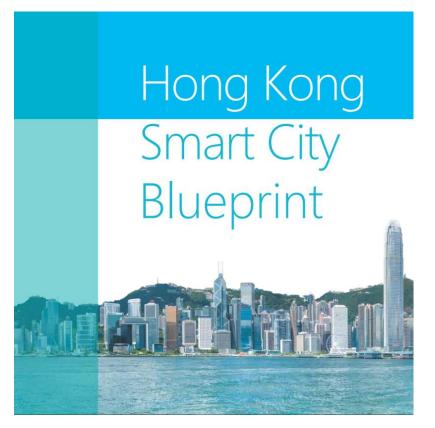






Policy objectives to pursue smart city development by making use of innovation and technology

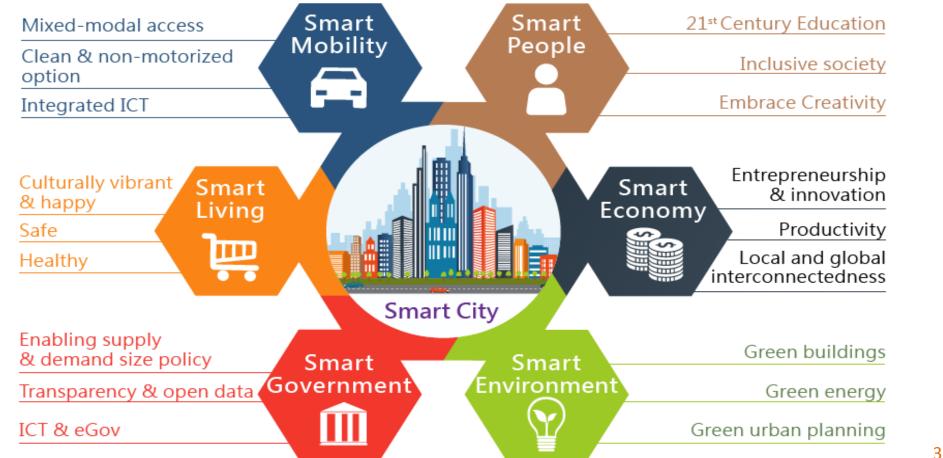
Encouraging open data and using data analytics to improve public services



Source: www.smartcity.gov.hk

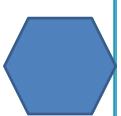








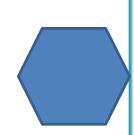
# **Promoting Hong Kong as a Smart City**



Hong Kong is transforming to a Smarter Digital City – increasing level of digital adoption by Hong Kong residents; 30% of residents and 44% of corporates consider Hong Kong to be a Smart City.

Source: Google Smarter Digital City 3.0 Research





Hong Kong ranking the 13<sup>th</sup> out of 129 economies in a benchmark innovation ranking in 2019, moving up one spot from last year and strengthening its position as one of global innovation leaders

Source: Global Innovation Index 2019,WIPO



# **Personal Data Privacy Concerns in Smart Cities**

Data leakage 24- hour Surveillance

Unexpected uses and sharing of data

Indiscriminate & excessive collection

Open data revealing personal identifiable information

Low quality of data resulting in bias and discrimination





# **Multi-functional Smart Lampposts Scheme**

### Smart Lamppost Features and Applications - Overview

#### HyD:

✓ LED lighting – to adopt energy saving equipment and smart management for carbon emission reduction

#### OGCIO:

✓ Wi-Fi access point and related network equipment –
to install free Wi-Fi service on smart lamppost at
suitable locations

#### TD:

✓ Bluetooth detector – to detect journey time and average vehicular speed for sharing traffic information with the public

#### HKO:

Meteorological sensors – to collect meteorological and related data at district level, including temperature, humidity, wind speed and direction, rainfall, UV index, etc.

#### EPD:

Air quality sensor – to collect air quality data at district level

#### TC:

To advise the tourist trade/agents to make use traffic messages or alerts to help them plan routes that avoid congested areas

4G / 5G – to facilitate mobile network operators to install base stations

#### TD

✓ Thermal detector & Surveillance camera – to collect real-time traffic data, including vehicular speed, vehicle types and traffic flow, and to monitor traffic conditions

### Panoramic TD:

Camera

Location

 Panoramic camera with Artificial Intelligence – to collect real-time traffic data for sharing to the public as well as traffic monitoring

#### EPD:

 Panoramic camera with Artificial Intelligence – to collect illegal dumping data

#### Devices LandsD:

Bluetooth Beacon, Radio Frequency Identification (RFID) tag and Geo-QR Code – to provide accurate positioning services to support the development of related applications by the Government and the industry, such as providing information of public facilities to the public and visitors



Source: OGCIO, Hong Kong





### **Multi-functional Smart Lampposts Scheme**

Smart devices include traffic detectors, Bluetooth detectors, panoramic camera, meteorological and air quality sensors, 5G base stations

Plan to install 400 smart lampposts in 4 districts but the project has been stalled due to public's concerns on personal data privacy

No facial recognition technology

PCPD Hong Kong is one of the members of the Smart Lamppost advisory committee





# **Multi-functional Smart Lampposts Scheme**

### Deploy more privacy-friendly technologies

### **Increase Transparency & Build Trust**

### Make available all information about the smart lamppost:

- Installation location, functions
- Technology
- Parties involved and their relationship (data users/ data processors / law enforcement agencies)
- Collection, usage, sharing and control of data, retention of data





# Facial Recognition technology



Source: https://miro.medium.com/max/8742/1\*qseidoEBfxVX6I2KIbHsRA.jpeg

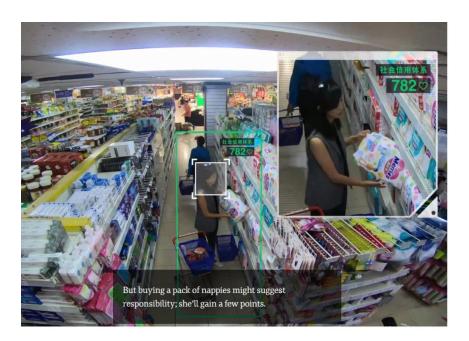
### What are the risks?

- Highly privacy intrusive
- Lack of regulations surrounding the use of facial recognition technology
- Misidentification
- Bias and discrimination
- Misuse by law enforcement agencies





### Cultural Clash between the Mainland of China and the West



<u>Source: https://www.abc.net.au/news/2018-09-18/china-social-credita-model-citizen-in-a-digital-dictatorship/10200278</u>

- A vast network of 200 million CCTV cameras across the Mainland of China
- For national security and operation of the Social credit system
- Ensure safety and convenience "It's the best way to manage a complex country with the world's biggest population. If, as our government says, every corner of public space is installed with cameras, I'll feel safe." says
   Dandan, marketing professional, Chinese citizen in an interview





### Different perceptions around the world

### Chinese citizens must pass a facialrecognition test to use the internet as part of Beijing's social credit system

- Citizens in China must have their faces scanned to have the internet installed
- The rule is part of China's social credit system and will take effect on Dec. 1
- · Authority claimed the move could help improve the nation's internet security
- · China has been building the world's most powerful facial-recognition system
- The nation is due to be equipped with 626 million CCTV cameras by 2020

By BILLIE THOMSON FOR MAILONLINE

PUBLISHED: 17:23 GMT, 2 October 2019 | UPDATED: 18:01 GMT, 2 October 2019















China has stepped up its internet censorship by demanding its citizens pass a facialrecognition test to be able to use web services.

People who want to have the internet installed at home or on their phones must have their faces scanned by the Chinese authority to prove their identities, according to a

Source: https://www.dailymail.co.uk/news/article-7529453/Chinese-internet-users-pass-facial-recognition-test-useweb.html

# Support V





### Singapore wants to add facerecognition surveillance to 110,000 lamp posts



BY MELISSA LOCKER 1 MINUTE READ

Singapore may be turning its island state into a surveillance state.

The nation plans to install cameras equipped with facial recognition technology to all 110,000 lamp posts around the city, making it easier than ever for the country to keep tabs on its citizens and visitors,



#### Source:

### Different perceptions around the world

### Facial recognition in schools leads to Sweden's first GDPR fine





Source: thenextweb.com/eu/2019/08/27/facial-recognition-in-schools-leads-to-swedens-first-gdpr-fine/

### Oppose X

### San Francisco is first US city to ban facial recognition

By Dave Lee North America technology reporter



Source: https://www.bbc.com/news/technology-48276660



Samson/AFP via Getty Images

### French privacy watchdog says facial recognition trial in high schools is illegal

Though non-binding, the opinion hands a victory to digital rights groups, parents and teachers' unions that opposed the experiment.

By LAURA KAYALI | 10/29/19, 12:06 PM CET | Updated 10/30/19, 3:52 PM CET

The French data protection authority has warned that plans to start trialling facial recognition tools at high schools in southern France do not comply with privacy

### Source:

https://www.politico.eu/article/fre nch-privacy-watchdog-says-facial-

recognition-trial-in-high-schools-is 料私隱專員公署 Privacy Commissioner illegal-privacy/ for Personal Data, Hong Kong





# Facial Recognition – Getting it Right

- Using less privacy intrusive alternatives if possible
- Conduct Privacy Impact Assessment make sure the deployment is necessary and proportionate
- Be transparent give notice (including class of transferee)
- Ensure adequate security measures are in place to prevent leakage
- Do not retain the data longer than necessary
- Having written policy and procedures in place for its deployment



# How to Manage Privacy Risks in Smart Cities?

















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