

ITS Forum 2018

SMARTER AND AUTOMATED – THE FUTURE OF OUR CITY



Thursday 26 April 2018
The Hong Kong Polytechnic University

Organizers:



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Acknowledgements

ITS Hong Kong would like to express sincere thanks to the Co-Organizer, Sponsors and Supporting Organizations and for their Generous Support of the Forum:

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Electronics Division
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INSTITUTION OF ENGINEERS
香港工程師學會

The Institution of Engineering and Technology

IET The Institution of
Engineering and Technology

ITS-Singapore

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ITS TAIWAN

Smart City Consortium

SCC
智慧城市聯盟
Smart City Consortium



Intelligent Transportation Systems Hong Kong



- A non-profit making learned society
- Membership comprises organisations and individuals involved in ITS
- Facilitate cooperation among ITS-HK members

Objectives of ITS-HK:

- Formulate standards for participation in National and International ITS standardization processes
- Provide a forum to determine user requirements and solutions
- Examine non-technical and institutional issues (privacy, intellectual property, liability etc.)
- Encourage R & D in ITS technologies for multi-disciplinary partnerships among public and private sectors
- Promote awareness of the benefits to the public and relevant decision-makers
- Enhance and encourage the exchange of information amongst local, Mainland and international ITS industry
- Organize member activities for the promotion of ITS in Hong Kong SAR

Missions of ITS-HK:

- To promote the applications of ITS in Hong Kong
- To facilitate cooperative activities related to ITS in Hong Kong
- To promote and facilitate development of local ITS industries



Organized by:



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

ITS Forum 2018

Smarter and Automated – The Future of our City

26 April 2018 (Thursday)

Room V322, Jockey Club Innovation Tower, The Hong Kong Polytechnic University

Programme Schedule

09:00 am	Registration Reception and Networking	12:15 pm	Panel Session
09:30 am	Introduction and Opening Ir. Andrew Pickford, Council Member of ITS-HK	12:35 pm	Lunch Break
09:35 am	Welcome Speech Ir. Charles So, President of ITS-HK	02:30 pm	<i>Keynote Address: Smart Mobility in Hong Kong – The Opportunities and Challenges</i> Ir. Wai-Leung Tang, Deputy Commissioner, Transport Department, Government of the HKSAR
09:40 am	Opening Address by Hon Frankie Yick, SBS, JP, Legislative Councillor (Transport), Hong Kong Special Administrative Region	02:55 pm	Souvenir Presentation
10:05 am	Souvenir Presentation	03:05 pm	<i>Smarter Cities – Is It All About Technology?</i> Dr. Kian-Keong Chin, Chief Engineer, Land Transport Authority, Singapore
10:15 am	<i>Digitalization Bring Smart Mobility</i> Mr. Vincent Hoy, Head of ITS, Siemens Ltd	03:30 pm	Coffee Break
10:40 am	<i>Challenges in Implementation of Electronic Toll Facilities “Stop & Go” at Manual Tolls</i> Mr. Eric Luk (Deputy Managing Director) & Mr Daniel Yip (Project Manager), KML Engineering Ltd	03:50 pm	<i>Vision of ITS Development in Taiwan</i> Mr. Murphy Sun, Executive Vice-President of ITS-Taiwan
11:05 am	Coffee Break	04:15 pm	<i>Impact of Autonomous Vehicles on the Urban Environment</i> Ir. Andrew Pickford, Director of Infrastructure and Transport Advisory Services, MVA Hong Kong
11:25 am	<i>Use of Bluetooth and Wifi for Monitoring Traffic and Pedestrian</i> Prof Edward Chung, Professor of Intelligent Transport Systems, The Hong Kong Polytechnic University	04:40 pm	Q&A Session
11:50 am	<i>Create a Smart Transport City by Utilizing Driving Safety Technology and Big Data Analytics</i> Mr. Antonio Wong, Co-Founder and CEO, GreenSafety Technology Ltd	05:00 pm	Forum Closing Speech by ITS-HK
		05:15 pm	Event Close

Welcome Message from President of ITS HK



With the Smart City Blueprint put in place, our Government reaffirms its determination to drive a series of Smart City Initiatives to unlock the potential for creating high quality infrastructure, vibrant communities, and long term sustainability in Hong Kong. Smart Mobility being one of the key modules within a Smart City, we can anticipate numerous projects coming up to improve Walkability, Accessibility, Real-time Information Dissemination and Safety.

As the leading ITS organization in Hong Kong, we will be exploring novel technologies and strategies that could help us revolutionize the city infrastructure, regulations and user behavior in this forum. I would like to take this opportunity to express my gratitude to our distinguished speakers for sharing their insights and experiences in shaping Smart Mobility with us.

I would also like to thank the Organizing Committee for its effort in making this forum come to live. I believe you will find the theme: “Smarter and Automated - The Future of our City’ conducive to equipping yourselves with smart solutions.

Warmly welcome you all to the forum and appreciate very much for your continuous support to ITS Hong Kong and the development of ITS.

Ir. Charles So
President of ITS HK

ITS Forum 2018

Special Thanks to Forum Organizing Committee

Chairman
Ir. Hamlyn Kuong

Event Promotion
Ir. Steven Lui

Treasurer
Mr. Paul Xia

Event Coordination
Mr. Tony Chan
Mr. Ray Lam
Dr. Lilian Pun

Logistics
Mr. Owen Leung
Ms. Bini Yiu

Opening Speaker Hon Frankie Yick, SBS, JP

- Legislative Councilor (Transport)

Hong Kong Special Administrative Region

Biography

Mr YICK Chi Ming, Frankie, joined Wharf group in 1994. He is now responsible for, inter alia, overseeing the Wharf group's public transport and terminals portfolio. Mr Yick has extensive industrial and management experience in the public transportation and logistics industry, and is a member of the Legislative Council of Hong Kong representing the Transport Functional Constituency. He holds directorships in various Wharf group companies. Mr Yick is a non-executive director of Harbour Centre Development Limited (stock code: 51) and The "Star" Ferry Company, Limited and also a director of Modern Terminals Limited, all being subsidiaries of Wharf. He is also a director of Hong Kong Air Cargo Terminals Limited which is an associate of Wharf. Other than the private sector, Mr Yick has also been appointed as a Board member of the Airport Authority Hong Kong since June 1st 2014, and a member of the Property Management Services Authority since December 1st 2016. On the maritime and logistics sector, Mr. Yick has been appointed as a member of the Hong Kong Maritime and Port Board on April 1st 2016, a member of the Hong Kong Logistics Development Council since November 1st 2012 and Chairman of HKTDC Logistics Services Advisory Committee since April 1st 2018. Mr Yick is a chartered engineer. He holds a Bachelor Degree in Industrial Engineering awarded by The University of Hong Kong and a Master Degree in Industrial Management awarded by The University of Birmingham, UK.



Keynote Speaker

Ir Wai-Leung Tang

- Deputy Director, Transport Department,
Government of HKSAR



**Keynote Speech: Smart Mobility in Hong Kong
– The Opportunities and Challenges**

Biography

Ir Tang is both a qualified civil engineer and a town planner. Having obtained BSc(Eng) in Civil Engineering and MSc in Urban Planning from the University of Hong Kong, he had worked in the Transport Department for over 15 years in strategic transport planning and is now serving as the Deputy Commissioner overseeing the traffic engineering and technical services in the department. He has over 30 years of public service and managed the delivery of major infrastructure projects (including new towns and new development areas, science park, housing projects, airport and railway development). He has also worked in various Bureau and departments including the then Housing Bureau, Drainage Services Department, Environmental Protection Department and Civil Engineering Development Department.

Ir Tang had been a visiting scholar with the UC Berkeley, United States and is now an Adjunct Professor in transport planning with the Department of Civil Engineering, University of Hong Kong.

Abstract

Hong Kong has been renowned for its excellent road infrastructure and transport efficiency, capable of coping with more than 12 million passenger journeys daily, 90% of which are through public transportation. Yes, we are very proud of it. But, one naturally will ask: are we approaching the limit? Continuous expanding our road infrastructures through conventional approaches like constructing more roads and railway networks on the supply side seems no longer an adequate solution. Diversified stakeholders' interests make consensus building an extremely difficult process. Challenges can be turned into opportunities if we think and act quick. We are actively delivering smarter solutions making use of advance transport technologies. Though we are a bit lagging behind, we are determined to take a bold step forward to regain our edge. We are now formulating a smart mobility roadmap setting out development plans for applications of transport technologies uplifting mobility in Hong Kong in the coming few years and beyond.

Speaker

Mr Vincent Hoy

- Head of ITS, Siemens Limited



Topic: Digitalization Bring Smart Mobility

Biography

Mr. Vincent Hoy is a Chartered Rail and Transport Professional Engineer with over 20 years of practical experience in various Intelligent Traffic, Railway Signaling, SCADA, Telecommunication System bids and projects. He is the Head of ITS for Siemens Limited. He is responsible for various urban and interurban traffic solutions with complete range of product portfolio including Traffic Control and Surveillance Systems, Advance Traffic Management Systems, Intelligent Junction/Traffic Detection Solutions as well as Smart City solutions.

Abstract

Being mobile has been a basic need since the earliest days of humanity and people are getting more concerned on how to get around in more efficient way. On the one hand, demand for mobility is set to rise more quickly in the future. On the other hand, the resources for further growth are finite, even the space right outside our doorsteps for roads and railways is becoming scarce. To overcome these challenges, we need a rapid technical evolution - through digitalization and automation of transport systems such that we can get a grip on the problems of increasing road traffic. Siemens as world leading traffic solution provider, are committed to bringing digitalization to mobility solution and the presentation is to guide through the audience our answer to the digitalization mobility evolution.

Speaker

Mr Eric Luk

- Deputy Managing Director, KML Engineering Ltd



Mr Daniel Yip

- Project Manager, KML Engineering Ltd



Topic: Challenges in Implementation of Electronic Tolling Facilities “Stop & Go” at Manual Tolls

Biography

Mr. Eric Luk is the Deputy Managing Director of KML Engineering Limited, an E&M engineering solutions and services provider focusing on Transportation Mission Critical System Solutions. In his role, he leads the strategic business development of the company, particularly in railway and public transportation sector. He has worked nearly 15 years in railway project management, implementation and contract administration in platform screen doors (PSD), automatic collection system, signalling system & communication system for operation railway and new MTR railway lines (including Kowloon Southern Link, Lohas Park Station, South Island Line and Express Railway Link).

Mr. Daniel Yip is the Project Manager of KML Engineering Limited, an E&M engineering solutions and services provider focusing on Transportation Mission Critical System Solutions. Mr. Yip obtained a degree of Bachelor of Science in Electronics from the Open University of Hong Kong, in 1999, and a degree of Master in Engineering Management from University of Technology, Sydney, in 2004. Mr. Yip has over 15 years' experience in design, implementation and project management of the control system projects.

Abstract

Motorists in Hong Kong were long used to pay tunnel fees by handing over cash at manual tolls, in the light of the advent of various electronic payment methods in our daily life, the Government has introduced the “stop-and-go” electronic tolling facilities at the manual toll booths of several tunnels and control areas since last year. This allows motorists to pay tolls by Octopus or contactless credit cards (including Visa, MasterCard and UnionPay) and saves time otherwise spent on cash counting and receiving change.

Speaker

Prof Edward Chung

- Professor of Intelligent Transport Systems, The Hong Kong Polytechnic University

Topic: Use of Bluetooth and Wi-Fi for Monitoring Traffic and Pedestrian

Biography

Edward is a Professor of Intelligent Transport Systems at the Hong Kong Polytechnic University. Prior to joining PolyU, Edward was the Director of the Smart Transport Research Centre at the Queensland University of Technology (QUT) in Brisbane. He has many years of experience as an engineer and an experienced academic and researcher working both nationally and internationally. He is also a visiting professor at the ITS Centre, the University of Tokyo. Edward holds a Bachelor of Civil Engineering with Honours, and a PhD from Monash University.



Speaker

Mr Antonio Wong

- Chief Executive Officer & Co-Founder,
GreenSafety Technology Ltd



Topic: Create a Smart Transport City by Utilizing Driving Safety Technology and Big Data Analytics

Biography

GST Chief Executive Officer & Co-Founder, young entrepreneur, graduated from the Department of Statistics, University of Manchester, UK. Formerly managed HKD800-million investment fund. Dedicating to public affairs and committed to the use of big data, Internet of Vehicles (IoV), cofounder of Entrelink, a young entrepreneur think tank. Recently, Antonio was invited to a “48-strong delegation” to Beijing, Vietnam and Cambodia promoting business opportunities for the industry with the Hong Kong SAR Government. Antonio was mainly engaged in the financial industry, but he wanted to create intangible value through his contribution to the society. According to his studies, road traffic accidents kill some 1.25 million people every year. In Hong Kong, there is no significant decrease in road accidents for the past 10 years. Empirical studies show that 84% of accidents is caused by human driving behavior. He then committed to the development of a practical driving safety technology which should be ready-to-use and cost-effective. “Zero road accidents” is no longer a dream in Hong Kong.

Abstract

We developed a Safematics Smart Safety System Solution (4S Solution) for commercial vehicles two years ago to reduce traffic accidents caused by bad driving behaviour by human drivers.

Systems installed in the car such as black boxes, GPS, and dashcams can only be used for investigation AFTER an accident. Hong Kong introduced the minibus speed limiter 8 years ago. According to the annual report by the Transport Department, more than 80% of traffic accidents are caused not by speeding, but by drivers' bad driving behavior.

While we want to know the driving performance of each driver, they had no objective nor complete set of big data to make sound judgements before the time 4S came into play which can be simply installed at the front windshield.

4S Solution consists of the finest selection of sensors with Big Data Analytics harnessing the Internet-of-Vehicles (IoV) with reduction of fuel and CO2 emissions by 16% respectively, it may reduce 45% of road accidents instantly and redefine road safety standards with its complete set of human driving behavior big data.

In addition to directly reducing traffic accidents and improving fleet management, the smart cities and unmanned vehicles are the areas covered by the 4S. The use of human driving data is extensive, and it has potential value for the accidental and frequent development of automated driving research.

Speaker

Dr Kian-Keong Chin

- Chief Engineer, Land Transport Authority, Singapore

Topic: Smarter Cities – Is It All About Technology?

Biography

An engineer by training, Dr Kian-Keong Chin has been involved in the planning, designing and implementing of various road and traffic management projects in Singapore, as well as the development and management of Intelligent Transportation Systems (ITS) and the Electronic Road Pricing (ERP) system. He is now the Chief Engineer on Road & Traffic issues at Singapore's Land Transport Authority.



Speaker

Mr Murphy Sun

- Executive Vice-President, ITS-Taiwan

Topic: Vision of ITS Development in Taiwan

Biography

Murphy Sun is the Executive VP of ITS Taiwan, AP-BOD of ITS Taiwan, Executive Supervisor of TTIA and also the General Manager of Sunsky International Ltd. He is an EMBA graduate from Royal Roads University, and is currently a PhD candidate of National Taiwan Normal University. ITS Taiwan was established in 1998, and has developed for 20 decades. We are willing to develop Taiwan as a ITS island, so we proposed 5S Principles including Seamless Traffic, Information Sharing, Safe Driving, Smooth Traffic, and Sustainable Model. ITS Taiwan is focused on coordinating the public and private sector resources, and to achieve a collaborative industrial environment with open-standard. Furthermore, we are also dedicating more to make Taiwanese enterprises of the whole supply chain cooperate with the aim of promoting the worldwide development of IoT and Smart City.



Speaker

Ir Andrew Pickford

- Director of Infrastructure and
Transport Advisory Services,
MVA Hong Kong Ltd



Topic: Impact of Autonomous Vehicles on the Urban Environment

Biography

Andrew has been instrumental in the early development of industrial robotics, mobile location services and the application of advanced technologies to roads and vehicles since 1989. In his diverse career, Andrew has established himself as a practitioner in the field of Intelligent Transport Systems, Intelligent Mobility and Smart Cities, often looking at how we can better enable drivers, vehicles and the built environment to become more and more interconnected. Andrew has worked on many landmark mobility-related projects globally and, in-between grappling with project management and policy development initiatives, he has advised governments on PPP and industrial strategies, and he's also a published author in these specialized areas. He was founder / chair of the Society for Intelligent Transport Systems (Road User Charging Systems) in the UK from 2003 to 2010 and. He's been based in Hong Kong since 2010, focusing on transaction advisory, Electronic Road Pricing, 'connected vehicles', urban traffic control, cooperative driving and vehicle platooning applications. He's currently working on several projects related to Mobility as a Service and autonomous vehicle pilots.

Abstract

Innovation underpins change and there is no doubt that increasing levels of automation of our vehicle fleet is likely to move us closer to a future where the majority of personal travel is delivered by new mobility service providers. This means that ownership of vehicle assets will give way to an increasing willingness to pay for use of it only when required. On demand, convenience is not new though. Car and ride sharing operators are competing aggressively to promote convenience and making every step of the travel experience as frictionless as possible. However, convenience drives usage, and usage drives congestion. The economies of scale desired by such operations may have unintended consequences which provides an early insight into challenges faced by automotive manufacturers as they consider their own future.

The impact on infrastructure is expected to be equally profound. Based on Systra's extensive experience in infrastructure modelling, financial modelling and transaction advisory in general, the presentation will provide an early insight into the principles that are likely to drive the restructuring our urban environment around Autonomous Vehicles (AVs) and the potential reallocation of benefits amongst stakeholders including existing users of public transport, private car users and pedestrians.



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