



For Immediate Release

LSCM Logistics Summit 2019

Showcasing latest technology innovations in logistics and other sectors for industries to capture the opportunities in the Greater Bay Area

20 September 2019, Hong Kong — The Logistics and Supply Chain MultiTech R&D Centre (LSCM) held its flagship annual event – **LSCM Logistics Summit 2019** – today at Hong Kong Science Park. Under the theme of “The Pivotal Role of Hong Kong in the Greater Bay Area”, LSCM presented a series of its newly developed and commercialised technologies in the logistics and other sectors to help enhance efficiency and facilitate collaboration among businesses in the Greater Bay Area (GBA). Showcased technology innovations by LSCM included the Deliverbot, Smart Service Robots, Smart Lifter, Follow-Me Robot, Hong Kong-Zhuhai Trade Facilitation Platform (eTFP), eBRAM Online Dispute Resolution Platform and Smart Traffic Control System, etc., along with others developed in collaboration with its partner organisations.

With an aim to enhance Hong Kong’s competitiveness as a pioneer in the GBA, the Summit brought together government officials, industry experts, business leaders and academic representatives to share their experience, views and valuable insights into the development of innovations and technology for the logistics and supply chain industry, and other sectors.

Enhanced local Entrepot Trade with imminent launch of Hong Kong-Zhuhai Trade Facilitation Platform

As a highlight, LSCM today announced the pre-launch final trial of the Hong Kong-Zhuhai Trade Facilitation Platform as a precursor to its official launch in late 2019, following the signing of a Memorandum of Understanding (MoU) between LSCM and The People’s Government of Zhuhai in October 2018. The Platform is a pioneering one-stop trade service support platform that helps small and medium-sized enterprises (SMEs) to capture the opportunities in the GBA development.

LSCM’s latest technologies support SMEs to seize the opportunities in the GBA

Dr Sunny CHAI, BBS, Chairman of Board of Directors of LSCM, said whilst delivering the welcome remarks at the event, “By adopting innovation and technology, we can spearhead our efforts and cope with the challenges that come along in this rapidly changing environment. With the country’s strategic development plan for the Greater Bay Area, the industry should grasp the opportunities to expand their businesses by initiating digital transformation.”

To foster the growth of business activities across the border, LSCM has been refining the eBRAM Platform which is designed to provide Online Dispute Resolution (ODR) services to enterprises. The Platform is scheduled to enter the trial run next year.



To better prepare the local logistics industry for the rapid development in the GBA, LSCM has newly developed a number of technologies to enhance the industry's service and operation efficiency. For instance, the Smart Lifter and Follow-Me Robot are designed to cope with the limitations of a compact warehouse on capacity and on operations, whilst the Deliverbot introduces a means of service automation in the retail and tourism industries to cope with high operating costs and an ageing labour pool.

(Please see Appendix I for more information of the LSCM technologies showcased at the Summit.)

Heavyweights from the government and industry shared insights on the “Development of Greater Bay Area”

At the event, **Mr Paul CHAN, GBM, GBS, MH, JP**, the Financial Secretary for The Government of the Hong Kong SAR, said in his opening remarks, “The Hong Kong SAR Government recently employed technology developed by LSCM to improve our public services. Some of these smart government innovations are being used for real-time detection of landslides and traffic-control monitoring to help with our city management as well as reducing city congestion. These and other R&D developments can surely benefit the industry.”

The LSCM Logistics Summit 2019 served as a key platform for government officials, industry leaders and professionals to share valuable insights on how innovative technologies help to enhance the competitiveness of Hong Kong as a pioneer of the GBA and bring significant benefits to society, while fostering collaboration among industries. Keynote speakers included **Dr Daniel YIP**, Chairman, Federation of Hong Kong Industries, **Mr Hermes TANG**, C.D.S.M, C.M.S.M, Commissioner, Customs and Excise Department, The Government of the Hong Kong SAR, **Ir Eric PANG**, JP, Deputy Director, Electrical and Mechanical Services Department, The Government of the Hong Kong SAR, **Mr WANG Wei**, Deputy Director of the Zhuhai Municipal Bureau of Commerce, **Mr King GUO**, Executive Director, Zhuhai Electronic Port Management Ltd., **Mr HUANG Kun**, Deputy-General, Pingshan Investment Promotion Service Bureau of Shenzhen Municipality, **Mr Daniel LAM**, SBS, JP, Chief Executive Officer, eBRAM Centre Limited, **Mr Shing CHOW**, Founder and CEO of Lalamove, and **Mr Simon WONG**, Chief Executive Officer, Logistics and Supply Chain MultiTech R&D Centre. In addition to the keynote speeches, LSCM and its partner organisations showcased a series of their latest innovative technologies.

(Please see Appendix II for more information about the technologies developed by LSCM in collaboration with its partner organisations showcased at the Summit.)

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Logistics and Supply Chain MultiTech R&D Centre 物流及供應鏈多元技術研發中心

About LSCM

The Logistics and Supply Chain MultiTech R&D Centre (LSCM) was founded in 2006, with funding from the Innovation and Technology Fund of the Government of the Hong Kong SAR, and is co-hosted by the University of Hong Kong, the Chinese University of Hong Kong and the Hong Kong University of Science and Technology. It aims to strengthen the local logistics sector and related industries by providing a one-stop resource for technology research and commercialisation, and to reinforce cooperation between the industry and research institutes, to bring about meaningful and significant benefits to the industry and the community. For more information, please visit www.lscm.hk.

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Photo captions

Photo 1:



Themed “The Pivotal Role of Hong Kong in Greater Bay Area”, the Logistics and Supply Chain MultiTech R&D Centre (LSCM) held its annual event – **LSCM Logistics Summit 2019** – today, bringing together government officials, industry leaders and academia to network, and to exchange views and ideas on technology development.

Photo 2:



Dr Sunny CHAI, BBS, Chairman of the Board of Directors, Logistics and Supply Chain MultiTech R&D Centre delivered the Welcome Remarks for the Summit and shared his views on the role of Hong Kong in the Greater Bay Area (GBA) development and how LSCM’s latest technologies can facilitate the industry to seize the opportunities in the GBA.

Photo 3:



Mr CHAN Mo Po, Paul, GBM, GBS, MH, JP, Financial Secretary, The Government of the Hong Kong SAR, delivered the Opening Remarks for the Summit and introduced the government's plan to develop Hong Kong into an I&T hub to foster its development in the Greater Bay Area.

Photo 4:



Mr WANG Wei, Deputy Director of the Zhuhai Municipal Bureau of Commerce explained how Guangdong, Hong Kong and Macau could make use of technology to facilitate more communication and collaboration.

Photo 5:



LSCM Logistics Summit 2019 featured various innovative technologies developed by LSCM and its partner organisations.



Appendix I: Latest innovative technologies from LSCM

1. Deliverbot

Due to high operation costs and ageing labour, many Hong Kong retail and tourism service providers are expecting new technologies to improve service efficiency and to sustain market competitiveness by means of service automation and/or robotic solutions. Therefore, service robots which are capable of delivering purchased items/goods at stores will be helpful to the service providers.

The Deliverbot with artificial intelligence developed by LSCM is able to deliver goods/items automatically from its current position to the inputted destination. Its capabilities include:

- Landmark Recognition
- Self-locationing
- Path Planning
- Collision Avoidance

Its unique feature, “hopping technique”, ensures that it can move smoothly in the planned paths towards the destination, and avoid obstacles. LSCM is one of the leading organisations in developing this technology in Hong Kong.

2. Smart Service Robot

To improve the quality of life of the elderly, LSCM has developed a series of Smart Service Robots that are configured for various settings. The modular approaches make the robots easy to install different sensors and end-effectors for various applications. It is configured for elderly home settings which include the object approaching function, voice-bases querying system; as well as vital sign sensors such as blood pressure monitor, SpO2 monitor and infrared thermometer. The vital sign data can be recorded and reviewed by health professionals to provide health advice to the elderly.

A power-assisted driving system is also installed in each service robot for easy manoeuvring in tiny areas/spaces.

In addition, it can also provide different entertainment functions, such as Chinese Opera Juke Box, Selfie-taking and Cartoon Photo Creation, which bring a lot of joy to the elderly.

The pilot run of the Smart Service Robots will be conducted in the elderly homes of The Hong Kong Society for the Aged.



3. Smart Lifter

Lifters and transporters (e.g. forklifts and overhang cranes) are common tools to assist workers to lift and transport heavy objects. But they are generally bulky, cumbersome and costly. As many warehouses in Hong Kong are relatively small & compact, the commonly used forklifts and overhang cranes may not be suitable for these warehouses.

Therefore, LSCM developed the smart warehouse lifter. It combines the functions of forklifts and cranes while its size is even smaller than both machines. With the additional sensors, such as the force sensors, the smart lifter can help enhance the operation efficiency of the warehouses.

LSCM's technologies deployed in this application:

- Multi-axis manipulator mechanical design & control system
- Gravity (CG) detector and weight measurement system
- Vertical lifting system

The pilot run of the Smart Lifter has been conducted in the warehouses of The Hong Kong and China Gas Company Limited (Towngas).

4. Follow-Me Robot

Follow-Me Robot is a carrying robot which can help to carry 50kg of goods. The Robot can follow the worker's movement while keeping itself at a safe distance. The worker only has to press a button to start and stop the robot's automatic follow mode and manually operate it by using a joystick.

An optical radar sensor is developed to detect surrounding obstacles and pathway. It can walk around corners, corridors and avoid obstacles. The worker only needs to walk naturally, and the robot will continue to follow him/her.

LSCM Technologies deployed in this application:

- UWB positioning system
- Joystick direct manipulation
- Lidar collision avoidance
- Adaptive control algorithm to walk around corners and obstacles



5. Hong Kong-Zhuhai Trade Facilitation Platform (eFTP)

In order to facilitate small and medium-sized enterprises in the "Greater Bay Area" to move towards the "Belt and Road" and global trade, LSCM partners with Zhuhai Electronic Port, as well as trade and logistics enterprises, to establish a pioneering one-stop trade service support platform, the "Hong Kong – Zhuhai Trade Facilitation Platform".

Technology Research Focuses:

- **Artificial Intelligence (AI) Translation Engine:** converting one single cargo data to different formats and languages
- **Big Data Analysis:** conducting analysis of item descriptions and Harmonised System (HS) codes to provide reference for customs clearance requirements
- **Scalable Service Platform:** interconnecting with international logistics information and other platforms to enrich the trade eco-system with value-added services

6. eBRAM Platform

Hong Kong, China is a main hub to provide Online Dispute Resolution (ODR) services to enterprises doing business within and outside the region, with support for negotiation, mediation and arbitration.

Thus, LSCM developed the eBRAM Platform which will provide Online Dispute Resolution services, including e-arbitration and e-mediation, to address the increasing global needs for cost-effective and speedy resolution for commercial disputes by using the latest technologies including Domain Specific Neural Network Machine Translation, Blockchain-based Infrastructure for Document Protection, Internet-of-Things (IoT) technology for Continuous Authentication, and with stringent privacy and cybersecurity protection by design. eBRAM provides a user-friendly and secure online platform. Information submitted to the eBRAM platform is strictly confidential. Parties in different jurisdictions can negotiate and close their deals conveniently without having to actually travel to each other's jurisdictions, thus saving a lot of time and money.

The eBRAM platform is now entering into testing and refinement stage, and scheduled to enter the trial run in the coming year.



7. Smart Traffic Control System

The Tai Tam Road (Dam Section) was constructed more than a century ago and is part of the thoroughfare connecting Chai Wan and Stanley. As its width is only 5-meters, congestion problems often occur when large vehicles pass through the road. As the dam is a declared monument, widening that section of the road is not possible. A Smart Traffic Control System (STCS) based on video analytics technology is thus developed to identify the types of vehicles and analyse the traffic flow, so as to control the traffic light for better movement of the traffic.

8. Baby Tag

LSCM's Baby Tag System is an integrated system using active radio communication technologies to effectively track the location of babies in the hospital environment. It provides protection to newborn babies against abduction by raising visual and audio alert when unauthorised movement of newborn babies or attempt in tampering of the tag has been detected. Nurses of the ward can monitor the whereabouts of babies easily through the user-friendly interfaces of the system. Real-time monitoring features are supported by a radio communication system covering the whole ward. Warning alerts will be raised immediately even when the tag is damaged in an illicit attempt.

9. RFID Blind Cane Navigation System

People with visually impairment face various challenges when travelling to unfamiliar places. In order to help them overcome this challenge, LSCM has developed an RFID Blind Cane Navigation System to assist the visually impaired to travel alone and lead them to their destinations via the shortest route by providing audible guidance information. An RFID reader is embedded inside the smart blind cane. By reading the signals sent out from RFID tags installed inside the tactile paving, the system can provide voice instructions to the user through his/her smartphone.



Appendix II: Technologies developed by LSCM's partner organisations

1. BISA Technologies (Hong Kong) Limited

BISA Technologies is a leading company of IoT technologies. Her design and IoT products are used in Smart transportation, Smart manufacture and eHealth. Through the technology transfer from LSCM and the partnership with system integrators, the Company had the first commercial baby monitoring system running in Hong Kong. Apart from showcasing the system in this Summit, the company also demonstrated her latest personal ECG system, which is designed for home uses and medical professional uses.

2. CISC Limited

CISC Limited is a research spinoff company carrying the technology and innovation from CISC (Centre for Information Security and Cryptography) of Department of Computer Science of the University of Hong Kong. In this summit, CISC Limited exhibited a unique cyber security solution – SHIELD, which was developed in collaboration with LSCM. It is a forensic-aware cyber attack defense solution to defend against DDoS attack, with exclusive capability of cyber attack profiling and trace back planning. The plug-n-play smartbox with easy configuration is ideal for all types of enterprises. No re-configuration of network is needed during installation.

3. Compathnion Technology Limited

In this Summit, Compathnion Technology Ltd. showcased Wherami, which is an innovative and highly WiFi-based accurate indoor positioning system (IPS) licensed from LSCM. Wherami can "fuse" different location estimations for a mobile user. The estimators may include WiFi fingerprinting, map matching, infrastructure hints, Inertial Measurement Units (IMU), etc. Using Compathnion's software as add-on, improvements in accuracy can be achieved. It supports multi-storey and/or multi-site scenarios. The system will be interoperable with and non-intrusive to the existing WiFi infrastructure.

4. DSS Asia Ltd.

Document Security Systems, Inc. (DSS) showcased our Blockchain as a Service Platform – AuthentiChain™ in this summit. DSS has joined forces with LSCM to develop the blockchain platform allowing for smartphone authentication and enabling track and trace capabilities. The Blockchain service utilises a secure, cloud-based platform that can be shared by multiple brand owners. Applying both AuthentiGuard™ technology and AuthentiChain™, brand owners are then able to monitor their product throughout the distribution channel and identify any abnormalities, diversions and counterfeits.



5. Kellon Energy Performance Contracting Limited

Kellon Energy Performance Contracting Limited demonstrated the energy-monitoring system transferred from LSCM. This RFID-Enabled sensing technology provides continuous monitoring of the ambient statuses surrounding the environment-sensitive items. It also supports real-time indoor condition monitoring such as lux, UV, vibration, temperature and relative humidity for facility management.

6. Wing Wah Love Technology Services Limited

In this summit, Wing Wah Love Technology Service Ltd. demonstrated the iBao Indoor and Outdoor Locator. iBao was funded by the Innovation and Technology Fund and co-developed with LSCM in 2018. iBao is designed to track locations and monitor the health information of the elderly. With a full range of indoor and outdoor positioning technologies, it can reduce the risk of wandering. Family members can use iBao together with its mobile applications to take care of the elderly easily.

7. Votanic Limited

VOTANIC is a technology start-up company with a vision in research and development of cutting-edge technology in virtual reality (VR). Joined forces with LSCM, the company deployed immersive VR for the community's personal wellness application, as well as industrial training. In this Summit, VOTANIC demonstrated this immersive VR technology.

VOTANIC is originated from The University of Hong Kong's decades-long research in virtual reality systems. Throughout the years, VOTANIC's expertise in immersive VR technology and strong root in research-based innovation have bred numerous effective and cost-saving solutions for many institutions in Hong Kong to upgrade their efficiency in business development, operations and enterprise training.

8. Power Hub Ltd.

Power Hub Ltd. demonstrated her solution that extends the use of the LSCM's SMe-Plug to integrate multiple data sources for Proof of Delivery (POD) management and performance analytics to enhance efficiency, agility and visibility of last-miles delivery.

This application can integrate shipping orders (SO) data extracted from the Automatic Data Capturing (ADC) system, the warehouse management system (WMS) and the web real-time information to provide analytics on delivery performance. Meanwhile, POD status and truck locations will also be collected real-time via mobile truck mount device. The information collected will be stored and analysed, and then be visualised by the operator in real time.