trueventus

Underground

Space Engineering

March 26 - 28, 2014 | Kuala Lumpur, Malaysia

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"The world market for underground railway infrastructure and equipment has been growing at 3.2% a year through the global downturn, and is set to grow at around 2.7% a year until 2017"

– The Economist January 5, 2013

WHY YOU CANNOT MISS THIS EVENT

It is estimated that by 2050, 70% of the world's population are set to become city dwellers. Due to the scarcity of land, city councils should take a longstanding outlook in land use planning to ensure that sufficient land capacity is set aside to cater for future growth and opportunities. Underground development largely seen as a new phenomenon seems to be one of the best options for many countries. Cities ought to take advantage of innovations in engineering and science that will enable them to explore and gain new frontiers in underground spaces.

The wait is over-2014 is a key year for underground development across Asia, as more and more underground projects are being carried out to enhance the economic and social development of mega cities. This state-of-the-art 'urban age' presents a unique opportunity for us to remake and reinvent our cities. Let us jump on the bandwagon, where there is a surge for underground space development projects which has lead to an increased number of tunnels, metro rail networks, underground shopping centers and expressways construction being carried out.

Join Trueventus on this three day journey, as we bring key industry experts to address engineering challenges and solutions faced during the construction of major underground projects around the world. Meet, greet and hear first hand experiences in handling technical challenges while planning, designing and constructing undergrounds. Together, let's maximise the potential territories below our cities!

THIS UNIQUE CONFERENCE WILL BRING DELEGATES THE BENEFITS OF

- **Harnessing** opportunities and solutions in enhancing underground construction
- **Reviewing** the latest underground engineering strategies
- **Exploring** the sustainable usage of underground spaces
- **Discovering** innovative underground techniques for tunneling and underground infrastructure
- **Gaining** insight into new techniques of soil investigation and ground improvement
- **Conquering** the technical challenges of designing and constructing underground
- **Ensuring** your underground project is delivered within the budget
- **Minimising** risk with effective underground safety methods

SUPPORTING PARTNER

Associated research Centers for the Urban Underground Space
Association des Centres de recherche sur l'Utilisation Urbaine du Sous-sol

The ACUUS is an international non-governmental association actively promoting partnerships amongst all actors in the field of planning, management, research and uses of urban underground space. The ACUUS strives to bind these public, private and university levels into a cohesive network of mutual cooperation for the benefit of all parties involved.

For futher details
Sandy Beh
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Featuring presentations and case studies by key distinguished speakers:

Gustav Klados Project Manager
MMC Gamuda KVMRT, Malaysia
*Tunneling 2005 Industry Award Excellence in Tunnel Design

Jacques Besner General Manager
Associate Research Centers for Urban Underground Space, Canada
*Emeritus member of the Ordre des Urbanistes du Québec (OUQ) 2013
*Member of Honour of the Société Française des Urbanistes (SFU)2012
*Silver Magnolia Award from the Shanghai Municipal People's Government 2011

Eric Chui Divisional Director and Head of Tunnels and Ground Engineering Department
Atkins Global, Hong Kong
*Experience includes West Rail, Shatin to Central Link, West island Line, Regional Express Line and various tunnel projects for CLP, WSD and DSD

Wilm Schaub Technical Manager
Herrenknecht Asia, Singapore

Loganathan Nagendran Technical executive- Tunnel & Geotech
Parsons Brinkerhoff, Australia
*Winner of William Barclay Parsons Fellowship award, Parsons Brinckerhoff, for year 2009

Nirbhik Sengupta Senior Project Manager
Tiong Seng Holdings Ltd, Singapore

Ir Tan Yean Chin Senior Director
G&P Geotechnics Sdn Bd, Malaysia

Alexander Sandy Mackay Corporate Manager (Geotechnics)
Nishimatsu Construction Company Limited, Hong Kong

Nick Osborne Senior Project Manger
Mott Macdonald, Singapore

John Endicott Executive Director-Geotechnical
Aecom Asia, Hong Kong
*Worked on numerous iconic projects such as Hong Kong's Chek Lap Kok International Airport platform and the Lai Chi Kok Transfer Scheme project
*Referred to as the iconic symbol and pillar of excellence within the geotechnical group

Ir. Chow Chee Meng Director
G&P Geotechnics Sdn Bhd, Malaysia
*Awarded the Outstanding Performance Award for geotechnical consultancy

John Davies Leader Infrastructure Group
Arup Singapore
*Tunnel Consultant of the Year 2013
*Singapore Concrete Institute Excellence Award 2013 for use in SFRC tunnel segment design

Dr. Ing. Ralf Winterberg Technical Director – Fibre Division
Maccaferri Asia, Malaysia

Takashi Kawata Project Manager
Shimizu Corporation, Japan

Poh Seng Tiok Design Director
MRT Corporation, Malaysia

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CONFERENCE AT A GLANCE

Day One: Wednesday, March 26, 2014

Session One
The future of underground space: Using underground space for sustainable transport infrastructure

Session Two
Planning the underground: Case study on the Montreal Underground City, Canada

Session Three
State of the art: Using Tunnel Boring Machines (TBM) to avoid structural integrity issues

Session Four
Enduring the challenges faced in developing an underground metro through congested and constrained locations

Interactive Dialogue
Ambitious or mindlessness: Building tunnels through extreme krastic limestone

Session Five
Reliability and durability of tunnels: Using fiber-reinforced concrete for tunnel lining segments

Session Six
The future of trenchless tunnelling: Innovative trenchless pipelining and microtunelling

Session Seven
Constructing Long and Deep Tunnel, Case Study Pahang – Selangor Raw Water Transfer Tunnel, Malaysia

Session Eight: Panel Discussion
Placing large infrastructure facilities underground: Why is this a smart option?

Day Two: Thursday, March 27, 2014

Session One
Engineering solutions for safe and cost-efficient underground excavation

Session Two
Planning large deep excavation projects- Case study based on: Express Rail Terminus, Hong Kong Two large caverns

Session Three: Joint Session
Deep foundation: Improving reliability of foundations for tall buildings

Session Four
Innovative design in KL MRT Line 1 and the way forward

Session Five:
Implementing latest ground treatment techniques in urban underground construction

Session Six
Recognising effects of underground construction near existing structures & infrastructure. How to manage this well?

Session Seven
Life and limb: Examining safety methods in underground construction

Day Three: Friday, March 28, 2014

Post-Conference Workshop
Ground movement impact assessment of tunneling work in urban areas

Exclusive Site Visit:
MRT Project Construction Site:
- Station Site visit
- Tunnel Site Visit

Who should attend?

CEOs, COOs, CFOs, Heads, President, VP, SVPs, Directors, GMs and Senior personnel such as:
- Engineering and Construction
- Geotechnical Developers
- Pipeline Engineering
- Geotechnical Engineering
- Facilities Management Heads
- Ground Engineering
- Structural Engineering
- Urban Planners
- Architects
- Designers
- Utilities
- Piling
- Infrastructure

Local Government, Government Departments, Agencies & Authorities:
- Government – Federal, State & Local Councils
- Ministry and/or Department of Public Works
- Ministry and/or Department of Transportation
- Ministry and or Department of Finance
- Rail Operators
- PPP Units / Economic Planning Units
- Financial Institutions, Institutional Investors
- Policy Makers
- Urban Planners, Designers, Developers

Engineers, Consultants, Project Managers and Contractors involved in:
- Engineering& Construction Firms
- Construction
- Building materials
- Turnkey / Technology Solution Providers
- Fire and security
- Structural
- Cement, Steel and Concrete Suppliers
- Health and safety
- Mechanical
- Electrical
- Environment

Technical Specialists:
- Drill & Blast Supervisors / Foreman / Superintendents
- Technical Superintendent/Managers
- Maintenance Managers
- Project Managers
- Technical Service Managers
- Rock Engineer/Specialists
- Explosive Engineers
- HSE Managers/Supervisors
- Geotechnical Specialists
- Operations
- Maintenance
- Reliability and Asset Management

For futher details
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Day One
Wednesday, March 26, 2014

0800 **Registration and Coffee**

0830 **Opening Address by Chairperson**

0845 **Session One**
The future of underground space: Using underground space for sustainable transport infrastructure
The urban future progressively depends on the development of the urban underground's potential. Since city centres are densely built areas, building underground transport infrastructure can accommodate many functions, relieving pressure on the surface and it can be an attractive solution for solving traffic problems and increasing mobility. This session seeks to highlight the key benefits of utilising the underground space as a major platform for developing transportation network.
Gustav Klados Project Manager
MMC Gamuda KVMRT, Malaysia

0930 **Session Two**
Planning the underground: Case study on the Montreal Under ground City, Canada
The world experts of the underground spoke abundantly on the construction methods used in the underground, as for tunnels. Unfortunately, very little spoke about planning the underground and almost never about the control of its development.This session will use the Montreal underground city as an example, because it is one of the oldest (52 years old) and maybe the most extensive of all the indoor pedestrian networks in the world. There, a pedestrian can walk inside 32 km of corridors, tunnels and shopping centres without going outside. However, the Montreal indoor city has never being subject to a global pre-established master plan, its extension being the result of a series of project approved by the City since 1962. We will see why, in spite of some attempts to adopt an underground city master plan, the indoor city represents a so coherent indoor pedestrian network, truly dedicated to people.
Jacques Besner General Manager
Associate Research Centers for
Urban Underground Space, Canada

1015 **Morning refreshments**

1045 **Session Three**
State of the art: Using Tunnel Boring Machines (TBM) to avoid structural integrity issues
Urban tunnelling requires that the ground surface is left undisturbed; especially since tunnelling has to be done under deep infrastructure foundations.TBM tunnelling is an effective and commonly used method in today's tunnel construction around the world. The benefit of using TBM for excavation is such that the ground above the tunnels will not be affected while the impact on the residents minimised. This session will explore the key benefits of TBM as it significantly minimises the impact to densely populated cities.
Wilm Schaub Technical Manager
Herrenknecht Asia, Singapore

1130 **Session Four**
Enduring the challenges faced in developing an underground metro through congested and constrained locations
- Developing optimal alignment and construction methodology
- Predicting ground movement induced by construction of cut and cover tunnels, TBM tunnels and drill and blast tunnels
- Mitigating movement impacts on existing structures
- Hydro-geological study and how to mitigate impact on ground water regime
- Case studies on construction of tunnels through urban area

Eric Chui Divisional Director and Head of Tunnels and Ground Engineering Department
Atkins Global, Hong Kong

1215 **Interactive Dialogue**
Ambitious or mindlessness: Building tunnels through extreme krastic limestone
This interactive session will highlight the challenges faced in tunneling through tough soil condition-krastic limestone, and the advance technology needed to combat this situation. Hear from our experts as they share their experience based on real life case study.

1245 **Networking Luncheon**

1400 **Session Five**
Reliability and durability of tunnels: Using fiber-reinforced concrete for tunnel lining segments
Concrete and segmental lining is becoming a preferred method among tunnel designers and local authorities. This shows a huge demand for fibers in underground construction. Design methodology as well as the quality assessment represents a real challenge since this technology is new to South East Asia. This session aims to address performance improvements, as well as fiber reinforcements for concrete and segmental linings.
Dr.-Ing. Ralf Winterberg Technical Director – Fibre Division
Maccaferri Asia, Malaysia

1445 **Session Six**
The future of trenchless tunnelling: Innovative trenchless pipelining and microtunelling
This session seeks to explore key advantages of trenchless technology over traditional open-cut construction and other underground construction methods.
- Assessing the growth in trenchless technology usage in both the construction and civil engineering industry
- Unveiling cutting edge trenchless technologies

(Speaker to be advised)

1530 **Afternoon Refreshments**

1600 **Session Seven**
Constructing Long and Deep Tunnel, Case Study Pahang – Selangor Raw Water Transfer Tunnel, Malaysia
The 44.6 km long Pahang Selangor Water Tunnel- Known as one of the longest tunnel in Southeast Asia is utilising 3 main beam TBMs from Robbins to excavate under complex, high cover conditions in the mountains outside of Kuala Lumpur, Malaysia. The excavation of this unusually long and deep tunnel will present a number of interesting technical challenges to be mitigated. This session will explore the following key elements:
- Exploring the program combining multiple TBM drives with NATM methods at the inlet and outlet portals
- Probing latest technology to be deployed for excavating in this difficult ground conditions
- Management methodology of the large scale tunnel project

Takashi Kawata Project Manager
Shimizu Corporation, Japan

1645 **Session Eight : Panel Discussion**
Placing large infrastructure facilities underground, why is this a smart option?
To make better use of the surface land, studies are being carried out on the feasibility of putting large infrastructure facilities underground. The idea behind this is to explore the possibility of locating facilities underground to free up valuable surface land for higher value uses. Hear from our panel of speakers as they discuss and analyse the viability of placing large infrastructure facilities underground.

Panelist
Alexander Sandy Mackay Corporate Manager (Geotechnics)
Nishimatsu Construction Company Limited, Hong Kong

1730 **End of Day One**

Day Two
Thursday, 27 March 2014

0800 **Registration and Coffee**

0845 **Welcoming Address by Chairperson**

0900 **Session One**
Engineering solutions for safe and cost-efficient underground excavation
Underground space is usually not the first choice for a facility "all other things being equal" due to its high cost nature. Cost and time efficiency of project depends on the engineering choices, particularly in sensitive areas like urbanized area. This session will discuss modern design approach with cost-efficient solutions and an overview on innovative engineering solutions, for a safe and sound underground excavation.
John Davies Leader Infrastructure Group
Arup Singapore

0945 **Session Two**
Planning large deep excavation projects- Case study based on: Express Rail Terminus, Hong Kong and Two large caverns
In many cities in Southeast Asia, underground development has hardly started and yet it presents opportunities that cannot be realised at the surface. Historically, occupation of large excavated caverns has arisen due to re-use of completed mines and engineered caverns for the petrochemical industry. Creating large caverns has issues on town planning, transportation, civil engineering, rock mechanics and geology. This session will illustrate two large caverns and one unusually large deep excavation located in extensively developed areas to illustrate the planning and preliminary design considerations.
John Endicott Executive Director-Geotechnical
Aecom Asia, Hong Kong

1030 **Morning refreshments**

1100 **Session Three**
Deep foundation: Improving reliability of foundations for tall buildings
"If you have built castles in the air, your work need not be lost; that is where they should be. Now put the foundations under them." The last two decades have seen a remarkable increase in the rate of construction of tall buildings. This session will discuss the latest trends in foundation engineering based on case study for an efficient urban construction. The following key elements will be addressed in this session:
- Zooming in: The importance of deep foundation for high-rise buildings
- Examining various challenges of designing foundation for high-rise buildings
- Exploring the recent advancement in design for high-rise buildings using piled raft system

Ir. Chow Chee Meng Director
G&P Geotechnics Sdn Bhd, Malaysia

Ir Tan Yean Chin Senior Director
G&P Geotechnics Sdn Bhd, Malaysia

1230 **Networking Luncheon**

1400 **Session Four**
Innovative design in KL MRT Line 1 and the way forward
The 51 km SBK line is Malaysia first MRT and many innovative designs are incorporated to meet the challenge of project in different disciplines. This session will provide a summary and commentary of these innovative initiatives and also suggest possible areas to be looked into for the future lines.
Poh Seng Tiok Design Director
MRT Corporation, Malaysia

1445 **Session Five**
Innovative solution for deep excavation under complex ground conditions in urban areas
Deep excavation particularly in urban areas for new structures requires earth retention systems. Numerous engineering problems are likely to be encountered as construction works are going deep down into the ground. Great deal of problems such as the existence of complicated sub-soil, tremendous soil pressure, the provision of complicated temporary support works, congested underground or sensitive nearby environment have to be faced by engineers and builders. This session will highlight on the advanced capabilities and the latest technologies to provide the best and cost effective solutions for all types of deep excavation retention system.
Nick Osborne Senior Project Manger
Mott Macdonald, Singapore

1530 **Afternoon Refreshments**

1600 **Session Six**
Recognising effects of underground construction near existing structures & infrastructure. How to manage this well?
Imagine the world's population now, all living in cities. In a highly urbanised environment, it is great challenge to design and build underground infrastructures adjacent to sensitive structures. Assessment of ground movement effects is critical for many urban infrastructure developments below and adjacent to existing structures & infrastructure. This session seeks to discuss key methods in mitigating damages to the foundation and existing infrastructures.
Loganathan Nagendran Technical executive- Tunnel & Geotech
Parsons Brinkerhoff, Australia

1645 **Session Seven**
Life and limb: Examining safety methods in underground construction
Today, underground rail projects are often constructed in congested urban areas and in difficult ground conditions. The main risks include unforeseen hydro geological conditions, natural hazards and archaeology. This session will discuss key safety measures that need to be looked into during underground construction projects.
Nirbhik Sengupta Senior Project Manager
Tiong Seng Holdings Ltd, Singapore

1730 **End of Conference**

Post-Conference Agenda

Day Three
Friday, 28 March 2014

0830 Registration and Coffee

0915 Welcoming Address by Chairperson

0930 Post-Conference Agenda
Ground movement impact assessment of tunneling work in urban areas

From piling deformation to the loss in structural quality, structural damages to buildings in close vicinity to urban tunnel construction sites are prevalent. An improper or inadequate structural assessment leads to costly delays, litigations and ineffective changes to route alignments. An effective and early condition assessment regime, aided by new analytical modelling techniques and instrumentation will greatly improve the project's timely delivery and the quality of construction.

This half day workshop will introduce the phenomenon of ground movement against different types of tunnelling methods and then discuss the methodology in the prediction of ground displacement based on empirical and numerical approaches.

It will also present the patterns of ground movement in different soil conditions based on previous experience and finally discuss the use of building damage classification method based on building strains and will also touch on building monitoring and instrumentation:

- Choosing the right tunnelling methods taking into account ground movement pattern and their magnitude
- Assessing the precondition survey requirement of existing structures
- Improving the assessment techniques through enhanced inputs from the design and construction methodologies involved in underground structures
- Understanding the risks involved on structural damages and learn how to mitigate or reduce them

1230 Networking Luncheon

1400 Exclusive Site Visit
MRT Project Construction Site:
- Station Site visit
- Tunnel Site Visit

WORKSHOP LEADER

Eric Chui Divisional
Director and Head of Tunnels and Ground Engineering Department
Atkins Global, Hong Kong

Eric Chui has over 20 years experience in the study, design and construction management for large tunnelling projects in different parts of the world. He has experience in underpinning works for buildings, cavern design (large span rock tunnels), deep shafts design and damage risk assessment of tunnel works adjacent to structures.

His experience in Hong Kong includes West Rail, Shatin to Central Link, West island Line, Regional Express Line and various tunnel projects for CLP, WSD and DSD.

He has also been working on tunnel projects in South Africa (Guatrain), India, Dubai, Singapore and China. He has experience in the design of tunnels in both soft ground and rock conditions using a variety of techniques including TBM, Horizontal Directional Drilling and pipejacking.

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COMPANY DETAILS

Name	Industry
Address	
Postcode	Country
Tel	Fax

ATTENDEE DETAILS

1	Name	Job Title
	Tel	Email
2	Name	Job Title
	Tel	Email
3	Name	Job Title
	Tel	Email
4	Name	Job Title
	Tel	Email
5	Name	Job Title
	Tel	Email

APPROVAL

NB: Signatory must be authorised on behalf of contracting organisation.

Name	Job Title
Email	
Tel	Fax
Authorising Signature	

COURSE FEES

USD2495 per delegate
Early bird USD1995 until 31st of Dec 2013

☐ Documentation Package USD 495

All options inclusive of delegate pack, luncheon and refreshments.

KL-IF57

PAYMENT DETAILS

Payment is due in 5 working days. By Signing and returning this form, you are accepting our terms and conditions.

Please debit my: ☐ VISA ☐ MasterCard

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Cardholders Signature	Cardholder Email:

REGISTER NOW

Name: Sandy Beh
Tel: +603 2781 1510
F: +603 2781 1505
E-mail: sandyb@trueventus.com

TERMS & CONDITIONS

1. The course fee is inclusive of the event proceedings, materials, refreshment and lunch.
2. Upon receipt of the complete registration form, invoice will be issue. Trueventus request that all payments be made within 5 working days of the invoice being issued. Full payment must be received prior to the event. Only delegates that have made full payment will be admitted to event. Clients are responsible for their own banking fees and banking fees will not be absorbed into the booking price.
3. Substitution & cancellations policy. Should the registered delegate is unable to attend, a substitute delegate is welcome at no extra charge. Written notifications of all substitutions is required 5 working days prior to the event. Trueventus contracts carry 100% full liability upon receipt of registration. Non payment does not constitute cancellation. A 100% of cancellation fee will be charged under the terms outlined below: Due to limited event seats, Trueventus agrees to book and confirm the seat for the client upon issuance of invoice. Upon signing of this contract, client agrees that in case of dispute or cancellation of this contract Trueventus will not be for total contract value. If a client does not attend the event without written notification at least 5 working days prior to the event date, he/she will deemed as no show. A no show at the event still constitutes that the client will have to pay the invoice amount that was issued to them. Trueventus does not provide refunds for cancellations. By signing this contract the client also agrees that if they cancel that Trueventus reserves the right to pursue monies owned via the use of local debt collection agency were the client is situated. Furthermore the client will be held liable for any costs incurred in collection of outstanding monies. When any cancellations are notified in writing to Trueventus 5 working days prior to the event, a credit voucher will be issued for use in future Trueventus events.
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5. Upon receiving this signed booking form, you the client herby consent to Trueventus to keep your details for the use of future marketing activities carried out by Trueventus and third party organisations & partners.
6. Copyright and Intellectual Property. Any redistribution or reproduction of part or all of the contents in any form in connection to this event is prohibited without prior written consent by Trueventus.
7. Client hereby agrees that he/she exclusively authorizes Trueventus charged the credit card with detials listed above for the amount provided herein; this registration form serves as a contract that is valid, binding and enforceable. He/she at any time will have no basis to claim that the payments required under this Contract are unauthorized, improper, disputed or in any way. Upon issuance of invoice Trueventus will be charging the client USD 30 processing fee.