Dear CIJC Secretariats (SIA/SCAL/SISV/SPM/SIBL/REDAS) (in bcc),

We would greatly appreciate if you could assist to conduct a blast to your members for IES' upcoming IPAG Seminar. Please find details and the EDM below for reference.

Please feel free to let us know should you require any clarification.

Your support is much appreciated.

IPAG Seminar

Event:	IPAG Seminar 2025 – "Transforming Major Infrastructure (Network) Alignment Planning Processes through Digitalisation and Technology"
CPD:	STUs (Structural) / PDUs (PEs & CEngs) / *CPD Units (SISV) – to be confirmed*
Date:	Friday, 28 November 2025
Time:	9:00 AM – 5:30 PM
Venue:	One Farrer Hotel 1 Farrer Park Station Road, Singapore 217562
Pricing:	• IES Members: $185 • CIJC Members: $200 • Non-Members: $250 (*All fees exclude 9% GST*)

Thanks a million!

Best regards,

Radin Atiqah (Ms)

Senior Executive, Technical Committee

The Institution of Engineers, Singapore (IES), 70 Bukit Tinggi Road, Singapore 289758

DID: +65 6461 1222 | Main Line: +65 6469 5000 | Website: www.ies.org.sg

Organised By: Civil and Structural Technical Commitee
Transportation & Traffic Division

URBAN REDEVELOPMENT AUTHORITY

IES - URA Seminar on Transforming Major Infrastructure (Network) Alignment Planning Processes through Digitalisation and Technology

Synopsis:

Building on the proven success of the enhanced Major Infrastructure (Network) Workflow over the past three years, the upcoming seminar will advance Singapore's infrastructure development by leveraging digitalisation and technology to explore emerging technological paradigms. The seminar brings together government agencies, industry leaders, and technology adopters to exchange knowledge on transformative developments in major infrastructure (network) alignment planning, implementation, and optimisation.

The seminar will include sharing of real project case studies using advanced non-invasive site investigation methodologies (i.e., MCGPR, active/passive EML and topographical surveys) with the GIS overlays to enhance site investigation accuracy while optimising trial trenches to save project costs and time. It will also cover technologies for trial trench surveys such as photogrammetry to enhance accuracy through reduction in human error, coupled with shorter timelines for surveys, thus improving efficiencies for projects. This builds upon the collaborative framework established through the enhanced Major Infrastructure (Network) Workflow to develop enhanced site investigation methodologies with the adoption of the latest technology and digitalised outputs.

In addition to technologies, the seminar will also feature the operational rollout of the first G2B Digital Planning utilities mapping platform for Lead Implementing Agency (LA): Infrastructure Network Planning and Alignment Clearance (INPAC) System. The sessions will demonstrate potential improvements in efficiencies, saving project time and costs whilst enhancing data insights and reducing manual consultations for major infrastructure (network) projects.

Our Speakers



Mr Ong Zhengjie
Senior Engineer
IPAG, URA



Mr Amos Goh
Executive Engineer
IPAG, URA



Mr Lim Wee Beng
Principal Manager
IPAG, URA



Ir. Dr. Lai Wai-lok, Wallace
Associate Professor,
Hong Kong Poly University



Mr Tan Yun Zhou
Senior Sales Engineer,
Leica Geosystems



Mr Kenneth Pan
Founder/Director,
EASEPACT



Mr Raymond Kiew
Senior Manager,
Geomatics and Survey Division
LTA



Mr Nithish Vattathoor
Director & Lead Geophysicist
Geophysical Surveys & Consulting



Mr Thomas Radoicovich
Senior Geotechnical Engineer
Jacobs



Mr Shane Shi
Managing Director
HSC Pipeline Engineering



Mr Chong Hua Zhen
Associate, Civil
AECOM Singapore



Mr Muhd Hafiz Ishak Magnus
Head of Underground Utility Data in Strategy & Innovation
SLA

28th November 2025, Friday

9am - 530pm

One Farrer Hotel,
1 Farrer Park Station Road
Singapore 217562

8 STUs (Structural)
7 PDUS (PEs and CEngs)
xx CPD (SISV)
(to be approved and confirmed)

IES Members: $185
CIJC Members: $200
Non-Members: $250
(fees excluding 9% gst)

REGISTER NOW

+65 6461 1222
tc@iesnet.org.sg

EVENT PROGRAMME

0830hrs:
Registration

0900hrs:
Welcome Address by IES President, Er. Chan Ewe Jin

0905hrs:
Opening Address by URA DCEO, Mr Richard Hoo Eng Jek

Morning	Afternoon
0910hrs: **Topic 1:** Overview and Recap of Major Infra (Network) Workflow, and Sharing of WOG Safeguarding and Optimisation Measures *Mr Ong Zhengjie*	**1350hrs:** **Topic 5:** PUB's Project Sharing of Enhanced SI Approaches and Outcomes by Industry Practitioners *Mr Shane Shi, Mr Thomas Radoicovich & Mr Chong Hua Zhen*
0930hrs: **Topic 2:** Enhanced Site Investigation Requirements and Sharing of Outcomes *Mr Lim Wee Beng*	**1440hrs:** **Topic 6:** A Sharing of the Intergrated Approach of Non-Invasive and Geophysical Utility Surveys in Hong Kong *Ir. Dr. Lai Wai-lok, Wallace*
0950hrs: **Topic 3:** LTA's Project Sharing of Enhanced SI Approaches and Outcome by Lead Implementing Agency and Industry Practitioners *Mr Raymond Khiew & Mr Nitish Vattathoor*	**1520hrs:** **Topic 7:** Towards Improving Data Quality and Governance Workflows for Utility Surveys in Singapore *Mr Muhd Hafiz Ishak Magnus*
1030hrs: Tea Break	**1550hrs:** Tea Break
1100hrs: **Topic 4:** Clouded by Point Cloud: Dehazing Reality Capture with PIX4D *Mr Kenneth Pan*	**1620hrs:** **Topic 8:** Briefing on Infrastructure Network Planning and Alignment Clearance (INPAC) Portal's G2B Updates and Development Road Map *Mr Amos Goh*
1130hrs: Uncovering the Underground: Multichannel GPR for Infrastructure Insight *Mr Tan Yun Zhou*	**1650hrs:** Panel Discussion + Group Photo
1210hrs: Panel Discussion + Group Photo	**1720hrs:** Closing Remarks by URA (IPAG) GD, Mr Vijay Das
1250hrs: Lunch	

1730hrs:
End Of Event

IPAG SEMINAR - SPEAKER PROFILES



Ong Zhengjie
Senior Engineer
IPAG, URA

Topic: Overview and Recap of Major Infra (Network) Workflow and Sharing of Optimisation Measures

Zhengjie is an Senior Engineer at the Infrastructure Planning Authority Group (IPAG) in the Urban Redevelopment Authority of Singapore. He has over a decade of experience in infrastructure planning and has been involved in operations and enforcement of several water related infrastructure in Singapore. At IPAG, Zhengjie is currently leading a team of engineers which focus on project works, policy and process reviews and lead the framework development for lead implementing agencies appointment for the Major Infrastructure (Network) Workflow.



Amos Goh
Executive Engineer
IPAG, URA

Topic: Briefing on Infrastructure Network Planning and Alignment Clearance (INPAC) Portal's G2B Updates and Development Road Map

Amos is an Executive Engineer at the Infrastructure Planning Authority Group (IPAG) in the Urban Redevelopment Authority of Singapore, specialising in applications of geospatial data in the utilities domain, as part of the product owner team for the INPAC system. In this capacity, Amos work closely with industry to conceptualise and develop geospatial tools to enhance the user service journey throughout the Major Infrastructure (Network) Workflow consultations on INPAC. Amos also supports the Singapore utilities industry through his work in developing GIS submission standards and templates.



Kenneth Pan
Founder/Director
EASEPACT

Topic: Clouded by Point Cloud: Dehazing Reality Capture with PIX4D

Kenneth Pan is the founder of EASEPECT, a Singapore-based technology company specializing in geospatial, photogrammetry, and drone solutions. As the official agent and certified training partner of PIX4D, he works closely with end-users, engineering firms, and government agencies to implement reality capture workflows and digital twin development. Kenneth's experience bridges field operations and data processing, enabling accurate, safe, and efficient mapping. He focuses on integrating drone, GNSS, and photogrammetry technologies to enhance accuracy, safety, and productivity. Kenneth actively promotes the adoption of reality capture technologies to drive digital transformation across Singapore's built environment.

IPAG SEMINAR - SPEAKER PROFILES



Tan Yun Zhou
Senior Sales Engineer
Leica Geosystems

Topic: Uncovering the Underground : Multichannel GPR for Infrastructure Insight

Tan Yun Zhou currently holds the position of Senior Sales Engineer in Leica Geosystems Singapore, he tailors Leica based solutions to guide customers through technical challenges in geospatial and underground detection workflow. With a master's degree in Geophysics from Imperial College London, Yun Zhou began his career in Singapore working across various geoscience and geospatial projects, from ground penetrating radar and seismic analysis for underground investigation to laser scanning and reality capture for 3D projects. Today, his focus is on driving adoption of subsurface detection with integrated geospatial workflows that help organisations reduce risk, improve planning accuracy and unlock the full value of their spatial data.



Lim Wee Beng
Principal Manager
IPAG, URA

Topic: Briefing on Enhanced Site Investigation Requirements and Sharing of Outcomes

Wee Beng leads the technology & innovation efforts in the Infrastructure Planning Authority Group in URA and is also the INPAC product owner team lead which operationalises the Major Infrastructure (Network) Workflow to optimise underground space for utilities and promote implementations that minimise disamenities to road users. In this role, Wee Beng also actively works with industry and agencies to promote the use of non-invasive site investigation techniques towards accurate mapping of subsurface utilities in Singapore.



Muhd Hafiz Ishak Magnus
Head of Underground Utility Data in Strategy & Innovation
SLA

Topic: Towards Improving Data Quality and Governance Workflows for Utility Surveys in Singapore

Hafiz Magnus is the Head (Underground Utility Data) at the Singapore Land Authority (SLA). He holds a Master's degree in Climate Change from The Australian National University and a Bachelor's degree in Biological Sciences from the National University of Singapore. With over a decade of experience in the geospatial sector, Hafiz has played key roles in multiple initiatives across public and private organisations. These include managing the upgrade of PUB's Enterprise Geospatial Operational Planning system, developing an AI-driven plantation health index, and enhancing NParks' geospatial data and analytics platforms.

IPAG SEMINAR - SPEAKER PROFILES



Raymond Kiew
Senior Manager,
Geomatics and Survey Division
LTA

Topic: LTA's Project Sharing of Enhanced SI Approaches and Outcome by Lead Implementing Agency and Industry Practitioners

Raymond Khiew is a Senior Manager in the Geomatics and Survey Division (GSV) at the Land Transport Authority, where he works with a team of survey specialists supporting cadastral, engineering and infrastructure works. With over 15 years' experience in land and engineering surveying, Raymond has recently focused on underground utilities identification and mapping. He applies both conventional and advanced survey techniques to ensure accuracy and reliability in support of Singapore's infrastructure development. He plays an active role in major underground utility mapping initiatives, helping to improve data quality and support informed decision-making for land transport projects.



Nithish Vattathoor
Director & Lead Geophysicist
Geophysical Surveys & Consulting Pte.Ltd. (GS&C)

Topic: LTA's Project Sharing of Enhanced SI Approaches and Outcome by Lead Implementing Agency and Industry Practitioners

Nithish Vattathoor is a seasoned geophysicist with over 12 years of international experience in subsurface investigation and non-destructive testing, including extensive work in Singapore, UAE, India, and Zambia. He currently serves as the Director and Lead Geophysicist at Geophysical Surveys & Consulting Pte. Ltd., a specialist firm providing advanced subsurface mapping solutions. Nithish is recognized for his deep technical expertise in Multi-Channel Ground Penetrating Radar (MCGPR) technology and its application in utility mapping and sinkhole detection. His team is the first to officially use MCGPR scanning as part of the IPAG (Infrastructure Planning Authority Group) workflow under an LTA contract in Singapore—marking a major milestone in the integration of advanced geophysical methods into national infrastructure planning. Nithish holds a Master's degree in Geophysics and a Bachelor's degree in Geology. He began his career in mineral exploration in Zambia before transitioning to engineering geophysics. He is passionate about applying cutting-edge geophysical methods to improve infrastructure safety and sustainability.

IPAG SEMINAR - SPEAKER PROFILES



Shane Shi
Managing Director
HSC Pipeline Engineering Pte Ltd

Topic: PUB's Project Sharing of Enhanced SI Approaches and Outcome by Industry Practitioners

Mr. Shane Shi, Managing Director of HSC Pipeline Engineering Pte Ltd, leads a local medium-sized enterprise with over 30 years of expertise in underground utility projects. He has been instrumental in driving HSC's digital transformation across various departments within the company. One of Shane's key initiatives is the implementation of Subsurface Utilities Mapping (SUM), which leverages technologies such as Multi-Channel Ground Penetrating Radar (MCGPR), LiDAR, and photogrammetry. By adopting these technologies, Shane's team has been able to significantly enhance project productivity, reduce risks associated with underground construction, and provide more accurate and reliable data to clients. This not only improves the quality of HSC's services but also strengthens the company's reputation as a leader in delivering value-added solutions in the construction industry. Shane's leadership exemplifies a commitment to embracing digital innovation, ensuring that HSC remains at the forefront of technological advancements in underground utility management.



Chong Hua Zhen
Associate, Civil
AECOM Singapore

Topic: PUB's Project Sharing of Enhanced SI Approaches and Outcome by Industry Practitioners

Chong Hua Zhen, Associate, Civil, Engineer at AECOM, brings over a decade of experience specializing in underground infrastructure projects. His expertise spans planning, design, project management, and construction supervision for public sector clients in Singapore. He has contributed to major projects such as the New Lim Chu Kang Road Service Diversion, Deep Tunnel Sewerage System Phase 2 and the Estate Upgrading Program. With a Master's in Civil and Environmental Engineering from Imperial College London, Hua Zhen is passionate about delivering innovative and sustainable engineering solutions that enhance urban infrastructure and improve community resilience.

IPAG SEMINAR - SPEAKER PROFILES



Thomas Radoicovich
Senior Geotechnical Engineer / Project Manager,
Jacobs International Consultants Pte Ltd

Topic: PUB's Project Sharing of Enhanced SI Approaches and Outcome by Industry Practitioners

Tom is a Geotechnical Engineer and Project Manager with more than 17 years of professional experience with Jacobs, the past 12 of which have been based in Singapore working on major linear infrastructure and plant projects. Tom's involvement in various projects has spanned from conceptual and preliminary planning and design, through to the construction phase as a detailed designer and as a member of the authority's engineer team. Tom is currently managing the Improvement to Bukit Timah Canal (Maple Avenue to Queen's Road) project which Jacobs is undertaking for PUB, including implementation of URA IPAG's Major Infrastructure (Network) Approval Workflow.



Ir. Dr. Lai Wai-lok, Wallace
Associate Professor
Hong Kong Poly University

Topic: A Sharing of the Integrated Approach of Non-Invasive and Geophysical Utility Survey and GIS in Hong Kong

Wallace is Professor and Associate Head (Teaching) in the Department of Land Surveying and Geo-Informatics at The Hong Kong Polytechnic University. His research focuses on non-destructive and near-surface geophysical imaging for underground utilities and concrete infrastructure, developing technologies such as ground penetrating radar, infrared thermography, and laser scanning. From 2019–2021, he led a team to publish six standardized utility survey specifications and established an accreditation scheme for service providers. He also designed and oversaw the construction of a 2,500 sq.m Q-Leak Centre and Pipeline Robot Joint Lab for the Water Supplies Department of HKSARG to support training and R&D.