

# Advanced Digital Technology Application for Land and Building Development





## TABLE OF CONTENTS

Message from President of The Hong Kong Institute of Surveyors – Sr Chiu Kam Kuen . . . . .	1
Message from Chairman of BIM Committee 2022 – Sr Y Y Yip . . . . .	2
Message from Guest of Honour – Mr Wong Kwok Fai, Alfred . . . . .	3
Programme . . . . .	4
Guest Speakers Information	
Dr Winnie Tang, MH, JP . . . . .	5
Mr Simon Cheung . . . . .	6
Mr Ian Zhu . . . . .	7
Dr Tae-Wan Kim . . . . .	8
Mr Deng Bo . . . . .	9
Sponsors Advertisement and Acknowledgments . . . . .	10
BIM Conference 2022 OC Members . . . . .	15

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## Message from President of The Hong Kong Institute of Surveyors



**Sr Chiu Kam Kuen**

*President*

*The Hong Kong Institute of Surveyors*

Welcome to the Hong Kong Institute of Surveyors BIM Conference 2022. As Hong Kong gradually comes out from a global pandemic, we are delighted that we can convene a face-to-face event this year for construction and building professionals to attend under the same rooftop. I would like to take this opportunity to specially welcome and thank our Guest of Honour Mr Alfred Wong, Principle Assistant Secretary (Works) of the Development Bureau for joining us.

Surveyors sit in a pivotal position in any construction project. With a number of mega infrastructure AEC projects set to kick off in Hong Kong in the next few years, it is vital for our sector to leverage on digital technologies to automate and accelerate the processes in a project; plan, create and manage building data centrally and efficiently; and streamline communication across all parties involved, so that we can achieve the best outcomes with maximum efficiency throughout the project's life cycle.

Themed "**Land and Building Development**", the Conference gathers five local and overseas experts to update our professionals of the latest technologies and trends in construction project delivery. We hope our participants will benefit from their sharing and equip themselves with the cutting-edge knowledge that can future-proof their workflow and inspire their delivery.

In closing, I would like to thank all our guest speakers for sharing their experience; our sponsors and supporting organisations for their generous support; and the HKIS BIM Committee, led by Sr YY Yip, for bringing together such timely and informative contents. We are confident this will be an invaluable and fruitful event for all of you.



## Message from Chairman of BIM Committee 2022



**Sr Y Y Yip**

*Chairman*

*BIM Committee 2022 , The Hong Kong Institute of Surveyors*

On behalf of the Hong Kong institute of Surveyors, I welcome all honourable Guests, Speakers and participants to the HKIS BIM Annual Conference 2022. We extend our gratitude to our Guest of Honour Mr Alfred Wong, Principle Assistant Secretary (Works) of the Development Bureau for joining us this year.

Advanced digital technology has disrupted the way we work and live in many areas. Their application brings accuracy and efficiency to output delivery, and saves people minds for higher level decision making. Technology disruption in the built environment does not date back far but it comes in a rapid pace. As the workforce of construction sector in Hong Kong ages and runs short, advanced digital technology has come timely to fill the gap.

In the preparation of this Conference, the HKIS BIM Working Group has carefully identified topics which reflect up and coming development in our industry, including Mainland, Hong Kong and other Asian countries. Our speakers possess ample experience and invaluable insights on changes in city demands, evolving trends in construction technology, and practical implementation by our peers in the region. As our projects get increasingly complex, these insights and experience will inspire us to innovate our workflow model, enhance collaboration among planning, design, construction and asset teams, and empower us to deliver outcomes that were once impossible.

In addition to all our participants who join the Conference this year, our thanks also go to our generous sponsors who have made this Conference possible. I would like to make a big shout out to members of the BIM Working Group who have contributed expertise to the conference and made the contents wonderful.

Thank you once again for joining us. We look forward to seeing you again next year.



## Message from Guest of Honour



**Mr Wong Kwok Fai, Alfred**  
*Principal Assistant Secretary (Works),  
Development Bureau, HKSAR*

The construction industry has been an instrumental driver of economic growth and enabler of social development for our many generations. Many construction projects are required to meet our pressing demands for land, housing, infrastructure, healthcare and other community services for our society.

The Government is firmly committed to the promotion and adoption of BIM technology in capital works projects. So far the implementation of BIM in Government projects is smooth and the feedback from the industry is positive.

With funding support from the CITF, BIM practitioners, Small and Medium Enterprises (SMEs) in particular in the private sector, can better equip themselves with the necessary BIM skills. Besides, we need to enhance our on-going efforts to further attract younger generations as new blood to join our construction industry for its sustainable development. With a view to further leverage the effectiveness of BIM uses in capital works projects, the Development Bureau is planning to include BIM models as part of tender information and make them contractually binding by stages.

With the unfailing support and contribution from HKIS in the past years by organizing BIM Conferences and various BIM related events, the benefits of BIM adoption are well promoted and recognized by the industry. We look forward to the continual support of the HKIS for helping the industry to adopt BIM.

Last and not least, I wish the conference a great success.



## Programme

Time	Programme	
1400 – 1405		<b>Welcome Remarks</b> <b>Sr Chiu Kam Kuen</b> President The Hong Kong Institute of Surveyors
1405 – 1415		<b>Opening Keynote Speech by Guest-of-Honour</b> <b>Mr Wong Kwok Fai, Alfred</b> Principal Assistant Secretary (Works), Development Bureau, HKSAR
1415 – 1420	Group Photo with Guest-of-Honour	
1415 – 1420	Souvenir Presentation to Sponsors	
1420 – 1450		<b>Building a Sustainable Future through Innovative Technologies</b> <b>Dr Winnie Tang, MH, JP</b> Founder & Honorary President, Smart City Consortium Founder & Chairman, Esri China (Hong Kong) Limited
1450 – 1520		<b>Digitalization and Technology Environment in GBA</b> <b>Mr Simon Cheung</b> Committee Members The Chinese Association of Young Scientists and Technologists
1520 – 1550		<b>What A Cloud Vender Do For The Land And Property Industry</b> <b>Mr Ian Zhu</b> Senior Director Business Development, Huawei Cloud Hong Kong
1550 – 1610	Coffee Break	
1610 – 1640		<b>Digitalized and Automated OSC Project Planning and Management</b> <b>Dr Tae-Wan Kim</b> Associate Professor, Ph.D. Division of Architecture & Urban Design Incheon National University
1640 – 1710		<b>Digital Construction Development In The Construction Industry</b> <b>Mr Deng Bo</b> Executive General Manager The First Digital Technology Company of China Eighth Engineering Division Ltd
1710 – 1715		<b>Closing Remarks</b> <b>Sr Y Y Yip</b> Chairman BIM Committee 2022 The Hong Kong Institute of Surveyors
1715	<b>End of Conference</b>	



## Speakers Information



### **Dr Winnie Tang, MH, JP**

*Founder & Honorary President, Smart City Consortium  
Founder & Chairman, Esri China (Hong Kong) Limited*

## BIOGRAPHY

Dr Winnie Tang, MH, JP is an Adjunct Professor in the Department of Computer Science, Faculty of Engineering, Department of Geography, Faculty of Social Sciences and Faculty of Architecture at the University of Hong Kong (HKU). She is one of the local born IT entrepreneurs from Hong Kong.

In the 1990s, Dr. Tang founded Esri China (Hong Kong) Limited to develop and promote Geographic Information System (GIS) software and solutions. She is also the Founder and Honorary President of Smart City Consortium. Over the years, she has been actively advocating the use of technology and sharing her views regarding the ICT industry, eHealth, environmental conservation, entrepreneurship and smart city through her services in government and non-government organizations in Hong Kong.

## ABSTRACT

### **Building a Sustainable Future through Innovative Technologies**

Northern Metropolis and the Artificial Island in the Central Waters development are two engines driving Hong Kong's success in future. The architecture, engineering and construction (AEC) industry must be smarter than ever in order to overcome unprecedented challenges. The idea behind smart construction is to use BIM-GIS technology and geospatial data to make better decisions in the planning and design stage, ensure construction safety and create a sustainable future.

The presentation will share about:

- Global trends of smart cities and AEC industry
- The journey of Hong Kong towards a smart city
- How BIM-GIS integration and other digital solutions empower land and building development
- What's next for achieving a sustainable future



## Speakers Information



**Mr Simon Cheung**

*Committee Members*

*The Chinese Association of Young Scientists And Technologist*

### **BIOGRAPHY**

Mr Simon Cheung obtained his qualification of BSc (Surveying). He has over 7 years of experience in BIM implementation. Making use of his BIM experience, Mr. Cheung has been dedicated to major BIM projects such as Residential Development of Sha Tin Area 52 Phase 2, Communication and Technology Centre of Jockey Club Development, Tin Shui Wai Hospital, Tseung Kwan O Fire services school and Hong Kong Polytechnic University Innovation Centre. Mr. Cheung obtained the professional certificate of Revit Architecture 2011 authorized by Autodesk and had been utilizing his expertise in BIM training course for companies such as China Resources Construction Limited and mott MacDonald, majoring focusing on areas of Revit Architecture Training and Revit Family Training.

### **ABSTRACT**

#### **Digitalization and Technology Environment in GBA**

First of all, we will introduce the composition and future direction of the GBA, which will become the fourth largest Bay Area economy in the world. Then, in view of the interpretation of the development plan of GBA, and how to build an international technology innovation center, including policy support for construction technology and support for Hong Kong people and enterprises to develop in the mainland, it puts forward how the company develops in the Greater Bay Area under the support of these policies. Finally, it focuses on the latest functions of isBIM in JARVIS Eagle Eye TWIN. The aim is to take the built world online by BIM and Digital Twin.





## Speakers Information



**Mr Ian Zhu**

*Senior Director Of Business Development  
Huawei Cloud Hong Kong*

### BIOGRAPHY

Mr Ian Zhu is Senior Director Of Business Development, Huawei Cloud Hong Kong, a leading global provider of information and communications technology (ICT) infrastructure and smart devices. He has been working for Huawei more than 5 years.

Ian leads a team to successfully build the Infrastructure Automation Platform for Huawei Cloud, and then started focusing on the customer success. Prior to in Huawei, Ian has more than 10 years R&D experiences on telecommunication and Internet services and products. Ian is now working and living in Hong Kong until a strong local team built.

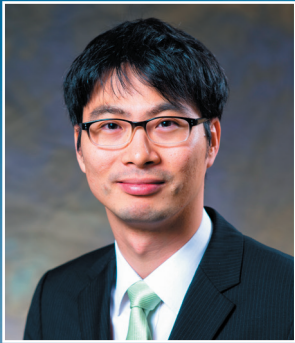
### ABSTRACT

#### What A Cloud Vender Do For The Land And Property Industry

Here comes a quick overview of major players in real estate industry. They need pay attention on not only the main business but also on the diverse distribution. Among Top 50 players only 18% have achieved a platform for fast innovation. Huawei is bringing world leading technologies making the world full awareness, helping customers handle complex system integration and the digital transition. Furthermore Huawei has made great tools with its technology partners for the housing designers saving their effort, for the construction teams managing the risk and improve the collaboration.



## Speakers Information



### **Dr Tae-Wan Kim**

*Associate Professor, Ph.D.*

*Division of Architecture & Urban Design , Incheon National University*

## BIOGRAPHY

Dr Tae-Wan Kim is currently an Associate Professor in the Division of Architecture and Urban Design at Incheon National University in Korea. He worked from 2013 to 2017 as an Assistant Professor in the Department of Architecture and Civil Engineering at City University of Hong Kong. He received his doctoral degree in Civil and Environmental Engineering from Stanford University.

Dr Kim is a Board member of Journal of Computational Design and Engineering. He has led or participated in 7 external research projects and published 4 academic books and 60 journal papers about building information modeling and virtual design and construction, productivity improvement through construction process automation, offsite construction planning and management, and construction site planning and logistics.

## ABSTRACT

### **Digitalized and Automated OSC project Planning and Management**

With the traditional construction production system, Korean construction industry is currently suffering from labor shortage and ageing, quality, safety, and environmental issues. To resolve these issue, Korean government is driving towards offsite construction, which moves part of construction activities from onsite to offsite and controlled environment. To maximize this new production system's benefits, offsite construction (OSC) needs to be digitalized and automated.

This speech talks about how to digitalize and automate OSC projects using digital transformation technologies including sensors, BIM, artificial intelligence, data science, and actuators. We will also discuss planning and managerial issues that emerge in the management of OSC projects and need to be newly solved in order to enhance performance of different OSC project phases, i.e., planning and design, manufacture, transport, assembly, and maintenance phases.



## Speakers Information



### Mr Deng Bo

*Executive General Manager*

*The First Digital Technology Company of China Eighth Engineering Division Ltd*

## BIOGRAPHY

Mr Deng Bo (鄧波) was the BIM Director of The First Company Installation Company of China Eighth Engineering Bureau Ltd (中建八局一公司安裝公司) and the Vice Chancellor of The First Company Design Research Institute of China Eighth Engineering Bureau Ltd (中建八局一公司設計研究院), before he becomes the Executive General Manager of The First Digital Technology Company of China Eighth Engineering Division Limited (中建八局第一數字科技有限公司). He is also the Vice Secretary General of China Installation Association BIM Application and Smart Construction Branch (中國安裝協會BIM應用與智慧建造分會).

Mr Deng possesses over one decade's experience in implementing BIM, advocating the innovation of multi-dimensional integrated production management in corporations through the use of BIM as production lines, and pioneering the total use of BIM in designs across the nation. He has created the "one system, three plans and eight systems" (一體制三策劃八制度) BIM application system to promote frontline BIM application and developed the "BIDA integration" engineering technology system, supporting the migration of traditional mechanical construction towards large industrial scale production.

## ABSTRACT

### Digital Construction Development In The Construction Industry

Illustrating with case studies of BIM applications in domestic corporations, the presentation will give a brief outline of BIM applications and the evolution of digital construction in construction industry since 2010. The speaker will cover applications of technology and the development of industry professionals in each of the four stages of the construction development journey. The presentation will conclude with an outlook of construction industry in the mainland based on current uptake of BIM and development of digital construction.

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