CONFERENCE

SMART INFRASTRUCTURE CONFERENCE 2021

13 - 14 May 2021, HKUST / Webinar

https://scc.hkust.edu.hk/

CO-ORGANISERS

香港科技大學 THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

GREAT Smart Cities

SCC 智慧城市聯盟 Smart City Consortium

HKIE THE HONG KONG INSTITUTION OF ENGINEERS 香港工程師學會

THE ARTY GREEN METROPOLIS

利奧坊曦岸 SQUARE MILE

THE H COLLECTION

「利奧坊 - 曦岸」基座商場設計概念圖

毗鄰奧運站　西九藝綠潮都

- 「利奧坊」系列位據西九市區黃金領域，分7期發展，合共約100萬平方呎樓面面積[1]
- 「利奧坊」購物大道逐漸成形，配合「步行街」商場及Square Mile Central Piazza[1]，勢成潮流匯聚新焦點
- 毗鄰奧運站，一站高鐵西九龍站，兩站香港站，坐擁3站8綫[2]及大灣區發展機遇；鄰近興建中的中九龍幹線，約10分鐘車程直達3大CBD[3]
- 日本大師西畠清順及森田恭通首度聯乘，打造系列內最大園林及藝綠會所[4]
- 488個住宅單位，提供開放式至三房多元化戶型[5]，投資自住黃金之選

「利奧坊 - 曦岸」設計概念圖

示範單位及展銷中心：中環 IFC 1期31樓（每日10:30am - 8pm）

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「利奧坊・曦岸」所位於的街道名稱及門牌號碼：福澤街38號　地區：旺角　賣方就發展項目「利奧坊・曦岸」指定的互聯網網站的網址：www.aquila-squaremile.com.hk　本廣告／宣傳資料內載列的相片、圖像、繪圖或素描顯示純屬畫家對有關發展項目之想像。有關相片、圖像、繪圖或素描並非按照比例繪畫及／或可能經過電腦修飾處理。準買家如欲了解發展項目的詳情，請參閱售樓說明書。賣方亦建議準買家到有關發展地盤作實地考察，以對該發展地盤、其周邊地區環境及附近的公共設施有較佳了解。

1. 賣方並不就「利奧坊・曦岸」及附近地區現在或將來的使用、保養、世界、環境或其他方面作任何形式的保證或陳述，詳情請參閱售樓說明書的「有關資料」部分。2. 3站8綫：設有連接香港站、九龍站及西九龍站的8條鐵路綫。3. 香港站至中環站車程約2分鐘，九龍站至中環站車程約10分鐘，西九龍站至中環站車程約15分鐘。4. 日本大師西畠清順及森田恭通首度聯乘，打造系列內最大園林及藝綠會所：指日本大師西畠清順及森田恭通聯乘打造的園林及藝綠會所，其設計、建造及／或營運須受限於（其中包括）政府的批准、許可證及／或牌照的規定。5. 戶型：指內部間隔。

本售樓說明書。此廣告之印製日期：2021年4月30日

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PROGRAM RUNDOWN

Day 1: 13th May 2021 (Thursday)

Venue: Citi Lecture Theater (LT-A), HKUST

Time	Keynote Speaker	Topic
08:30 – 09:00	**Registration**	
09:00 – 09:30	**Opening Ceremony**	
Session 1 – Shaping Smart Strategies		Moderator: Dr Winnie TANG, JP, Founder & Honorary President, Smart City Consortium
09:30 – 09:55	**Mr Victor LAM, JP** *Government Chief Information Officer, HKSAR*	Smart City Blueprint for Hong Kong 2.0
09:55 – 10:15	**郑明媚女士** 中国城市和小城镇改革发展中心智慧低碳部主任及 智慧城市发展联盟秘书长	中国新型智慧城市高质量发展 演讲语言：普通话
10:15 – 10:40	**Ir Ricky LAU, JP** *Director of Civil Engineering and Development, HKSAR*	SMART, Green and Resilient Infrastructures for City of the Next Generation
10:40 – 10:50	**Souvenir Presentation to Sponsors**	
10:50 – 11:05	**Coffee Break**	
Session 2 – Creating Smart Environment		Moderator: Ir Paul CHAN, Chairman, The HKIE – Civil Division
11:05 – 11:25	**Ir Jimmy CHAN, JP** *Director of Highways, HKSAR*	Changing the Way We Build and Maintain Highway Infrastructure Through Innovation
11:25 – 11:45	**Ir Kelvin LO, JP** *Director of Water Supplies, HKSAR*	Hong Kong's Journey towards Smart Water Management
11:45 – 12:05	**Ir Alice PANG, JP** *Director of Drainage Services, HKSAR*	Rivers in the City – Smart Drainage Application
12:05 – 12:25	**Dr Samuel CHUI, JP** *Deputy Director of Environmental Protection, HKSAR*	Applying Smart Technologies in Environmental Monitoring and Management
12:25 – 12:45	**Ir Ricky LEUNG** *Executive Director, Engineering & Technology, Airport Authority Hong Kong*	Building a Smart Airport City with Smart Infrastructure to Strengthen HKIA as the Leading Aviation Hub
12:45 – 13:00	**Panel Discussion**	
13:00 – 14:20	**Lunch Break**	

PROGRAM RUNDOWN

Time	Keynote Speaker	Topic
Session 3 – Embracing Smart Living	Moderator: Prof Hong LO, JP, Director, GREAT Smart Cities Institute; Head & Chair Professor, Civil and Environmental Engineering, HKUST	
14:20 – 14:40	**Ir Eric PANG, JP** *Director of Electrical & Mechanical Services, HKSAR*	Imaginnovating Smart Infrastructure: Mezzo to Macro
14:40 – 15:00	**Mr T.K. CHIANG** *Managing Director, CLP Power Hong Kong Ltd.*	Supporting a Smart City and a Smart Environment with Smart Infrastructure
15:00 – 15:20	**Ms Jeny YEUNG** *Commercial Director & Member of the Executive Directorate, MTR Corporation Limited*	Smart Mobility to Keep Cities Moving
15:20 – 15:35	**Panel Discussion**	
15:35 – 15:50	**Coffee Break**	
Session 4 – Innovating Intelligent Infrastructure	Moderator: Ir Derrick LEUNG, Past Chairman, HKUST Civil and Environmental Engineering Alumni Association	
15:50 – 16:10	**Mr Andrew LAI, JP** *Director of Lands, HKSAR*	Geospatial Infrastructure for Smart City
16:10 – 16:30	**Ms Winnie HO, JP** *Director of Architectural Services, HKSAR*	Our Journey to Smart Building Design and Facilities Management
16:30 – 16:50	**Ms Amy CHEUNG, JP** *Head of Energizing Kowloon East Office, Development Bureau, HKSAR*	Kowloon East – An Ideal Platform for Piloting Innovation
16:50 – 17:10	**Sr Winnie SHIU** *Head of Spatial Data Office, Development Bureau, HKSAR*	Development of Common Spatial Data Infrastructure in Hong Kong
17:10 – 17:30	**Prof Lei CHEN** *Chair Professor, Department of Computer Science and Engineering &* *Director of Big Data Institute, HKUST*	The Development of Benchmark Datasets for Smart City Application
17:30 – 17:45	**Panel Discussion**	
17:45	**Day 1 End**	

* Program may be subject to change

PROGRAM RUNDOWN

Day 2: 14th May 2021 (Friday)

Parallel Sessions

Time	Citi Lecture Theater (LT-A), HKUST	Lam Woo Lecture Theatre (LT-B), HKUST
08:30 – 09:00	Registration	
	Applications in GBA Moderator: Mr. Gary YEUNG, M.H., President, Smart City Consortium	**Smart Living** Moderator: Prof Alexis LAU, Director & Chair Professor, the Institute for the Environment, HKUST
09:00 – 09:15	**张亚东先生** 新智认知数字科技股份有限公司董事长 题目：新型智慧城市建设运营模式：政府授权以运营为目的的建设 演讲语言：普通话	**Dr Wenwei CHE** *Research Assistant Professor, HKUST* Topic: A Smart Mobile Application for Predictive Health Risk Management
09:15 – 09:30	**刘建平先生** 未来协同技术研究院执行院长、 广东工业大学智慧能源研究中心主任、 材料与能源学院教授 题目：城市与能源—如何更加智慧？ 演讲语言：普通话	**Mr Noah LAM** *Business Development Manager, Remotec Technology Limited* Topic: Applying Privacy-aware Radar Technologies in Elderly Smart Living Fall Detection and in Gesture Control for Display Screens in Smart City Furniture
09:30 – 09:45	**Ms Jessie CHAN** *Solution Architect, Digital Transaction Limited* Topic: Blockchain, Sustainability, and the GBA	**Mr John WONG** *Director, Lik On Technology Ltd.* Topic: How to Build a Smart and Healthy Community?
09:45 – 10:00	**Q&A Session**	**Mr Richard WILLDER** *Head of Public Policy & Government Affairs, Uber* Topic: Future of Transportation
10:00 – 10:10	**Q&A Session**	
10:10 – 10:30	**Coffee Break**	
	Smart Built Environment Moderator: Ir Clifford PHUNG, Chairman, HKUST Civil and Environmental Engineering Alumni Association	**Digital Twin for Infrastructure** Moderator: Prof Jack CHENG, Associate Professor, Department of Civil and Environmental Engineering, HKUST
10:30 – 10:45	**Mr Pubudu ABAYASIRI** *Associate Director, CLP Innovation Enterprises Limited* Topic: Connecting Sustainable Innovations and Digital Energy Management Needs in Buildings	**Sr Paul TSUI** *Managing Director, Esri China (Hong Kong)* Topic: Integrating 3D GIS with BIM for Smart City Development
10:45 – 11:00	**Mr Daniel CHUN** *Founder, Airxed Technology Limited* Topic: Sustainable Use of Air Conditioning with Demand Side Management of Electricity	**Mr Lester CHAN** *Co-founder, AAIOT Group and Aura Labs* Topic: The Possibilities of Device Orient Digital Twin in People-centric Spaces
11:00 – 11:15	**Ms Jacqueline LEE** *Architect* Topic: Smart Promenade Design	**Ir Terence Lok Lun LUI** *CEO, Varadise Limited* Topic: The Intelligent Management Platform for Smart Construction and Smart Facility
11:15 – 11:30	**Ir Chung Hon-hei, Matthew** *Senior Geotechnical Engineer, Geotechnical Engineering Office, Civil Engineering and Development Department, HKSAR* Topic: Application of Advanced Quadruped Robots for Geotechnical Works Inspections	**Mr Shanjing ZHOU** *Executive Consultant, MES Group* Topic: Digital Twinning for Urban Rejuvenation — Leveraging BIM and Infrared to Create a Better Post-covid Smart City
11:30 – 11:45	**Ir Dr Ken CHAN** *Chief Technology Officer, WEC Group* Topic: A Practical Framework for Smart Building Transformation	**Ir Dr Bruce CHONG** *Director (City Advisory and Urban Sustainability), Arup* Topic: Planning & Design of Enabling Infrastructure to Realize a Smart City
11:45 – 11:55	**Q&A Session**	
11:55 – 14:00	**Lunch Break**	

PROGRAM RUNDOWN

Time	Citi Lecture Theater (LT-A), HKUST	Lam Woo Lecture Theatre (LT-B), HKUST
	Big Data Analytics Moderator: Ms Rosana WONG, Vice President, Smart City Consortium	**Smart Infrastructure** Moderator: Ir Derrick LEUNG, Past Chairman, HKUST Civil and Environmental Engineering Alumni Association
14:00 – 14:15	**Ms Rosana WONG** *Executive Director, Yau Lee Holdings Limited* *Founder and President of Ophylla Ventures* Topic: The Latest Developments in terms of Smart Infrastructure like: MiC/DfMA/QAQC BIM Blockchain Platform and AI/Robotic Autonomous Vehicles	**Mr Alex WAN** *Director of Smart Solutions, WSP* Topic: Hong Kong Smart City Infrastructure — In the Light of Futurisation
14:15 – 14:30	**Mr Ringo SZE** *Project Manager, Chun Wo Construction & Engineering Co. Ltd.* **Mr. Kevin WAN** *Co-Founder, Hong Kong RFID Limited* **Dr. CHUK Tin Yim, Tim** *Director, Tuples* Topic: Use of IoT and Engineering Management for Trees at Slopes in Hong Kong	**Ir Vincent L. F. YUAN** *Engineer, Bridges and Structures Division, Highways Department, HKSAR* Topic: Smart Maintenance for a Long Span Suspension Bridge - Tsing Ma Bridge
14:30 – 14:45	**Mr Christoph BURGDORFER** *Connected Technology Evangelist, Asteria Corporation* Topic: Creating a Smart City App Store for Hong Kong	**Ir Andy WONG** *Head of Digital G, Gammon Construction Limited* Topic: Digitally Connecting the Whole Life of a Smart Infrastructure
14:45 – 15:00	**Prof. Shang-Hsien HSIEH, Patrick** *Professor and Chairman, Department of Civil Engineering, National Taiwan University* Topic: Decision Support Platform for Digital Governance of Smart City Infrastructure in Response to Environmental Changes	**Dr Tomi Nissinen** *Technical Manager, Nano & Advanced Materials Institute* Topic: Collapse-Free Backfill Material for Pavement
15:00 – 15:10	**Q&A Session**	
15:10 – 15:30	**Coffee Break**	
	IoT & Automation Moderator: Ir Connie CHAN, Committee Member of The HKIE – Civil Division	**Smart Infrastructure** Moderator: Prof Hong LO, JP, Chair Professor & Head of Civil and Environmental Engineering & Director of GREAT Smart Cities Institute, HKUST
15:30 – 15:45	**Ir TANG Kai-yan, Alan** *Chief Engineer (Port Works), Civil Engineering and Development Department, HKSAR* **Dr Lawrence POON** *General Manager, Hong Kong Productivity Council (Smart City Division) & Automotive Platforms & Application Systems R&D Centre* Topic: Sensor-based Monitoring and Use of Innovation Technology for Pier Maintenance	**Mr Christian TINO TERRANEO** *Managing Director, ATC Austrian Technology Corporation* Topic: Austrian Smart Infrastructure Solutions for Hong Kong
15:45 – 16:00	**Mr WONG Chun Fai, Jeffrey** *Chief Geotechnical Engineer/Planning, Geotechnical Engineering Office, Civil Engineering and Development Department, HKSAR* Topic: The Second Territory-Wide Airborne Light Detection and Ranging (LiDAR) Survey for the Hong Kong Special Administrative Region	**Dr Wendy LEE** *Regional Manager, HK & Macau, Autodesk Far East Limited* Topic: Future of Making Smart Cities
16:00 – 16:15	**Mr Telmo GOMES** *IT Director, LiveSense* Topic: Sustainability Cup	**Mr Thomson LAI** *Asia Digital Leader, AECOM* Topic: Digital City
16:15 – 16:30	**Mr Hannes SALZMANN** *Regional Manager, Geobrugg AG* Topic: Smart Rockfall Barriers	**Q&A Session**
16:30 – 16:40	**Q&A Session**	
16:40 – 16:50	**Closing Ceremony**	

* Program may be subject to change

MESSAGE FROM GUEST OF HONOUR

I am delighted to extend my warmest congratulations to the Organizing Committee on this special occasion of the Smart City Conference 2021 with theme on "Smart Infrastructure" in celebration of the 30th Anniversary of the Hong Kong University of Science and Technology (HKUST).

Hong Kong is one of the world's most densely populated cities. Together with the impacts of climate change, we are facing a number of changing circumstances and challenges. We need to create a smart and liveable city in a sustainable way to cope with the aging population, pressing demand for housing, economic growth and an increasing aspiration for better quality of life. Undoubtedly, we need innovations and new technologies to overcome the challenges.

Smart infrastructure is an important element to support the operation of a smart city. On this front, the Development Bureau and the departments in our family are making strenuous efforts in pioneering smart and innovative ideas in building and infrastructure developments ranging from smart applications for roadworks, drainage, E&M systems, waterworks, etc. to area-wide smart applications in building new development areas and delivering the initiative of Lantau Tomorrow Vision.

I sincerely hope that the Conference would gather experts with diverse backgrounds and construction professionals to exchange ideas and share insights into the way to embrace innovation and technology in building smarter infrastructure and developing Hong Kong into one of the world's great smart cities.

Lastly, I would like to take this opportunity to wish the Conference a very successful event and convey my best wishes to the HKUST for its continuing success and achievements along its vision to become a leading university with significant international impact and strong local commitment.

Ir LAM Sai Hung
Permanent Secretary for Development (Works)
Development Bureau, HKSAR

MESSAGE FROM CONFERENCE ADVISOR

I would like to congratulate the Hong Kong University of Science and Technology for hosting the Smart Infrastructure 2021 Webinar on 13-14 May 2021.

A Smart Infrastructure is a smart system that uses data feedback loop to monitor, measure, analyze, communicate and act. Smart City needs such interoperable systems to monitor and optimize numerous public services such as energy, water, waste management, drainage, transportation, healthcare, etc., achieving the public goals of effectiveness, efficiency, serviceability and sustainability.

To capture all these potentials will require a committed and concerted effort by the society across all sectors of government, industry, research institutions, and professional bodies. I am sure you will have fruitful and stimulating exchange of ideas through this webinar. I sincerely wish the Smart Infrastructure 2021 a very fruitful event!

Ir Dr Hon LO Wai Kwok, SBS, MH, JP
Member of Legislative Council (Functional Constituency – Engineering)

WELCOME REMARKS BY ORGANISING COMMITTEE CHAIRMAN

As organizing committee chairman of the Smart City Conference 2021, I take great pleasure in welcoming you all to our 2nd Smart City Conference – Smart Infrastructure.

In 2018, our GREAT Smart City Center* established at HKUST and our 1st GREAT Smart Cities Connect 2019 Conference endorsed the benefits and opportunities as Hong Kong becomes one of the world's Smart Cities. We are delighted to host our 2nd Smart City Conference 2021, with the theme of Smart Infrastructure.

Along with Smart City blueprint for Hong Kong 2.0 launched in Dec 2020, "includes initiatives that are under implementation or of an ongoing nature such as open data and on-street parking meters supporting remote payment." Implementations and applications in our infrastructure projects become our keys to success (such as autonomous driving, e-learning, smart elderly care, smart exhibitions, and electronic payments). Those projects' initiatives will anchor more "smart" life application scenarios in Hong Kong. One of the key characteristics of "Smart" is borderless. This year, we adopted to host the conference in a hybrid mode in which the conference is delivered both in-person and online, to continue to gather and connect our experts and delegates from all over the Greater Bay Area and overseas under COVID-19.

Meanwhile, we are very delighted to have Ir LAM Sai-hung, JP as our guest of honor and over 65 senior government officials, corporate executes and professors across local, mainland and overseas as keynote speakers. They will share their insights and advance practices on empowering well-being, driving efficiency, boosting innovation, and fostering productive partnerships in 2-day conference. It allows us to exchange views and collectively present an advanced and more rounded picture for Smart City's development in Hong Kong and Greater Bay Area.

Lastly, I would like to send my sincere thanks to all of our sponsors, supporting organizations for their tremendous support, Ir Dr LO Wai-kwok, SBS, MH, JP, moderators and the members of organizing committee for their hard works and planning for this conference.

After all, thanks for your participation. We have received over 300 enrolments, which serve to encourage us how important is our work. I believe that the outcomes of this conference on Smart Infrastructure and best practices will be giving more opportunities for our participants and professions in Hong Kong.

Wishing you all an enjoyable experience and best wishes for you.

Ir Derrick LEUNG
Conference Organizing Committee Chairman

* The GREAT Smart Cities Center was renamed GREAT Smart Cities Institute in 2019

ABOUT SMART CITY CONFERENCE 2021

CONFERENCE

After receiving enthusiastic responses to the previous conference, "GREAT Smart Cities Connect Conference 2019 - The Greater Bay Area", we are pleased to announce that the Smart City Conference 2021, with the theme of "Smart Infrastructure", will be held on 13 – 14th May 2021 in Hong Kong.

Smart City Conference 2021 is co-organised by The HKUST Civil and Environmental Engineering Department, The HKUST Civil and Environmental Engineering Alumni Association, The HKUST GREAT Smart Cities Institute, Smart City Consortium and The Hong Kong Institution of Engineers and it aims to reveal and forecast the development of the connected Smart City across multiple facets.

With the theme of "Smart Infrastructure", the conference enables participants to review the utilization of cutting-edge smart applications in the GBA, and how the technologies shape our cities to be more connected and sustainable. It also provides a platform for professions to discuss the possibilities of incorporating the current technologies among the 9+2 cities, fostering the region's synergic development instead of developing smart cities in silos, ultimately connecting the cities as a whole.

ORGANISING COMMITTEE

The Hong Kong University of Science and Technology Civil and Environmental Engineering Alumni Association (HKUST CEEAA)

- Ir Derrick LEUNG (OC Chairman)
- Ir Clifford PHUNG
- Ir Yuki LEUNG
- Mr Kelvin CHAN

Department of Civil and Environmental Engineering & GREAT Smart Cities Institute (GSCI), The Hong Kong University of Science and Technology (HKUST)

- Prof Hong K. LO, JP
- Prof Jack CHENG
- Ms Vivian CHAN

The Hong Kong Institution of Engineers (HKIE)

- Ir Paul CHAN
- Ir Connie CHAN

Smart City Consortium (SCC)

- Dr Winnie TANG, JP
- Ms Phoebe LEUNG

The Smart Cities Research Institute (SCRI), The Hong Kong Polytechnic University (PolyU)

- Prof John SHI

ABOUT SMART CITY CONFERENCE 2021

CO-ORGANISERS

HKUST Civil and Environmental Engineering Department

The HKUST Civil and Environmental Engineering Department is widely recognized and highly regarded internationally, our students, both undergraduate and postgraduate, of the best quality, and our facility top notch. The Department has been ranked no.16 in the world; No.1 in Hong Kong in QS World University Rankings by Subject 2021.

HKUST Civil and Environmental Engineering Alumni Association

In the last three decades, the HKUST Civil and Environmental Engineering Department has undergone a remarkable transformation - from a department found in Year 1991 in Clear Water Bay, to a reputable hub for excellent research and teaching in the world. The family of alumni already spread across the globe, for academic research and professional engagement.

HKUST GREAT Smart Cities Institute

The HKUST GREAT Smart Cities Institute (GSCI) plays the role of a broad platform in which large-scale projects and interdisciplinary collaborations can come together to advance the underlying science and technology for developing Hong Kong (and beyond) as a smart city. Pivoted around five 'GREAT' attributes of smart cities - Green, Resilient, Empowering, Adaptable and Transformative, the Institute also nurtures the next-generation of talent, formulates evidence-based policy recommendations and develops smart tools for infrastructure planning toward making cities smarter.

Smart City Consortium

Smart City Consortium (SCC) is formed by a group of professionals from different corporations and organizations to provide opinions and suggestions to the Government for formulating related policies and standards in the development of Hong Kong as a world-class smart city. We encourage worldwide collaboration with different stakeholders to create the right ecosystem which fosters innovation and sustainable economic growth for Hong Kong.

The Hong Kong Institution of Engineers

The Hong Kong Institution of Engineers (HKIE) was initially founded in Hong Kong in 1947 as The Engineering Society of Hong Kong to promote the professional standing, interests and technical standards of local engineers across a broad spectrum of engineering specialisations. The HKIE first started off in 1975 with about 2,000 members, and until now, the number of members far exceeds 30,000. Through these years, the Institution has established various engineering disciplines to diversify and intensify our contributions to the development of Hong Kong. Now, the HKIE proudly boasts in total 21 highly professional and specialised Disciplines and 19 Divisions to serve our members and the community.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Mr Victor LAM, JP

Government Chief Information Officer, HKSAR

ABOUT THE SPEAKER

Mr Victor Lam Wai-kiu joined the Hong Kong Government as an Analyst/Programmer in August 1985, immediately after graduation from the University of Hong Kong, majoring in Computer Studies.

As an information technology (IT) professional, Mr Lam has provided IT services to various government departments, including the Housing Department, the Customs and Excise Department, the former Trade Department and the former Information Technology Services Department. He took up the appointment as Government Chief Information Officer on 6 July 2018 to champion the development of information and communications technology, smart city and e-government in Hong Kong.

ABSTRACT

Smart City Blueprint for Hong Kong 2.0

Smart city development can improve people's daily lives and make Hong Kong a more livable city. The Government of the Hong Kong Special Administrative Region published the first *Smart City Blueprint for Hong Kong* in December 2017, which outlines the vision and mission of building Hong Kong into a world-class smart city. The Blueprint sets out 76 initiatives under six smart areas, namely "Smart Mobility", "Smart Living", "Smart Environment", "Smart People", "Smart Government" and "Smart Economy".

In the past three years, various government bureaux and departments as well as related organisations have been taking steps to implement these initiatives, and take forward new initiatives. In December 2020, the Government released *Smart City Blueprint for Hong Kong 2.0* setting out over 130 smart city initiatives across six smart areas, and includes two new chapters on "Use of I&T in combating COVID-19" and "Smart Village Pilots".

The presentation will introduce some of the new initiatives included in Blueprint 2.0, and would cover in more details two of the initiatives under OGCIO - the "iAM Smart" and the Smart Government Innovation Lab.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

郑明媚女士

**中国城市和小城镇改革发展中心智慧低碳部主任
及智慧城市发展联盟秘书长**

ABOUT THE SPEAKER

郑明媚，中国城市和小城镇改革发展中心研究员 智慧低碳发展部主任。研究领域包括：新型智慧城市、数字经济、现代都市圈、新城新区以及绿色城市等。先后主持完成国家标准委、中央网信办以及国家发改委委托课题，包括：产城融合标准研究、智慧小镇发展课题研究、中国新型智慧城市高质量发展等。主持完成天津滨海新区发展竞争力研究、智慧社区以及中欧绿色智慧城市发展比较、中国城市治理智慧化、中国新城新区发展研究等多项地方委托或自主重点课题研究项目。已在各类学术期刊、杂志和报纸上发表论文 40 余篇。参与编著出版物 10 部。曾五次获得国家发改委优秀成果奖。

ABSTRACT

中国新型智慧城市高质量发展与城市治理现代化

介绍中国新型智慧城市发展基本情况，包括国家层面推动新型智慧城市的阶段性进程，国家层面的主要政策，中国智慧城市发展面临的问题，可借鉴的发达国家智慧城市的发展经验。介绍中国城市治理现代化的评估情况，各类城市治理现代化评估的水平。提出城市高质量发展的路径，已经中国城市治理现代化的框架体系。

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Ir Ricky LAU, JP

Director of Civil Engineering and Development, HKSAR

ABOUT THE SPEAKER

Ir Ricky LAU joined the Hong Kong Government in 1992 as an Assistant Engineer. Before joining the Civil Engineering and Development Department in 2015, he worked in the Highways Department and the Development Bureau. He was then the Head of Civil Engineering Office responsible for the implementation a wide spectrum of civil engineering projects including reclamations, site formation, marine facilities, housing-related infrastructural works, public fill facilities and greening works. He is now the Director of Civil Engineering and Development Department overseeing the strategic planning and the implementation of various reclamation projects, new development areas and major infrastructures.

ABSTRACT

SMART, Green and Resilient Infrastructures for City of the Next Generation

The Civil Engineering and Development Department (CEDD) has been taking forward a number of new development areas (NDAs) and the Kai Yi Chau (KYC) Artificial Islands under the Lantau Tomorrow Vision project, which would be the major sources of land supply for economy, community and housing developments in the next decades for supporting the sustainable growth of Hong Kong.

Embracing the opportunity of the availability of extensive new pieces of land to be formed, a suite of smart, green and resilient infrastructures has been planned for our city in future under a holistic and people-centric approach to achieve smart mobility, smart living and smart environment with the promotion of carbon footprint reduction, green buildings and carbon neutrality target.

CEDD also plays a key role in preparing the city for climate change by undertaking studies of the adverse effects of the climate change on infrastructures, establishing suitable coastal protection strategy and harnessing new technology to enhance the slope safety management of Hong Kong.

With the enhanced livability brought about by the smart, green and resilient infrastructures, Hong Kong will become the sustainable city of the next generation.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Ir Jimmy CHAN, JP

Director of Highways, HKSAR

ABOUT THE SPEAKER

Ir Chan graduated from the University of Hong Kong and is a corporate member of the Hong Kong Institution of Engineers and the Institute of Civil Engineers.

Mr Chan joined the Government in September 1986 and has since then worked in various bureaux and departments responsible for managing different kinds of infrastructure projects, including airport development, site formation, roadworks and building development in Hong Kong. Mr Chan served in the Development Bureau from 2007 to 2013 responsible for formulation of works policies related to construction manpower supply, training of construction personnel, water supplies, flood control, slope safety, safety control of lifts and escalators, and construction site safety in public works projects. From 2013 to 2015, Mr Chan worked as Project Manager/Major Works of Highways Department responsible for overseeing the planning, design and implementation of major highways and tunnel projects in Hong Kong. From 2016 to 2018, Mr Chan took up the post of Principal Government Engineer/Railway Development responsible for overseeing the planning and implementation of local and cross-border railway lines. Mr Chan serves as Director of Highways since October 2018.

ABSTRACT

Changing the Way We Build and Maintain Highway Infrastructure Through Innovation

The Highways Department (HyD) has been using advanced technology and adopting innovative ideas to construct and maintain highway infrastructure with a view to improving productivity, quality and safety. In this presentation, the speaker will share with the audience, through the presentation of a number of examples, to illustrate HyD's experience on these aspects. They include:

1. Extensive use of Building Information Modelling (BIM) and mobile application for construction and operation of Tuen Mun-Chek Lap Kok Link
2. Adoption of Internet of Things (IoT) technology for the Smart Lighting Management System (SLMS)
3. Application of Artificial Intelligence (AI) for road defects detection
4. Use of robot system and AI to automatically place and collect traffic cones and lanterns in road maintenance works
5. Work smart with mobile mapping system for road safety and maintenance
6. Use of remote sensing in vegetation management

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Ir Kelvin LO, JP

Director of Water Supplies, HKSAR

ABOUT THE SPEAKER

Ir Kelvin LO has worked in different engineering areas. These included the drawing up of Hong Kong's Railway Development Strategy 2000 in the then Transport Bureau; the asset management of roads and associated slopes, management of excavation permits, financial planning, and project management of mega road projects (including Central – Wan Chai Bypass and Central Kowloon Route) in Highways Department; construction manpower, procurement policies, service promotion in the Mainland market and infrastructure support for land supply in Development Bureau; and corporate administration and human resource management in Civil Engineering and Development Department. He was the then Director of Drainage Services Department, leading the department to manage separate stormwater and wastewater systems totalling over 4,700 km to handle rainfall up to 150mm per hour and sewage flow exceeding one billion cubic metre per year respectively, and to take forward a portfolio of diverse drainage and sewerage projects reaching $190 billion to support Hong Kong's sustainable development amid the threats of climate change. Since 4 November 2020, he has been the Director of Water Supplies Department, managing water supply systems totalling over 8,300 km to provide water supply of about 1.3 billion cubic metre per year, and pressing ahead with the Total Water Management Strategy to manage water demands and build resilience in the water supply with diversified water resources to sustain Hong Kong's water supplies against increasing risks of water scarcity.

ABSTRACT

Hong Kong's Journey towards Smart Water Management

In this presentation, the speaker will share with the audience various smart water management initiatives being implemented by the Water Supplies Department (WSD) including the Water Intelligent Network, Automatic Meter Reading and its mobile app, Water Suspension Notification System and Building Information Modelling, and WSD's vision of developing digital twins for real-time monitoring, optimisation and predictive analysis of the performance of its waterworks assets.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Ir Alice PANG, JP

Director of Drainage Services, HKSAR

ABOUT THE SPEAKER

Ms Alice PANG is the Director of Drainage Services Department (DSD) of the Government of Hong Kong Special Administrative Region. She has a MEng in Civil and Structural Engineering from the University of Sheffield, UK. She is also a member of the Hong Kong Institution of Engineers. Ms PANG has been working in various works departments and participated in numerous mega-infrastructural works. Ms PANG is now leading over 2,000 no. of professional, technical and administrative staff in DSD to provide world-class wastewater and stormwater drainage services, with an objective to alleviate the flood risk and improve the environmental conditions, enabling the sustainable development of Hong Kong. DSD owns over 4,700 km drains/sewers, and about 360 sewage treatment works and pumping stations. Various large-scale projects are being implemented to uplift the flood protection level and sewage treatment capacity to meet the development need of Hong Kong and the challenges brought by climate change. DSD also promotes innovative concept and technologies, for examples, to adopt blue-green infrastructure approach to strengthen the drainage system, to implement treated effluent reuse projects, as well as to enhance services level through continuous research and development using artificial intelligence, robotics, and more renewable energies.

ABSTRACT

Rivers in the City – Smart Drainage Application

DSD has been using smart design system and adopting smart devices to apply the "Rivers in the City" concept to improving the living environment in Hong Kong. The concept of "Rivers in the City" is to revitalise the existing nullahs / rivers and to introduce water bodies revitalisation facilities, such as artificial flood attenuation lakes and river parks in planning large scale drainage projects and new development areas. The aim is to provide high-quality public space for the community and strengthen connectivity along riverside channels. Creative elements with multi-functions will be injected to foster interactions among people, so that they will enjoy river facilities together and experience the multiple values of water bodies.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Dr Samuel CHUI, JP

Deputy Director of Environmental Protection, HKSAR

ABOUT THE SPEAKER

Dr. Samuel H.K. Chui is an Environmental Engineer (Fellow of HKIE) with over 30 years of experience in the Field of Environmental Engineering. He has been responsible for sewerage infrastructure planning, setting effluent standards for effluent discharges, enforcement of environmental legislation, supervising the Shing Mun River Bioremediation Works, the Harbour Area Treatment Scheme, the Organic Resources Recovery Centres and the Integrated Waste Management Facilities. Dr. Chui is an expert in wastewater treatment with 29 international journal papers published, 1400 citations, 5 International Awards as well as the Best Ph.D Thesis Award of the University of Hong Kong in 1993 – 1995. Since 2004, Dr. Chui has been teaching a Master of Science course on "Wastewater Treatment and Reuse" in the Hong Kong University of Science and Technology (HKUST). He has been appointed as an Adjunct Professor in the HKUST. He is now a Deputy Director of Environmental Protection Department of the HKSAR Government, in charge of the environmental law enforcement, environmental impact assessment, water policy and sewerage matters.

ABSTRACT

Applying Smart Technologies in Environmental Monitoring and Management

The Government published the Smart City Blueprint for Hong Kong in December 2017, setting out 76 initiatives under six smart areas, namely "Smart Mobility", "Smart Living", "Smart Environment", "Smart People", "Smart Government" and "Smart Economy". Blueprint 2.0 further puts forth over 130 initiatives which continue to enhance and expand existing city management measures and services with innovation and technology (I&T), aiming to bring benefits and convenience to the public.

The speaker will outline the application of I&T in promoting Smart Environment in the areas of air quality management, energy & carbon management, waste management, enforcement & environmental management, noise planning & environmental assessment, water quality applications and nature & rural conservation. A brief account will also be given on the collaboration between the Government and a cross-disciplinary team of a local university to conduct a research study on testing the COVID-19 virus in sewage and apply it in monitoring the virus transmission in local communities.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Ir Ricky LEUNG

Executive Director, Engineering & Technology, Airport Authority Hong Kong

ABOUT THE SPEAKER

Mr. Leung holds a Master degree of Business Administration from the Chinese University of Hong Kong and a Bachelor of Science (Engineering) Degree from the University of Hong Kong. With more than 30 years of experience in the aviation industry, Mr Leung is responsible for the engineering and technology development of the Airport Authority (AA), managing its assets and delivering engineering projects at Hong Kong International Airport. Before joining the AA, Mr Leung worked in consulting engineering firms and various government departments on the planning, design and project management of large scale infrastructure projects in Hong Kong. Mr Leung is a chartered civil and structural engineer with close to 40 years' experience on the planning, design, construction, operation and maintenance of civil and building infrastructure, facilities and systems. Mr Leung is a Member of the Construction Industry Council, Council Member of the Vocational Training Centre, and Board Member of the Logistics and Supply Chain MultiTech R&D Centre Limited.

ABSTRACT

Building a Smart Airport City with Smart Infrastructure to Strengthen HKIA as the Leading Aviation Hub

Amid the COVID-19 pandemic, the aviation industry has indeed faced a lot of challenges and uncertainties in the lockdown situation with restriction of passenger mobility. The pandemic leads Hong Kong International Airport to rethink on how to use latest technology to accelerate the smart airport road map to take passenger services and airport operations to the next level. Our strategy is threefold:

(1) transform passenger journey into a fully automated and "touchless" process from self-check-in to e-boarding,

(2) adopt wireless cellular vehicle-to-everything solution to establish a collaborative intelligent road transport infrastructure to support various smart mobility initiatives in HKIA, and

(3) digitalize airport operations by Digital Twin, robotics and IoT technology to help real time monitoring to enhance operational efficiency.

5G is also opening a new exciting page for the digitalization of the aviation industry. From fully autonomous airport operations to more seamless passenger experience, the industry is witnessing how the airport enterprise 5G infrastructure will usher in its future development. 5G also facilitates big data analysis and passenger flow forecast. It's capability in processing massive data provides more useful information for resources allocation in relation to terminal operation. Incorporating the wide usage of IoT and AI, 5G's widened bandwidth supports real-time data transmission to the cloud system. When airport congestion and operational bottleneck are identified, relevant data could be comprehensively analyzed on cloud for passenger flow forecasting and resources planning.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Ir Eric PANG, JP

Director of Electrical & Mechanical Services, HKSAR

ABOUT THE SPEAKER

Mr Eric PANG is the Director of the Electrical and Mechanical Services Department (EMSD) and the General Manager of the Electrical and Mechanical Services Trading Fund (EMSTF), both of which are under the Government of the Hong Kong Special Administrative Region (HKSAR) of the People's Republic of China. He leads over 5,000 staff in EMSD. As the Director, he is responsible for enforcing legislations in ensuring public safety on using electricity, gas, railway and other electrical and mechanical installations, and promoting energy efficiency and conservation as well as the application of renewable energy in Hong Kong. As the General Manager of the EMSTF, he administers the provision of one-stop, comprehensive, professional and quality E&M engineering services to government bureaux and departments, as well as public bodies such as the Hospital Authority and Airport Authority. The turnover of EMSTF reaches about $8 billion in 2019/20.

ABSTRACT

Imaginnovating Smart Infrastructure: Mezzo to Macro

The Electrical and Mechanical Services Department (EMSD) has developed smart infrastructures to collect data from electrical and mechanical (E&M) facilities in government venues. Modernizing E&M technologies through digitalization, big data analysis, artificial intelligence and Internet of Things, the smart infrastructures enhance the reliability, availability and maintainability of the facilities so as to bring benefits and convenience to the public. The EMSD has also established the E&M InnoPortal® to incubate ideas and facilitate sharing and application of innovative technologies within government departments, trades, academia, start-ups and stakeholders.

Being the government's "Innovation Facilitator", the EMSD further gears up its smart infrastructures for the development of a territory-wide smart E&M infrastructure system with a view to building a smart, safe, reliable, sustainable and decarbonised city. Together, we co-imagine, co-innovate and co-create our smart infrastructure for the future.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Mr T.K. CHIANG

**Managing Director,
CLP Power Hong Kong Ltd.**

ABOUT THE SPEAKER

Mr Chiang is the Managing Director of CLP Power Hong Kong Limited and holds the overall responsibility for the operations of CLP's Hong Kong regulated business, which includes a vertically integrated electricity utility serving customers in Kowloon, the New Territories and Lantau Island.

Mr Chiang holds a Bachelor of Science in Electrical & Electronic Engineering from the University of Hong Kong, a Master of Science in Electrical Engineering from the Hong Kong Polytechnic University and a Master of Business Administration from the Chinese University of Hong Kong.

Mr Chiang has over 10 years of experience in various senior management positions in CLP Power. He has extensive experience in generation, transmission and distribution systems as well as regulatory strategy. He has held various posts in different areas including power system asset management, planning, design, operation and maintenance, power quality, and corporate and regulatory strategy. He was the Chief Operating Officer in CLP Power before taking up his current position in June 2017. He is also a Director of various subsidiary companies and affiliated companies of the CLP Group.

ABSTRACT

Supporting a Smart City and a Smart Environment with Smart Infrastructure

From the lighting of homes, businesses and streets to underground metros running downtown, electricity has been essential for smart urban development for more than a century. Now in the 2020s, it powers every aspect of our lives and it is becoming more important as we move to decarbonise our city. Electricity is already 55% of all the energy needed for end-use applications in Hong Kong and this is set to increase as our lives become ever-more digitally connected.

Smart environment is one of the six supporting pillars for Hong Kong's Smart City 2.0 Blueprint. We welcome government's commitment to striving for carbon neutrality by 2050 and will work to provide our expertise and support to make that happen. CLP is already reducing the carbon intensity of our electricity supply and we can also help other sectors of the economy, such as transportation to decarbonise. We are introducing new state of the art electricity generation and fuel supply infrastructure, trialling new robotics technology and are working hard to make our grid smarter with more devices and sensors than ever before.

Smart Living is another key element in Hong Kong's Smart City plans. To support that we are rolling out the installation of more than 2 million smart meters, a suite of new digital services for our customers and providing reliable supplies of power for the massive growth in data processing capacity now taking place in our city. We also embrace digitalisation to create brand new customer centric features and enhance customer experience in helping customer to save energy, cost and time.

Finally, Smart City is also about trialing and deploying innovative solutions and building up our own capabilities in Hong Kong. CLP has worked closely with local and international start-ups to curate smart energy management solutions to help our customers save cost and become more sustainable.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Ms Jeny YEUNG

Commercial Director & Member of the Executive Directorate, MTR Corporation Limited

ABOUT THE SPEAKER

Ms Jeny Yeung is the Commercial Director and a Member of the Executive Directorate of MTR Corporation Limited ('MTRCL'). She is responsible for the marketing of MTRCL's railway services as well as managing and enhancing the MTR Brand. She is also responsible for customer service development and the management of various non-fare businesses of MTRCL. She oversees the Company's business in Macau and is also the chairlady of the board of Ngong Ping 360 Limited and a director of some members of MTRCL's group. Ms Yeung is a fellow of The Chartered Institute of Marketing and a chartered fellow of The Chartered Institute of Logistics and Transport in Hong Kong.

Ms Yeung serves on a number of government advisory committee and is also an independent non-executive director of Mox Bank Limited.

ABSTRACT

Smart Mobility to Keep Cities Moving

The company's mission is to keep Cities moving. Through our transportation network and property developments, we enable cities and their people to move forward and make progress. Smart Mobility is an important developments for us to achieve our mission. MTR has been innovating and investing in new technologies to drive digitized solutions that bring a better and hassle-free journey experience to customers.

Our latest Smart Mobility initiatives include the transformation of MTR Mobile into a new all-in-one lifestyle app offering a whole range of useful and real-time journey information at customer's fingertips while engaging them with a brand-new loyalty scheme and lifestyle information. The app is also a ticket wallet, allowing customers to access QR tickets to go around our network.

At the same time, we are progressively rolling out various new Smart Mobility initiatives at station level such as digitalized service processes, robotic applications, free wifi and 5G connectivity etc. to enhance customer experience on one hand and digitalised our operational processes.

All the above digital developments and the more to come enable us to gather data. We have built infrastructure to manage, govern and use the data, which in turn allow us to further enhance our services and operational efficiency.

With the macro trend of digital adoption around the world, MTR will continue to embrace new technologies and explore ways to support the smart city development in Hong Kong and the cities that we serve.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Mr Andrew LAI, JP

Director of Lands, HKSAR

ABOUT THE SPEAKER

Mr Andrew LAI Chi-wah joined the Administrative Service in July 1992. He served in various bureaux and departments, including the former City and New Territories Administration, the former Planning, Environment and Lands Branch, the Housing Department, the Civil Service Bureau and the Home Affairs Department.

He was Deputy Commissioner for Innovation and Technology from February 2009 to April 2012, Deputy Director of Environmental Protection from April 2012 to July 2016, and Deputy Secretary for Financial Services and the Treasury (Treasury) from August 2016 to August 2020. Mr LAI has been Director of Lands since 5 August 2020.

ABSTRACT

Geospatial Infrastructure for Smart City

The Government of Hong Kong Special Administrative Region published in December 2020 the Smart City Blueprint 2.0 for Hong Kong setting out initiatives to enhance and expand city management measures and services, including the development of Common Spatial Data Infrastructure (CSDI) and 3D Digital Map to facilitate the sharing of geospatial data across government departments and the development of government-to-business (G2B) applications. These initiatives aim to help the public realise the benefits from the development of smart city and innovation and technology in their daily lives. The Lands Department has taken the pivotal role in contributing to the establishment of the geospatial infrastructure of the city, through the development of CSDI, 3D Digital Map and BIM Data Repository by its Survey and Mapping Office. The recent quick win projects, i.e. the enhancement of positioning fixing network, the establishment of COVID-19 Dashboard and opening up 3D Pedestrian Network, 3D Visualisation Map and Map API to the public under the CSDI initiative, have enabled government departments and the public reaping early benefits of using geospatial data. Director of Lands will share in the conference on the geospatial infrastructure development in supporting the establishment of the digital twin of Hong Kong and how it shapes Hong Kong towards a livable, innovative and sustainable smart city.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Ms Winnie HO, JP

Director of Architectural Services, HKSAR

ABOUT THE SPEAKER

Ms. Winnie Ho joined the Hong Kong Government as an Architect in 1992. Since then her career has been closely associated with development of public buildings, infrastructure and urban planning of Hong Kong. She started with her first posting in the Architectural Services Department (ArchSD), designing and delivering public facilities including schools, public laboratory, leisure, culture and sports facilities and government offices.

Ms. Ho was posted to the Development Bureau in 2010 and assumed the post as the Deputy Head of Energizing Kowloon East Office of the Development Bureau in Feb 2012. She took up the challenging policy initiative to transform Kowloon East from an old industrial area into an additional business district to support the long term economic development of Hong Kong.

She returned to ArchSD in Aug 2016 and started the Innovative Construction Focus Group in 2018 to explore the application of new technologies and innovation in ArchSD's projects. She also involved in many special projects during this period including the Quarantine Camps and North Lantau Hospital Hong Kong Infection Control Centre using Modular Integrated Construction (MiC) technique to provide many anti-epidemic facilities within a short time.

In Dec 2020, Ms. Ho assumed the post of Director of Architectural Services. She continues to lead the department for improvement on public works through the application of new technology and innovative building solutions to provide a better living environment for public enjoyment in Hong Kong.

ABSTRACT

Our Journey to Smart Building Design and Facilities Management

The Architectural Services Department (ArchSD) is responsible for the design, construction and maintenance of government buildings / facilities. As the works and maintenance agent for about 8,000 government buildings with an aggregate floor area of 33 million m2, ArchSD has continuously strived to boost our innovation capabilities in the past decades through the collaborations with contractors, consultants, and stakeholders to adopt innovative design and construction methods in our projects. Modular Integrated Construction (MiC), Design for Manufacturing and Assembly (DfMA), Building Information Modelling (BIM), Smart Asset Management and Maintenance are adopted in our projects. With all Innovation and Technology (I&T) applications, ArchSD can achieve more impressive deliverables in project development and facilities upkeep services.

We are delighted to share our humble journey to Smart Building Design and Asset Management and some of the examples in our on-going pilot projects in exploring the possibility of Smart Buildings contributing to a Smarter City in Hong Kong.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Ms Amy CHEUNG, JP

Head of Energizing Kowloon East Office, Development Bureau, HKSAR

ABOUT THE SPEAKER

Ms Amy Cheung is currently Head of the Energizing Kowloon East Office (EKEO), a multidisciplinary office set up under the Development Bureau of the Hong Kong SAR Government. EKEO is responsible for facilitating the transformation of the old industrial areas at Kowloon Bay and Kwun Tong together with the Kai Tak Development into a vibrant and attractive second core business district of Hong Kong. She is a town planner by profession and has a long working experience in the public sector.

Ms Cheung's experience covers strategic planning and major planning studies, including "Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030", as well as planning and engineering studies for new development areas such as Kwu Tung North/Fanling North, Hung Shui Kiu/Ha Tsuen and Yuen Long South.

ABSTRACT

Kowloon East – An Ideal Platform for Piloting

Kowloon East is a pilot area for exploring the feasibility of Smart City development in Hong Kong. The Energizing Kowloon East Office has developed a people-centric smart city framework specifically for Kowloon East and developed strategies and set priorities for smart city proposals, aiming to facilitate the co-creation of the district into a vibrant, smart and sustainable second core business district (CBD2) of Hong Kong.

Comprising the densely built up old industrial areas of Kwun Tong and Kowloon Bay and the former airport at Kai Tak, Kowloon East is undergoing major urban transformation. This intermix of old and new provides an ideal platform for promoting innovation, converging people for interaction, collaboration and knowledge transfer, and fostering a test bed for different smart city initiatives in different urban settings with different people. The various government initiatives, proof-of-concept trials, requirements for new development sites, sustainable urban design and collaborative projects in Kowloon East will help us foster a smarter future for Hong Kong, starting with Kowloon East.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Sr Winnie SHIU

Head of Spatial Data Office, Development Bureau, HKSAR

ABOUT THE SPEAKER

Sr Shiu obtained a BSc (Hons) in Surveying and Mapping Sciences and MSc in Public Administration and Development in the United Kingdom. On professional qualifications, she is Fellow of the Hong Kong Institute of Surveyors and Royal Institution of Chartered Surveyors, Authorized Land Surveyor, Registered Professional Surveyor (Land Surveying) and Construction Industry Council Certified BIM Manager.

Sr Shiu is currently the Head of Spatial Data Office of the Development Bureau and Assistant Director of the Lands Department of the Government of the HKSAR, and has been contributing her expertise by taking up various roles in the professional institutes both locally with the Hong Kong Institute of Surveyors as President, Chairman of the Surveyors Registration Board, and internationally with the International Federation of Surveyors as Chair of Commission 1 on Professional Standards and Practice, and the Chinese Society for Geodesy, Photogrammetry and Cartography as Executive Member.

ABSTRACT

Development of Common Spatial Data Infrastructure in Hong Kong

The Smart City Blueprint promulgated in Dec 2017 acknowledges the importance of Common Spatial Data Infrastructure (CSDI) as a necessary infrastructure to facilitate the sharing of spatial data to support inter-department and government-to-business applications. The CSDI is a one-stop map-based digital platform where spatial data with agreed standards can be stored, shared and assimilated in a composite manner, and where government, academia and the public can explore, search, view and download such spatial data through a portal of CSDI accessible from the Internet. With the commitment of putting the CSDI portal into full operation by end 2022, Sr SHIU will introduce the road map of the development of CSDI for supporting the smart city development of Hong Kong.

KEYNOTE SPEAKERS' BIOGRAPHIES & ABSTRACTS

Prof Lei CHEN

Chair Professor, Department of Computer Science and Engineering, HKUST & Director, HKUST Big Data Institute

ABOUT THE SPEAKER

Prof Lei Chen is the Chair Professor of the Department of Computer Science and Engineering of HKUST and Director of HKUST Big Data Institute

He received his BS degree in Computer Science at Tian Jin University, P.R.China (BS 94), and an MA degree in computer science at Asian Institute of Technology (AIT) Asian Institute of Technology (MS 97). He received a Ph.D. degree in Computer Science at University of Waterloo. Lei Chen is an IEEE Fellow and ACM Distinguished Scientist.

His Research Interests including

- Data-Driven Machine Learning
- Crowdsourcing-based Data Processing
- Uncertain and Probabilistic databases
- Web data management
- Multimedia and Time series databases
- Privacy

ABSTRACT

The Development of Benchmark Datasets for Smart City Application

For many smart city applications, like traffic monitoring, tour guiding and event planning, advanced AI techniques can help to build various models to offer such kind of service. However, without properly collected and labelled data, it is hard to achieve satisfactory feedback from users.

Therefore, in this talk, I first briefly introduce the importance of building benchmark data for smart city applications. Then, I will present five pillars for a growing city, which are environment, infrastructure, transportation, population and business behaviors. In our smart city project, we collected landscape, weather, road, port, travel speed, social activity, stock, government policies, marketing information, etc. These collected benchmark data can be generally classified into two groups, spatio-temporal data and temporal-only data. The environment data consists of geographic information like location and landscape, while infrastructure contains the number of roads, ports and bridges, transportation contains traveling of people or goods, population contains human resources and activity and business behavior contains construction and investment. Even though we have created the benchmark data out of a large and complex city dataset, we still face many challenges such as different data formats from various sources. Thus, in the end, data cleaning and fusion is a must, which can help to prepare the benchmark data sets effectively and efficiently.

TECHNICAL PRESENTATION SPEAKERS

张亚东先生

新智认知数字科技股份有限公司
董事长

题目：新型智慧城市建设运营模式：政府授权以运营为目的的建设

Ms Jessie CHAN

Solution Architect,
Digital Transaction Limited

Topic: Blockchain, Sustainability, and the GBA

Dr Wenwei CHE

Research Assistant Professor,
HKUST

Topic: A Smart Mobile Application for Predictive Health Risk Management

Mr John WONG

Director,
Lik On Technology Ltd.

Topic: How to Build a Smart and Healthy Community?

Mr Pubudu ABAYASIRI

Associate Director,
CLP Innovation Enterprises Limited

Topic: Connecting Sustainable Innovations and Digital Energy Management Needs in Buildings

Ms Jacqueline LEE

Architect

Topic: Smart Promenade Design

刘建平先生

未来协同技术研究院
执行院长

题目：城市与能源—如何更加智慧？

Mr Noah LAM

Business Development Manager,
Remotec Technology Limited

Topic: Applying Privacy-aware Radar Technologies in Elderly Smart Living Fall Detection and in Gesture Control for Display Screens in Smart City Furniture

Mr Richard WILLDER

Head of Public Policy & Government Affairs,
Uber

Topic: Future of Transportation

Mr Daniel CHUN

Founder,
Airxed Technology Limited

Topic: Sustainable Use of Air Conditioning with Demand Side Management of Electricity

Ir Chung Hon-hei, Matthew

Senior Geotechnical Engineer,
Geotechnical Engineering Office,
Civil Engineering and Development Department,
HKSAR

Topic: Application of Advanced Quadruped Robots for Geotechnical Works Inspections

TECHNICAL PRESENTATION SPEAKERS

Ir Dr Ken CHAN

Chief Technology Officer,
WEC Group

Topic: A Practical Framework for Smart Building Transformation

Mr Lester CHAN

Co-founder,
AAIOT Group and Aura Labs

Topic: The Possibilities of Device Orient Digital Twin in People-centric Spaces

Mr Shanjing ZHOU

Executive Consultant,
MES Group

Topic: Digital Twinning for Urban Rejuvenation - Leveraging BIM and Infrared to Create a Better Post-covid Smart City

Mr Ringo SZE

Project Manager,
Chun Wo Construction & Engineering Co. Ltd.

Mr. Kevin WAN

Co-Founder,
Hong Kong RFID Limited

Dr. CHUK Tin Yim, Tim

Director,
Tuples

Topic: Use of IoT and Engineering Management for Trees at Slopes in Hong Kong

Sr Paul TSUI

Managing Director,
Esri China (Hong Kong)

Topic: Integrating 3D GIS with BIM for Smart City Development

Ir Terence Lok Lun LUI

CEO,
Varadise Limited

Topic: The Intelligent Management Platform for Smart Construction and Smart Facility

Ms Rosana WONG

Executive Director, Yau Lee Holdings Limited
Founder and President of Ophylla Ventures

Topic: The Latest Developments in terms of Smart Infrastructure like: MiC/DfMA/ QAQC BIM Blockchain Platform and AI/ Robotic Autonomous Vehicles

Mr Christoph BURGDORFER

Connected Technology Evangelist,
Asteria Corporation

Topic: Creating a Smart City App Store for Hong Kong

Prof. Shang-Hsien HSIEH, Patrick

Professor and Chairman,
Department of Civil Engineering, National Taiwan University

Topic: Decision Support Platform for Digital Governance of Smart City Infrastructure in Response to Environmental Changes

Mr Alex WAN

Director of Smart Solutions,
WSP

Topic: Hong Kong Smart City Infrastructure - In the Light of Futurisation

TECHNICAL PRESENTATION SPEAKERS

Ir Vincent L. F. YUAN

Engineer,
Bridges and Structures Division, Highways Department, HKSAR

Topic: Smart Maintenance for a Long Span Suspension Bridge - Tsing Ma Bridge

Dr Tomi Nissinen

Technical Manager,
Nano & Advanced Materials Institute

Topic: Collapse-Free Backfill Material for Pavement

Mr WONG Chun Fai, Jeffrey

Chief Geotechnical Engineer/ Planning, Geotechnical Engineering Office, Civil Engineering and Development Department, HKSAR

Topic: The Second Territory-Wide Airborne Light Detection and Ranging (LiDAR) Survey for the Hong Kong Special Administrative Region

Mr Hannes SALZMANN

Regional Manager,
Geobrugg AG

Topic: Smart Rockfall Barriers

Dr Wendy LEE

Regional Manager, HK & Macau,
Autodesk Far East Limited

Topic: Future of Making Smart Cities

Mr Christian TINO TERRANEO

Managing Director,
ATC Austrian Technology Corporation

Topic: Austrian Smart Infrastructure

Ir Andy WONG

Head of Digital G,
Gammon Construction Limited

Topic: Digitally Connecting the Whole Life of a Smart Infrastructure

Ir TANG Kai-yan, Alan

Chief Engineer (Port Works),
Civil Engineering and Development Department, HKSAR

Dr Lawrence POON

General Manager, Hong Kong Productivity Council (Smart City Division) & Automotive Platforms & Application Systems R&D Centre

Topic: Sensor-based Monitoring and Use of Innovation Technology for Pier Maintenance

Mr Telmo GOMES

IT Director,
LiveSense

Topic: Sustainability Cup

Ir Dr Bruce CHONG

Director (City Advisory and Urban Sustainability),
Arup

Topic: Planning & Design of Enabling Infrastructure to Realize a Smart City

Mr Thomson LAI

Asia Digital Leader,
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Topic: Digital City

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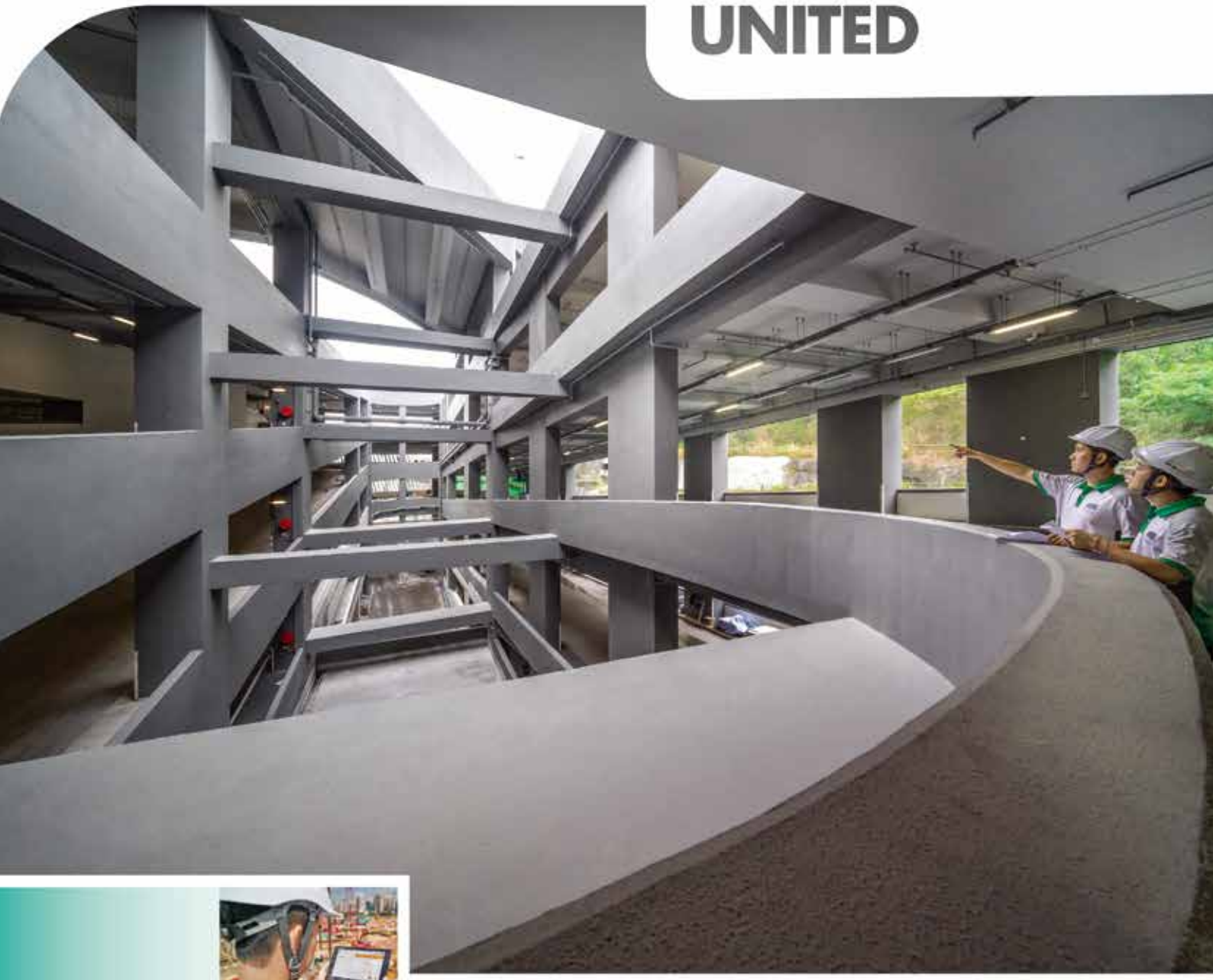

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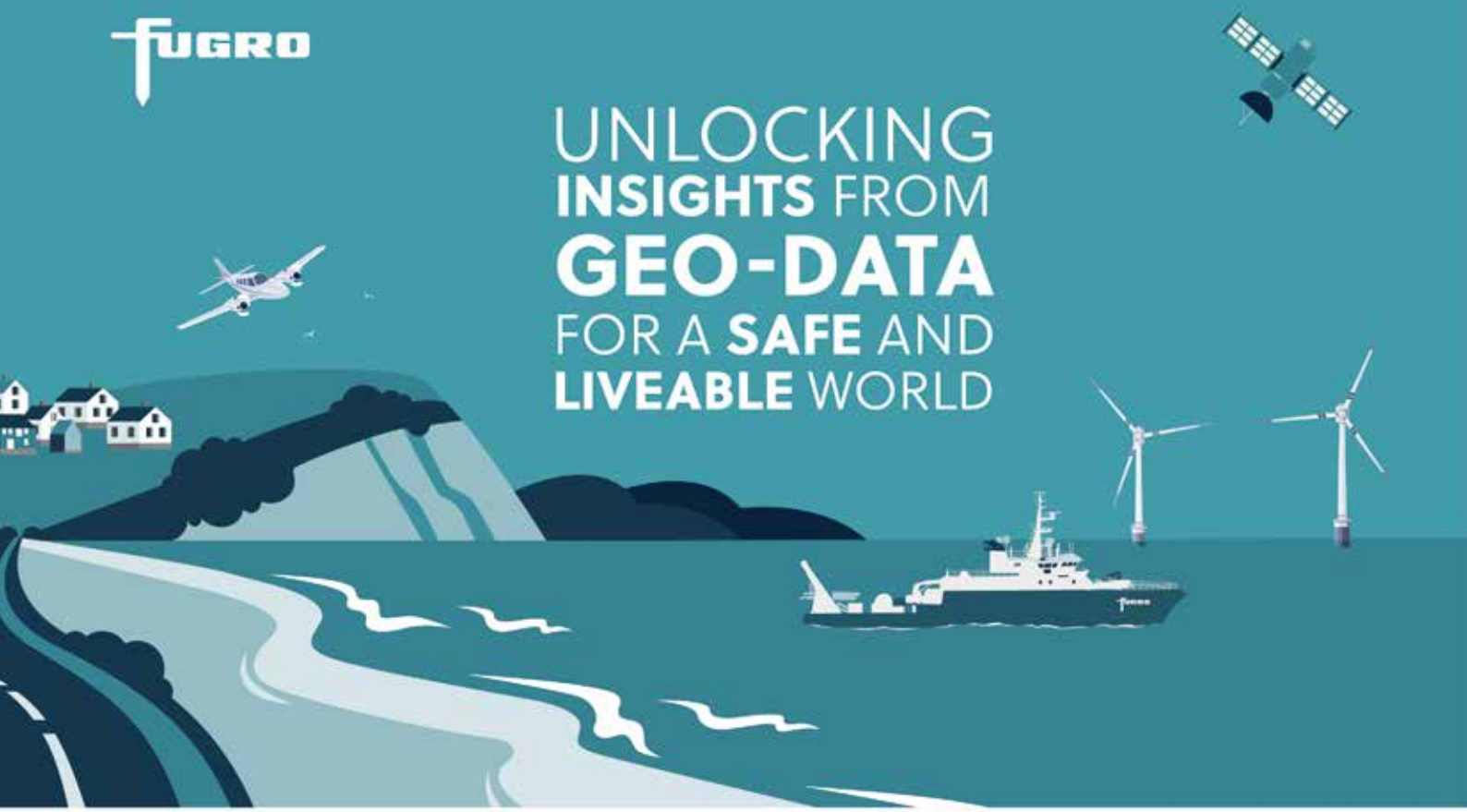

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