies, we are committed to be the premier road and facility maintenance organization of unmatched excellence and efficiency



TOTAL QUALITY ROAD MAINTENANCE SOLUTIONS

<http://www.roadcare.com.my>

Geotextile Tube Application For The Construction of The Longest Sea-Crossing Bridge in Vietnam



Protective Fabrics
Space Composites
Aerospace Composites
Advanced Armour

Geosynthetics
Industrial Fabrics
Grass