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# 2021-02



#### **COVER**

# 16th REAAA CONFERENCE



16th REAAA Coference Organizing Committee

As the world faces one of the hardest challenges of the century due to pandemic, REAAA still made it possible and successfully held its 16th conference. Amid Covid-19, the annual event has been resorted to fully digital / online conference which is first ever recorded in history. Ultimately, the role of engineers during this trying time is the same as any other time, as it is enshrined in their professional obligation: how to best protect the public and make their life better. Each country needs to achieve the optimal balance between fighting covid-19 and taking advantage of the technological advancement for faster, better, efficient and more effective infrastructure development. With REAAA's mission: To meet the professional needs of its members and to foster understanding and cooperation both within and beyond this region.

The chosen theme "Shaping the Future of Road Engineering with advanced Technologies," offers to bring together distinguished engineers, researchers, policy makers, business leaders and the young professionals that has one goal: to learn advance technology from one another for each other's community advancement.

REAAA President Romeo Momo took a great pride for being a part of the honorable organization that not only promotes innovative ways in road engineering, but also practices cutting-edge services that create productive shares within the industry. He challenged everyone to develop, improve skills, practices and ways that will impact communities for sustainable infrastructure to enjoy better quality life.

Raising the bar for professional development, REAAA Philippine Chapter President Jaime Pacanan vocalized a development that awaits our industry in the years to come with the new generation's growing discoveries and emerging global trends in infrastructure development.





Through the first woman president of The Road Engineering Association of the Philippines (REAP), Dr. Maria Catalina Estamo Cabral, PH. D., she highlighted emerging problems brought by climate change and rapid urbanization which are putting pressure on the development of smart and resilient road networks in multiple ways. REAP is a group of road engineering practitioners which are equipped with the technical know-how in the planning, design, construction and maintenance of roads and allied structures can communicate, collaborate and educate each other.

To keep up with the modern world of technological advancement while facing a pandemic, Secretary of The Department of Public Works and Highways (DPWH) Mark Villar, commended REAAA and REAP for the efforts to link member countries for promotion of technological advancements in the field of engineering. DPWH functions as the engineering and construction arm of the Philippine Government. Being in a fast-paced era of technology, DPWH ensures that the country is ready and equipped for faster, better and more effective infrastructure development with the highest efficiency and quality in construction.

The honorable event hosted by Philippines lasted for three days from September 13 until 15 and was attended by almost 2000 participants. The program consisted of Council Meeting & General Meeting, Virtual Exhibit Opening, REAAA Business Forum, Technical Virtual Tour, Technical Sessions, Katahira Award, REAAA Hwang Award and Handing-over of REAAA Presidency to Mr. Sung-Hwan Kim, PH. D.



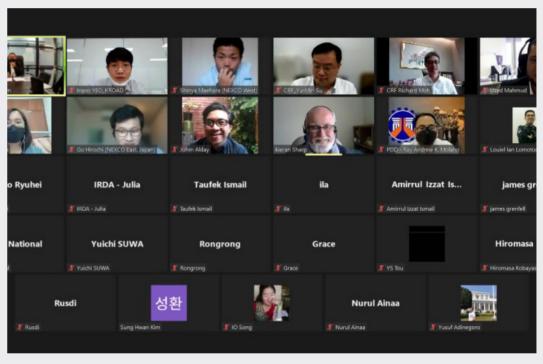
**COVER** 

# Photos of the 16th REAAA Conference















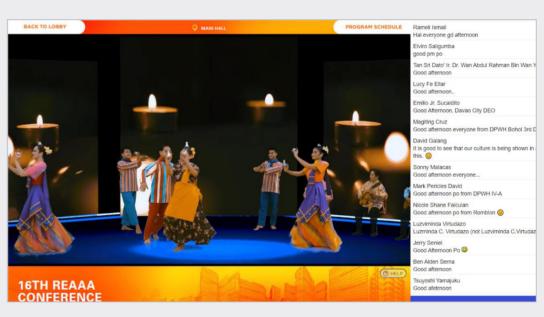


Photos of the 16th REAAA Conference





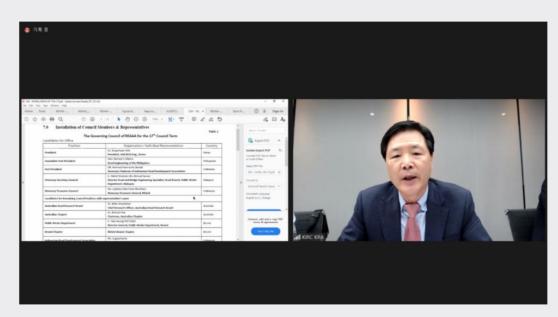








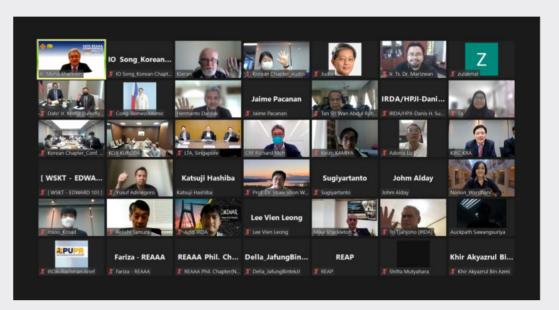


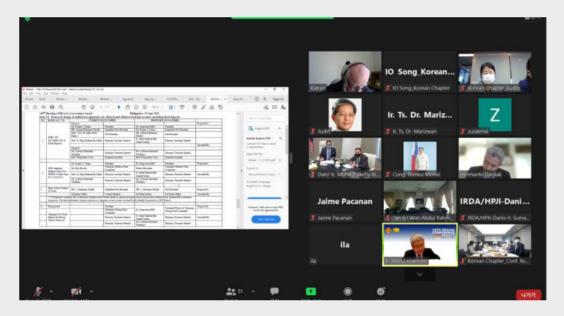


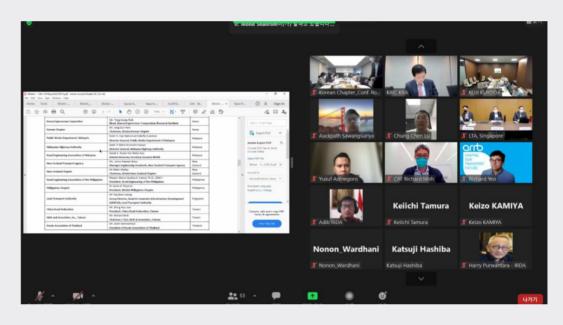








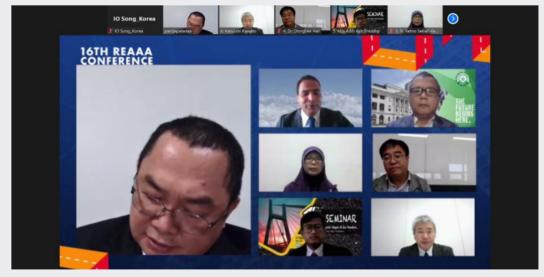












# 2021-02



#### **COVER**

# New President's Inaugural Address



**Dr. Sung-Hwan Kim**President of REAAA

# Distinguished REAAA Members,

Welcome to the very unique 16th REAAA Conference in the COVID-19 Pandemic era.

I am delighted for the opportunity to gather with you today representing the REAAA members. It would have appealed to me much more if we had been able to gather in the Philippines for this meeting associating with each other personally.

Nonetheless, my hope is that each of you has coped successfully with these complicated and harsh conditions of the global environment and your current situation is stable and perhaps flourishing.

Today, it's my great honor to accept the position as your 17th elected president of the REAAA. My dream for a welcoming and personal delivery of this acceptance speech with your cheerful applause and encouragement may have set us on a successful path, beginning a term of cooperation and worthy accomplishments.

As the 17th presidential position of the REAAA, the term 2021–2025, I will do my best to ensure that I faithfully fulfill this role by gathering the recommendations of the former president and members.

This pandemic situation is unprecedented through 48-years of REAAA history and consequently I've realized the importance of the off-line, analog world. Dr. Maria Cabral and the organizing committee have expended great effort to host the 16th conference as a pleasant and face-to-face event; their monumental work enabling us to gather before our screens, even now. Pale in comparison only to a live audience, please join me in offering sincere appreciation and thanks to this dedicated team's efforts in making this meeting possible. Thank you.

I would like to express my sincere gratitude to the Honorable Mr. Romeo Momo. As you know, Mr. Momo has especially given his large efforts to enhance the dignity of REAAA. He has focused on recruiting more members with National Chapters, on revitalizing activities of TC, YEP, and Business Forum meetings and on improving the relationship of other international organizations.

Unfortunately, he and his team have been showing their 4-years masterpiece through this screen. It's very regretful that all members and myself cannot visit and share their achievements on site. Once again, I deeply appreciate President Momo's efforts for REAAA during his term. Thanks.





As we move forward in 2021, we have much to be thankful for. We are confident that the REAAA has grown stronger. However, with focused examination, it's apparent that our organization needs change and refinement to insure future advancement and an upswing boost. Despite our successful track record over the past 48 years, the reputation and dignity of REAAA has not increased significantly. I'm proposing several issues be added to this term's agenda using existing systems and activities.

### Membership Promotion & Extending the Association Activities to Private Sector

In comparison to the number of countries eligible to join, only 11 governing council countries are genuinely active. We may need to stimulate dormant countries through communication and encouragement to build membership.

In addition, I want to extend our activities to the private sectors which will be helpful to Increase the numbers in our association. REAAA has been recognized by government-based members. Our association has valuable knowledge and information in the field of road infrastructure. It is essential to share our knowledge base with experts in the private sector. I want to propose that our constrained knowledge be shared with the private sector more using tools of TC and YEP seminars, business forums, and website.

## Strengthening Technical Committee (TC) Activities

As you know, the COVID-19 pandemic has caused a sharp drop in employment and economic growth and triggered widespread economic disruption globally. Although construction has been deemed a key industry in most countries, many projects are being delayed or put on hold indefinitely because of projected budget shortfalls.

We may have to study workforce modernization, secure private capital for public goods, and the project priority needs to be reexamined, geared toward economic benefits.

Secondly, how will climate change affect road transport infrastructures? Erratic weather increases weather variability, and roads designed for a particular climate may fail more frequently and quickly.

All of these result in increased costs to design and retro-fit and reduce reliability for users. To cope with these challenges and to revise the present design standards, we must urgently study together.

We have operated 3 TCs in the past term and almost completed their activities. I want to propose 2 TCs to manage these 2 issues of COVID-19 Pandemic and Climate change.

# The Way Forward

In conclusion, based on these suggestions, I'd like to propose a brainstorming session involving the council members and the Secretariat, as soon as possible. All of you are requested to share your ideas and suggestions before the next council meeting.

After the extensive hearing, I will shape up a concrete plan/for the 17th term to share with you at the 117th Council Meeting, hopefully physically in Korea.

Once again, I extend my heartfelt appreciation to the Honorable Mr. Momo, Dr. Cabral and the conference organizing committees.

I will do my best to carry out my mission and would like to encourage your strong support.

Thank you very much.

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## **REAAA Updates**

# 17th REAAA Governing Council Members

#### **OFFICE BEARERS**

S/N	Full Name	Country	Designation	
1	Dr Sung-Hwan Kim Email: thinkgkim@gmail. com	Republic of Korea	President	Dr Sung-Hwan Kim, the President of the Road Engineering Association of Asia and Australasia (REAAA), is a civil engineer who graduated from Seoul National University and earned his doctorate from Ohio State University in 1994. He joined the Korea Expressway Corporation (KEC) in 1983, where he contributed to the country's road infrastructure development. He worked with the company for almost 30 years. He was seconded to the Indonesian Ministry of Public Works and Housing, where he never hesitated to share his knowledge and experience with international partners. After he retired as KEC's Executive Director-General, Dr Kim was involved with several projects in major engineering and construction companies within Korea, including Samsung C&T and Kunhwa Engineering. He is currently supervising overseas projects as the Vice President of SOILTECH Engineering.
2	Engr Romeo S Momo  Email:  joseph_aquino2005@  ymail.com	Philippines	Immediate Past President	Mr Momo was awarded a Bachelor of Science in Civil Engineering degree 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 the Undersecretary of the Philippine Department of Public Works and Highways.  Mr Momo was the National President of the Philippine Institute of Civil Engineers (PICE) from 2012-2013, and National President of the Road Engineering Association of the Philippines (REAP). Mr Momo was awarded 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. He was also 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.
3	Dr Achmad Hermanto Dardak Email: hermantodardak@ yahoo.com	Indonesia	Past President	Dr Achmad Hermanto Dardak was formerly the Vice Minister of the Indonesian Ministry of Public Works and an Honorary Past President of the Indonesia Road Development Association. His career in the Indonesian civil service spans 30 years. He is a former Chairman of the Association of Indonesian Students of Australia (1987) and Chairman of Road Development Indonesia from 2007-2011. He was Vice President of REAAA from 2009-2013 and President of REAAA from 2014-2017.
4	Ir Mohd Shahrom Bin Ahmad Saman Email: mdshahrom@ jkr.gov.my	Malaysia	Honorary Secretary General	Ir Mohd Shahrom Ahmad Saman graduated from the Queen's University of Belfast, United Kingdom, in 1990. He also holds a Masters Degree in Highway and Transport Engineering from the University of Putra, Malaysia.  He has been with the Public Works Department of Malaysia for the last 29 years. He has extensive experience in highway planning, road engineering design, road safety, and road maintenance. This has led him to play a key role in the development of numerous road projects and road safety initiatives in Malaysia. He is currently the Director of the Road and Bridge Engineering Specialist Division of the Road Branch in the Public Works Department.  He was appointed Secretary-General of REAAA in 2021. He is also a Member of the World Road Association (PIARC) Committee TC 2.4 – Road Network Operation/Intelligent Transportation System for the 2020-2023 cycle.





S/N	Full Name	Country	Designation	
5	Ms Lydwina Marchiela Wardhani  Email:  athenairis7@ gmail.com	Indonesia	Honorary Treasurer General	Ms Lydwina Marchiela Wardhani (Nonon) commenced her working career in engineering & management consultancy services with Mott Macdonald International Ltd in 1999. She is currently the 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 the Chair of the REAAA Sub-Committee on Enhance Revenue and a member of the IRDA Committee for International Relations.

cou	NCIL MEMBERS	5		
6	Dr Michael Chater Shackleton Email: mike.shackleton@ arrb.com.au	Australian Road Research Board, Australia	Vice- President	The Australian Road Research Board (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 held the position of Chair of the Technical Committee until Kieran Sharp's retirement in 2018.  ARRB is represented by Dr Mike Shackleton, CPEng, who is currently Chief Research Officer at ARRB. He has 35 years of experience in engineering, leadership and governance in Africa, Asia and Australia. His fields of expertise are low volume and unsealed roads, staff development and research governance. His PhD research investigated how Australian road agencies value research work that they commission and critical success factors for delivering valuable R&D outcomes.
7	Mr Katsuji Hashiba Email: katsumasatoshi@ icloud.com	Japan Road Association	Vice- President	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, the Chair of the REAAA International Committee of JRA. Mr Hashiba was awarded a Master's of Civil Engineering from Hokkaido University in 1981. He is currently President of the Infrastructure Development Institute, having been attached to the Ministry of Infrastructure, Japan, from 1981 to 2013.  He worked at the Organization for Economic Cooperation and Development (OECD) at its headquarters in Paris for six years.
8	Datuk Sri Ir Haji Mohamad Zulkefly Bin Sulaiman Email: mzulkefly@jkr.gov. my	Public Works Department Malaysia	Vice- President	The Public Works Department of Malaysia (PWD) – also known as Jabatan Kerja Raya (JKR) – was elected as an Institutional Member of REAAA in 1974 and has been involved in the activities of REAAA since its formative years.  The PWD is represented by the Director General, Datuk Ir Haji Mohamad Zulkefly Bin Sulaiman. He also presents the PWD as the PIARC First Delegate of Malaysia.  He is currently the President of the Board of Engineers Malaysia (BEM), President of the Malaysian Structural Steel Association (MSSA), Chairman of the Network of Accreditation Bodies for Engineering Education in Asia (NABEEA), President of the Malaysian Asset And Project Management Association (MAPMA) and President of the Road Engineering Association of Malaysia (REAM).
9	Dr Ir Hedy Rahadian  Email:  rahadian.hedy@  gmail.com	Directorate of Public & Highway, Republic of Indonesia	Vice- President	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 management of Indonesia's public works. It is represented by Dr Ir Hedy Rahadian, the Director-General of Highways, Ministry of Public Works & Highways, Indonesia.



S/N	Full Name	Country	Designation	
10	Dr Richard Eng Yat Yeo Email: rchard.yeo@arrb.com. au	Australia	Australian Chapter	The REAAA Australian Chapter was formed shortly after the formation of REAAA in 1973. For almost 50 years, the REAAA Australian Chapter has been promoting the science and practice of road transport engineering in the Asia-Pacific region through developing professional and commercial links within, and between, member countries. Its main objectives are international knowledge exchange and building international networks and partnerships among members. The Chapter also has a very active branch based in Western Australia; it stages regular local events throughout the year. It is represented by the Chair of the Australian Chapter, Dr Richard Yeo. Dr Yeo is Chief Operating Officer at the Australian Road Research Board (ARRB). He has extensive research and management experience in the roads sector. He has held key roles with ARRB, Austroads and VicRoads as well as in commercial private sector consulting. He is an Adjunct Professor (Practice) with Monash University and maintains close involvement with initiatives such as Industrial Transformation Hubs and other academic research.
11	Mr Md. Salleh Bin Abd. Karim Email: salleh.karim@pwd. gov.bn	Brunei	Public Works Department (PWD)	JKR 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 Mr. Md.Salleh Abd Karim, Director-General of the PWD, Brunei.
12	Mr Rafitra Razak Email: rafitra.razak@pwd. gov.bn	Brunei	Brunei Chapter	The Brunei Chapter was established on 2 October 2002. Dato Paduka Hj Othman bin Hj Yaakub was elected the first Chairman of the Brunei Chapter. The 72nd Meeting of the Governing Council was held in conjunction with the launch. Another concurrent event was a Seminar on 'Quality Roads –The Way Forward' organized by the Public Works Department of Brunei. It is represented by Mr Rafitra Bin Hj Abdul Razak.
13	Ir Sugiyartanto Email: sugiyartanto@gmail. com	Indonesia	Indonesian Road Development Association (IRDA)	The Indonesian Road Development Association (IRDA) is a non-profit organization 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 Sugiyartanto, the Chairman of the IRDA.
14	Mr Michio Katayama Email: m.katayama.aa@ jexway.jp	Japan	Express Highway Research Foundation	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 (privatized and split into three expressway companies on 2005: NEXCO East, Central and West), the Japan Society of Transportation Economics, the Japan Automobile Manufacturers Association Inc., the 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 Michio Katayama, President, Japan Expressway International Co. Ltd.





S/N	Full Name	Country	Designation	
15	Dr In Sub Oh Email: zetamkh@ex.co.kr	Republic of Korea	Korea Expressway Corporation	The Korea Expressway Corporation (KEC) is one of Korea's major government-invested corporations. Founded in 1969 to construct and manage expressways in Korea, the KEC has been an active member of REAAA since 1988. Dr In Sub Oh, as the Head of KEC Research Institute, has supported various activities both in REAAA and the REAAA Korean Chapter.
16	Mr Jong Gon Park Email: io.song@kroad.or.kr	Republic of Korea	Korean Chapter	The REAAA Korean Chapter, established in 2001, is represented by Mr Jong Gon Park, the Managing Director of the Construction Division of the Korea Expressway Corporation (KEC). As a Chairperson of the Korean Chapter, he is leading the preparation of the 17th REAAA Conference in Korea in 2025.
17	Dato' Ir Mohd Shuhaimi Hassan Email: shuhaimi@ llm.gov.my	Malaysia	Malaysian Highway Authority (MHA)	The Malaysian Highway Authority (MHA) was established in 1980. Its mission is to establish a network of toll expressways that is safe, efficient, comfortable, and provides all necessary facilities and amenities necessary to serve the people of Malaysia. The MHA has been an Institutional Member of REAAA since 1981. The MHA is represented by Dato' Ir Mohd. Shuhaimi, the Director-General of the MHA.
18	Ir Ibrahim Bin Esa Email: ibrahime@jkr.gov.my	Malaysia	Road Engineering Association of Malaysia	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 also manages the Malaysian Chapter of REAAA.  The REAM is represented by Ir Ibrahim Esa, the Honorary Secretary-General of REAM and the Director of Road Facility Maintenance Branch, Public Works Department (PWD), Malaysia.
19	Ms Janice Raewyn Brass Email: janice.brass@nzta. govt.nz	New Zealand	New Zealand Transport Agency	The New Zealand 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.
20	Mr Robin Malley  Email:  robin.malley@  napier.govt.nz	New Zealand	New Zealand Chapter	The New Zealand Chapter has been an Institutional Member of REAAA since 1996. Since its formation, the Chapter has successfully carried out various REAAA-related activities such as hosting the 9th REAAA Conference in Wellington in May 1998 and the 80th Governing Council meeting in Auckland in March 2006. The Chapter continues its good work in organizing various programs such as roadshows, workshops, and the sponsoring of keynote speakers at key conferences in achieving the key objectives of the Chapter.  The New Zealand Chapter is represented by Mr Robin Malley, the Chairman of the Chapter. He is currently Industries Divisional Manager with Fulton Hogan in Nelson, New Zealand.



S/N	Full Name	Country	Designation	
21	Madam Maria Catalina Estamo Cabral Email: reap.philippines@ yahoo.com	Philippines	Road Engineering Association of the Philippines	The Road Engineering Association of the Philippines (REAP) is one of the country's largest organizations in road engineering. Its members are mainly involved in the planning, design, and construction of roads. The REAP has been an Institutional Member of REAAA since 1990; however, its involvement dates back to the 2nd REAAA Conference, held in Manila in 1978.  The REAP is represented by its Vice-President, Madam Maria Cabral, PhD.
22	Mr Jaime Abarsoza Pacanan Email: pacananjaime3@ gmail.com	Philippines	Philippines Chapter	The Philippine Chapter was officially established in September 2002 with Mr. Salvador Pleyto elected as the first President. Various activities have been organized to strengthen the Chapter since then, including a membership promotion campaign, the launch of the Chapter's newsletter, and the re-development and maintenance of the REAAA website. The Philippine Chapter 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.
23	Mr Yap Boon Leong  Email: Yap_Boon_Leong@ Ita.gov.sg	Singapore	Land Transport Authority	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 Boon Leong, Group Director, North-South Corridor, Land Transport Authority.
24	Mr Shing-Hau Jaw  Email:  Ja29092003@gmail. com; jclaiw1103@ gmail.com	Taiwan, ROC	China Road Federation	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 the 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, Mr. Shing-Hau Jaw. He is currently Director-General, Freeway Bureau, Ministry of Transportation and Communications (MOTC).
25	Mr Richard Jen-Chuen Moh Email: richard.moh@ maaconsultants.com	Taiwan, ROC	Moh and Associates, Inc., Taiwan	Founded in 1975, Moh and Associates (MAA) is a leading Asian engineering and consulting service provider in the East and Southeast Asian region. Its focus is infrastructure, environment, buildings, land resources, and information technology. To meet the global needs of both public and private clients, MAA offers a full range of engineering capabilities providing integrated solutions, ranging from conceptual planning, general consultancy, and engineering design to project management. MAA employs over 1200 staff, with companies in Beijing, Shanghai, Hong Kong, Macau, Taipei, Bangkok, Singapore, and Yangon, creating a close professional network in East & Southeast Asia.  MAA is represented by Mr Richard Moh, the Chairman of Moh and Associates, Inc., Taiwan, and the Executive Director & Chairman of the International Affairs Committee of the China Road Federation (CRF).





S/N	Full Name	Country	Designation	
26	Mr Aram Kornsombut  Email:  aram.kornsombut@  gmail.com	Thailand	Roads Association of Thailand	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 1st EAAA Conference in Bangkok in 1976. RATH is represented by Mr Aram Kornsombut, the President of RATH. He is an Honorary Member of REAAA in 2021.

## **CO-OPTED COUNCIL MEMBERS**

27	Mr Kieran Sharp  Email:  kierans@ netspace.net.au	Australia	Sole Trader	Kieran Sharp was a Senior Business Development Manager at the Australian Road Research Board (ARRB) until 2019. 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 greatly benefits REAAA, in particular the coordination of the activities of REAAA Technical Subcommittees, the production of the REAAA Journal and technical reports, and technical input into REAAA Conferences and associated events. He is also the Chair of the Katahira Award committee. He was a co-recipients of the inaugural Hwang Award at the 16th REAAA Conference in September 2021 for his sustained contribution to REAAA.
28	Mr Destiawan Soewardjono Simoen Email: deswan61 @yahoo.com	Indonesia	Indonesian Road Development Association	Mr Simeon is an Operations Director of PT Wijaya Karya (Persero) and also the Chairman of International Marketing at the Indonesian Road Development Association.
29	Mr Rachman Arief Dienaputra  Email: ariefbapekon@ gmail.com	Indonesia	Ministry of Public Works & Housing, Indonesia	MrDienaputraisthe Director of the Road Network Development, Directorate General of Highways, Ministry of Public Works & Housing, Indonesia.
30	Dr Ir Danis Hidayat Sumadilaga Email: danis_hs@ yahoo.com	Indonesia	Indonesian Road Development Association	Dr Ir Danis Hidayat Sumadilaga is a person of outstanding eminence in the road industry in Indonesia. He was a member of Supervisory Board and Chief of the division in the Indonesian Road Development Association (IRDA), President of the Indonesian Engineer Association (PII) and a member of Dewan Riset Nasional. He was the Head of the Research and Development Agency of the Ministry of Public Works from 2016 until 2018. He was a Project Officer for the Pasupati Viaduct project. the first overpass in Indonesia to utilize earthquake-proof technology. Currently, Dr Sumadilaga is actively involved in preparing the infrastructure and facilities for the next new state capital in East Kalimantan. Dr Ir. Danis Hidayat Sumadilaga has been a Coopted member of the REAAA Governing Council since 2005.



Interview with Ir. Haji Zulakmal Haji Sufian, Honorary Secretary-General of REAAA

S/N	Full Name	Country	Designation	
31	Mr Yasumasa Torii Email: <u>birdy.yasu</u> @gmail.com	Japan	Express Highway Research Foundation of Japan	Mr Yasumasa Torii graduated from Tokyo University in 1965 and obtained amaster's degree in 1967. He joined the Japan Highway Public Corporation (JHPC) in 1967 and served for 30 years as the Counsellor and Director General of Regional Construction Bureau, among others, before he joined Seikitokyu as Senior Director and Counsellor. He has been devoted to research in the field of pavements, serving as the owner of REAAA Technical Sub-Committee TC-2 (Pavements) for two terms from 2009 to 2017. His contribution to REAAA spans more than 20 years. He was the Secretary-General of the Organizing Committee for the 10th REAAA Conference in Tokyo from 1999 until 2000. He was a member of the Governing Council from 2003-2013 representing the Express Highway Research Foundation (EHRF) and serving as Chairperson of the Katahira Fund Committee. He currently serves as Advisor to the Technical Sub-Committee on Pavement Technology. He has been Co-Opted Member of REAAA since 2017. He is also an Honorary member of REAAA in 2021.
32	Dr Koji Kuroda Email: a9052@n-koei.co.jp	Japan	Central Research Center, Nippon Koei	Dr Koji Kuroda, the Chief Engineer of the Central Research Center, Nippon Koei, is a civil engineer and a researcher who obtained his doctorate from Michigan State University in 1984. He joined Japan Highways (JH) in 1976, then taught at the Asian Institute of Technology (AIT) as an associate professor, before joining the World Bank as a highway engineer. He then served as President of NEXCO Maintenance Chuoh; Executive Officer, Central NEXCO; and President of the Japan Expressway International (JEXWAY). His is a qualified Certified Internal Auditor (CIA), a Certified System Auditor (CSA), a Professional Engineer (PE) in road engineering, and a concrete structures inspector.
33	Mr Yoonsang Lee Email: <u>victoryfeel@korea.kr</u>	Republic of Korea	Ministry of Land, Infrastructure and Transport (MOLIT)	Mr Yoonsang Lee is the Assistant Minister for Road, Ministry of Land, Infrastructure and Transport (MOLIT), Republic of Korea. He is an economist who graduated from Seoul National University and received a Masters degree from the University of York, UK. He has served in various high-ranking government positions in the Ministry including the Director-General of the Metropolitan Transport Commission.
34	Dr Kyu-Young Hwang  Email:  kyhwang@ kunhwaeng.co.kr	Republic of Korea	Kunhwa Consulting & Engineering Co. Ltd	Dr Kyu-Young Hwang is the CEO of Kunhwa Consulting & Engineering Co. Ltd, Korea. As a civil engineer, he earned his doctorate degree from Dankook University. Like his father, Mr Kwang-ung Hwang, who was the first Chairperson of REAAA Korean Chapter and also the founder of REAAA Hwang Fund, Dr Hwang is one of the most dedicated members of REAAA.
35	Mr Moon-Kyu Choi Email: <u>moonkchoi@</u> <u>hanshinc.com</u>	Republic of Korea	Hanshin Engineering & Construction Co. Ltd	Mr Moon-Kyu Choi is the CEO of the Hanshin Engineering & Construction Co. Ltd. He is an active member of the Korea Road Association and the Korea Housing Association. As a new Governing Council member, he is very interested in learning about REAAA member countries and their construction engineering methods.



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S/N	Full Name	Country	Designation	
36	Dato' Dr Dennis Ganendra Email: dennisg@ minconsult.com	Malaysia	Minconsult	Dato' Ir Dr Dennis Ganendra, Chief Executive Officer of Minconsult, has an engineering career spanning over 30 years. He has managed professionals in local and international projects and hHis company has advised consecutive Malaysian government and numerous governments internationally. It has developed as a major international engineering force with projects from international funding agencies such as the Asian Development Bank (ADB), World Bank (WB), Islamic Development Bank (IDB), Japan International Cooperation Agency (JICA), multi-national corporations, and foreign governments covering over 25 countries in five continents.  He served as a Director and Audit Committee Member of the Construction Industry Development Board, Malaysia (CIDB) and as a Trustee of the Construction Research Institute, Malaysia (CREAM) from 2000 until 2008. He was Honorary Secretary General of The Road Engineering Association of Asia and Australasia (REAAA) from 1998 until 2006. He was elected an Honorary Member of REAAA in 2021.
37	Dato' Ir Hj Zulakmal Bin Sufian Email: <u>zbsufian</u> @yahoo.com	Malaysia	Public Works Department, Malaysia	Dato' Ir Hj Zulakmal Bin Sufian, the Deputy Director-General of the PWD Malaysia, has worked at the PWD for 35 years. He has published more than 50 papers and co-authored more than ten road specifications and guidelines for the PWD and the 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). He was the Honorary Secretary-General of REAAA from 2017 until 2021.
38	Dr Muhammad Marizwan Abdul Manan Email: <u>marizwan</u> @ miros.gov.my	Malaysia	MIROS, Malaysia	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 program. MIROS carries out case studies and evaluates current road safety procedures and generates information that will form the core of its evidence-based intervention programs to enhance road safety.  Dr Muhamad Marizwan Abdul Manan represents MIROS.
39	Prof. Dr Wong Shaw Voon Email: wongcsm @gmail.com	Malaysia	University Putra Malaysia	Dr Wong Shaw Voon serves as a Professor in the Department of Mechanical and Manufacturing Engineering, University Putra Malaysia. He has been a Financal Assistant to REAAA since 2017.



#### **REAAA Updates**

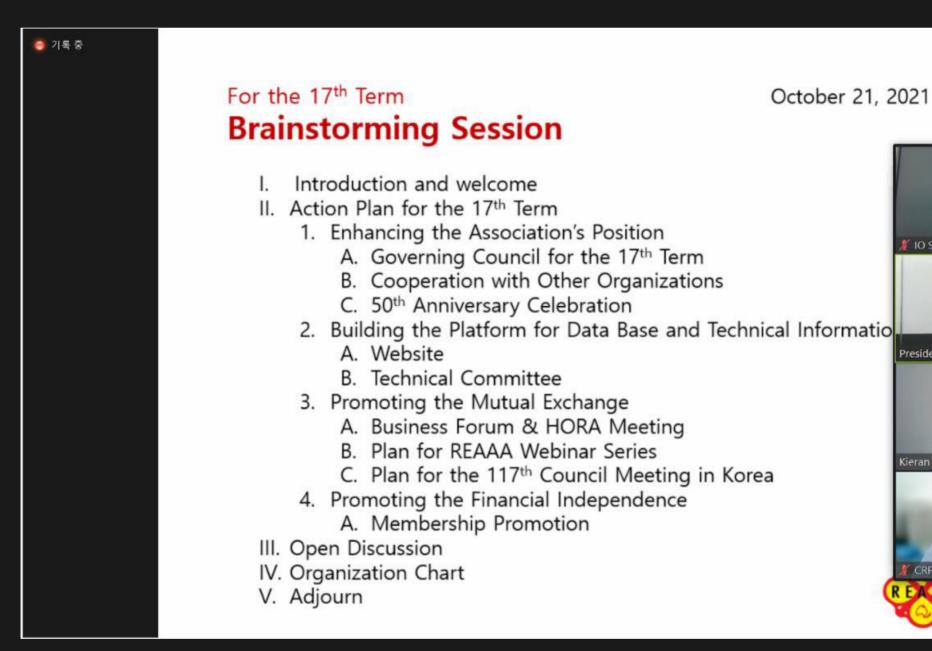
# REAAA Brainstorming Session for the 17th Council Term



IO Song
REAAA Korean Chapter



**Ms. Ila**REAAA Secretariat





On October 21, a Brainstorming Session for the REAAA 17<sup>th</sup> council term was held online with presence of major office bearers and representatives from the national chapters. The President Dr. Sung-Hwan Kim shared his vision for the 17<sup>th</sup> term and the Honorary Secretary General Ir. Mohd Shahrom Bin Ahmad Saman led the open discussion.

Under the Action Plan for the 17<sup>th</sup> Term, there were 4 strategies and related detail actions were proposed – 1) enhancing the Association's position, 2) building the platform for Data Base and Technical Information, 3) promoting the mutual exchange and 4) promoting the financial independence. Participants freely discussed based on their own experiences and suggestions for future activities of REAAA.

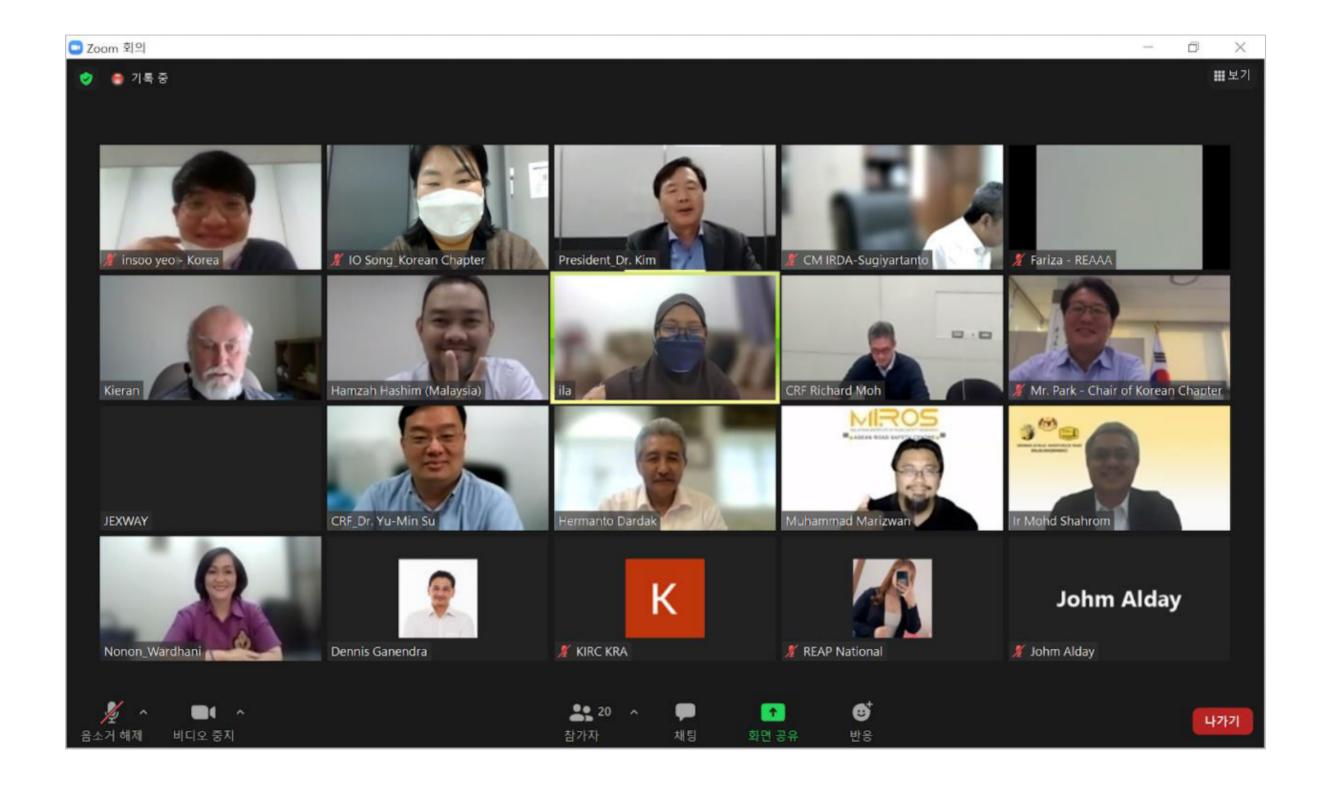




The participants agreed the importance of TC and YEP activities in the Association, promotion of membership and the cooperation with other international organizations.

REAAA, established in 1973, will have its 50's anniversary in 2023 and brief celebration ideas were also shared including a publication. A special working group was proposed by the Honorary Secretary General so the detail discussion can be continued in the working group.

Lastly, the Korean Chapter proposed to hold the 117<sup>th</sup> Council Meeting on March 24 – 25, 2022 in Korea and all participants hoped the situation to be better and all council members to attend the meeting physically.



# 2021-02



#### **REAAA Updates**

# REAAA Pavement TC's New Report Released



**Kieran Sharp**REAAA TC Coordinator

# Compendium on Pavement Structural Design and Rehabilitation Methods Adopted by Member Countries

The latest REAAA Technical Report (TC-11) has recently been published. It was prepared by the Working Group/Review Panel on Quality Assurance of Pavement Structures on behalf of the REAAA Pavement Technology Committee (PTC). The principal authors were Dr Keizo Kamiya, the Chair of the PTC, and Kieran Sharp, the Chair of the REAAA Technical Committee and REAAA's Technical Editor.

In line with the goals of PIARC Committee TC D.2, in 2018 the PTC sought approval from the REAAA Technical Committee and the REAAA Governing Council to develop a compendium on the current procedures used by each member country for the structural design and rehabilitation of their highway pavements.

It was agreed that the best way to derive the information sought was to develop a questionnaire on the current procedures being used for the design and rehabilitation of pavements in each member country. The contests of the survey covered a wide range of issues, ranging from general issues to structural design to road surface distress to repair methods. The information was to be supported with photographs of typical pavement applications, distress types and rehabilitation treatments.

## Findings of the Survey Questionnaire

Some of the findings of the survey questionnaire were as follows.

## **Applications**

- Both asphalt and concrete pavements are used in most countries, with asphalt being by far the most dominant type.
- Only the Philippines has a higher ratio of concrete pavements (60-70%) than asphalt pavements.





**REAAA Pavement TC's New Report Released** 

- The major application of concrete pavements is heavily-trafficked pavements, including tollways, expressways and national highways.
- Concrete pavements are favoured on expressways in Korea.
- Taiwan uses a detailed road classification according to national freeways, urban roads and expressways.
- Concrete pavements are used both inside and outside tunnels in most countries, but Malaysia is the only country that uses concrete pavements exclusively in tunnels.
- Concrete pavements are used for junction access and applications such as busways in Singapore and Taiwan.
- Australia and New Zealand are unique, with sprayed bituminous surfacings representing 90% of sealed road applications.
- Over 60% of Australia's roads are unsealed.

### Pavement structural design guides

- Australia uses the Austroads series of guides for the structural design and rehabilitation of pavements. The various states and territories issue supplements to take account of local conditions.
- New Zealand practice is also based on Austroads. However, they have also published a supplement to take account of local conditions in that country.
- Japan imported the Structural Number policy from the AASHO Road Test (CBR 3) and modified it so it would be usable for a wide range of CBR values to match the operating conditions in that country.
- Practice in Korea, the Philippines and Taiwan is also based on AASHTO, although Korea has developed its own guidelines based on mechanistic-empirical pavement design guide (MEPDG) concepts. However, AASHTO is also referenced when finalising the design.
- Practice in Malaysia and Singapore is based on UK practice, although Malaysia (JKR) has developed its own guidelines. TRL have issued several supplements since Road Note 29 was published.
- Practice in Thailand is based on the US Asphalt Institute guidelines.

### Typical pavement structure for highway pavements

- Thicker pavement structures such as the four-layer-system tend to be used on toll roads or national highways. However, they may be widely use at the local level in Indonesia and Singapore. The thinner structures tend to be used in provincial or municipal roads.
- Malaysia is working towards adopting the three-layer system into municipal roads.



REAAA Pavement TC's New Report Released

- Concrete pavements with steel mesh and with asphalt intermediate layers are only used on national highways in Japan.
- Concrete pavements without asphalt intermediate layers but with steel mesh are mostly used on toll roads, and national or provincial highways. Indonesia adopts a lean mix concrete interface to provide a levelling layer with the concrete slab above it. A drainage base layer is used, which may be suitable for use in countries with high annual rainfall. Continuously reinforced concrete is also used for longer durability.
- Korea uses a lean concrete base for both jointed pavements and continuously reinforced concrete pavements. A plastic sheet is applied over the lean concrete base of jointed pavements.
- Concrete pavements without steel mesh are used in Indonesia on all road classes, including municipal roads. Other countries mostly use steel mesh on toll roads or National highways.
- Concrete pavements without steel mesh and without intermediate layers are only used in the Philippines.
- Malaysia is working towards increasing the usage of concrete pavement into its National highway or State highway system.

### Pavement structural thickness design

- The design period generally adopted for the design of asphalt pavements is between 10 and 20 years. A range of traffic options are used, including annua average daily traffic (AADT), the estimated number of heavy vehicles, and equivalent standard axle loads (ESAL).
- Australia adopts a design period of 30 years and uses the number of load repetitions of each axle load on each axle group type, together with a load-damage exponent, for calculating traffic.
- Passenger vehicles are not considered in any of the guidelines for estimating design traffic.
- The most commonly method used to determine subgrade strength is the CBR method, though back-calculation of resilient modulus based on deflection testing is used in Australia and Korea. Various methods are used in Taiwan depending on the class of road being considered.
- Various thickness design methods are used for the design of asphalt pavements, with the use of design curves based on design traffic and subgrade strength (empirical methods) most common. Australia uses project reliability factors based on road class. Reliability factors are also used in Korea, New Zealand and Taiwan.
- The design period for concrete pavements varies from 20 or 30 years and can be higher than that adopted for asphalt pavements. Most countries use AADT or the estimated number of heavy vehicles or ESAL when calculating future traffic. Both Australia and Indonesia adopt a design period of 40 years and use HVAG and damage exponents in traffic estimation.
- Various design methods are used for the determination of the design thickness of rigid pavements, with the use of design curves based on design traffic and subgrade strength (empirical methods) commonly used.





REAAA Pavement TC's New Report Released

Reliability factors are used in Korea and Taiwan. The method used in Australia is based on the USA Portland Cement Association (PCA). There is also the ability to design to a selected project reliability level.

## Road surfacings – asphalt pavements

- Dense-graded asphalt is used in all countries and is by far the most common asphalt surfacing type used.
- The use of porous asphalt is becoming more widespread in several countries, with usage the highest in Japan, Korea, and New Zealand. Porous asphalt is used in Taiwan and Singapore in higher-speed applications and where the control of traffic noise is an issue.
- Stone mastic asphalt is used in all countries and its use is increasing, particularly in heavily-trafficked applications.
- Gap-graded asphalt is used in six countries, mainly in heavily-trafficked applications, though they are also used in lightly-trafficked applications in Australia.
- Gap-graded asphalt is used in Japan in higher skid resistance applications, though not widely.
- The use of semi-flexible asphalt pavements is limited to heavily-trafficked applications in Japan and the Philippines.
- Taiwan cited the use of recycled asphalt pavement (RAP), a treatment probably used in other countries but not identified in the survey.
- Double bituminous surfacing treatments are used in some applications in Indonesia, Malaysia and the Philippines.
- Sprayed/chip seal pavements are used in multiple applications in Australia and New Zealand. They are the most common surfacing type used in those countries.
- Geotextile reinforced seals are used as a surfacing in remote parts of Australia.

### Pavement rehabilitation

- The most common pavement life for asphalt pavements before rehabilitation is required is 10 to 15 years and the most common rehabilitation treatment is cut and asphalt overlay.
- In situ recycling is used in some applications in Australia, Malaysia and Thailand. The extent to which in situ recycling is used highly depends on each country's experience and the paving infrastructure.
- The most common pavement life for concrete pavements before rehabilitation is required is 20 to 30 years.
- Various rehabilitation treatments for concrete pavements are used, with the most common being the application of an asphalt overlay.

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Space restrictions do not allow all of the findings to be reported. However, photographs of some typical asphalt pavement surfacings, and typical distress types in concrete pavements, follow.







Examples of double bituminous surfacing treatments (not including sprayed/chip seals)







Transverse cracking

Typical distress types - concrete pavements: longitudinal and transverse cracking

It was confirmed that that there is some consensus in terms of practice, with similar procedures being used to manage pavements. These similarities are very important, because this assures all members that they can benefit from the application of promising design or repair methodologies in the future without the need for unnecessary trials and associated expenditure. By sharing knowledge and experience, implementation of a new technology can be steadily achieved.

Among the most important emerging topics is how to conduct repair design and put it into practice in the field. For example, the use of double bituminous surface treatments or the use of sealing methods is of high interest to REAAA members. The potential use of recycled materials is also of growing interest.

The publication of REAAA Technical Report TC-11 represents three years of work conducted by the Working Group and the PTC. Interested members are invited to download the report and provide feedback.

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**New Year Wish Bulletin** 

# **REAAA Family's New Year Wishes**

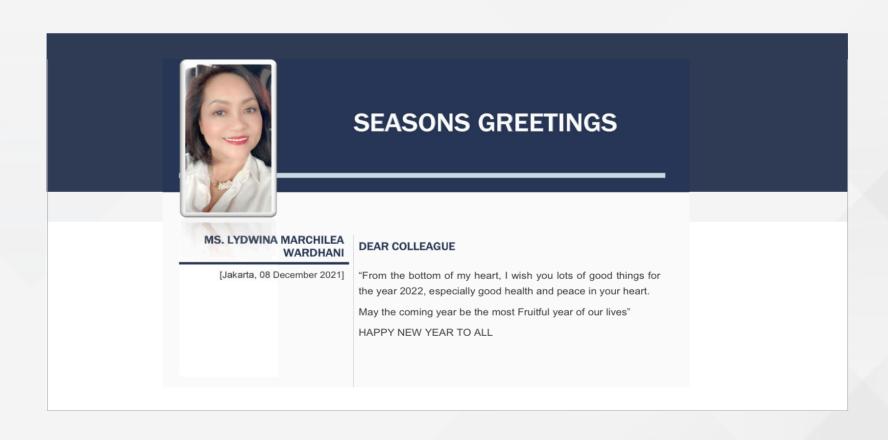


Dear REAAA family,

I hope 2022 brings you lots of love, laugher, joy and new adventures.

Wishing each of you a very happy, healthy New Year!

**Dr. Sung-Hwan Kim**President of REAAA



Dear colleagues,

From the bottom of my heart, I wish you lots of good things for the year 2022, especially good health and peace in your heart. May the coming year be the most Fruitful year of our lives.

HAPPY NEW YEAR TO ALL

Ms. Lydwina Marchilea Wardhani

Honorary Treasurer General of REAAA





**REAAA Family's New Year Wishes** 



Despite these challenging times under the pandemic, I appreciate the efforts and support the REAAA community has continued to demonstrate towards road engineering and a sustainable future.

REAAA strives to serve as a global information sharing platform to promote cooperation and innovation between its members and communities.

I wish each and every member health and safety in the coming year 2022 and hope to be able to see you soon.

#### Mr. Richard Moh

Chairman, Moh and Associates, Inc.

Member of MAA Group, Republic of China (R.O.C.)





May the New Year bless REAAA family with health, safe and happiness.

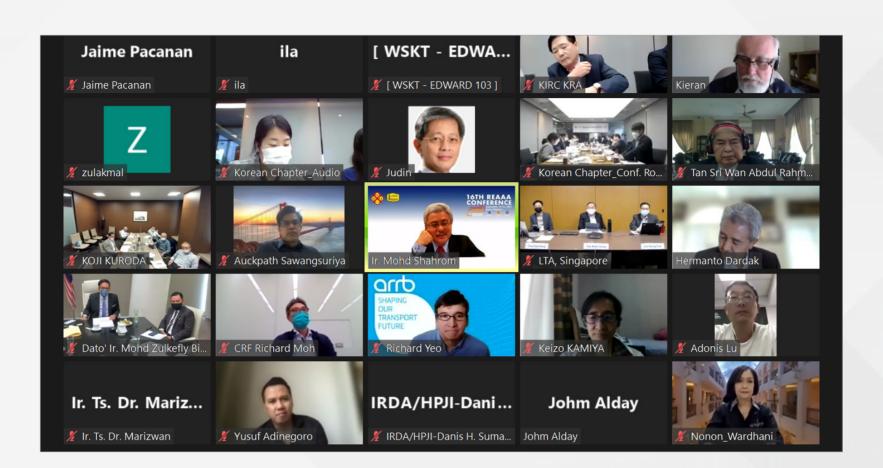
Wishing REAAA family a joyous and fruitful 2022!!

P. s. RATH family will give our full support for 2022 REAAA activities.

**Roads Association of Thailand (RATH)** 

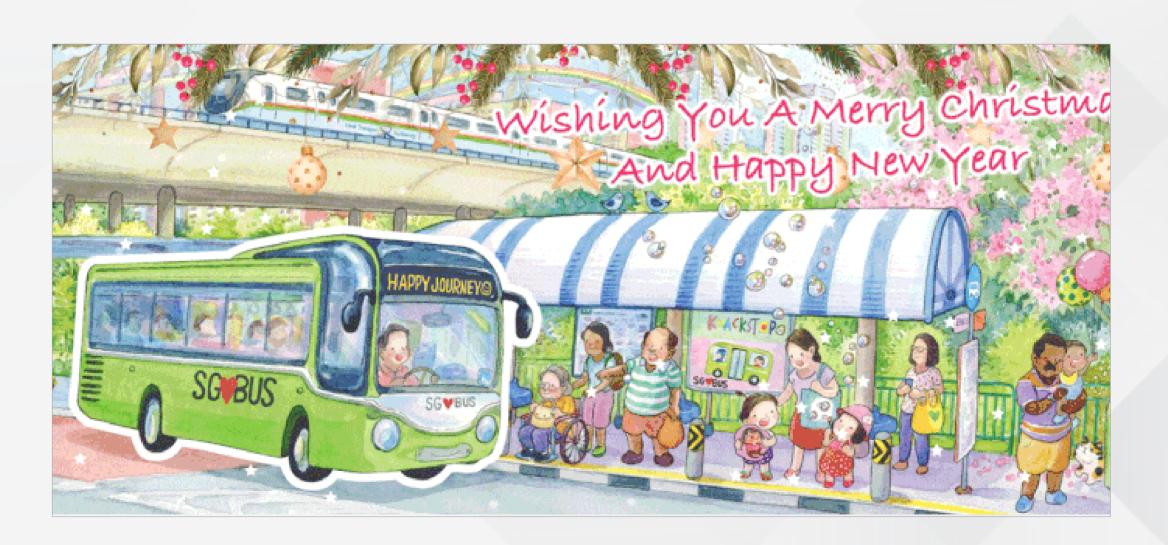


**REAAA Family's New Year Wishes** 



I couldn't have survived the last year without you, and I'm so happy to kick off 2022 together as well. Happy New Year!

#### Ila from REAAA



May human spirit continue to prevail in the face of unprecedented challenges. Stay strong and safe - Happy 2022!

Yap Boon Leong from Land Transport Authority, Singapore







We wish you all a safe, healthy, and prosperous new year.

## Mr. Shing-Hau Jaw President,

China Road Federation, Republic of China (R.O.C.)



Happy New Year to all REAAA members!

Hope 2022 to be a safer and more fruitful year to you all. Stay safe and sound!

**REAAA Korean Chapter** 

New Year Wish Bulletin - 27





#### **Congratulations!**



# Dr. Kim receives IRF Award

Heartiest congratulations from all REAAA members to the REAAA President, Dr. Sung-Hwan Kim, for the receipt of the IRF Dr. Mino Award of Excellence. It was presented at the recent 18th IRF World Meeting in Dubai, UAE.

**REAAA Secretariat** 



#### Dr. Mino Award of Excellence

The IRF Dr. Mino Award of Excellence was established in 2002 in honor of Dr. Sadamu Mino, an IRF Fellow from Japan who attended The Ohio State University as an IRF Fellow (Class of 1954). Dr. Mino's accomplishments were many, including Chairman Emeritus of Sumitomo Construction Co Ltd, but his most lasting contribution to the road development industry was his relentless efforts to promote technology transfer to those who needed it most.

The Dr. Mino Award, bestowed every four years, is the most prestigious award for IRF Fellows and was developed to recognize and honor outstanding graduates of the IRF Fellowship Program. Specifically, the Mino Award recognizes IRF Fellow who leveraged their educational experience to make outstanding achievements in roadway development and planning around the world.

More than 1,500 individuals have received IRF Fellowships since the first fellowships were awarded in 1949. "The contributions of the IRF Fellows, who have come from 118 countries over the past 73 years, are incredible", stated IRF chairman His Excellency Abdullah Al-Mogbel.



# 2021-02



#### **Calendar of Events**

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# Calendar of Events in 2022

Date	Event	Place	Type	Remarks	
07-11 February 2022	XVI World Winter Service and Road Resilience Congress	Online / Calgary, Canada	Winter Service	PIARC Congresses	
24 -25	117 <sup>th</sup> REAAA Governing Council meeting		Governing		
March 2022	21st YEP Meeting	Korea	Council Meeting	Physical Meeting	
2022	9 <sup>th</sup> REAAA Business Forum				
2 <sup>nd</sup> quarter 2022	REAAA Webinar Series #3	Zoom/Online	Webinar	Online	
September 2022	Low Volume Roads Workshop	New Plymouth, New Zealand	Workshop	Physical Meeting Council members will be able to register at the REAAA member rate.	
	22 <sup>nd</sup> YEP Meeting	Christchurch,	Meeting		
September 2022	118 <sup>th</sup> REAAA Governing Council meeting	New Zealand	Council Meeting	Physical Meeting	
	Technical Tour		Tour		
4 <sup>th</sup> quarter 2022	REAAA Webinar Series #4	Zoom/Online	Webinar	Online	
12-14 September 2022	SURF 2022 - 9 <sup>th</sup> Symposium on Pavement Characteristics SURF 2022 - 9 <sup>th</sup> Symposium on Pavement Characteristics Language: English	Lieu : Milan Italy	Conference	Physical	
25-28 October 2022	2 <sup>nd</sup> PIARC International Conference on Road Tunnel Operations and Safety 2 <sup>nd</sup> PIARC International Conference on Road Tunnel Operations and Safety	Granada, Spain	Conference	Physical	

The programme is to be updated according to the decisions taken.

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### **Membership Report**



# REAAA WELCOMES NEW MEMBERS

The membership of REAAA as at 15 September 2021 was 1,249. The REAAA Council and Chapters have approved the following new members for the period between from 01 March to 31 July 2021.

The list of new members approved at 115th REAAA Council Meeting by zoom meeting on 15th September 2021 is as follow:

#### **Institutional Member**

1. Maju Expressway Sdn BhdI.0382 Malaysia

#### **Honorary Membership**

1. Brendan John Marsh	H.0038 Australia
2. Tom Wilmot AM, FIE Aust.	H.0039 Australia
3. Dr. Achmad Hermanto Dardak	H.0040 Indonesia
4. Gandhi Harahap	H.0041 Indonesia
5. Dr. Danis Hidayat Sumadilaga	H.0042 Indonesia
6. Asao Yamakawa	H.0043 Japan
7. Yasumasa Torii	H.0044 Japan
8. Dato' Seri Ir. Dr. Judin Abdul Karim	H.0045 Malaysia
9. Dato' Ir. Dr. Dennis Ganendra	H.0046 Malaysia
10. Dr. Angel L. Lazaro III	H.0047 Philippines
11. Salvador A. Pleyto	H.0048 Philippines
12. Dr. Aram Kornsombut	H.0049 Thailand

#### **Life Members**

1. Prof. Seongkwan Mark LEE	L.0426 Korea
2. Seung-Hwan HAN	L.0427 Korea
3. Min Soo KIM	L.0428 Korea

### **Status Changed from Ordinary to Life**

1. Dr. Asif FaizO.1186 to	L.0429 U	JSA

#### **Ordinary Members**

1. Greg Smith	O.3822 Australia
2. Gs. Muhamad Shafri Bin Abd Samad	O.3823 Malaysia
3. Kamarul @ Idham Bin Hassan	O.3824 Malaysia
4. Mohd Al-Qayyum Bin Yusoff	O.3825 Malaysia
5. Dr. Ng Choy Peng	O.3826 Malaysia
6. Dr. Law Teik Hua	O.3827 Malaysia
7. Ir. Yeap Geok Ngoh	O.3828 Malaysia
8. Assoc. Prof. Ir. Dr. Shahiron Shahidan	O.3829 Malaysia
9. Attasit Sawatparnich	O.3830 Thailand
10. Sorawit Narupiti	O.3831 Thailand
11. Auckpath Sawangsuriya	O.3832 Thailand
12. Bhanitiz Aursudkij	O.3833 Thailand
13. Wasin Rujikietgumjorn	O.3834 Thailand
14. John Jowhell H. Villegas	O.3835 Philippines
15. Neal Lorenzo P. Castillo	O.3836 Philippines

#### Reinstated

1. Mohd Kamarul Azhar Bin Mohd Sibi O.3507 Malaysia





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