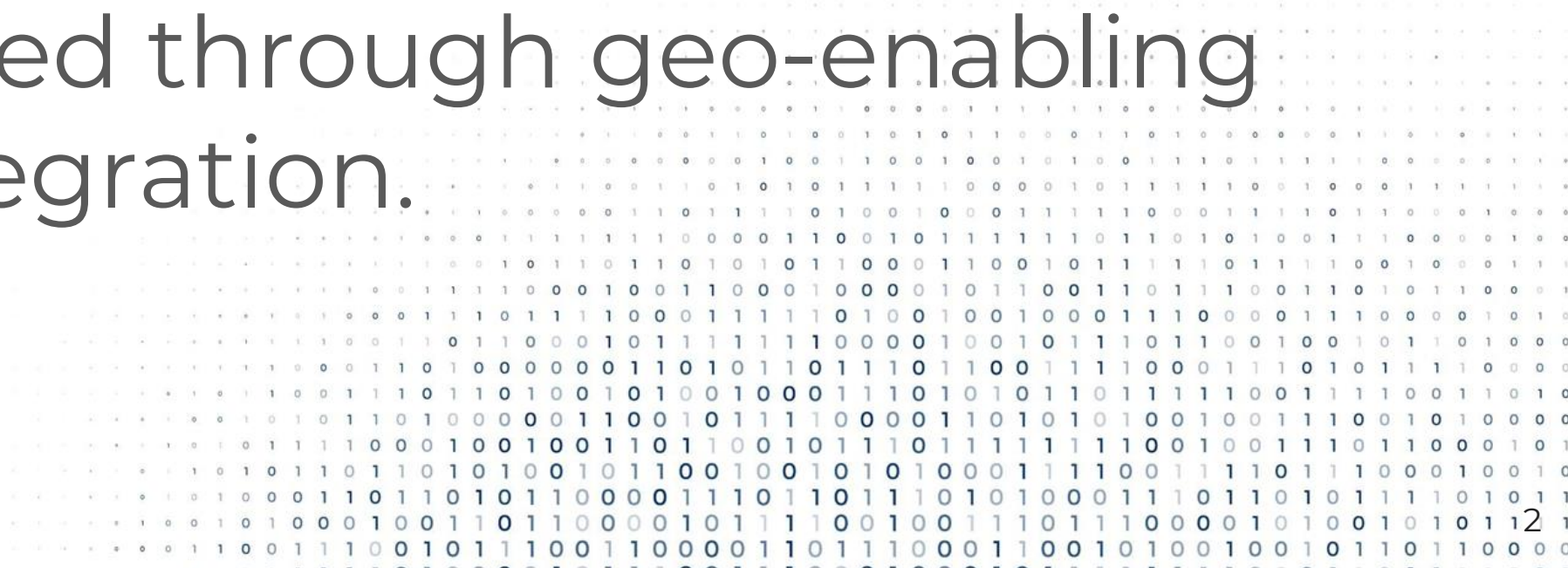
# Open Spatial Data: A Pillar to Support Innovation and Analytics

# 開放空間數據：支持創新和分析的支柱

Kenny YIU
Senior Land Surveyor
Lands Department

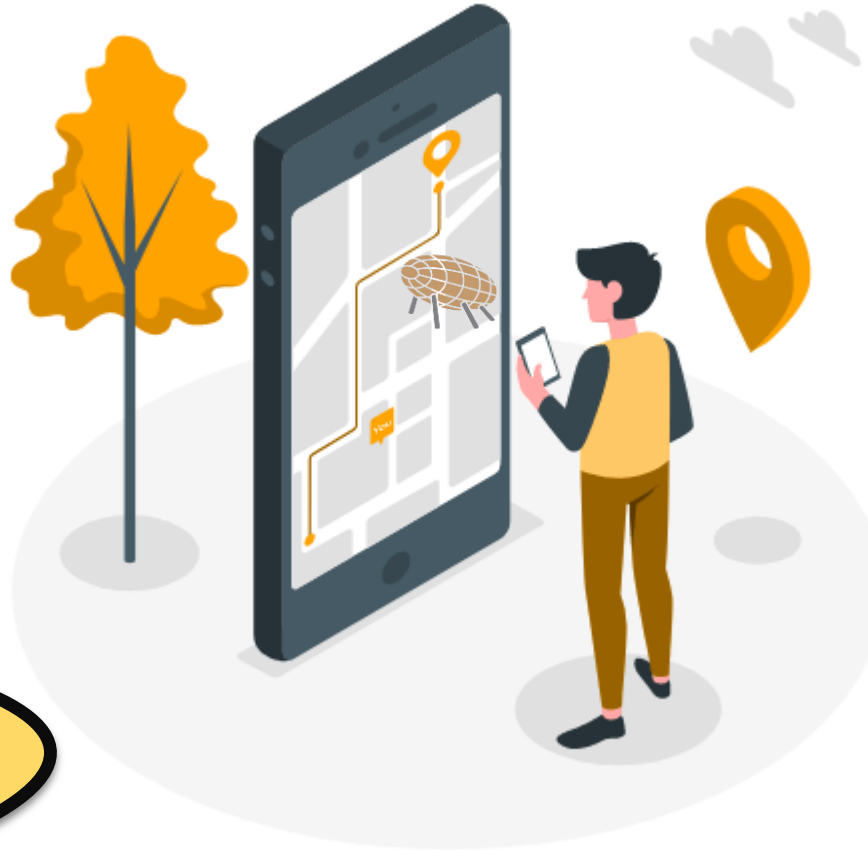
**Do you know?**

**Over 80% data** refers to location and their value can be greatly enhanced through geo-enabling and integration.



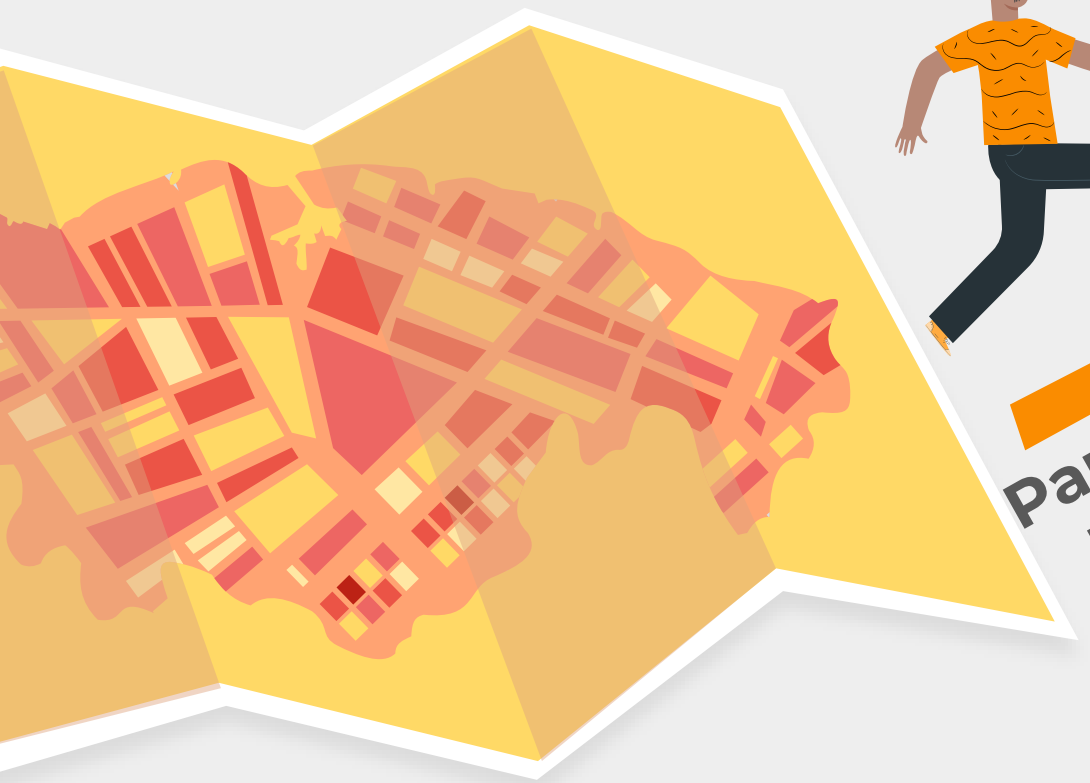
HOW TO GET TO SCIENCE PARK?

WHERE IS THE NEAREST BUS STOP?



ANY RESTAURANT NEAR SCIENCE PARK?

ANY PARKING SPACE NEAR SCIENCE PARK?



Digital Map

Paper Map

Since 1990s

Data Alignment Measures (DAM)

## Digital 21 Strategy 2001 - e-Government Policy

## Open Data Pilot Scheme

GEOINFO MAP
地理資訊地圖

MyMapHK

VoiceMapHK

## Digital 21 Strategy 2008 - Digital Inclusion

## Open Data Policy

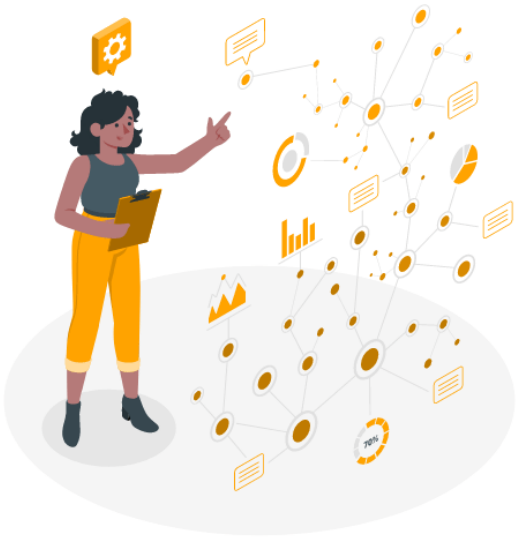
HONG KONG GEODATA STORE

GeoData Store
(Alpha Version of CSDI Portal)

MapAPI

3D Pedestrian Network
3D Visualization Map
Digital Map Products

## Open Data Policy



## Building a Smarter City

空間數據共享平台
Common Spatial Data Infrastructure

Common Spatial Data Infrastructure (CSDI)

**Location** is now the 4th driver in decision making, in addition to social, economic and environmental factors.

# 3D Pedestrian Network

Official released on 2 Dec 2020

# Pedestrian Route Planning

測量系統協助測繪工作。

編表示，發展局正聯同多個常用空間數據的政府
」，有關方面去年已就發展策略開展研究，期望
理位置資訊，推動空間數據共享，而地政總署則
計兩年時間便完成，屆時市民可以透過手機內的
準確搜尋自己身處位置，以及前往目的地的路線

樓盤Guide 馬經 副刊 海外綜合 更多

享平台 建全港行人

星島日報

« 返回前頁 | 文章：《專業議政》莫乃光——開放數據研究有助持續改進

Like 0

列印 預設字型

2020年5月20日

莫乃光 專業議政

# 開放數據研究有助持續改進

開放數據在香港發展已歷時多年，從多年前政府在《財政預算案》提出發放數據集刺激創新和推出「資料一線通」網站發放數據，一直到民間團體和倡導者在其後數年慢慢發展的網絡，舉辦不同活動例如研討會、黑客松（hackathon），民間推動數據創新的生態圈日漸成熟。筆者有幸參與和見證民間組織者的努力不懈，令更多市 ...

（節錄）

OUR HONG KONG FOUNDATION 關愛香港基金

主頁 公共政策研究院 報告 活動 觀點 中華學社 多媒體 關於我們

Tags | 鄧淑明 Technology

科技創新

# 鄧淑明：地理資訊為基礎的智慧城市

2016-03-03

撰文：鄧淑明博士 智慧城市聯盟督導委員會主席

新年度《財政預算案》承接了《施政報告》的方向，有不少篇幅提及發展創新和科技的措施，例如用科技券鼓勵中小企進行科研、發展機械人和智能家居護理、繼續推動金融科技發展等，相信科技業界中人都會感到鼓舞。

令筆者感到格外振奮的是，財爺還提到「會完善現有的地理資訊系統，研究連結和整合香港的空間數據，包括架空、地面和地底的設施位置和相關資料」。不過，筆者相信很多人聽到這幾句話都會有點摸不着頭腦，甚至覺得突兀：「這個『地理資訊』、『空間數據』和上文下理的『智慧城市』或科研有什麼關係呢？」

絕對有！如果讀者們有讀過梁守肫先生的文章〈智慧城市〉，相信就會對所謂「空間數據」及其與智慧城市的關係有一定理解。

立法會CB(1)1398/17-18(07)號文件

土地供應政策意見書

# 《土地供應政策研究報告 - 要推動副都市中心、及香港 2050 策略規劃》

2018.09.14

吳永輝 (特首選委、城市規劃師)
[redacted]
Howard Meng (研究助理/UC Berkley 實習生)

## 1. 要全面針對相關政策，不只於供應土地

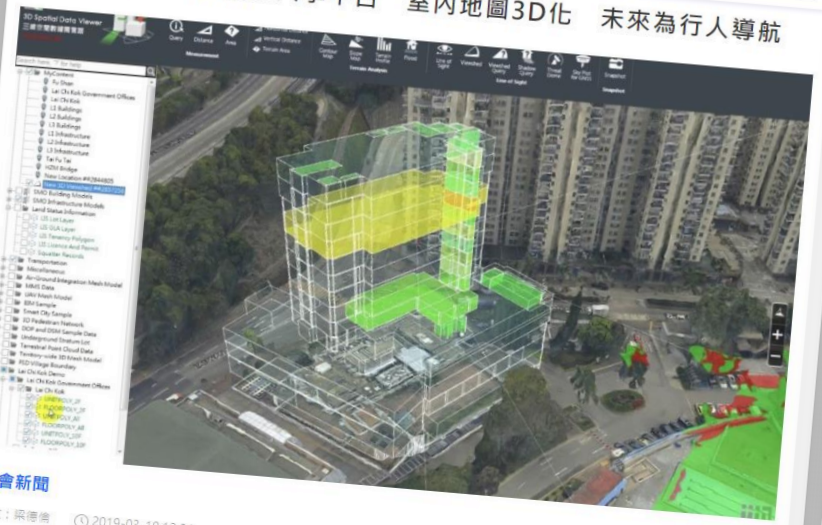
政府在土地供應大辯論正確指出港人居住的【貴、細、擠】問題，但土地供應專責小組並沒有針對背後的成因提出長遠的解決方案，而只是局限於提出 18 個土地供應選項。因此，本文件分析多個相關的因素及提出政策方向建議，供進一步研究、討論及落實。

## 2. 只供應土地不能解決政經結構問題

解決房屋問題，不能簡單地通過增加土地供應來解決，而更須從房屋政策著手。【貴、細、擠】問題其實是建基於經濟結構、人口成長、房屋需求、政府政策、市場因素等的綜合問題，除了樓價高、租金貴、上車難之外，生活空間狹小擠迫、社區設施不足、營商成本高企，這些都是現實的問題。香港樓價在過去數年持續高企的單一原因，其實是基於即低利率政策、熱錢流入、地產過大等經濟因素。

香港01 港聞 娛樂 生活 觀點 國際 經濟 體育 女生 科技玩物 熱話 更多

# 政府3億發展空間數據共享平台 室內地圖3D化 未來為行人導航



社會新聞

撰文：[redacted] 2019-03-10 12:24 最後更新日期：2019-03-10 12:24

讚好 0

政府首年

最受歡

下載

社會新聞

撰文：[redacted] 2020-01-28 08:00 最後更新日期：2020-01-

政府推出開放數據新政策滿一年，共推出700多項

港鐵到站時間、實時泊車位空缺等。

2019年最受歡迎數據集包括交通情況快拍圖像、

雷、天文台及地政總推出多項大眾關注的實時數據

趨勢分析 投資 報章 專欄 知識 地產站 TOPick

TOPick | hket

話題 健康 親子 娛樂 新聞

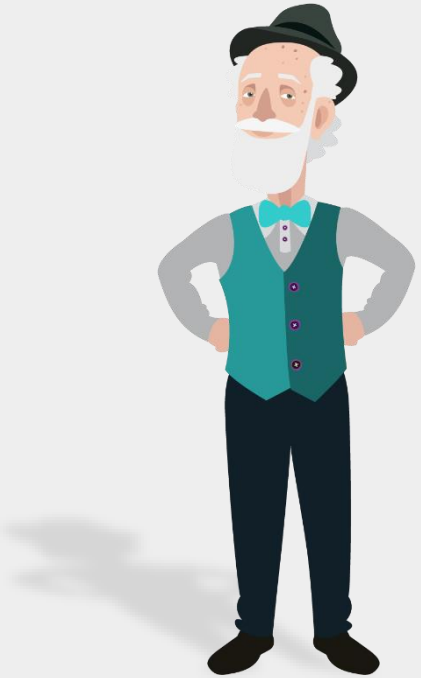
# 發展局申撥3億元 2023年前

社會 18:59 2019/06/20 讚好 0

熱門 保護大法 超市大搜查 防敏 施政報告2020

▲ 發展局申請撥款3億元，發展空間數據共享

# Elderly Service Planning

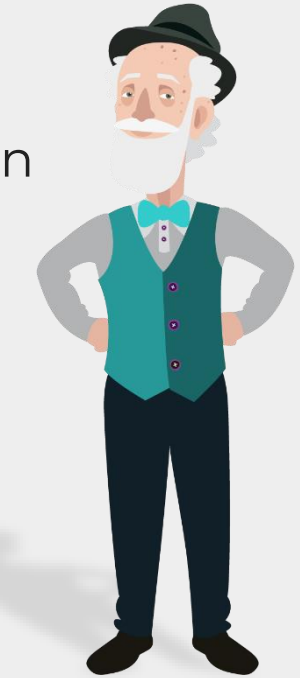


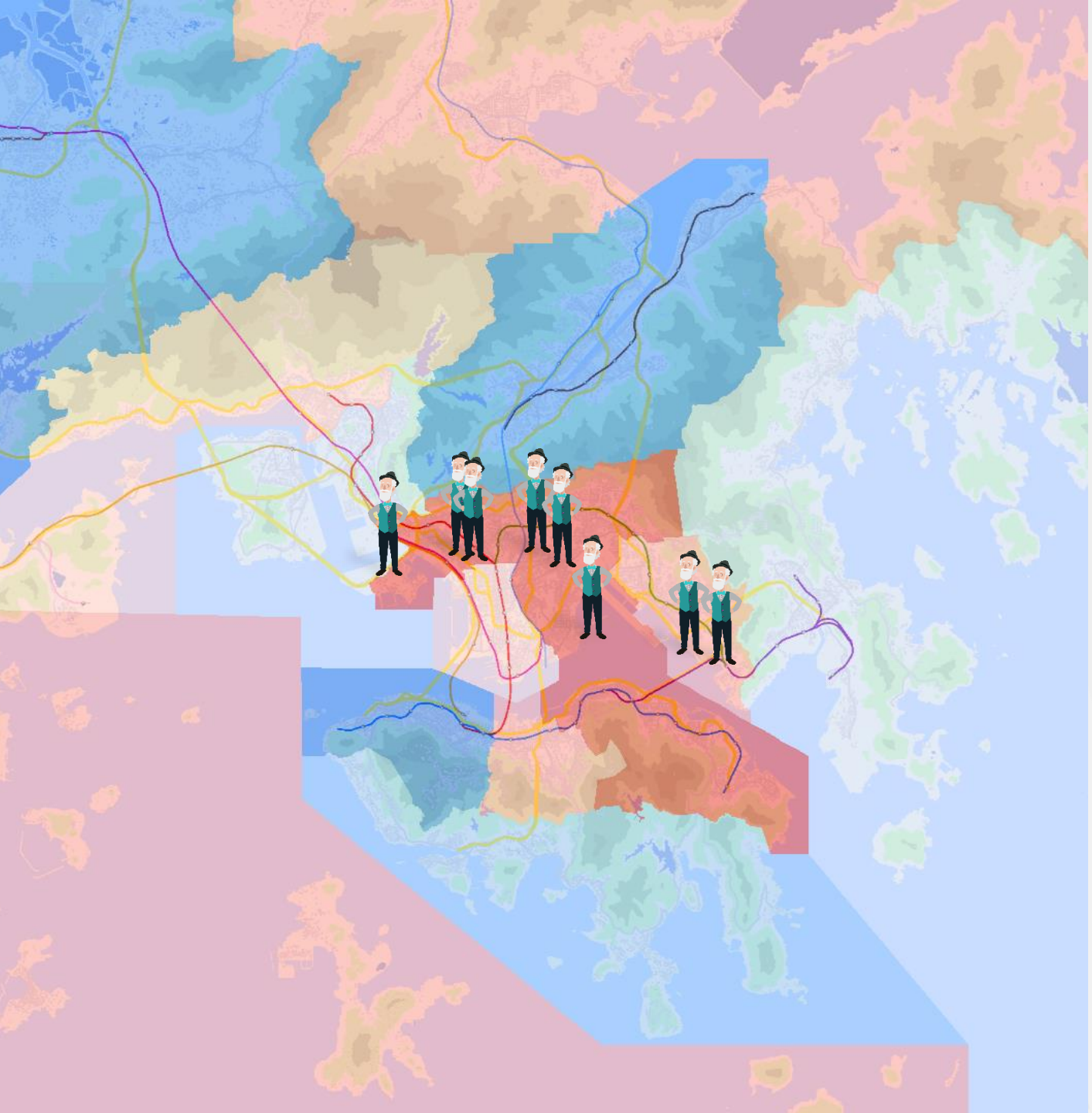
Demographic Report of HK
香港人口調查報告

| Age Group | Sex | Total | Central & Western | Wan Chai | Eastern | Kwun Tong | Sham Shui Po |
|---|---|---|---|---|---|---|---|
| 30-34 | M | 233 000 | 27960 | 48930 | 79220 | 62910 | 55920 |
| | F | 348 100 | 41772 | 73101 | 118354 | 93987 | 83544 |
| 35-39 | M | 226 900 | 27228 | 47649 | 77146 | 61263 | 54456 |
| | F | 333 100 | 39972 | 69951 | 113254 | 89937 | 79944 |
| 40-44 | M | 239 600 | 28752 | 50316 | 81464 | 64692 | 57504 |
| | F | 339 900 | 40788 | 71379 | 115566 | 91773 | 81576 |
| 45-49 | M | 258 300 | 30996 | 54243 | 87822 | 69741 | 61992 |
| | F | 330 800 | 39696 | 69468 | 112472 | 89316 | 79392 |
| 50-54 | M | 310 200 | 37224 | 65142 | 105468 | 83754 | 74448 |
| | F | 348 800 | 41856 | 73248 | 118592 | 94176 | 83712 |
| 55-59 | M | 291 600 | 34992 | 61236 | 99144 | 78732 | 69984 |
| | F | 299 300 | 35916 | 62853 | 101762 | 80811 | 71832 |
| 60-64 | M | 227 700 | 27324 | 47817 | 77418 | 61479 | 54648 |
| | F | 233 000 | 27960 | 48930 | 79220 | 62910 | 55920 |
| 65-69 | M | 163 100 | 19572 | 34251 | 55454 | 44037 | 39144 |
| | F | 163 400 | 19608 | 34314 | 55556 | 44118 | 39216 |
| 70-74 | M | 109 800 | 13176 | 23058 | 37332 | 29646 | 26352 |
| | F | 102 000 | 12240 | 21420 | 34680 | 27540 | 24480 |
| 75-79 | M | 100 100 | 12012 | 21021 | 34034 | 27027 | 24024 |
| | F | 109 400 | 13128 | 22974 | 37196 | 29538 | 26256 |
| 80-84 | M | 73 500 | 8820 | 15435 | 24990 | 19845 | 17640 |
| | F | 91 600 | 10992 | 19236 | 31144 | 24732 | 21984 |
| >= 85 | M | 50 500 | 6060 | 10605 | 17170 | 13635 | 12120 |
| | F | 102 500 | 12300 | 21525 | 34850 | 27675 | 24600 |

# Elderly Service Planning

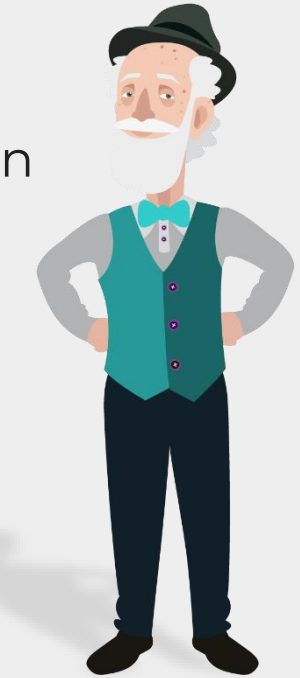
Identifying Districts with Larger Ageing Population

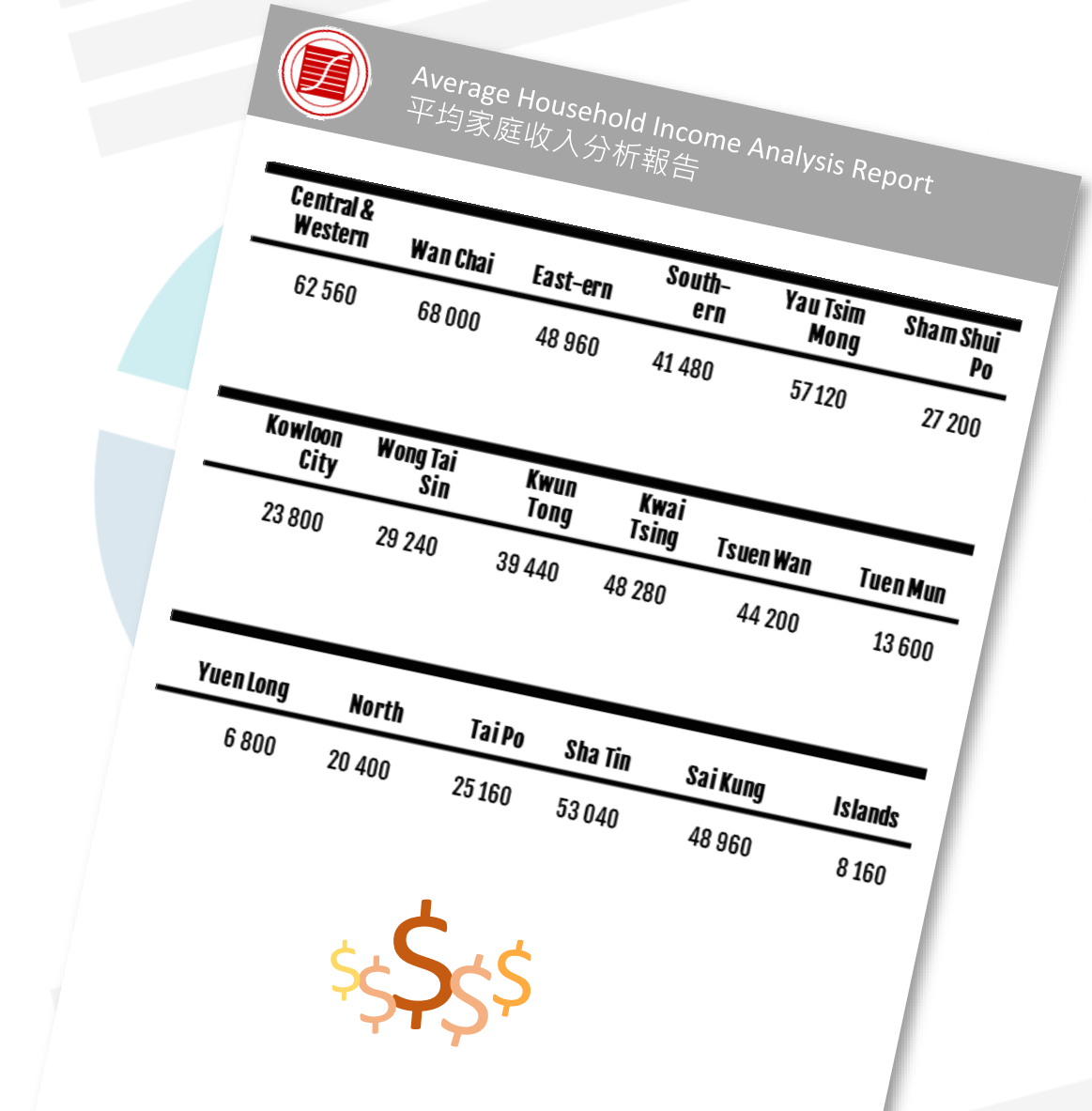




# Elderly Service Planning

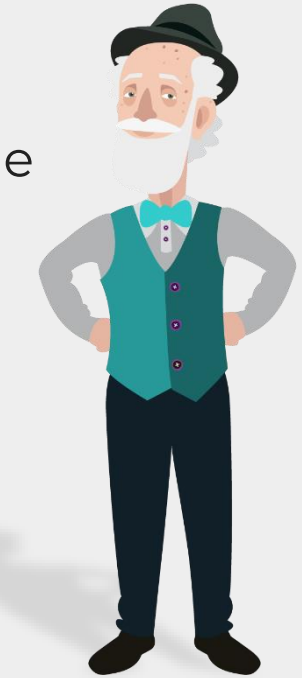
Identifying Districts with Larger Ageing Population

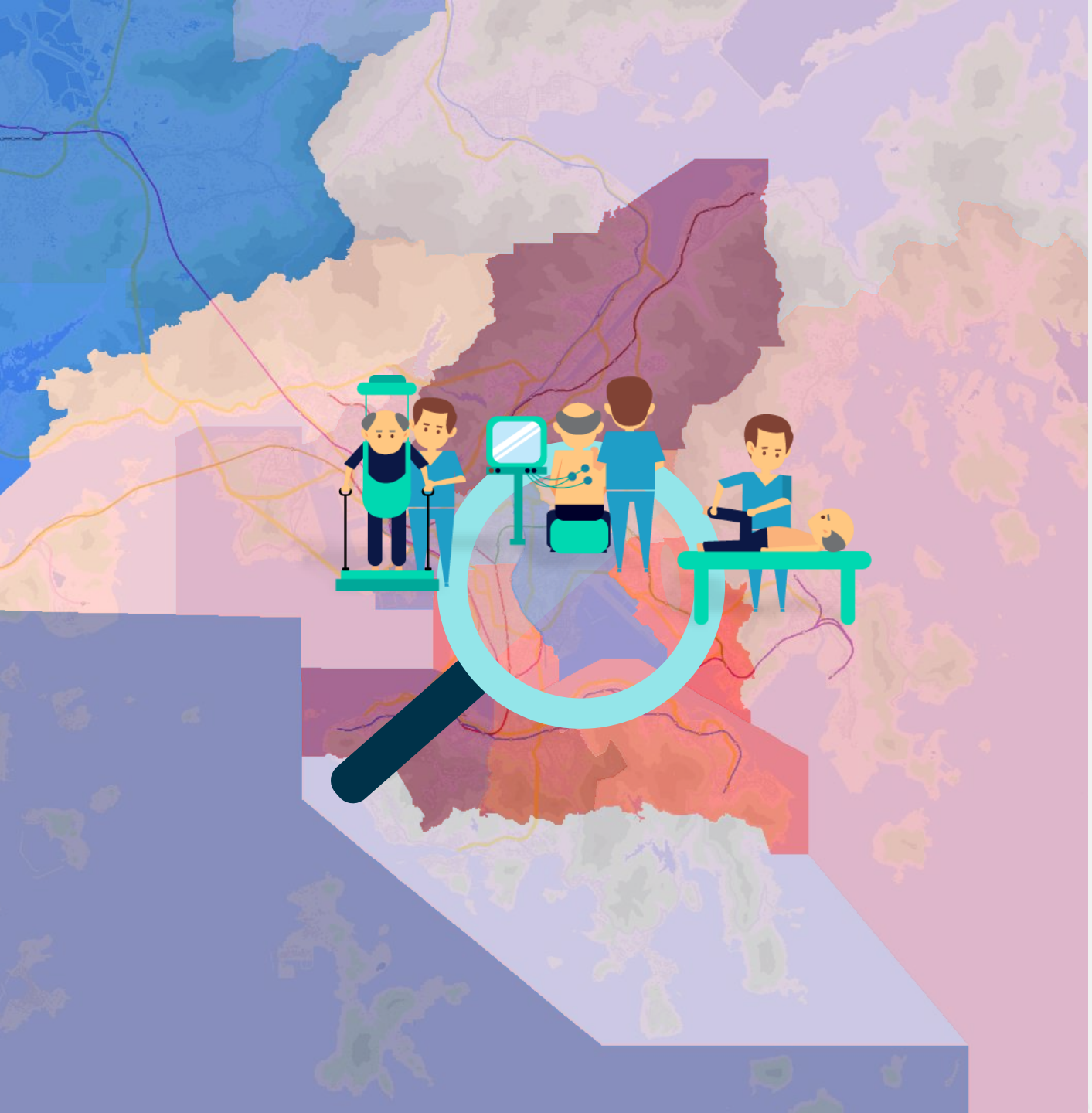





# Elderly Service Planning

Identifying Districts with Lower Household Income





# Elderly Service Planning

Identifying Districts with Larger Ageing Population and Lower Household Income

# Benefits of Open Spatial Data

Sources: GeoBuiz Report (2020), AlphaBeta for Google (2016), Vickery (2010)

## Smart Economy

Create US$40 billions from geospatial services

## Smart Environment

Reduce 1,688 million metric tonnes $CO_2$ emission from cars

## Smart Government

Increase 10-40% efficiency by improving data standards

## Smart Mobility

Reduce travel time by 12% on average

## Smart People

Save over 21 billion hours from more efficient purchasing decisions

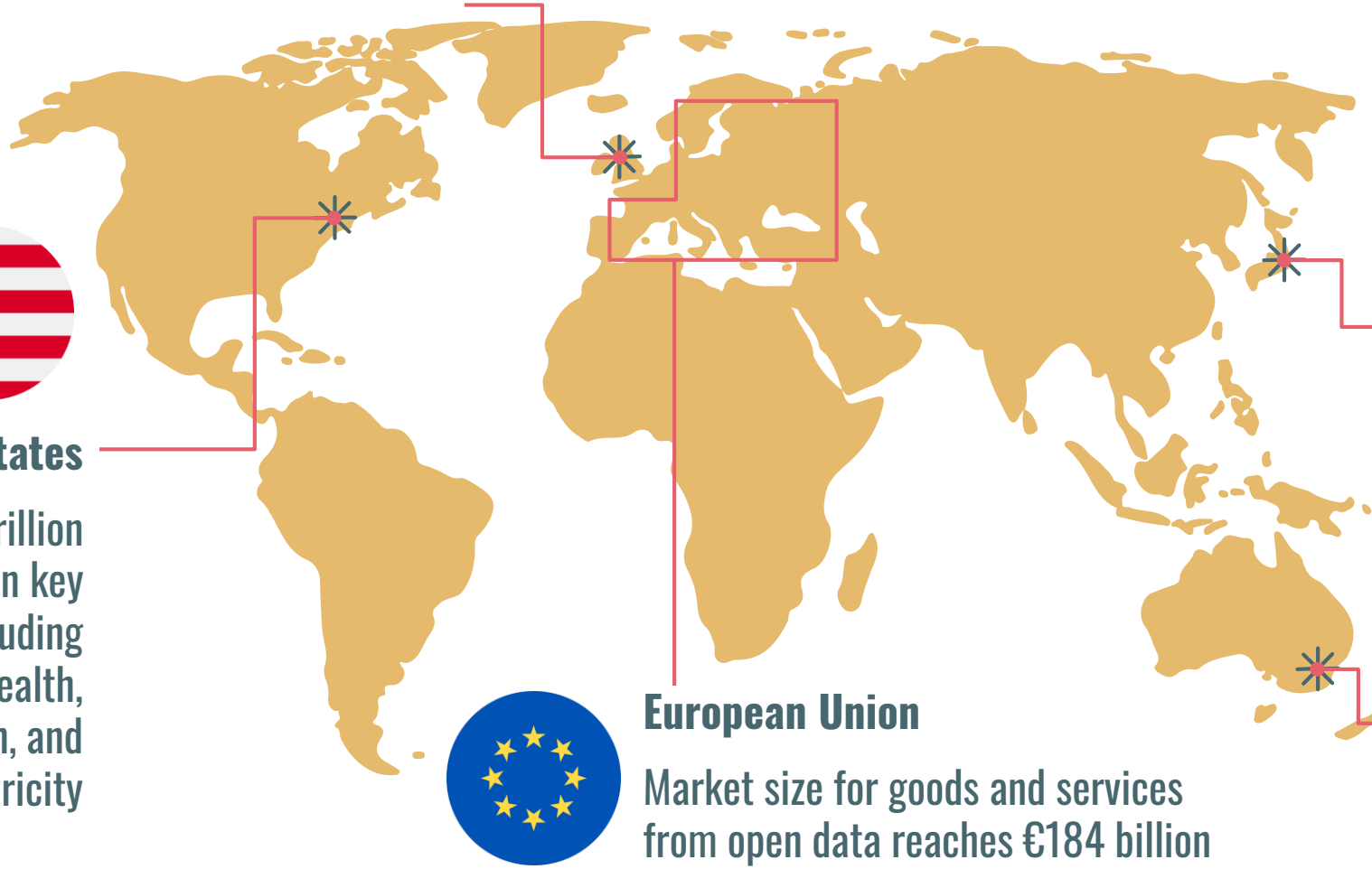
## Smart Living

Decrease 20% emergency response times

# Smart Economy

## United Kingdom

270 open data companies across UK, with a combined annual turnover of £92 billion



## Japan

Boost up GDP by ¥158.6 billion to ¥701 billion

## United States

Produce US$3 trillion additional value in key sectors, including education, health, transportation, and electricity

## European Union

Market size for goods and services from open data reaches €184 billion

Create 25,000 direct geo-spatial related jobs

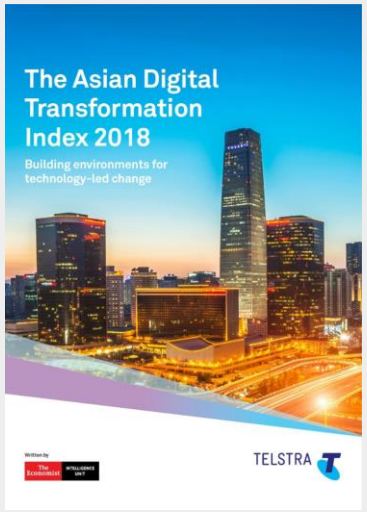
## Australia

Create AU$25 billion direct and indirect value in driving social and economic innovation

Sources: EU (2020), ODI (2016), Tanaka & Takagi (2016), Guren et al. (2014), the White House (2014), Yam (2013)

# What is HK's situation?

Singapore
Japan
**HONG KONG**
South Korea
Taiwan
Malaysia
Mainland China
India
Thailand
Philippines
Indonesia




Overall Score

Asian Digital Transformation Index 2018

The Economist INTELLIGENCE UNIT

TELSTRA

二零一七施政報告
2017 Policy Address

# Launch of Hong Kong GeoData Store (Alpha Version of CSDI)

The Government of the Hong Kong Special Administrative Region

**Press Releases**

GovHK 香港政府一站通 | 繁體版 | 简体版 | RSS

Revamped GeoInfo Map and new Hong Kong GeoData Store facilitate smart city development and geospatial data applications

**********

The Lands Department (LandsD) today (December 10) launched the revamped GeoInfo Map (www.map.gov.hk) and the new Hong Kong GeoData Store (geodata.gov.hk). The services will enhance public access to the Government's web map service, and enable public discovery and application of geospatial data published by the Government in a systematic manner for various innovation and information technology applications, so as to facilitate smart city development and geospatial data applications.

The GeoInfo Map is a web map service launched by the Survey and Mapping Office of the LandsD in May 2010. It provides free and convenient public access to accurate maps of Hong Kong, as well as providing the location and related information of various public facilities and services. Since its launch, the LandsD has been working closely with 29 government departments for the delivery of up-to-date map services and geospatial data to the public, and the geospatial data provided through the GeoInfo Map has been enhanced from 120 to 270 types of public facilities.

In future, as the Government is developing the CSDI, the LandsD will continue making new geospatial datasets related to the city's built environment and facilities, as well as improving access to various open data of public services through the Hong Kong GeoData Store in both machine-readable downloadable data and APIs. We will continue to enrich the coverage and content of the CSDI, so as to allow various industries to make more and better use of spatial data in support of smart city development, realising the vision of the Hong Kong Smart City Blueprint.

A spokesman for the LandsD said that continued enhancement of quality digital map services, development of the CSDI, and opening up more geospatial data all contribute to facilitating smart city applications in collaboration with the public and private sectors, helping to reap the potential benefits by creating economic and social values. Looking forward, the LandsD will continue to collaborate with government departments and various public and private sector organisations to progressively ... map services and introduce more geospatial data, so as to support ... and analysis, and providing ... and smart

空間數據共享平台
Common Spatial Data Infrastructure

... using innovation and ... Our consultant will ... been carried out on

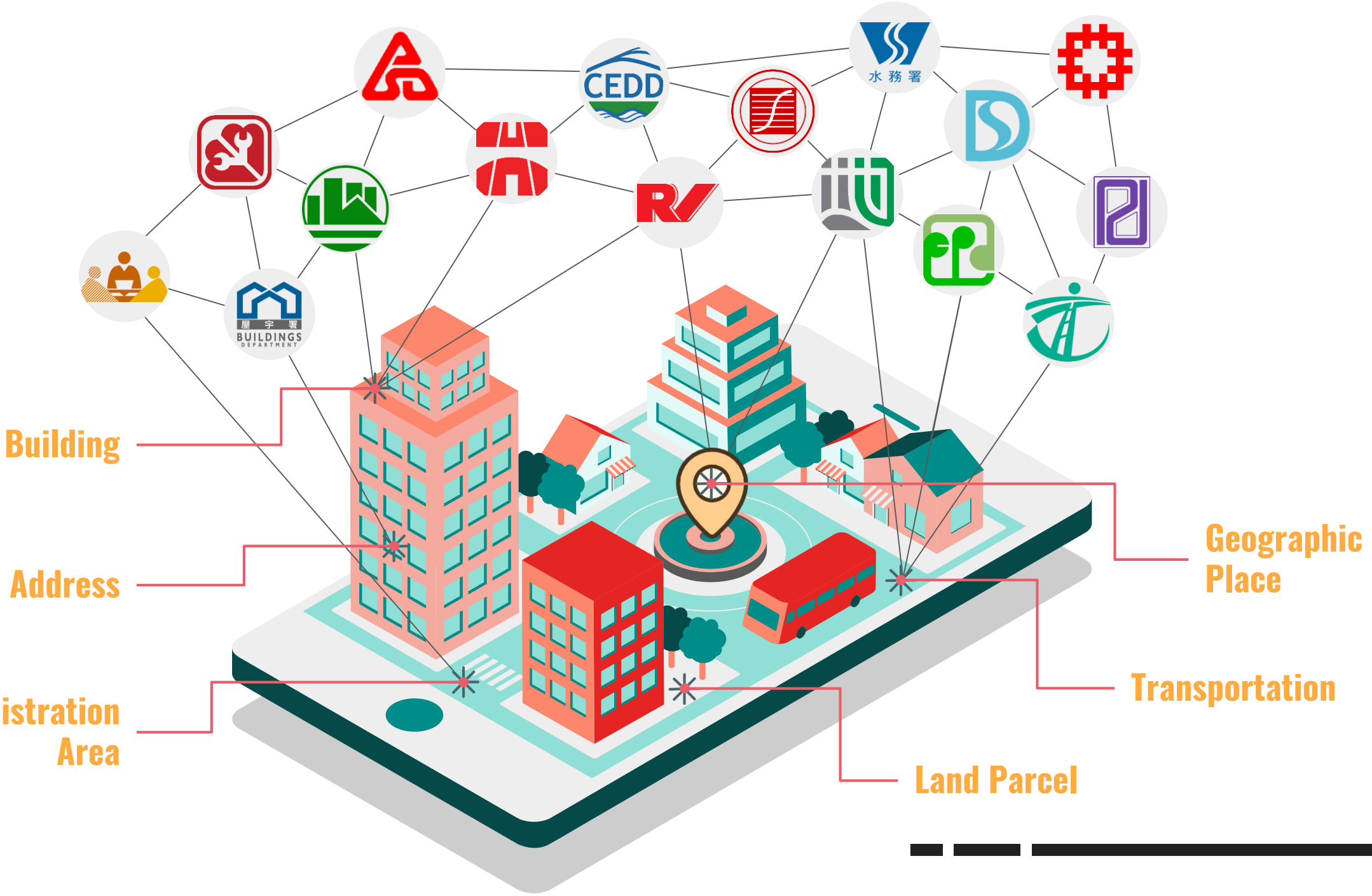
...mmon Spatial Data ...rivate organisations ...art city applications, ...s commissioning a

...ging people-centric ...mprove the use of

# Why do we need data standard?

Different people may have different way of presenting and recording information

Source: https://xkcd.com/1179/


CEDD
水務署
屋宇署
BUILDINGS DEPARTMENT
Building
Address
Administration Area
Geographic Place
Transportation
Land Parcel

"Every Skyscraper is Built on a Strong Foundation of Pillars"

# SMART HONG KONG

CREDITS: This presentation template was created by Slidesgo, including icons by Flaticon & Freepik