

Organised by TUNNELLING AND UNDERGROUND SPACE TECHNICAL DIVISION (TUSTD)

HYBRID HALF DAY SEMINAR ON "DETECTION AND SCANNING WORKS" UNDERGROUND DEVELOPMENT"

27 AUGUST 2024 (TUESDAY) 8.30 AM – 1.30 PM

HYBRID (PHYSICAL + ONLINE EVENT) PHYSICAL VENUE – MALAKOFF AUDITORIUM, BEM APPROVED CPD: 4.0 REF NO :IEM24/HQ/222/S

CLOSING DATE: 22 AUG 2024

Training Mode: Physical





Approved Duration: 15/08/24 - 14/08/24 HRD Corp Serial No: 10001451419

PROGRAMME

ТІМЕ	PROGRAMME	
08:30am - 09:00am	Registration of Participants, Welcome Breakfast at D'Place, Ground Floor, Wisma IEM	
09:00am - 09:05am	Welcoming Speech by TUSTD Representative	
09:05am – 10:35am	Part 1: Utilities Mapping Implication for Major Underground Development Construction	
10.35am - 11.05am	Q&A Session	
11:05am- 11.15am	Morning Coffee Break	
11:15am- 12:45pm	Part 2: The Rapid 3D LiDaR Technology for Tunnel Surveying, Mapping & Inspection	
12.45pm - 1.15 pm	Q&A Session	
1.15pm - 1.20pm	Closing Remarks by TUSTD Representative	
1.20pm - 1.30pm	Lunch / End of Programme	

"IEM reserves the right to alter or cancel the programme due to unforeseen circumstances at its discretion'. IEM SHALL NOT be responsible for any direct or consequential losses". For further details, kindly contact: The Institution of Engineers, Malaysia Bangunan Ingenieur, Lots 60/62, Jalan 52/4, P.O. Box 223 (Jalan Sultan), 46720 Petaling Jaya, Selangor Tel: 603-7968 4001/2 Fax : 603-7957 7678



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Part 1: Utilities Mapping Implication for Major Underground Development Construction

The accuracy of subsurface utility as-built and alignment drawings has long been a persistent issue within our construction industry. Currently, extensive trial hole works are necessary to map subsurface utilities for feasibility studies and fact-finding purposes. However, these trial holes are costly to excavate and only provide information about the specific location where they are dug.

Could we consider an alternative approach? The focus here is on adapting Subsurface Utility Mapping (SUM) with nondestructive geophysical methods such as Ground Penetrating Radar (GPR) to generate Geo-located Utilities Drawings (GUD).



This presentation will be delivered by HSC Pipeline Engineering (HSC). As a utility contractor, HSC benefits from the ability to perform extensive GPR scans and subsequently validate these scans during the pipelaying process. To-date, HSC has conducted GPR scans covering over 1.6 million m2 of road and turf around Singapore.

This vast experience has allowed HSC to develop a strong understanding and expertise in utilising GPR technologies within Singapore's ground conditions. Being both a contractor and an end-user of GPR, this talk will cover the practical experiences, highlighting the limitations and significant benefits that GPR brings to the construction industry.





Speaker 1 : Mr. Shane Shi

Mr. Shane Shi (Managing Director), from HSC Pipeline Engineering Pte Ltd. HSC is a local Medium Enterprise with 30 years of expertise on underground utility projects. Shane leads various digitalisation initiatives within HSC, encompassing departments such as Human Resources, Procurement, Finance, Safety and Operations. Through the use of new and available technology, Shane leads a team in implementing Subsurface Utilities Mapping to enhance project productivity and efficiency, delivering value-added solutions to HSC's clientele

Speaker 2: Mr. Shawn Seah

Mr. Shawn Seah (Deputy General Manager), from HSC Pipeline Engineering Pte Ltd. Shawn has over 20 years' experiences in underground infrastructure development including metro lines, cable tunnels, caverns and utilities. The involvement in various roles within the underground works industry have provided an understanding of its dynamics and complexities. Currently, Shawn is dedicated to the advancement of underground detection and mapping technologies, with a keen focus on driving safety, efficiency, and sustainability initiatives.

Part 2: The Rapid 3D LiDaR Technology for Tunnel Surveying, Mapping & Inspection

Light Detection and Ranging (LiDAR) technology is a cuttingedge method used for detailed surveying and mapping of tunnel environments. By emitting laser pulses and measuring the time it takes for them to return after hitting surfaces, LiDAR generates precise, three-dimensional models of tunnel interiors. This technology is crucial for various applications in tunnel construction, maintenance, and safety monitoring. LiDAR technology especially terrestrial laser scanning can be used to identify and track deformations, cracks, and subsidence over time. LiDAR surveying ensures the tunnel is built according to design specifications by detecting deviations early. LiDAR can provide accurate records of tunnel conditions for reference in maintenance and future projects. The presentation aims to show the LIDAR scanning technology using various LiDAR equipment and how to use LiDAR during tunnel construction, maintenance, and safety monitoring.







Speaker:

Gs. Anomaht Aitin currently a Director of AXIS Gemilang Sdn. Bhd. -Geospatialist and LiDAR Consultant with more than 23 years' experience in Geospatial Industry. He is a certified LiDAR trainer and for the last 12 years, Anomaht and team has been mainly engaged in LiDAR surveying and mapping for various projects and client's including MRT tunnel scanning using terrestrial laser scanner (TLS) and menora tunnel scanning using mobile laser scanner (MLS).

Moderator



Ir. FRANKIE CHEAH PENG LEONG TTT/****

Frankie is a registered Professional Engineer in Malaysia and an ASEAN Chartered Professional Engineer. He has closed to 20 years' experience in large scale mass transit, railway design and construction projects in Singapore, Malaysia and across Asia region. His areas of expertise include deep foundations and underground earth retaining structures for both top-down and bottom-up construction in Malaysia and Singapore, involving impact and interaction with existing the development/infrastructure inside the central business district. Existing infrastructure consists of an existing rail structure, a substantial building with a basement, an underground structure, and an existing rail tunnel. Core experiences in consultancy for various project around Asia region, Frankie able to gain vast skill to produce a competent geotechnical element design that incorporate safety and economic aspect. He also promotes to enhance his skill and knowledge in technical writeup on his completed projects. He was the key geotechnical engineer for AECOM for both the Klang Valley MRT-Sungai Buloh-Kajang Line (Line2) and Klang Valley MRT-Sungai Buloh- Kajang Line (Line1). More recent projects that he provided geotechnical technical support included the detailed design of the Rapid Transit System (RTS) Link, and the KVMRT Line 3 tender preparation together with few other designs and built contract support with Asia region. He is also actively involved in promoting tunnelling and underground space with IEM as Deputy Chair of The Tunnelling and Underground Space Technical Division (TUSTD) of the Institution of Engineers, Malaysia. He also actively involved in promoting International Tunnelling and Underground Space (ITA-AIES) event such as WTC 2020, 46th ITA general and Symposium of Young Tunnellers of Asia (SYTA)

Moderator



NEO BOON KHENG TTT/9304

FHe obtained his Bachelor of Engineering (Hons) in Civil Engineering and Master of Science in Engineering from Southern Illinois University USA

He is a fellow member of Institution of Engineers Malaysia and actively serving in Tunneling & Underground Space Technology Division and Oil & Gas Technical Division.

He has 34 years of working experiences in infrastructure projects and utility projects using trenchless tunnel technology. He was with the consultant firm engage in water and wastewater projects participating in catchment and feasibility studies, preliminary design and detail design of sewer network and centralize sewerage treatment plant projects for the Sewerage Services Department. Currently he is the technical Director of PDP UTEK [M] Sdn Bhd

REGISTRATION FORM

HYBRID HALF DAY SEMINAR ON "DETECTION AND SCANNING WORKS UNDERGROUND DEVELOPMENT" 27 AUG 2024 (TUESDAY) CLOSING DATE : 22 AUG 2024 Email : shahrul@iem org my / svafig@iem org my

HYBRID Fees Platform			
	ONLINE FEE ATTENDANCE (RM)	PHYSICAL FEE ATTENDANCE (RM)	HRDF NORMAL FEE (PHYSICAL) ATTENDANCE (RM)
IEM Student Members	40.00	100.00	150.00
IEM Graduate Members	75.00	180.00	230.00
IEM Corporate Members	120.00	300.00	350.00
Non-IEM Members (Non of the Above	240.00	500.00	550.00

NAME	MEMBERSHIP NO. / GRADE	FEES (RM)
	Sub Total:	
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Total Amount Payable :		

PAYMENT DETAILS :

Cash RM

Cheque no.______for the amount of RM_____(non-refundable).

<u>FULL PAYMENT</u> must be settled before commencement of the course, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participant fails to attend the course, the fee is to be settled in full. If the participant failed to attend the course, the fee paid is non refundable. The Registration Fee includes lecture notes, refreshment and lunch.

For **ONLINE REGISTRATIONS**, please note that payment **MUST** be made **BEFORE the closing date.** If payment is not received within the stipulated time, the registration fee will be reverted to the normal registration fee.

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Hybrid Half Day Seminar on "Detection and Scanning Works Underground Development"

27 August 2024 (Tuesday)

Organised by : Tunneling and Underground Space Technical Division (TUSTD), The Institution of Engineers, Malaysia No. 60/62, Jalan 52/4, P.O. Box 223 (Jalan Sultan), 46720 Petaling Jaya, Selangor Tel No. 03-78900135 /134 Email: shahrul@iem.org.my / syafiq@iem.org.my Website : www.iem.org.my

Chairman, Tunneling and Underground Space Technical Division (TUSTD),

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- Bank Address : NO 2-6, JALAN TENGAH, 46200 PETALING JAYA, SELANGOR
- Swift Code : UOVBMYK1025
- Email Address for Receiving Remittance Advise : finance@iem.org.my/shahrul@iem.org.my

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