

# 第二階段公眾參與 Stage Two Public Engagement

公眾論壇  
Public Forum



發展局  
Development Bureau

起enging動 Kowloon East Office  
九龍東辦事處

ARUP

發展九龍東為智慧城市區-可行性研究  
DEVELOPING KOWLOON EAST INTO A SMART CITY DISTRICT - FEASIBILITY STUDY

第二階段公眾參與  
STAGE 2 PUBLIC ENGAGEMENT

23 Feb 2019

# 公眾論壇流程 Public Forum Rundown



Time (Tentative)	Rundown (Tentative)
2:30 pm – 2:33 pm	歡迎辭 Welcome Speech
2:33 pm – 2:35 pm	簡介會議流程及會議守則 <b>Introduction of Programme Rundown and House Rules</b>
2:35 pm – 3:05 pm	簡介 <b>Presentation</b> <ul style="list-style-type: none"> <li>智慧城市@九龍東短片 Smart City @ Kowloon East Video</li> <li>研究概述 Study Overview</li> <li>第一階段公眾參與主要意見 Major Comments Received During Stage 1 Public Engagement (PE)</li> <li>九龍東智慧城市發展 Smart City Development in Kowloon East (KE)</li> </ul>
3:05 pm – 3:55 pm	問答環節 Question & Answer Session
3:55 pm – 4:00 pm	總結 Concluding Remarks



# 守則 House Rules

- 請將所有電子產品調較至靜音模式。  
Please keep your electronic devices silent.
- 是次公眾論壇會進行錄影、錄音及拍照以作記錄。  
Video, audio and photo taking will be made in this Public Forum for record.
- 是次公眾論壇會以廣東話進行。  
The Public Forum will be conducted in Cantonese.
- 當公眾論壇進行中或講者發言時，請參加者保持肅靜及尊重其他出席人士，請勿中斷他人之講話。  
Please respect the other attendees and keep quiet during the Public Forum. Please do not interrupt when speakers and others are speaking or responding.
- 參加者不得破壞場內設施及展品。  
Participants should not vandalise any facilities and exhibits in the venue.
- 揚聲器、橫額及任何會滋擾公眾論壇的物品，一律不得帶進會場。  
Loud hailers, banners and any other materials which may cause disturbance to the Public Forum are not allowed.
- 為免影響其他出席人士，主持人或會邀請不遵守規則人士離場。  
To avoid other participants being affected, violators may be asked to leave.
- 場內不得吸煙、奔跑或喧嘩。  
Smoking, running or yelling is not allowed.



# 願景 VISION

促進九龍東共建成為充滿活力、  
智慧和可持續的香港第二個核心商業區

To facilitate co-creation of Kowloon East into a  
vibrant, smart and sustainable CBD2 of Hong Kong













# 智慧城市 SMART

● KOWLOON EAST  
九龍東

# CITY

二零一六年二月

February 2016

二零一六年十一月

November 2016

公眾參與

## 第一階段

Stage 1 PE

公眾參與

## 第二階段

二零一九年一月

January 2019

2016

- 檢討智慧城市措施  
Evaluate Smart City Initiatives
- 建議框架  
Framework

2017

- 建議策略  
Strategy
- 推動概念驗證  
Implement PoC trials

2018

2019





# 第一階段公眾參與主要意見

## Major Comments from Stage 1 PE

總結第一階段公眾參與中，參與者普遍支持以下方向：  
Concluding Stage 1 PE, participants generally supported:

- i. 優先推行與九龍東智慧城市框架方向一致的智慧城市方案；
  - ii. 以九龍東作為創新和跨界別合作的試點；以及
  - iii. 推行概念驗證測試以示範智慧城市措施帶來的好處，並研究擴大應用規模的可行性和成本效益。
- i. To accord priorities to smart city proposals which are aligned with the direction of the **Smart City Framework for KE**;
  - ii. To use **KE as a test bed** for innovation and cross-sector collaboration; and
  - iii. To **conduct PoC trials** to demonstrate the benefits and investigate the feasibility and cost effectiveness of wider applications





# 九龍東智慧城市框架

## Smart City Framework for Kowloon East



### • 五大範疇 5 Aspects

- 流動及易行 Mobility & Walkability
- 資源管理及城市環境 Resources Management & Urban Environment
- 治理及社會經濟活力 Governance & Socio-economic Vibrancy
- 資訊及通訊科技 Information & Communications Technology
- 創新平台 Innovation-oriented Platform

### • 措施 Implementation

- 短期（至**2020**年） Short-term (up to 2020)
- 中長期（**2020**年後） Long-term (after 2020)

# 流動及易行 Mobility & Walkability



## • 策略 Strategy

- 改善路旁活動管理  
Better Management of Roadside Activities
- 促進易行九龍東  
Foster Walkable KE
- 鼓勵使用公共交通工具  
Encourage Use of Public Transport
- 邁向更環保的運輸方式  
Greener Modes of Transport



# 流動及易行 Mobility & Walkability

## 策略 - 路旁活動管理 Strategy - Better Management of Roadside Activities

### 措施：易泊車

### Initiative: Easy Parking

#### 短期

- 提供數據標準和管理平台
- 鼓勵停車場業主和營運者
- 以應用程式介面格式分享
- 提供泊車傳感器測試試點

#### Short-term

- Provide data standardisation and a user-friendly management portal
- Encourage owners and operators of car parks
- Share their real-time parking vacancy data in API format
- Provide trial sites for testing various types of parking sensors

#### 中-長期

- 新一代停車收費錶，提供更多實時空置車位資訊
- 研究與「香港出行易」結合

#### Medium to long-term

- Provide parking vacancy information using the new generation parking meters
- Explore the feasibility of integrating with TD's HKeMobility



### 措施：實時道路工程資訊

### Initiative: Real-time Roadworks Information

#### 短期

- 進行概念驗證測試
- 於「我的九龍東」及公共資料網站發放

#### 中-長期

- 研究於「香港出行易」發放
- 擴大覆蓋範圍包括公用事業公司維修工程

#### Short-term

- Conduct Proof of Concept (PoC) trial
- Provide more accurate roadworks information in My Kowloon East (MyKE) and Government's Public Sector Information (PSI) Portal

#### Medium to long-term

- Explore the feasibility of disseminating the collected information via TD's HKeMobility app
- Extend the spatial coverage to include road works by other parties, e.g. utility companies



# 流動及易行 Mobility & Walkability

## 策略 - 路旁活動管理 Strategy – Better Management of Roadside Activities

### 措施：路旁上落貨區監察系統及違例泊車監察系統 Initiative: Kerbside Loading & Unloading Bay Monitoring System and Illegal Parking Monitoring System

#### 短期

- 進行概念驗證測試 - 海濱道及巧明街
- 進行概念驗證測試 - 鴻圖道、駿業街及四美街
- 分享路旁上落貨區的使用狀況
- 設立路線圖，研究利用相關科技協助執法

#### 中-長期

- 概念驗證測試經驗分享，考慮將有關系統加入執法過程中
- 應用到區內其它違例泊車黑點

#### Short-term

- Conduct PoC trial at Hoi Bun Road and How Ming Street
- Conduct PoC trial at Hung To Road, Tsun Yip Street and Sze Mei Street
- Share the occupancy status
- Devise a roadmap to study privacy-related matters

#### Medium to long-term

- Share the experiences gained from PoC trials to enable the adoption of such systems in law enforcement
- Re-deploy to illegal parking blackspots



▲ 概念驗證「路旁上落貨區監察系統」的測試位置  
Locations of PoC on "Kerbside Loading and Unloading Monitoring System"



▲ 概念驗證「違例泊車監察系統」的測試位置  
Locations of PoC on "Illegal Parking Monitoring System"





# 流動及易行 Mobility & Walkability

## 策略 - 易行九龍東 Strategy - Walkable KE

### 措施：「易行」

#### 短期

- 豐富和更新數碼步行地圖內容，包括有蓋無障礙路線
- 利用「我的九龍東」作為示範平台
- 加入“清新空氣”路線
- 倡議建築物業主提供室內定位和行人導向

#### 中-長期

- 提供機械無障礙設施，例如升降機和輪椅升降台的實時狀態
- 研究與「香港出行易」結合
- 制訂三維行人地圖

### Initiative: Easy Walking

#### Short-term

- Enrich and update the digital walking map contents
- Use MyKE as a demonstration platform
- Provide “clean air” route suggestion
- Advocate to building owners to provide indoor positioning and way-finding

#### Medium to long-term

- Provide real-time operation status of mechanical barrier-free facilities such as lifts and stairlifts
- Explore the feasibility of integrating with TD's HKeMobility
- Formulate 3D pedestrian map



### 措施：「主題導賞」及「個人化導賞」

### Initiative: Thematic Tour and Personalised Tour

#### 短期

- 進行概念驗證測試，採用人工智能推薦個人化步行路線
- 擴增和虛擬實境介紹景點
- 於公共資料網站發放

#### 中-長期

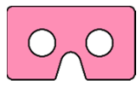
- 與其他功能相近的政府其他手機應用程式合併

#### Short-term

- Conduct PoC trial and recommend personalised walking routes based on the users' persona by Artificial Intelligence (AI)
- Use AR/VR to highlight Point of Interests
- Share the PoI information in Government's PSI Portal

#### Medium to long-term

- Integrate with other similar mobile apps managed by the Government



# 流動及易行 Mobility & Walkability

## 策略 - 易行九龍東 Strategy - Walkable KE

措施：智能路口

### Initiative: Intelligent Junctions

中-長期

- 研究於九龍東及新蒲崗商貿區內合適的路口安裝配置人車傳感器的智能交通燈號系統

### Medium to long-term

- Explore installing intelligent traffic signal system with sensors for pedestrians and vehicles at suitable junctions in KE and San Pong Kong Business Area (SPKBA)



## 策略 - 鼓勵使用公共交通工具 Strategy – Encourage Use of Public Transport

措施: 公共交通資料

短期

- 巴士站逐步安裝資訊顯示屏
- 提供長途巴士線的空位數量
- 透過「我的九龍東」提供九龍東公共交通服務的資訊
- 透過「香港出行易」提供綜合多式聯運公共交通資訊

中-長期

- 繼續安裝實時資訊顯示屏及免費 Wi-Fi
- 建立智慧公共運輸交匯處
- 提供其餘長途巴士線的空位數量



Initiative: Public Transport Information

Short-term

- Progressively install Information display panels at bus stops
- Provide bus occupancy information for long-haul routes
- Provide public transport information in KE
- Provide integrated multi-modal public transport information on HKeMobility

Medium to long-term

- Continue to install real-time information display panels and free public Wi-Fi
- Provide Smart public transport interchanges
- Provide bus occupancy information for remaining long-haul routes

# 流動及易行 Mobility & Walkability

## 策略 - 環保運輸 Strategy - Green Mode of Transport

措施：電動及無人駕駛巴士

短期

- 促進電動巴士試驗

中-長期

- 促進使用無人駕駛巴士

Initiative: Electric and Autonomous Buses

Short-term

- Facilitate trial on electric buses

Medium to long-term

- Facilitate the deployment of autonomous buses



措施：騎單車

短期

- 在觀塘海濱花園1公里路徑進行單車人士和公園使用者的共用測試。採用影像分析技術監測事故

中-長期

- 將共用概念延伸到其餘單車徑網絡

Initiative: Cycling

Short-term

- Conduct trial on 1km pathway at Kwun Tong Promenade for shared use by cyclists and park users. Use video analytic technology to detect incidents

Medium to long-term

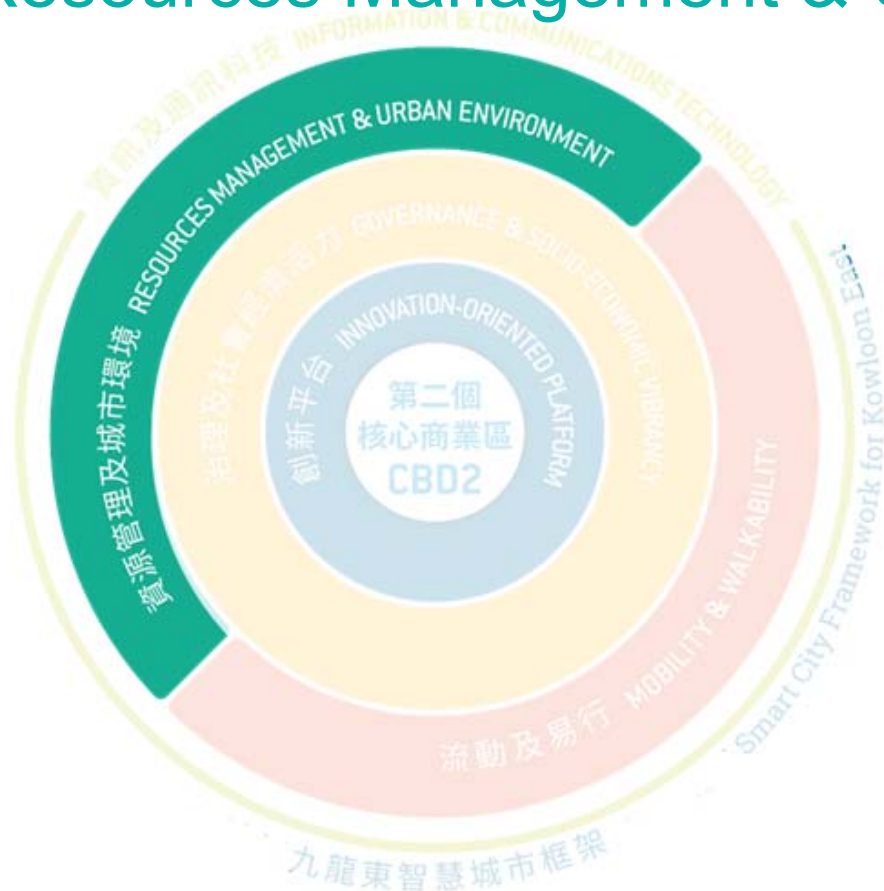
- Extend the shared-use concept to the cycle track network





# 資源管理及城市環境

## Resources Management & Urban Environment



### • 策略 Strategy

- 實現具資源效益的基礎設施  
Implement Resource-efficient Infrastructures
- 引入藍綠基礎設施  
Introduce Blue-green Infrastructures

# 資源管理及城市環境 Resources Management & Urban Environment

## 策略 - 具資源效率的基建 Strategy – Resource-efficient Infrastructures

### 措施: 區域供冷系統

### Initiative: District Cooling System

#### 短期

- 延伸至啟德發展區非住用發展項目

#### Short-term

- Extend the district cooling system to serve non-domestic developments in KTD

#### 中-長期

- 應用到其他新發展區

#### Medium to long-term

- Extend to other new development areas



### 措施: 廢物和回收物料處理

### Initiative: Waste and Recyclables Handling

#### 短期

- 在觀塘的33個回收箱安裝傳感器，以進行概念驗證測試

#### Short-term

- Conduct PoC trial by installing fill-level sensors at 33 recycling collection bins in Kwun Tong

#### 中-長期

- 將智能回收箱系統應用在其他收集路線使用
- 於九龍灣行動區提供有機資源回收中心

#### Medium to long-term

- Deploy the Smart Recycling System to other collection routes
- Provide an organic resources recovery centre in Kowloon Bay Action Area





# 資源管理及城市環境 Resources Management & Urban Environment

## 策略 - 具資源效率的基建 Strategy - Resource-efficient Infrastructures

### 措施: 家居能源監察系統

### Initiative: Energy Monitoring System at Household Level

#### 短期

- 進行概念驗證測試
- 與電力公司分享測試結果

#### Short-term

- Conduct PoC trial
- Share results from the trial with electricity companies

#### 中-長期

- 在新的發展項目安裝智能電錶，並在其他發展逐步升級至智能電錶

#### Medium to long-term

- Install smart electricity meters in new developments and progressively upgrade conventional meters to smart meters in other developments



## 策略 - 藍綠基礎設施 Strategy: Blue-green Infrastructures

### 措施: 活化明渠

### Initiative: Revitalisation of Nullahs

#### 短期

- 將啟德明渠活化成啟德河

#### Short-term

- Revitalise Kai Tak Nullah into Kai Tak River

#### 中-長期

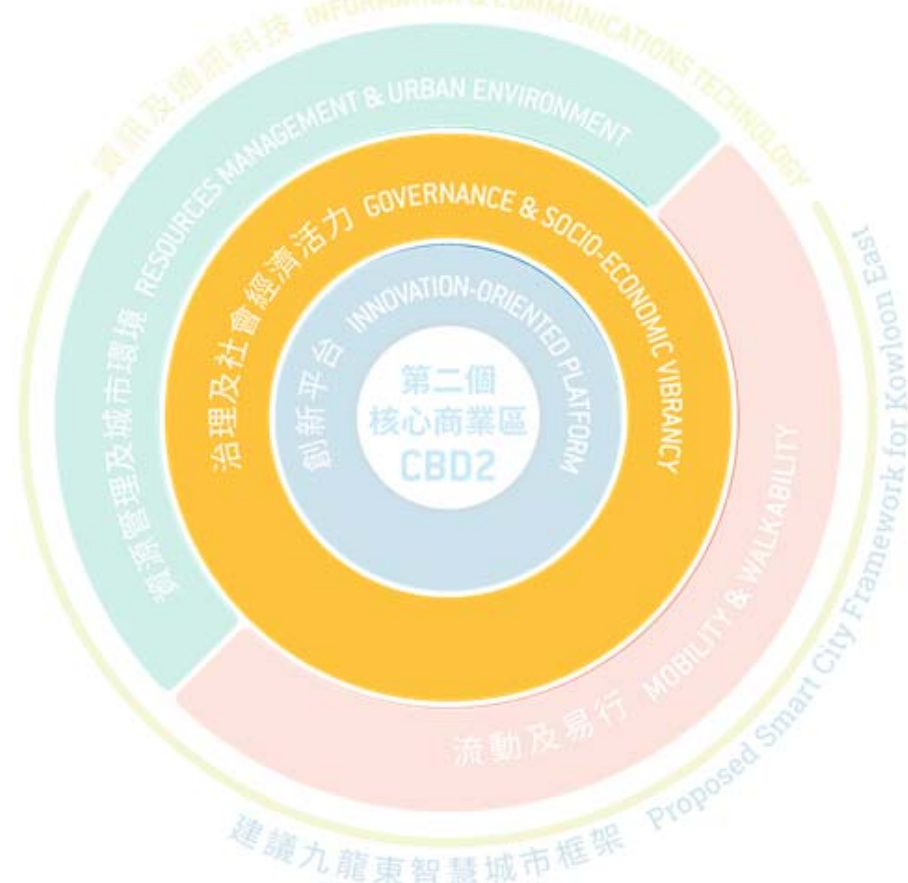
- 將敬業街明渠活化成翠屏河

#### Medium to long-term

- Revitalise Kai Yip Street nullah into Tsui Ping River



# 治理及社會經濟活力 Governance & Socio-economic Vibrancy



## • 策略 Strategy

- 加強城市應變能力  
Enhance City Resilience
- 新的實施模式  
New Implementation Models
- 推動良好的資產管理  
Promote Good Asset Management
- 促進社區共融  
Embrace Social Inclusion



# 治理及社會經濟活力 Governance & Socio-economic Vibrancy

## 策略 - 實施模式 Strategy - Implementation Models

### 措施：賣地條款(新發展)

- 把以下要求納入九龍東新發展的賣地條款：
  - 綠建環評暫定金級或以上的認證
  - 較高的綠化率
  - 提供智能水錶系統
  - 電動汽車充電設施
- 要求於合適的出售用地上的發展分享實時空置泊車位資訊



### Initiative: Land Sale Conditions (New developments)

- Include specific requirements in land sales conditions for new developments within KE:
  - Green building design of BEAM Plus Provisional Gold rating or above
  - Higher greening ratio,
  - Provision of smart water meter system
  - EV charging facilities
- Require sharing of real-time parking vacancy information for development at appropriate land sale sites



### 措施：概念驗證測試(新舊發展)

- 進行概念驗證測試以示範智慧城市發展的好處
- 分享概念驗證測試的經驗和知識



### Initiative: PoC Trials (New and old developments)

- Implement different proof of concept trials in KE
- Share experiences and knowledge gained in PoCs



# 治理及社會經濟活力 Governance & Socio-economic Vibrancy

## 策略 - 城市應變能力 Strategy – City Resilience

### 措施：智慧人流管理系統

- 短期
- 進行概念驗證 – 應用於香港街馬@九龍2017
  - 重新調配到開源道，測試監測人流及車流

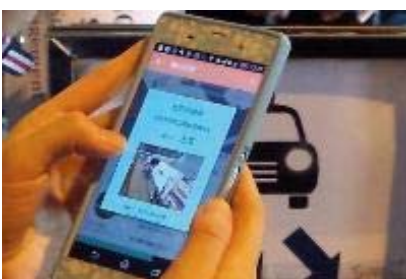
- 中-長期
- 探討在將來的啟德體育園及合適的位置安裝類似系統協助人流管理



### Initiative: Smart Crowd Management System

- Short-term
- Conduct PoC trial (marathon event in KE)
  - Re-deploy the system at Hoi Yuen Road to monitor pedestrian and traffic flows

- Medium to long-term
- Explore deploying similar system at the future Kai Tak Sports Park or appropriate locations to assist in crowd management



## 策略 - 社區共融 Strategy - Social Inclusion

### 措施：智慧行人過路處

- 短期
- 於牛頭角道及宏照道進行測試
- 中-長期
- 根據測試結果，考慮應用到其他合適的行人過路處
  - 探討其他行人過路處的閃動綠色人像燈時間的方法

### Initiative: Smart Pedestrian Crossing

- Short-term
- Conduct trials at Ngau Tau Kok Road and Wang Ciu Raod

- Medium to long-term
- Subject to the trial results, consider applying similar concept to other suitable pedestrian crossings
  - Explore alternative means of regulating flashing green time according to individual pedestrian needs





# 治理及社會經濟活力 Governance & Socio-economic Vibrancy

## 策略 - 資產管理 Strategy - Asset Management

### 措施: 智慧路燈

#### 短期

- 提升超過220支位於新蒲崗及啟德發展區內的路燈，使用LoRaWAN無線傳送網絡
- 探討其他低功率廣域(LPWA)傳送技術

#### 中-長期

- 探討應用到其他地區的可能性



### Initiative: Smart Road Lights

#### Short-term

- Upgrade over 220 road lights with wireless network in San Po Kong and KTD Area using LoRaWAN
- Explore other LPWA technologies

#### Medium to long-term

- Explore the feasibility of wider application in other districts

### 措施：智慧排水系統

#### 短期

- 於九龍灣安裝無線地下裝置，監測特定地區的水位和氣體濃度

#### 中-長期

- 應用到其他雨水和污水系統



### Initiative: Smart Drainage System

#### Short-term

- Install wireless underground devices in manholes in Kowloon Bay to monitor the water level and gas concentration

#### Medium to long-term

- Apply to other stormwater drainage and sewerage systems



### 措施：智管網

#### 中-長期

- 為九龍東的食水分配系統裝置水壓管理及區域監測系統

### Initiative: Water Intelligent Network

#### Medium to long-term

- Implement pressure management and district metering system for the fresh water distribution system in KE



# 資訊及通訊科技

## Information & Communications Technology (ICT)



### • 策略 Strategy

- 推動物聯網應用  
Promote Internet Of Things (IoT)
- 加強通訊網絡  
Strengthen Communication Network
- 設立共享空間數據  
Set up Common Spatial Data Infrastructure



# 資訊及通訊科技 ICT

## 策略 - 物聯網 Strategy - Internet of Things (IoT)

### 措施: 多功能路燈

#### 短期

- 進行概念驗證測試
- 與相關部門分享從概念驗證測試中獲得的經驗
- 與相關部門共享收集到的城市數據
- 政府資訊科技總監辦公室的先導項目 - 於2019年於九龍東安裝約50枝多功能智能路燈

#### 中-長期

- 在其他合適位置道路安裝多功能智能路燈

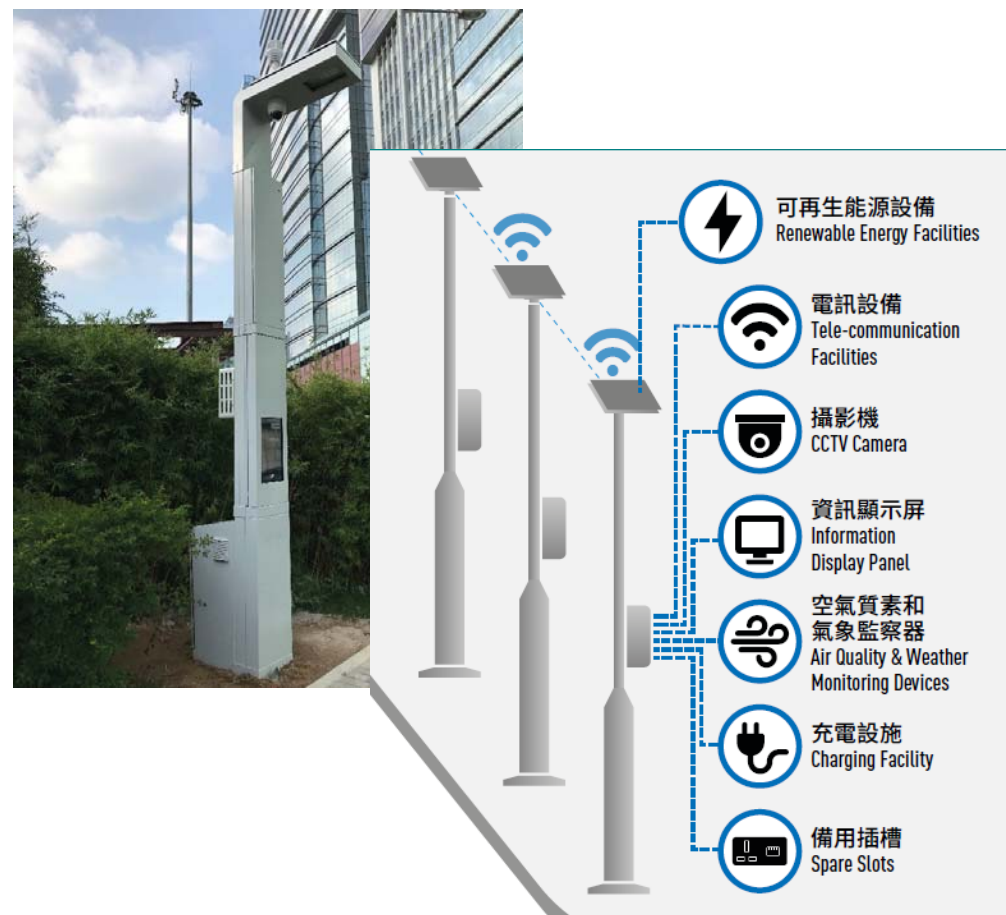
### Initiative: Multi-purpose Lamp Posts

#### Short-term

- Conduct PoC trial
- Share the experience gained in the PoC trial with relevant departments
- Share the collected city data with relevant departments
- Install about 50 multi-functional smart lamp posts in KE in 2019 under Office of the Government Chief Information Officer's pilot project

#### Medium to long-term

- Install multi-functional smart lamp posts at other suitable locations



# 資訊及通訊科技 ICT

## 策略 - 通訊網絡 **Strategy - Communication Network**

### 措施: 流動通訊的發展

- 提供高速、高容量和低延遲電訊，例如第五代流動網絡服務
- 提供街道設施(包括多功能路燈)適合流動網絡營辦商安裝相關的基站，以支持智能系統的應用

### Initiative: Data Standardisation

- Provision of high-speed, high-capacity and low-latency telecommunications, for example 5G mobile services, makes IoT and more smart city applications a reality
- Provision of street furniture, including multi-purpose lamp posts, suitable for mobile network operators to install related cell stations to support application of intelligent systems





## 資訊及通訊科技 ICT

## 策略 - 通訊網絡 Strategy - Communication Network

### 措施: Wi-Fi基建

短期

- 在九龍東及新蒲崗商貿區內更多的公共休憩用地和政府設施提供Wi-Fi服務，擴展覆蓋範圍

中-長期

- 在未來公眾休憩用地和政府設施提供Wi-Fi服務為標準常規
- 倡議私人發展商在發展項目內的公共地方提供Wi-Fi接入點

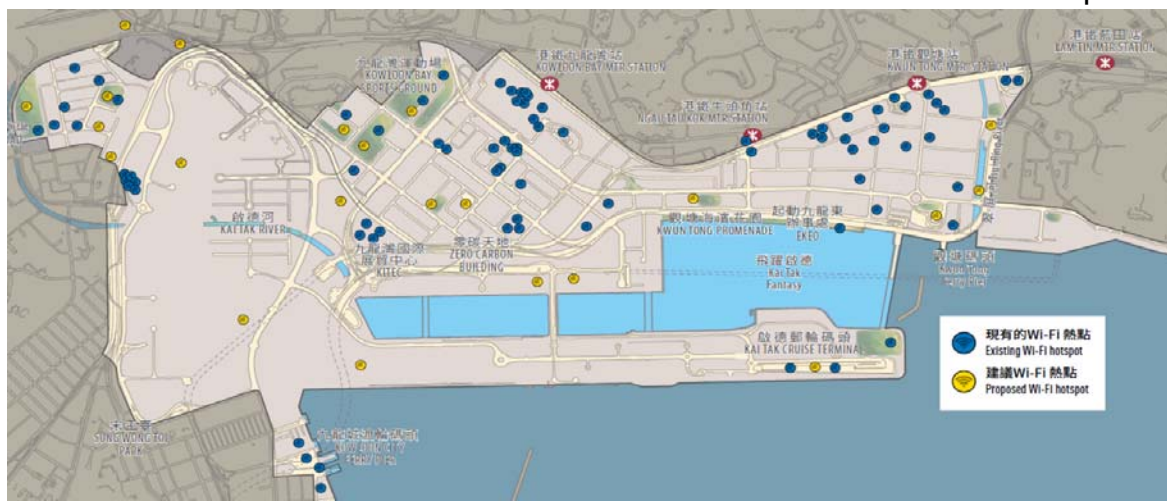
## Initiative: Wi-Fi Infrastructure

## Short-term

- Provide Wi-Fi services at more public open spaces and government premises to increase the coverage in KE and SPKBA

### Medium to long-term

- Provide Wi-Fi services in future public open spaces and government facilities as a standard practice
- Advocate private developers to provide Wi-Fi access at public areas within their developments



# 資訊及通訊科技 ICT

## 策略 - 空間數據共享平台 Strategy - Common Spatial Data Infrastructure

### 措施: 數據標準化

#### 短期

- 將共享實時空置泊車位資訊的內容、格式和頻率標準化

#### 中-長期

- 把收集的實時資訊如由實時道路工程、多功能路燈、三維行人地圖和電動汽車充電點等，於空間數據共享平台發放

### Initiative: Data Standardisation

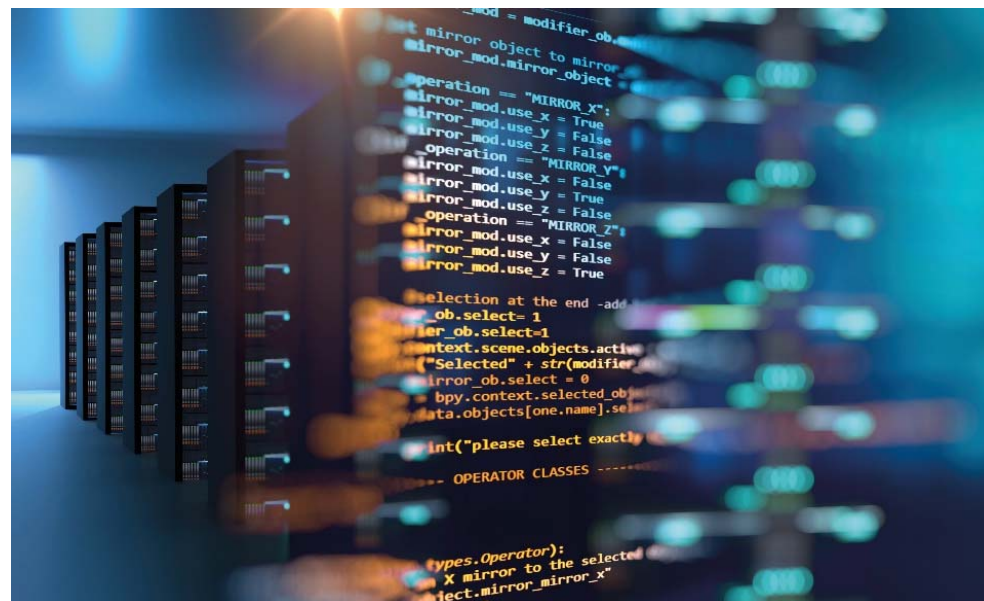
#### Short-term

- Standardise the contents, format and frequency of sharing real-time parking vacancy data

#### Medium to long-term

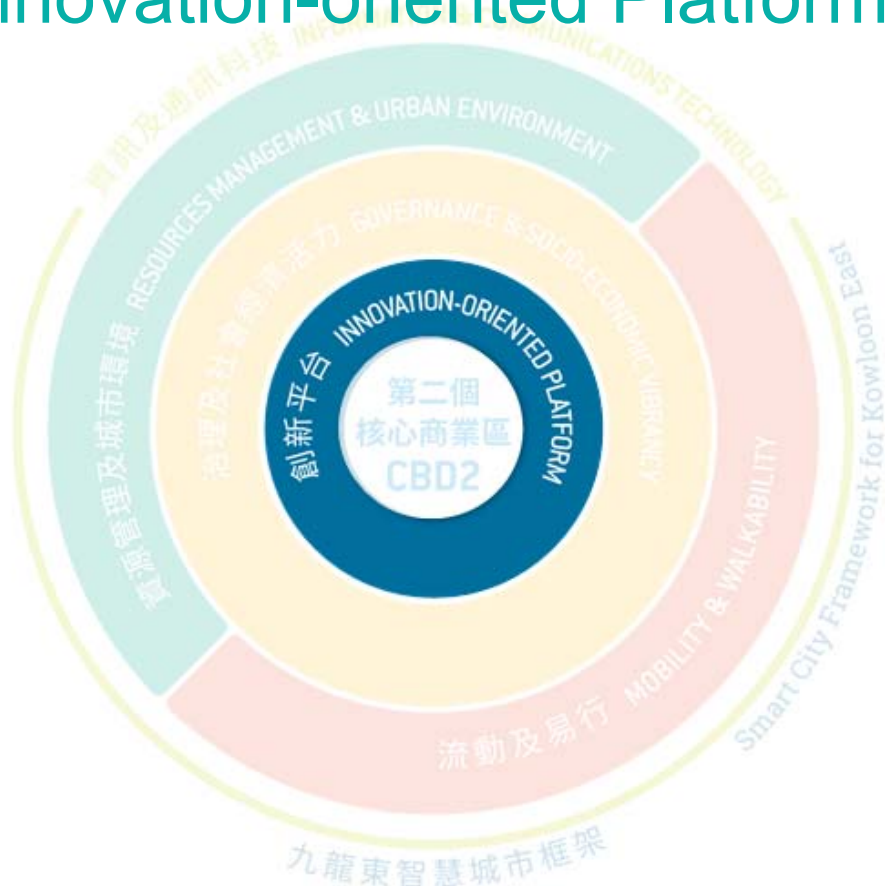
- Collect real-time and static data and generated by initiatives, such as real-time roadworks information, multi-purpose lamp posts, 3D pedestrian map and EV charging points, and disseminate through online platforms

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# 創新平台 Innovation-oriented Platform



## • 策略 Strategy

- 共同創造  
Co-creation
- 跨界別合作  
Cross-sector Collaboration
- 知識型發展  
Knowledge Based Development
- 社區參與  
Community Engagement

# 創新平台

## Innovation-oriented Platform

發展智慧城市的  
成本效益分析  
Cost-Benefit Analysis  
Framework for Smart  
Development



公眾 Public



研發機構  
R&D Institutions

智能用電社區  
Smart Energy Community



大學  
Universities

個人化實時空污染風險信息系統  
Personalised Real-Time Air Quality  
Informatics System for Exposure –  
Hong Kong (PRAISE-HK)



專業學會  
Professional Institutions

智慧城市樹木管理計劃  
Smart City Tree  
Management Project

智能室內和室外地理信息系統  
Smart Indoor and Outdoor Geographic  
Information System

政府  
Government



人本感知的智能城市：以人為本的  
整合·挖掘和決策框  
People-Aware Smart City: A People-  
Centered Integration, Mining and  
Decision Framework



資訊及通訊科技業 ICT

企業

Private Sectors



智慧城市@九龍東  
SMARTCity Kowloon East

發展九龍東為智慧城市區-可行性研究  
DEVELOPING KOWLOON EAST INTO A SMART CITY DISTRICT - FEASIBILITY STUDY

第二階段公眾參與  
STAGE 2 PUBLIC ENGAGEMENT

發展局  
Development Bureau

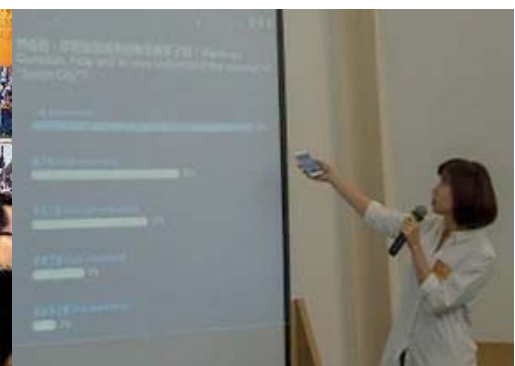
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九龍東辦事處

ARUP





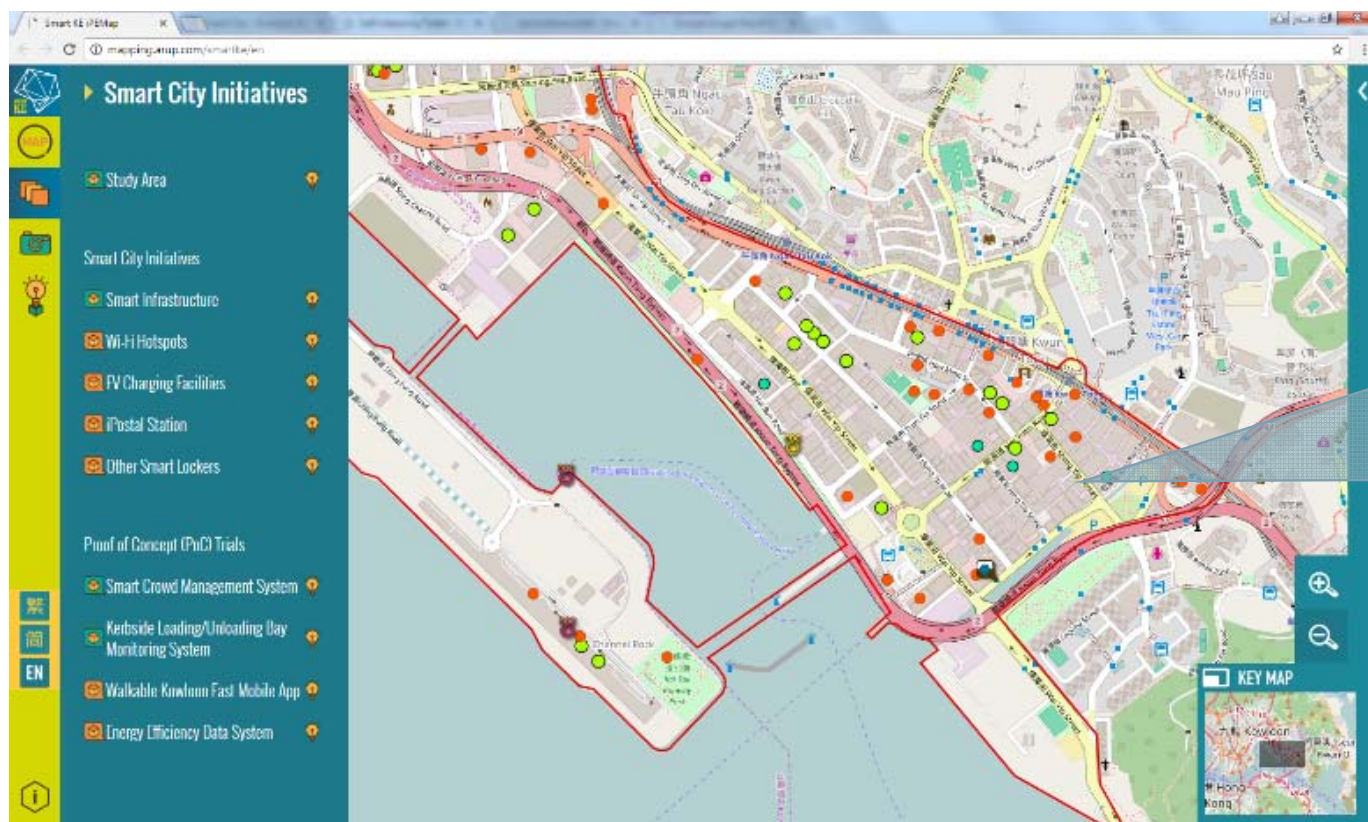






# 你的意見 - 透過「互動地圖」推動公眾參與

## YOUR VIEWS - Public Engagement through interactive Map



網上互動公眾參與平台  
Online Interactive Map



本研究網頁  
Study Website



智慧城市@九龍東  
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第二階段公眾參與  
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發展局  
Development Bureau

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# 問答環節

## Question & Answer Session



智慧城市@九龍東  
SMARTCity Kowloon East

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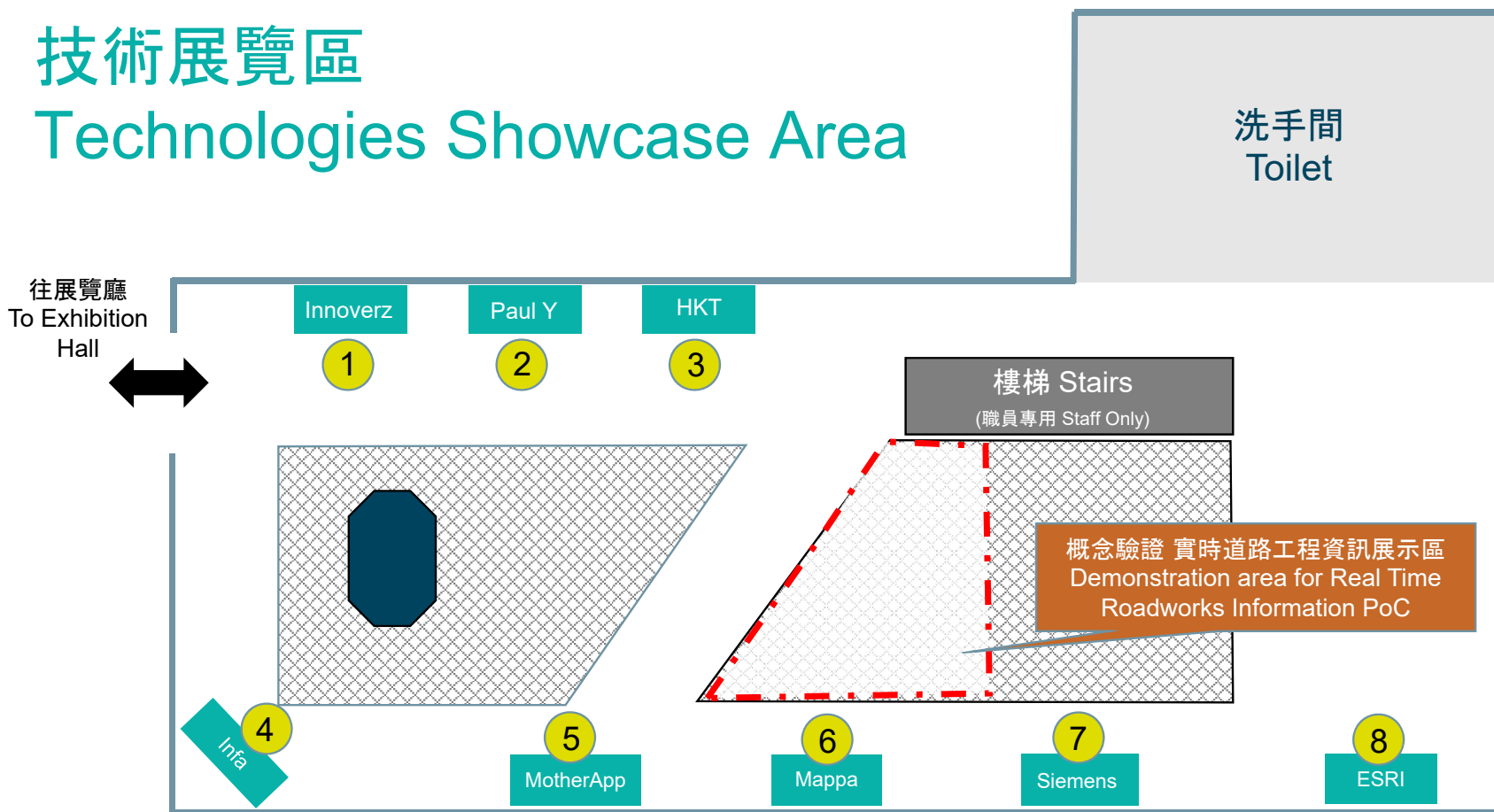
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# 技術展覽區 Technologies Showcase Area



## 技術展覽攤位 Technologies Showcase Booth

- 1 智慧回收箱系統  
SMART RECYCLING BIN SYSTEM
- 2 違例泊車監測系統  
ILLIGAL PARKING MONITORING SYSTEM
- 3 能源效率數據系統  
ENERGY EFFICIENCY DATA SYSTEM
- 4 多功能路燈  
MULTI-PURPOSE LAMP POST
- 5 智慧人流管理系統  
SMART CROWD MANAGEMENT SYSTEM
- 6 實時道路工程資訊  
REAL-TIME ROAD WORKS INFORMATION
- 7 路旁上落貨區監察系統  
KERBSIDE LOADING/ UNLOADING BAY MONITORING SYSTEM
- 8 按個人特性及喜好提供的行人導向  
PERSONA AND PREFERENCE-BASED WAYFINDING FOR PEDESTRIANS