



# ACES WEBINAR 2024

23 & 24 MAY 2024

## ENGINEERING INNOVATIONS AND TRENDS



### Mode of Delivery: Zoom Webinar

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**CPD: PDU / STU (M&E) / STU (Structural) to be confirmed**

**Note to all participants: CPD points will be awarded based on the actual duration of the session that they have attended.**

Registration Link & QR Code

[https://us02web.zoom.us/webinar/register/WN\\_RSAmN\\_ViQK6RhhvuBBdUiQ](https://us02web.zoom.us/webinar/register/WN_RSAmN_ViQK6RhhvuBBdUiQ)



Day 1	Day 2	Nett Fee per Person
23 May 2024 (Thu) 9.00 am to 6.00 pm	24 May 2024 (Fri) 9.00 am to 6.00 pm	ACES Member S\$80 RE/RTO/ CIJC Member S\$120 FACE / FIDIC Member S\$120 Others / Non-Member S\$150

### INTRODUCTION

As consultants we face daily challenges of regulatory changes, keeping in pace with technology advancement, continual effort to improve efficiency in our works and ensuring core competency is always maintained as well as continual progression in learning from engineering challenges faced in the industry.

ACES as a representative of practitioners is always looking for ways to keep our members well informed of the industry practices, advancements and changes via these seminars to meet the challenges above.

### OBJECTIVES

Our target audience are Professional Engineers & Practitioners (QPDs QPSs), Engineers and Builders in the industry. The focus of this seminar is to:

1. provide a platform for sharing of innovative experience in line with productivity and digital delivery,
2. share challenges in underground / infrastructure projects and
3. update of regulatory requirements.

## PROGRAM OUTLINES

### DAY 1: 23 May 2024 (Thu)

<b>C&amp;S - 1</b>			<b>CONTENT</b>	<b>SPEAKERS</b>
9.00 am			Welcome Address by ACES President	Er. Chuck Kho (ACES)
9.05 to 9.55 am	50 mins	1.	Insights of Grouting Methodologies for Underground Construction in Singapore	Mr. Tristan Loh (Keller)
9.55 to 10.45 am	50 mins	2.	Singapore Agriport: A Circular Economy Approach To Combat Sea Level Rise	Ar. Leong Tatt Man (TCHS) Er. David Ng (One Smart)
10.45 to 11.00 am			Short break	
11.00 to 11.50 am	50 mins	3.	An Overview of Large Diameter TBM Tunnels in Hong Kong, Australia and Singapore	Mr. Tsang CK (SMEC)
11.50 to 12.40 pm	50 mins	4.	The use of Concrete Prefabricated Prefinished Volumetric Construction (PPVC) for two Residential Towers in Singapore	Dr. Tan Teng Hooi (SUSS)
12.40 to 1.00 pm	20 mins		Q&A	Moderator: Er. Gwee Siong Mong (ACES)
1.00 pm			End of C&S Session 1	

<b>MEP - 1</b>			<b>CONTENT</b>	<b>SPEAKERS</b>
1.35 pm			Welcome Address by ACES Vice President	Er. Alfred Neo (ACES)
1.40 to 2.05 pm	25 mins	5.	Building a Greener Future	Mr. Lee Ang Seng President of Singapore Green Building Council (SGBC)
2.05 to 2.55 pm	50 mins	6.	Cooling Only When Necessary – Harnessing Mixed Mode Ventilation for Energy Saving	Dr. Adrian Chong Assistance Professor Department of the Built Environment, NUS
2.55 to 3.45 pm	50 mins	7.	Sustainable Development Trends in Build Environment – Code, Standards and Use Cases	Mr. Syed Mubarak Chair of Government Affairs at ASHRAE Singapore Chapter. Founder and CEO of Sustainable Future (Asia) Pte Ltd.
3.45 to 4.00 pm			Short break	
4.00 to 4.50 pm	50 mins	8.	Optimizing Chiller Plant Efficiency: Introducing the Smart Chiller Selection Tool (SCST)	Mr. Yong Ping Quen (BSD) Director
4.50 to 5.40 pm	50 mins	9.	The Challenges and Opportunities of Smart Buildings in Singapore	Mr. Jack Wang (Mott Macdonald)
5.40 to 6.00 pm	20 mins		Q&A	Moderator: Er. Ng Han Siong (ACES)
6.00 pm			End of MEP Session 1	

**DAY 2: 24 May 2024 (Fri)**

<b>C&amp;S – 2</b>				<b>CONTENT</b>	<b>SPEAKERS</b>
9.00 to 9.50 am	50 mins	10.		Fibre-Reinforced Concrete (FRC) Development in Singapore	Mr. Gan Cheng Chian (Bekaert)
9.50 to 10.40 am	50 mins	11.		Guidelines for Design And Construction Of Raft And Piled-Raft Foundation	Er. Chow Wei Foo (BCA)
10.40 to 10.55 am				Short break	
10.55 to 11.45 am	50 mins	12.		New and upcoming technologies in tunnel and underground works	Dr. Zhang Yunhuo (LTA)
11.45 to 12.35 pm	50 mins	13.		Recent Developments and Innovative Solutions in Transportation	Mr. Ozturk OZGUR (AECOM)
12.35 to 12.55 pm	20 mins			Q&A	Moderator: Er. Yong Fen Leong (ACES)
1.00 pm				End of C&S Session 2	

<b>MEP - 2</b>				<b>CONTENT</b>	<b>SPEAKERS</b>
2.00 to 2.50 pm	50 mins	14.		Responsibilities and Liabilities of Consulting Engineers and the ACES Standard Conditions of Engagement	Mr. Daryl Larry Sim Rajah & Tann Singapore LLP
2.50 to 3.40 pm	50 mins	15.		Unveiling “AECport” – Where Pride Meets Innovation. Digital platform developed by a group of engineer, architect and data science specialist from Singapore	Er. Ricky Chan Mr. Webb Poh
3.40 to 4.00 pm				Short break	
4.00 to 4.50 pm	50 mins	16.		Sustainability Trends in Malaysia	Dr. Dennis Victor General Manager, Sustainability, Environmental and Process Minconsult Sdn. Bhd.
4.50 to 5.40 pm	50 mins	17.		Tech in Sustainability: Trends and Insights	Mr. Jonathan Tan Managing Director UnaBiz Pte Ltd
5.40 to 6.00 pm	20 mins			Q&A	Moderator: Er. Teo Yann (ACES)
6.00 pm				Closing Remarks by ACES Vice President End of MEP Session 2	Er. Alfred Neo (ACES)

## THE SPEAKERS

### 1. Insights of Grouting Methodologies for Underground Construction in Singapore

#### Synopsis

Ground improvement is often required as a part of the enabling works for underground construction. For tunnelling and deep excavations, grouting works can be implemented to address several geotechnical challenges, including but not limited to the control of ground water ingress due to the presence of fractured rock, filling of limestone cavities and remedial measures for induced sinkholes. The characterization of the geotechnical conditions and the selection of appropriate grouting methodology and parameters are key to the success of the ground improvement works. This talk will provide insights of the techniques' applications in Singapore, covering the process engineering and quality control required. Selected case studies will be used to demonstrate the effectiveness of various grouting methods in mitigating the geotechnical risks associated with underground construction.

#### Speaker: Mr. Tristan Loh (Keller)

Tristan Loh graduated with Bachelor of Engineering (Honors) in Civil Engineering from Nanyang Technological University, Singapore. He has over 20 years of professional experience in Singapore and Southeast Asia, specializing in the execution of a wide range of ground improvement works, including but not limited to micro piling, anchoring and drilling & grouting. He is currently Senior Operations Manager for Keller Foundations in Singapore.



### 2. Singapore Agriport: A Circular Economy Approach To Combat Sea Level Rise

#### Synopsis

Since its independence, Singapore, a small island state, has been addressing existential issues such as energy, food, and water insecurity. Moreover, Singapore is a low-lying country that is becoming increasingly vulnerable to the threats of rising sea levels and flash floods – a consequence of global warming. Although technological solutions do exist to combat these threats, these solutions must address our existential issues in totality and not in isolation. The solutions must aim for optimisation, based on our water, energy, material, manpower and physical constraints, and not to be blindly driven by maximisation without limitation. Worse still, maximisation may even encourage processes that accelerate global warming that will aggravate the global situation. With the current need to protect Singapore from rising sea levels due to climate change, and with the announcement by the Prime Minister, Mr Lee Hsien Loong, of a budget of SGD 100 billion, over 100 Years, to build infrastructure to achieve this objective, it is extremely important for us to answer this call of duty, by trying to determine what is the right solution for Singapore and its current and future generations of people. The presentation aims to share a technically viable planning and engineering design solution that will protect our coastline and create a sustainable source of water, food and energy. The focus of this presentation is on the East Coast Park coastline, as it is the most valuable, yet vulnerable, coastline in Singapore. It is proposed that the planning strategy be implemented from Marina Barrage to Tanah Merah Ferry Terminal, covering a length of 12 km, with an average width of 2.5 km. The total development area is approximately 33 km<sup>2</sup>.

#### Speaker: Ar. Leong Tatt Man (TCHS) and Er. David Ng (One Smart)

**Ar. Leong Tatt Man** is a founding member of The Circle For Human Sustainability (TCHS). TCHS brings together scientists, sociologists, economists and built environment professionals to look at sustainability holistically, and to work towards a balanced economic system that is not reliant on growth and enables ecologically responsible behaviour.

Ar. Leong is also Director of Tierra Design Studio Pte Ltd, a multi-disciplinary design firm that adopts a total design approach where principles of landscape urbanism and ecologically sustainable practice integrate into the architecture design in order to create quality spaces for the urban



environment. Even though Ar. Leong has led numerous planning, architecture and landscape design projects successfully throughout his career, he remains sceptical on whether the real estate industry, under the current economic model, will lead us to a better future, in the long run, especially with the current manifestations of global warming and pollution. Ar. Leong is of the opinion that the design solution can only be as good as the design brief itself. To address this existential issue, he believes that all stakeholders must work together selflessly to increase our chances of survival.

**Er. David Ng** is a Professional Engineer (Civil) and Specialist Professional Engineer (Geotechnical) in Singapore. He has been involved in publication of more than 70 technical papers in the field of geotechnical and environmental engineering. He has more than 20 years of experience in management, planning, design and construction of major infrastructure and transportation projects in Singapore, Malaysia and India. He is co-founder of One Smart Engineering Pte Ltd which has offices and operations in Singapore, Malaysia and India. Some of the major infrastructure projects he has been involved in are Singapore MRT projects in North East Line, Downtown Line, Thomson East Coast line, Singapore Underground Expressway projects Kallang Paya Lebar Expressway and North South Corridor, Malaysia KVMRT projects, LRT projects and India Mumbai Metro Line 3 project. Er David Ng obtained his B.Eng (Hons) in Civil Engineering in 1998 and M.Eng (Geotechnical) in 1999 from National University of Singapore. He obtained his professional qualification as PE (Civil), Singapore in 2009, and Specialist Geotechnical PE (Geo), Singapore in 2010. He is also registered as ASEAN Chartered Professional Engineer in 2016, Qualified Erosion Control Professional (QCEP) in 2014, ABC Water Professional in 2016 and Competent Person (CP) for Façade Inspection in 2016. Er David Ng is IES Council Member and Honorary Treasurer since the year 2020. Er David Ng has also been elected as TUCSS Council Member from 2010 to 2016. He is also serving as the Chairman of IES C&S Technical Committee.

Er David Ng has also been invited to serve as technical committee member by Building and Construction Authority (BCA) on various development of guidelines and technical references for geotechnical design. He is now Adjunct Lecturer for NUS, BCA Academy and IES Academy teaching deep excavation and tunneling design and construction supervision.



### 3. An Overview of Large Diameter TBM Tunnels in Hong Kong, Australia and Singapore

#### Synopsis

Mechanised tunnelling method is increasingly adopted in tunnel projects. With the latest technical development of the TBM, more mega TBM tunnels (with diameter greater than 10m) have been built in worldwide. The presentation will share the experience for the large diameter tunnel projects in Hong Kong, Australia and Singapore.

#### Speaker: Mr. Tsang CK (SMEC)

Mr. Tsang has over 25 years of experience in Civil and Geotechnical engineering for a wide range of projects including highways, metro, ground engineering and slopes. He has vast experience in the design and construction of deep excavations, site formations and tunnelling works. His tunnelling experience includes drill and blast tunnels, cut and cover tunnel, TBM tunnels and Immersed Tube (IMT) tunnels. He involved in several large diameter TBM tunnel projects in Hong Kong, China, Singapore and Australia.





#### 4. The use of Concrete Prefabricated Prefinished Volumetric Construction (PPVC) for Two Residential Towers in Singapore

##### Synopsis

Singapore Building Construction Authority (BCA) has an initiative to promote productivity in the construction industry using Prefabricated Prefinished Volumetric Construction (PPVC) technology. This presentation is on a case study of a pioneering approach in using a reinforced concrete composite shear wall system in PPVC technology for construction of a 56-storey residential project – it is the world’s tallest residential building constructed using modular construction method.

##### Speaker: Dr. Tan Teng Hooi (SUSS)

BEng, MSc, PhD, PEng, CEng, FICE, FIES, FAPIEx, FSPM

Dr. Tan Teng Hooi is a Chartered Engineer and Professional Engineer. Currently, he is an Associate Professor and the Dean of the School of Science and Technology in the Singapore University of Social Sciences (SUSS). In his 40+ years of engineering career, he has worked in the academia where he lectures, conducts research, provides consultancy especially in the field of concrete and structural engineering, and in the industry as a practitioner. He has served on many technical committees on standards for the construction industry. He has also served as an Expert Witness for several court cases on construction disputes and construction failures. He is a Fellow of the Institution of Engineers (Singapore), the Institution of Civil Engineers (UK), the Asia-Pacific Institute of Experts, and the Singapore Society of Project Managers. He was a council member in the Institution of Engineers Singapore and a Board of Member in the Professional Engineers Board Singapore. Dr. Tan is also an independent director of TW Asia.



#### 5. Building a Greener Future

##### Synopsis

This session will explore the latest trends in green buildings and their pivotal role in shaping a greener and more sustainable future. From identifying sustainable materials and services, to reducing carbon emissions of the building sector, green buildings are critical to both the environment and building end-users alike.

##### Speaker: Mr Lee Ang Seng

President of Singapore Green Building Council (SGBC)

Mr. Lee Ang Seng is the President of the Singapore Green Building Council, and Managing Director of Beca’s, or Carter Hollings & Ferner (S.E. Asia) Pte Ltd, business operations in Singapore and Myanmar, and a senior executive for Beca’s operations in the Southeast Asia region.

He has been with Beca since 1993 and provides strategic leadership to a team of 250-strong engineering practitioners across Singapore, Myanmar, and the wider Southeast Asia region. Under his leadership, Beca has secured and delivered significant iconic building projects in Singapore, such as Marina One, DUO, Changi Terminal 4, PARKROYAL COLLECTION Pickering, Republic Polytechnic campus in Woodlands, Universal Studios Singapore & Equarius Hotel at Resorts World Sentosa, just to name a few.

He graduated with a Bachelor of Science (Honors) degree and a Master of Business Administration (M.B.A.) degree (UK). He is a Green Mark Accredited Professional (GMAP) and served on SGBC’s Board of Directors since 2019.



## 6. Cooling Only When Necessary – Harnessing Mixed Mode Ventilation for Energy Saving

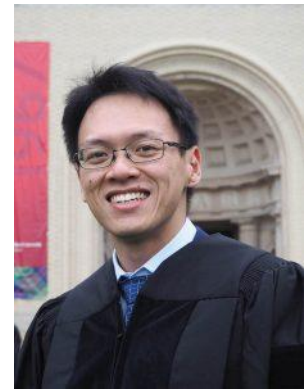
### Synopsis

According to the International Energy Agency (IEA), the operations of buildings account for 30% of global final energy consumption, with the energy demand for space cooling tripling since 1990, making it the fastest-growing end-use in buildings. The increasing demand for space cooling is expected to continue in the future due to higher standards of living. Consequently, mixed-mode ventilation provides an exciting opportunity to significantly reduce energy consumption through the integrated use of air-conditioning (when necessary) and natural ventilation (whenever possible). However, past studies have shown that regions with a hot and humid climate all year round, like Singapore, have little to no potential for natural ventilation, indicating that mixed-mode ventilation is unlikely to work. However, these findings often refer to non-assisted natural ventilation. In this presentation, I will share ongoing work at my research group to achieve effective mixed-mode ventilation in the tropics. Specifically, I will present how we can increase mixed-mode potential in the tropics through systems integration and occupant-centric controls.

### Speaker: Dr. Adrian Chong

Assistance Professor  
Department of the Built Environment, NUS

Dr. Adrian Chong is an Assistant Professor in the [Department of the Built Environment](#) at the [National University of Singapore \(NUS\)](#). His research interest is in building energy modeling and simulation, focusing on model calibration and uncertainty quantification. At NUS, he leads the Integrated Data, Energy Analysis + Simulation (IDEAS) lab, a multidisciplinary group researching the interaction between building performance simulation, measured data, and machine learning. Adrian is also the subject editor (validation, calibration, and uncertainty) for the journal [Building Simulation](#) and an NUS principal investigator at the SinBerBEST program [Theme E – Cyber-Physical Testbed](#).



## 7. Sustainable Development Trends in Build Environment – Code, Standards and Use Cases

### Speaker: Mr Syed Mubarak

Chair of Government Affairs at ASHRAE Singapore Chapter.  
Founder and CEO of Sustainable Future (Asia) Pte Ltd.

Syed is a Sustainability & Technology veteran with over 30 years of proven experience in leading the change within organizations to adopt technologies, innovation, business process improvement, and stakeholder engagement to future proof assets, realizing sustained returns and achieving triple bottom-line goals – People, Planet, and Profit with Purpose. He has held several senior leadership positions in various organizations across Asia to lead a diverse group of teams, oversee operations and deliver multi-million dollar projects. He holds qualifications in Business Sustainability, Financial Management, Electrical & Electronics Engineering disciplines. He is the alumnus of S P Jain Global Institute of Management, CISL, UK, and University of Illinois, USA. He is the recipient of the CSR Award, ASHRAE Technology Award and Community Sustainability Award. He mentors start-ups to build successful business.



## 8. Optimizing Chiller Plant Efficiency: Introducing the Smart Chiller Selection Tool (SCST)

### Synopsis

Energy efficiency in chiller plants is crucial, as they account for 30% to 60% of a building's energy consumption. Traditionally, engineers have designed these systems through considering various combinations of chillers and components in multiple Excel spreadsheets. This process can be tedious and complex, given the potential variations in cooling demand between design and actual operation. To address this challenge, a Smart Chiller Selection Tool (SCST) has been developed. The SCST helps identify the most energy-efficient chiller plant configuration for a specific cooling load profile. It incorporates a wide range of specifications from leading industry suppliers and utilizes search optimization algorithms to find the optimal setup.

Key features of the SCST include the ability to:

- Conduct 'what-if' scenarios for climate change or occupancy reduction impacts
- Check equipment sizing compatibility with plant rooms.
- Perform life cycle cost analysis.

### Speaker: Mr. YONG Ping Quen

Director  
Building System and Diagnostics Pte Ltd (BSD)

**YONG PING QUEN** is a Technical Director & Co-Partner of **Building System and Diagnostics Pte Ltd** and has more than 15 years of experience in the advisory of energy and environmentally efficient green buildings. He is personally involved in more than 400 large developments in Singapore, Malaysia, China, Indonesia, and Vietnam, many of these targeted Energy and Environmentally sustainable awards such as Green Mark, LEED and GBI certifications. Other than new buildings, Ping Quen also specialises in the energy reviews and energy optimisation of existing buildings.



## 9. The Challenges and Opportunities of Smart Buildings in Singapore

### Synopsis

“Jack’s presentation navigates the intriguing realm of Smart Buildings in Singapore. He’ll kick off the discussion by discussing the concept of “Smart Buildings”. The focus will be on key enabling technologies like IT, OT, IoT, and big data that enhance building efficiency, sustainability, and user experience. Following this, he will shed light on the challenges that come with transitioning towards Smart Buildings, including implementation costs, legacy processes, and the need for a skilled workforce to manage these intricate systems. Despite these challenges, the potential benefits are substantial. Collectively, we’ll explore how we can contribute to the transformation of Singapore’s Built Environment sector towards Smart Buildings and deliver tangible value across our value chain.”

### Speaker: Mr. Jack Wang Mott Macdonald

Jack, with extensive experience in ICT, smart buildings, and intelligent systems engineering and advisory, is a passionate advocate for digital solutions. His focus lies in spearheading project delivery and expanding Mott MacDonald’s regional portfolio across technical advisory, asset enhancement, and asset repositioning services. Jack empowers clients by adopting innovative solutions that yield sustainable, long-term business outcomes.

Jack has demonstrated a remarkable track record of delivering projects across a spectrum of complexities and market segments throughout the Asia Pacific region. This includes overseeing large-scale, iconic projects valued at multi-billion dollars, showcasing his ability to navigate diverse challenges and deliver exceptional results.





## 10. Fibre-Reinforced Concrete (FRC) Development in Singapore

### Synopsis

Fibre reinforced concrete (FRC) has been used in Southeast Asia since 1990. With the recent publication of the Singapore Standard SS 674: 2021, the use of fibre reinforced concrete is increasing. This comes at a time when low-carbon concrete solutions are also being actively promoted. FRC are used in sprayed, precast & cast-in-situ concrete. This paper will present the use of FRC in these 3 applications in Singapore. Some design and QA/QC issues will be discussed. And lastly, the way to move further into low-carbon solutions will be explained.

### Speaker: Mr. Gan Cheng Chian Technical Manager at Bekaert in Singapore

Member of the Working Group on SS674-2021 since Jan 2019. Domain Expert for Sprayed Concrete and Fibre Reinforced Concrete under Intelligent National Productivity and Quality Specification Singapore since Mar 2019. 35 years of civil engineering experience. 1998 to present, involved in over 22 sprayed fibre concrete tunnel linings and over 20 fibre concrete precast segmental and cast concrete tunnel lining projects.



## 11. Guidelines for Design And Construction Of Raft And Piled-Raft Foundation

### Synopsis

Raft or piled-raft founded on competent ground can provide cost effective solution for high-rise buildings or infrastructures when properly designed and constructed. Before adopting these foundation systems, proper characterisation of the subsurface geological conditions is of critical importance and has to be thoroughly carried out to ascertain their feasibility.

To supplement the current provisions in codes and guideline relating to raft and piled-raft foundation, BCA is currently working with the industry stakeholders on a guideline for its design and construction. The proposed guideline provides a framework that adopts a risk-based approach in stipulating the requirements for the design and construction of raft and piled-raft foundation. The risk-level differentiated requirements for raft and piled-raft covered in the guideline include : (1) site investigation prior to design (2) analysis and design methods (3) Construction and supervision (4) performance requirements at serviceability stage. This guideline will enable the industry to adopt cost-effective foundation scheme without compromising on safety and robustness of our building foundation. The presentation will cover this guideline which is currently being drafted to enable safe adoption of such foundation systems in Singapore.


### Speaker: Er. Chow Wei Foo (BCA)

Er. Chow is presently a principal engineer in the Foundation Engineering Department in Building and Construction Authority (BCA) of Singapore. He had 16 years of practical geotechnical engineering experience related to design and consultancy, design management and supervision of major deep excavation, deep foundation and tunnelling projects before joining BCA. In his 8 years of work with BCA, he is mainly involved in regulating and ensuring safety of Geotechnical Building Works as well as in reviewing and updating policies and requirements relating to foundation works.

Er. Chow obtained his Bachelor of Civil Engineering and Master of Engineering degrees in Geotechnical Engineering from the National University of Singapore in 1997 and 2000 respectively. He is a registered Professional Engineer in Singapore.



## 12. New and upcoming technologies in tunnel and underground works

<b>Synopsis</b> This presentation introduces a few novel technologies in tunnel and underground construction to improve safety. From better understanding ground conditions to wider range of ground/building monitoring and safer excavation and tunnelling, these innovations are making sites safer.	
<b>Speaker: Dr. Zhang Yunhuo (LTA)</b>  Dr. Zhang Yunhuo currently serves as Deputy Director of Tunnel Engineering & Technology division at the Land Transport Authority. He has over 15 years of experience in geotechnical and tunnel engineering, bringing contributions to various transportation infrastructure projects, including the Thomson Line, North-East Line extension, Thomson Line extension and Cross Island Line Phase 2. His roles have encompassed feasibility studies, engineering design, and construction support and tunnel maintenance & rehabilitation. He is also actively engaged in implementing emerging tunnel engineering technologies and fostering collaboration with academic institutions/industrial partners on R&D initiatives.	

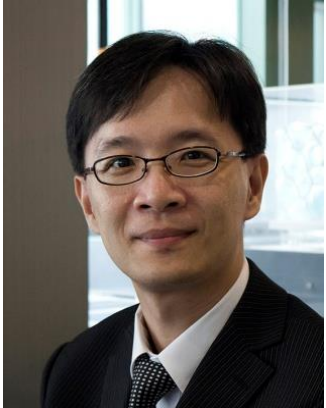
## 13. Recent Developments and Innovative Solutions in Transportation

<b>Synopsis</b> With the advanced technologies and the innovative solutions in recent years, cleaner, more efficient and accessible transportation methods under challenging ground and environmental conditions became feasible and competitive. The presentation will focus on some recent technologies and construction methods of transportation, future developments and recommendations.	
<b>Speaker: Mr. Ozturk OZGUR (AECOM)</b>  Ozturk Ozgur is Executive Director in AECOM, a Registered Professional Engineer in the US, Chartered Engineer, and certified Project Manager with 25 years of experience in Civil Engineering design, project and construction management. He is currently leading transportation businessline in AECOM Singapore. He has been mainly engaged in the design and project management of award-winning multi-billion USD rail & road underground projects, developing innovative and cost-effective solutions for underground civil structures and tunnels. His experience includes caverns, Cut-and-Cover stations, TBM tunnels, immersed tunnels, mined tunnels, temporary and permanent marine structures, trackwork and multi-discipline technical coordination. He also has experience in international contract models such as FIDIC.  He has been involved internationally in Hong Kong, China, Japan, Turkey, Singapore and with shorter assignments in USA, Europe, Middle East, Vietnam, and Bangladesh.	

## 14. Responsibilities and Liabilities of Consulting Engineers and the ACES Standard Conditions of Engagement

<b>Synopsis</b> This Webinar will explore the responsibilities of consulting engineers and the risks and liabilities that they may encounter under contract, in tort and under statute. In doing so, it will provide various tools that may be employed to reduce or mitigate these risks and liabilities. The Webinar will also introduce the ACES Standard Conditions of Engagement and run through some of its key provisions.	
<b>Speaker: Mr. Daryl Larry Sim</b> <b>Rajah &amp; Tann Singapore LLP</b>  Daryl is a partner at Rajah & Tann Singapore LLP in the International Arbitration Construction & Projects practice group. Daryl specialises in construction law and his practice covers both front-end (advisory, drafting and negotiating) and back-end (dispute resolution) work. Daryl has acted in and advised on a wide variety of domestic and international construction, engineering and infrastructure projects. Daryl has also acted for clients in international arbitrations in the SIAC, ICC and LCIA, and in mediations and statutory adjudications (in both Singapore and overseas jurisdictions).  Previously, Daryl was part of the Integrated Regulatory Practice group, where he advised government bodies and multi-national corporations on regulatory issues in the Southeast Asia region.  Daryl is admitted as a lawyer in Australia and Singapore and holds a degree in Behavioural Neuroscience.	

## 15. Unveiling “AECport” – Where Pride Meets Innovation. Digital platform developed by a group of engineer, architect and data science specialist from Singapore

<b>Synopsis</b> Our Journey of Development of “AECport” - From Concept to Execution. This is not just another tool: it's the dawn of a new era in the Architectural, Engineering, Construction (AEC) Industry. With AECport, experience the seamless journey from concept to execution. Discover an innovative platform that not only transforms how Build Environment stakeholders can work together for projects but also connecting people, opportunity, encouraging the digital innovation, knowledge sharing, redefines AEC and Build Environment.	
<b>Speaker: Er. Ricky Chan</b> Founder, Director, ANR Design Engineer Pte Ltd Co-Founder, AECC Basestation Pte Ltd  A Professional Electrical Engineer, Council Member of ACES, Co-Chair of ACES Digital Delivery Committee. Council Member, Chairman of IES M&E Technical Committee from 2019~2021, with over 27 years of engineering experience. Prior to the establish his own firm ANR in 2017, he had been serving the consulting engineering firms leading the regional engineering design team and project delivery. The projects include Singapore MRT Circle Lines, Downtown Lines, Cruise Terminal, Vietnam and Jakarta Metro Stations and Depot, Modernization of Brunei Airport Terminal.  In 2017, Ricky established ANR Design Engineer Pte Ltd with founding principles of providing modern professional engineering design services by leveraging on technology and new way of collaboration with our AEC (Architectural, Engineering, Construction) talents for achieving a more fulfilling career. At technology front, Ricky and his team have been awarded with government grant for design automation initiatives.  At new way of working and service delivery, Ricky and his team from AECC	

Basestation developed a new and evolving ECO system called AECport.com, it offers a gateway, support, opportunity, freedom for people come together to collaborate, offer people own services and solutions, search for service solution, to achieve a valuable and rewardable working/business experience.

**Speaker: Mr. Webb Poh**

Founder, BIMLife Pte Ltd

Co-Founder, AECC Basestation Pte Ltd

IT and architectural design combined specialist, serial entrepreneur, more than 16 years of experience in the built environment field. Experienced Specialist with a demonstrated history of working in the architecture & planning industry. Skilled in Virtual Design & Construction (VDC), Building Information Modeling (BIM), Intrapreneurship, Mixed-use, and Construction IT Management.

Professional with a Bachelor of Building and Project Management focused in Building and Project Management from Singapore University of Social Sciences.

In 2017, Webb Poh founded BIMLife in Singapore, dedicated to providing one-stop BIM solutions for the Built industry. More than decade of intensive work in the industry have allowed him to accumulate rich resources, well versed in the pain points of the industry, and constantly to provide better and innovative solutions. In 2022, Webb Poh together with Cofounder Ricky Chan established AECC BASESTATION PTE LTD focusing on new way of working and service delivery model for build environment industry. Webb with his Cofounder and the team developed a new and evolving Eco system called AECport.com, it offers a venue, support, opportunity, freedom for people come together to collaborate, offer people own services and solutions, find service solution, to gain a valuable and rewardable working /business experience.



## 16. Sustainability Trends in Malaysia

**Speaker: Dr Dennis Victor**

General Manager, Sustainability, Environmental & Process

Minconsult Sdn. Bhd

Dr. Dennis is currently the General Manager of Minconsult Sdn. Bhd. He has 27 years of experiences and able to lead a team of consultants in providing strategic guidance to clients in assessing & developing sustainability, environmental & process solutions; lead in the development and implementation of sustainability & environmental strategies for clients and providing expert advice on sustainable practices, environmental management, and process risk assessment. He builds and maintain strong relationships with clients, understanding their unique needs and challenges; manage the team and provide guidance, mentorship, and support to foster a collaborative and innovative work environment, encouraging professional growth and development. He establishes and nurtures strategic partnerships with relevant organizations, industry experts, and stakeholders to enhance consulting services; provide 'Thought Leadership' on emerging trends, regulations, and best practices in sustainability and environmental consulting.

## 17. Tech in Sustainability: Trends and Insights

### Synopsis

Explore the digital transformation of green buildings and how technology contributes to sustainability goals by optimising manpower and resources while enhancing maintenance efficiency and user experience. Discover present and future trends and gain insights from early adopters to understand valuable lessons learnt.

### Speaker: Mr. Jonathan Tan

Managing Director, UnaBiz Pte Ltd

Jonathan oversees UnaBiz's business relationships with ecosystem partners, clients and resellers in Singapore. UnaBiz is Asia's first dedicated IoT network. We are the exclusive network operator of the Sigfox network in Singapore and Taiwan. Licensed by IMDA as a Facility-Based Operator (FBO) in Singapore, UnaBiz owns and deploys nationwide carrier grade network infrastructure in Singapore and Taiwan to enable physical devices to connect to the cloud. This public network is launched, enabling qualified channels and customers equal access to the IoT network to promote a vibrant and competitive marketplace.

Formerly head of sales for Singtel's Global Fixed Satellite Business, Jonathan has 24 years of ICT broadbased experience in IoT, telecom, satellite, smart city solutions and infrastructure. Jonathan holds a Degree with Honours in Computer Engineering from the Nanyang Technological University in Singapore.

Prior to this, Jonathan was part of the pioneer team of EdgeMatrix, Singapore internet and mobile solutions between 1997-2002. Jonathan is currently an EXCO member of SGTech's Smart Nation Chapter and a member of IMDA IT Standards committee.

