Dear Valued Industry Partner,

The Infrastructure Planning Authority Group (IPAG) of the Urban Redevelopment Authority (URA), together with the Institution of Engineers, Singapore (IES), is pleased to invite you to the **IES-URA Seminar on "Intelligent Underground: Harnessing Data, Technology, and Collaboration for Smarter Infrastructure"**.

Synopsis

Singapore's underground infrastructure is growing in complexity, with major network projects spanning roads, water, sewerage, drainage, electricity, gas and telecommunications increasingly competing for limited subsurface space. This seminar brings together government agencies, technology providers and industry practitioners to explore how data, digital platforms and artificial intelligence are transforming the planning, detection, design and governance of underground infrastructure. Speakers from URA, SLA, LTA, Leica Geosystems, HSC Pipeline Engineering and AECOM will share the latest developments, tools and practices shaping the future of underground infrastructure in Singapore.

A central theme of the programme is how better data can drive better decisions. While current design processes often rely on fragmented sources and manual work, richer and more accurate geospatial data enables integrated 3D visualisation and more informed design. Presentations will cover updates to the Infrastructure Network Planning and Alignment Clearance (INPAC) system and SLA's Utility Survey Submission Portal (USSP), alongside field technologies such as multi-channel ground penetrating radar and electromagnetic locating to improve site investigation productivity and data reliability.

The seminar reflects a shared commitment between the public and private sectors to improve underground infrastructure planning and delivery in Singapore through policy, digital platforms, field practices and AI-powered design tools.

Participants will gain exposure to:

- Infrastructure network planning and key industry learnings
- Space optimisation for major infrastructure projects
- Enhanced site investigation techniques to improve productivity and data reliability
- Updates on underground utility data sharing and digital platforms such as INPAC and USSP
- AI-powered underground mapping and digital tools for infrastructure planning
- Industry practices and collaboration towards smarter underground infrastructure delivery

Seminar Details

Date: Friday, 20th November 2026
Time: 9.00 am to 5.00 pm, (lunch and tea breaks included)
Venue: voco Orchard Singapore by IHG
CPD: PDU PEB/CEng and STU C&S (Structural), pending confirmation and approval

Registration link: https://portal.ies.org.sg/programmes/6758de14-86e2-48b8-9cda-e5a29f7b2489

The target audience for this seminar comprises government agencies, service providers, industry practitioners, and utility surveyors from various utilities and infrastructure disciplines (i.e., sewer, water, drains, electrical, gas, telecommunications). Given your company's experience and expertise in the field of utilities and infrastructure engineering, we would like to invite your company to register and attend the seminar.

We believe that this seminar will provide valuable insights for industry professionals working with major infrastructure projects. We look forward to your strong support for this seminar event. Should you have any enquiries, please do not hesitate to contact Abraham (Abraham_tan@ura.gov.sg) or Hengki (Hengki_siah@ura.gov.sg).

Regards,

Abraham Tan

Engineer
Infrastructure Planning Authority

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IES Civil and Structural Engineering
Technical Committee
Traffic & Transport Division

IES-URA Seminar on "Intelligent Underground: *Harnessing Data, Technology, and Collaboration for Smarter Infrastructure"*

20 November 2026 | 9am - 5pm | voco Orchard Singapore by IHG

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Register Here

PRICING:
IES Members: $185
CIJC Members: $220
Non-Members: $250
**all prices are subject to 9% GST.*

CPD:
PDU PEB/CEng - To be confirmed
STU C&S (Structural) - To be confirmed
2 CPD Units (Cat A2) SISV LS - Confirmed
SISV QS/VGP - To be confirmed
BOA SIA - To be confirmed

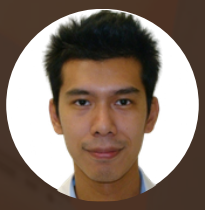
SPEAKERS



Mr Tan Han Siang
Senior Engineer
IPAG, URA



Mr Chris Ding
Senior Engineer
IPAG, URA



Mr Khong Wai Nang
Senior Manager, Rail Design
Development Division (RDD)
Land Transport Authority (LTA)



Mr Daryl Lim
Country Manager
Leica Geosystems Pte Ltd



Mr Raymond Ong
Assistant Manager
HSC Pipeline Engineering



Mr Jas Pang
Senior Geomatics Engineer,
Geospatial & Survey Division
Singapore Land Authority (SLA)



Ms Cheong Kiet Lay
Senior Engineer
IPAG, URA



Ms Argoon Chuang
Executive Director
Digital Consulting Lead, Asia
AECOM



Mr Raymond Chiu
Associate
AECOM

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Programme

0830hrs:
Registration

0900hrs:
Welcome Address by IES
TBC by IES

0905hrs:
Opening Address by Mr Yam Yujian
Chief Infrastructure Planning Officer (CIPO)
Ministry of National Development (MND)

Morning	Afternoon
0910hrs: **Topic 1:** Overview of Major Infra (Network) Workflow and Key Learnings *Mr Tan Han Siang, IPAG, URA*	**1330hrs:** **Topic 6:** Mapping What Lies Beneath: AI-Powered Underground Intelligence for Smarter Urban Infrastructure (Powered by IDS AiMaps) *Daryl Lim, Leica Geosystems Pte Ltd*
0950hrs: **Topic 2:** Sharing on Space Optimisation for the Cross Island Line Phase 3 IPA Pilot Trial at Jalan Buroh *Mr Khong Wai Nang, LTA*	**1410hrs:** **Topic 7:** Briefing on Infrastructure Network Planning and Alignment Clearance (INPAC) digital platform updates and upcoming features *Mr Chris Ding, IPAG, URA*
1010hrs: **Topic 3:** Enhanced Site Investigation as a Productivity Lever: Doing More Site Investigation in Less Site Time for the New Network Circuits to Energise Pasir Ris Wafer Park 230kV Substation Project *Mr Raymond Ong, HSC Pipeline Engineering*	**1450hrs:** Tea Break
1040hrs: Tea Break	**1520hrs:** **Topic 8:** From Innovation to Delivery: AI-Enabled Digital Tools for Underground Infrastructure (Network) Planning *Ms Argoon Chuang, AECOM & Mr Raymond Chiu, AECOM*
1110hrs: **Topic 4:** Data Sharing, Data Inaccuracy, and Enhanced Site Investigation Progress Update *Ms Cheong Kiet Lay, IPAG, URA*	
1140hrs: **Topic 5:** USSP: From Submission to Trusted Underground Information, *Mr Jas Pang, SLA*	**1600hrs:** Panel Discussion + Group Photo
1210hrs: Panel Discussion + Group Photo	**1640hrs:** Closing Speech *Mr Vijay Das, IPAG, URA*
1250hrs: Lunch	

1700hrs:
End Of Event

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Speakers Profile



Mr Tan Han Siang
Senior Engineer
IPAG, URA

Han Siang is a senior engineer with the Infrastructure Planning Authority Group (IPAG) at the Urban Redevelopment Authority of Singapore. He brings over 12 years of experience in infrastructure, utilities design, planning and project management with a focus on underground infrastructure works. In his current role, he focuses on project works, technical support, and close collaboration with agencies on policy and space optimisation solution such as USD works.



Mr Chris Ding
Senior Engineer
IPAG, URA

Chris has over 10 years of experience in the planning and implementation of utility infrastructure projects. At URA, he leads the in-house development of the Infrastructure Network Planning and Alignment Clearance (INPAC) system, a digital platform supporting infrastructure and utility planning and coordination.

Chris works closely with government agencies, utility providers and project teams to understand operational needs, translate user requirements into system solutions, and progressively develop digital workflows and capabilities. Through continuous user engagement, testing and iterative development, he has helped shape INPAC from business requirements into a practical digital platform that supports LA projects in infrastructure planning, coordination and decision-making.



Mr Khong Wai Nang
Senior Manager, Rail Design
Development Division (RDD)
Land Transport Authority (LTA)

Wai Nang is a Senior Manager in the Rail Design Development Division (RDD) at Land Transport Authority where he worked with various divisions in LTA and consultants to develop the concept and preliminary design of Cross Island Line Phase 1 and the recently gazetted Cross Island Line Phase 3. He plays an active role to ensure that designs of rail infrastructure are optimised for constructability, cost-effectiveness, and long-term operational efficiency.



Mr Daryl Lim
Country Manager
Leica Geosystems Pte Ltd

Daryl Lim is the Country Manager for Leica Geosystems Singapore and Malaysia, responsible for driving business growth, strategic partnerships, and market development across the region. Having spent more than nine years with Leica Geosystems, Daryl has played a key role in expanding the adoption of geospatial, reality capture, monitoring, and subsurface detection technologies across industries including surveying, construction, utilities, transportation, and infrastructure. With extensive experience in business development and customer engagement, he works closely with government agencies, consultants, contractors, and industry partners to promote digital transformation and help organizations leverage innovative geospatial solutions to improve productivity, safety, and decision-making.



Mr Raymond Ong
Assistant Manager
HSC Pipeline Engineering

Raymond Ong is Assistant Manager of the Utility Mapping Department at HSC Pipeline Engineering Pte Ltd, where he leads the company's electromagnetic locating (EML) and multi-channel ground penetrating radar (MCGPR) teams. He is a Licensed Cable Detection Worker (LCDW) and Telecommunication Cable Detection Worker (TCDW), and his work spans field detection, data analysis, client and authority coordination, and the preparation of GeoCUP deliverables to URA IPAG specifications.

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Speakers Profile



Mr Jas Pang
Senior Geomatics Engineer,
Geospatial & Survey Division
Singapore Land Authority (SLA)

Jas Pang is part of the Underground Transformation team at the Singapore Land Authority (SLA), contributing to initiatives that strengthen the management of underground information.

His work focuses on the development and implementation of the Utility Survey Submission Portal (USSP), to establish a trusted and standardised gateway for the submission, validation and verification of underground utility data, strengthening data quality and ensuring reliable information is captured for downstream use.

Jas works closely with government agencies, utility owners and industry stakeholders to strengthen the quality, governance and use of underground information. His work contributes to the wider Infrastructure Asset Register (IAR) initiative, which seeks to establish a trusted national source of underground utility information to enable better-informed planning, safer and more coordinated infrastructure works, and more efficient delivery of essential services — ultimately supporting a safer, more resilient and better-connected Singapore.



Ms Cheong Kiet Lay
Senior Engineer
IPAG, URA

Kiet Lay is a Senior Engineer with the Infrastructure Planning Authority Group (IPAG) at the Urban Redevelopment Authority of Singapore. She brings over 10 years of experience in utilities planning and infrastructure project management, with a focus on implementing sewerage projects. In her current role, Kiet Lay works on space optimisation and collaborates closely with industry partners and agencies to promote the use of non-invasive site investigation techniques.



Ms Argoon Chuang
Executive Director
Digital Consulting Lead, Asia
AECOM

Argoon is the Digital Consulting Lead for AECOM Asia, based in Singapore, with over 20 years of experience in the digital and engineering sectors across multiple Asian countries. She leads the region's digital consulting strategy, driving technology adoption and developing innovative digital solutions that enhance productivity and deliver value for clients.

With a background in Civil Engineering, Argoon has served as a BIM Manager and GIS Software Developer on major infrastructure and building projects, leading information management and multidisciplinary collaboration. Since 2025, she has led AECOM's Underground Infrastructure AI Innovation Centre, supported by EDB, driving the development of AI-powered solutions that advance underground utility data management and design optimisation for urban infrastructure planning.



Mr Raymond Chiu
Associate
AECOM

Raymond Chiu is a Civil and Structural Engineer with 13 years of extensive experience delivering complex projects across the public and private sectors in Hong Kong and Singapore. His technical expertise spans residential, commercial, and institutional developments, with a specialized focus on environmental infrastructure, including water supply and sewerage conveyance as well as treatment facilities.

Throughout his career, Raymond has demonstrated advanced capability in the civil and structural design of deep basements, liquid-retaining structures and high-rise buildings. Complementing his structural background, he possesses comprehensive experience in civil utility planning, design, and multi-agency stakeholder coordination. Currently he has engaged in a sewerage conveyance project, in which he assists in planning the proposed services and delivering the IPAG scope in close collaboration with PUB and URA.

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