

# Overview of 5G Development and Industry Application in Hong Kong

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# Telecommunications Market in Hong Kong

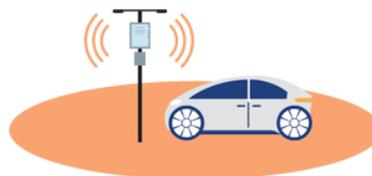
Telecommunications hub in Asia-Pacific region

Excellent network infrastructure connecting the world

State-of-the-art technologies and variety of services at competitive prices

Light-handed and market-based regulatory approach

Hong Kong as testing platform and pioneer for adoption and deployment of innovative technologies and solutions



# Three Key Application Characteristics of 5G

## 5G application characteristics

## Technology enhancement

1

High speed

Target maximum download speed of **20 Gbps**, 20 times of 4G

2

Low latency communications

Support transmission of mobile signals with **latency of 1 ms**, greatly reduced from 30 ms of 4G

3

Support for massive numbers of Internet of Things devices

Support communication of up to **1 million devices within 1 km<sup>2</sup>**

# Assignment of New Spectrum for 5G Services by the Communications Authority

The Communications Authority has made available a total of about 4500 MHz of spectrum for 5G services, more than **eight times** the existing spectrum being used for 2G, 3G and 4G services

A total of **1980 MHz** new spectrum has been assigned for 5G services/applications

Frequency Band	Bandwidth (MHz)
3.3 MHz	100
3.5 MHz	200
4.9 MHz	80
26/28 GHz (non-shared spectrum)	1200
26/28 GHz (shared spectrum) <i>(for Localised Wireless Broadband Services)</i>	400

Mobile network operators also have the flexibility to **re-farm spectrum used for 2G / 3G / 4G mobile services** under their existing licences to provide 5G services in various districts of Hong Kong

# Measures to Facilitate Deployment of 5G Networks (Open up Government Premises)

- ❖ OFCA has launched a pilot scheme in March 2019 to proactively open up suitable government premises for the installation of base stations by mobile network operators
- ❖ **More than 1000** outdoor or indoor government premises were first opened



**Museum**



**Sport Centre**



**Municipal Building**



**Market**

- ❖ The scheme will be **gradually extended** to other government premises through a “demand-led” approach. The installation of base stations in public facilities (such as payphone kiosks and bus shelters) is also being studied



**Payphone kiosk**



**Bus Shelter**

# Measures to Facilitate Deployment of 5G Networks (Subsidy Scheme to Extend Fibre-based Networks to Villages in Remote Areas)



Extensive fibre network coverage provides the required backhaul connectivity for mobile base stations and supports the development of 5G networks

- The Government takes the lead to provide telecommunications operators with financial incentives in the form of subsidies to encourage the extension of fibre-based networks to villages in remote areas
- About 110,000 villagers from 235 villages across nine districts in the New Territories and outlying islands will be benefited
- Extend fibre-based networks to the villages concerned in phases from next year onwards
- Provide the required infrastructure to develop other telecommunications services (including mobile services and Wi-Fi services) and drive the deployment of 5G networks



# Subsidy Scheme for Encouraging Early Deployment of 5G

- OFCA launched the scheme on 5 May 2020 under the second round of Anti-epidemic Fund
  - Encourage various sectors, through the provision of financial incentives, for early deployment of **5G**
  - Foster innovation and smart city applications
  - Improve operation efficiency and service quality that will contribute to enhancing Hong Kong's overall competitiveness
- Subsidise 50% of the actual cost directly relevant to the deployment of 5G technology in an approved project, subject to (whichever is lower):
  - 50% of the approved project budget;
  - \$500,000; or
  - the amount of the remaining subsidy available under the scheme
- Public and private entities/institutions (including logistics companies) are welcome to submit applications for subsidy under the scheme



# Examples of 5G Applications

5G technology can be widely used in various sectors



## Construction

3D building information modelling (BIM) for construction sites, 3D modelling for underground works

## Building facilities management

real-time monitoring of elevator safety, remote technical support



## Transport

real-time detection of unauthorised access to tunnel

## Medical and healthcare

engineering design for surgical robotic system



## Environmental protection

smart recycling machines



## Education

augmented reality (AR) / virtual reality (VR) based teaching

## e-Sports, entertainment and recreation

remote e-sports car racing, live streaming for performances and events, portable live streaming studio for fitness training

## Repair and maintenance

remote technical support



## Convention and exhibition

AR based exhibition booth design



# Examples of 5G Applications in Logistics Industry

## Smart cargo tracking and monitoring



## Autopilot



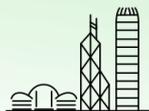
# Conclusion



More and more 5G innovative applications create new business opportunities



The logistics industry can also be one of the pioneers in adopting 5G technology



Unleash potential in innovation, turn a new page for the development of Hong Kong's logistics industry

# Thank you

