

Facilitating Measures for the Development of 5G

Telecommunications Regulatory Affairs Advisory Committee
16 December 2020



Background

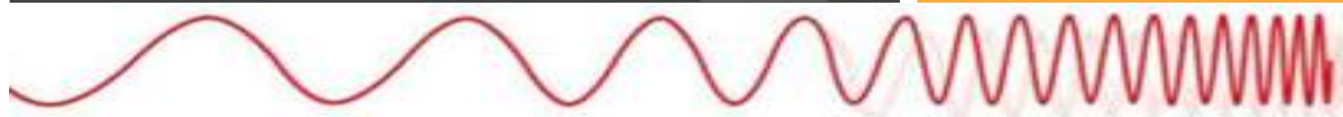
- ❖ In Nov 2019, OFCA briefed Members on the preparatory work for launch of 5G in Hong Kong (TRAAC Paper No. 5/2019)
- ❖ With mobile network operators (MNOs) commercially launched 5G services since April 2020, Hong Kong has entered the 5G era
- ❖ OFCA will continue the facilitating role to promote the development of 5G in Hong Kong

Spectrum supply - Spectrum assigned in 2019/2020

Auction



Administrative Assignment



Sub-6GHz band

mmWave band

3.3GHz band
(100MHz)

3.5GHz band
(200MHz)

4.9GHz band
(80 MHz)

26GHz and 28GHz bands
(1200MHz)

(400MHz)

for provision of large-scale public mobile services

Shared spectrum for
localized innovative
wireless services

Indoor use
only

Territory-wide use

Not exceeding
50km² of designated
area

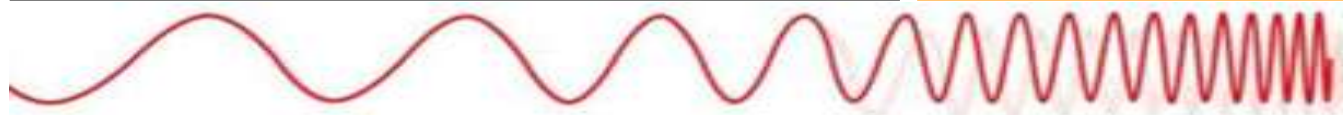
Total spectrum assigned: **1980 MHz**

Spectrum supply - Spectrum to be supplied in 2021

Auction



Administrative Assignment



Sub-6GHz band

mmWave band

600MHz band
(70 MHz)

700 MHz band
(70 MHz)

4.9GHz band
(80 MHz)

26GHz and 28GHz bands
(2500MHz)

for provision of large-scale public mobile services

Indoor use
only

Territory-wide use

Total spectrum to be assigned: **2720 MHz**

Use of Government Premises for Network Rollout (1/2)

❖ Policy Address 2018 & 2019

- ❖ Open up suitable Government premises for MNOs to install radio base stations (RBSs)
- ❖ OFCA launched a pilot scheme in March 2019 to make available more than 1000 Government premises for installation of RBSs, with streamlined application process and nominal rental
- ❖ Further assist MNOs under a “demand-led” model to make use of more Government premises to extend 5G network coverage



Use of Government Premises for Network Rollout (2/2)



Museum



Sports Ground

Municipal Services Building



Market

Use of Street Furniture for RBS Installations (1/3)

Sheltered Bus Stops (SBSs)

- ❖ 2019 Policy Address - open up suitable SBSs for RBS installations
- ❖ OFCA has been working with relevant Government departments to facilitate MNOs to conduct technical trials
- ❖ CA has issued guidelines to facilitate MNOs' applications for installation of RBSs at SBSs



Use of Street Furniture for RBS Installations (2/3)

Public Payphone Kiosks (Kiosks)

- ❖ 2019 Policy Address - open up suitable Kiosks for RBSs installations
- ❖ OFCA has been coordinating with relevant Government departments to assist MNOs to conduct technical trials
- ❖ CA has issued guidelines to facilitate MNOs' applications for installation of RBSs at Kiosks
- ❖ OFCA is coordinating with LandsD for modification of block licence of FNOs concerned to allow RBS installation at Kiosks



Use of Street Furniture for RBS Installations (3/3)

Smart Lampposts (SLs)

- ❖ Multi-functional Smart Lampposts Pilot Scheme (SL Pilot Scheme) initiated in 2017 Policy Address
- ❖ The Office of the Government Chief Information Officer (OGCIO) launched SL Pilot Scheme covering 400 SLs to be installed at 4 selected districts by phases. Some 50 SLs have been installed in Phase 1 of the Pilot Scheme in Kwun Tong / Kai Tak Development Area
- ❖ MNOs are invited to install RBSs at SLs for technical trials
- ❖ OFCA supported the trials by issue of permits and temporary assignments of frequency spectrum to the MNOs concerned



Use of External Walls of Buildings for RBS Installations

- ❖ Amendments to the Building (Minor Works) Regulation took effect from 1 September 2020, extending the scope to cover erection of supporting structure for antenna / transceiver on external walls of buildings
- ❖ OFCA is consulting relevant Government departments on amendment to the existing One-stop Application Procedure to cover applications for installation of antenna / transceiver on external walls of buildings



Online Platform for obtaining Approval of Low Power Indoor RBS for Public Mobile Services

- ❖ Low Power Indoor RBSs (LPIRBS) with EIRP < 2W and installed indoors provides mobile coverage in shopping malls, offices, sports halls, restaurants
- ❖ Nature of LPIRBS:
 - ❖ Low risk of causing interference to other radiocommunications apparatus / systems
 - ❖ Low level of non-ionizing radiation
- ❖ Room to simplify vetting of applications for new LPIRBS (about 2000 per year estimated)
- ❖ OFCA will set up a user-friendly web-based platform in 2021 for immediate approval on self-service registration of LPIRBS

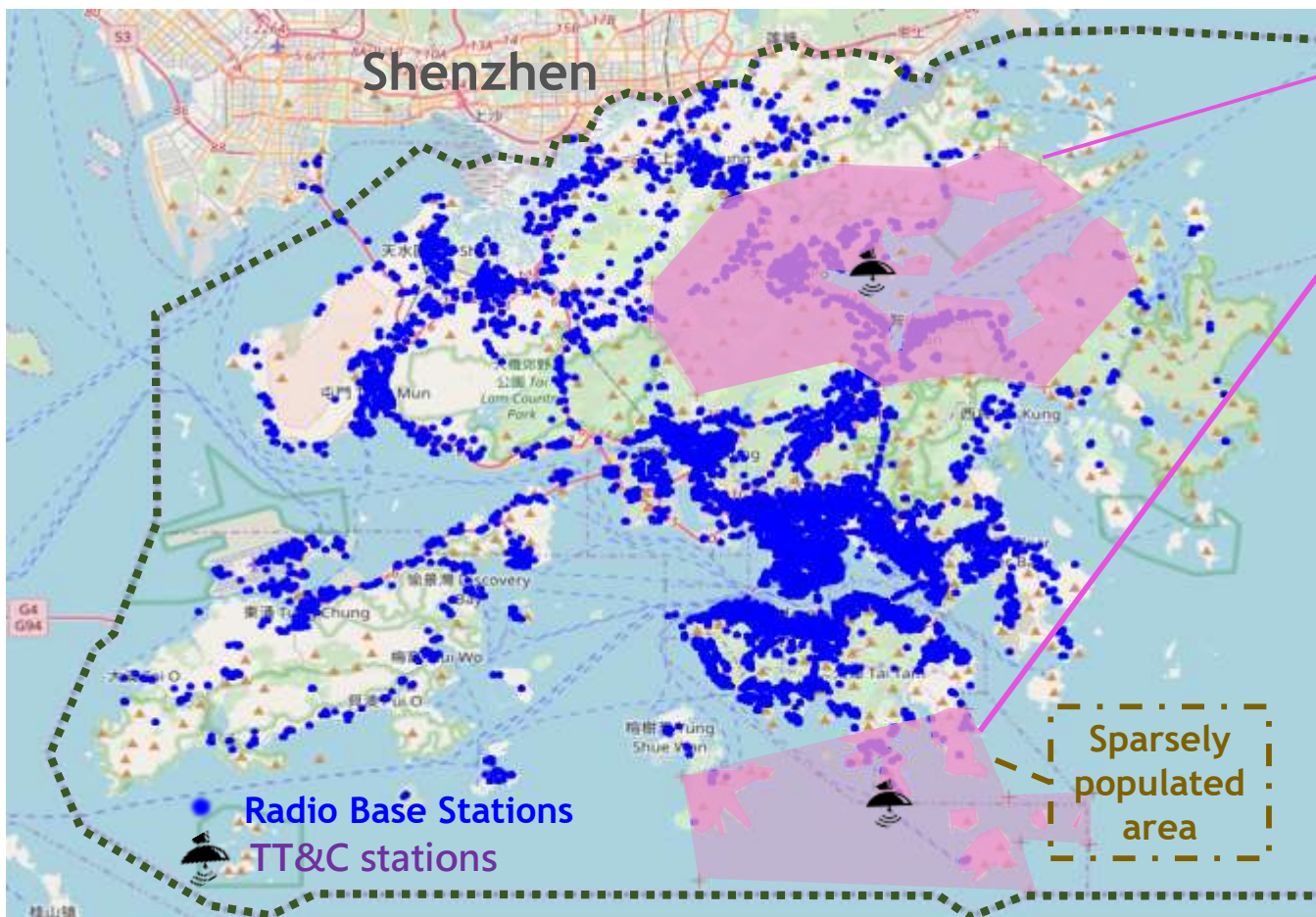


Subsidy Scheme to Support Upgrading of SMATV Systems

- ❖ From April 2020, spectrum in 3.4 - 3.7 GHz band was re-allocated from fixed satellite service to mobile service
- ❖ SMATV systems operating in 3.7 - 4.2 GHz band need to be upgraded in order to co-exist with 5G RBSs operating in 3.4 - 3.6 GHz band
- ❖ To support upgrading work of SMATV systems, OFCA launched a subsidy scheme funded by MNOs who have acquired 3.5 GHz band for provision of 5G services
- ❖ Eligible SMATV system owners may apply for a subsidy during the one-year period from November 2019
- ❖ Over 1000 applications were received and handled under the scheme



Resolving the problem of 5G Restriction Zone in Tai Po (1/2)

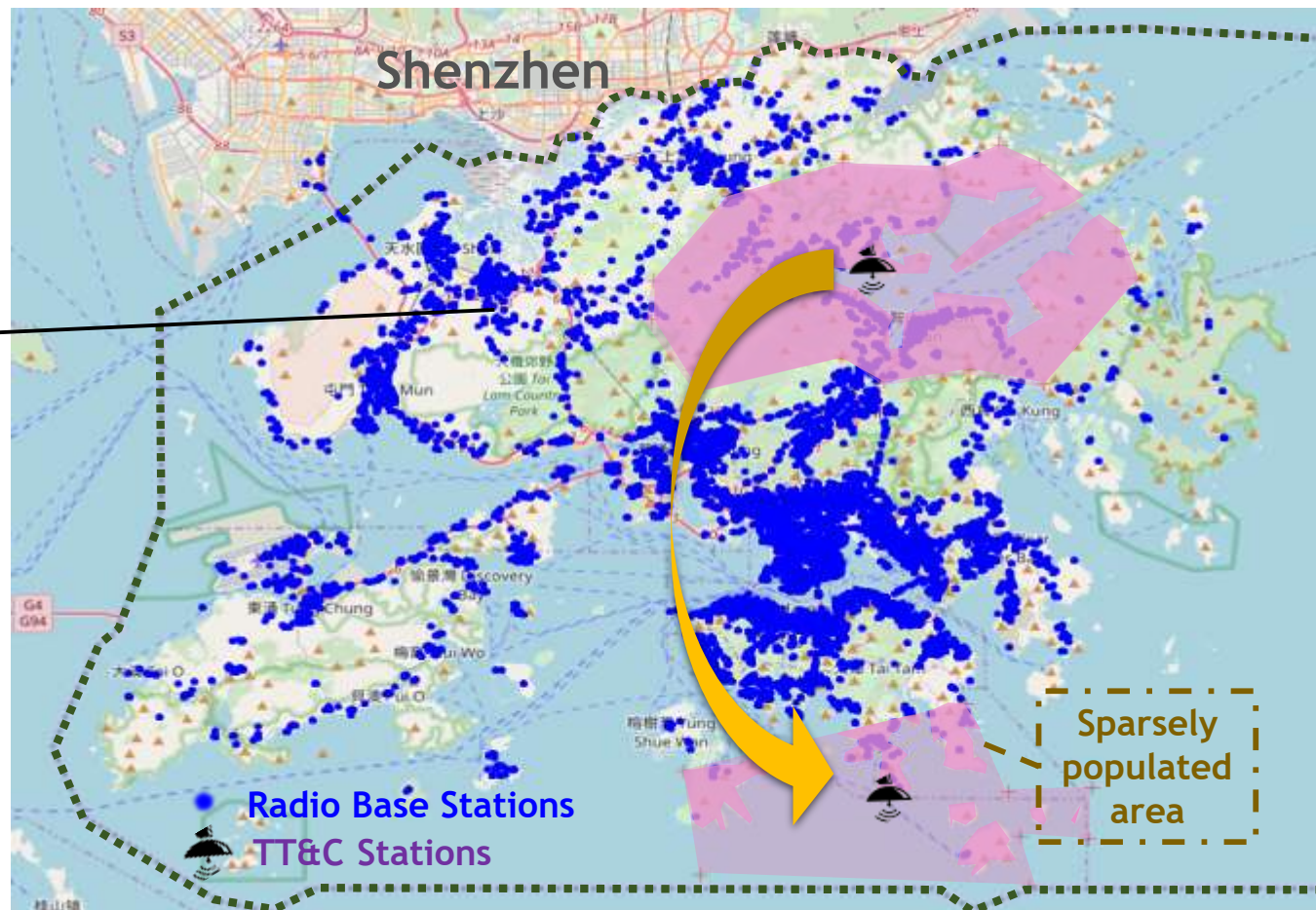


Restriction Zones

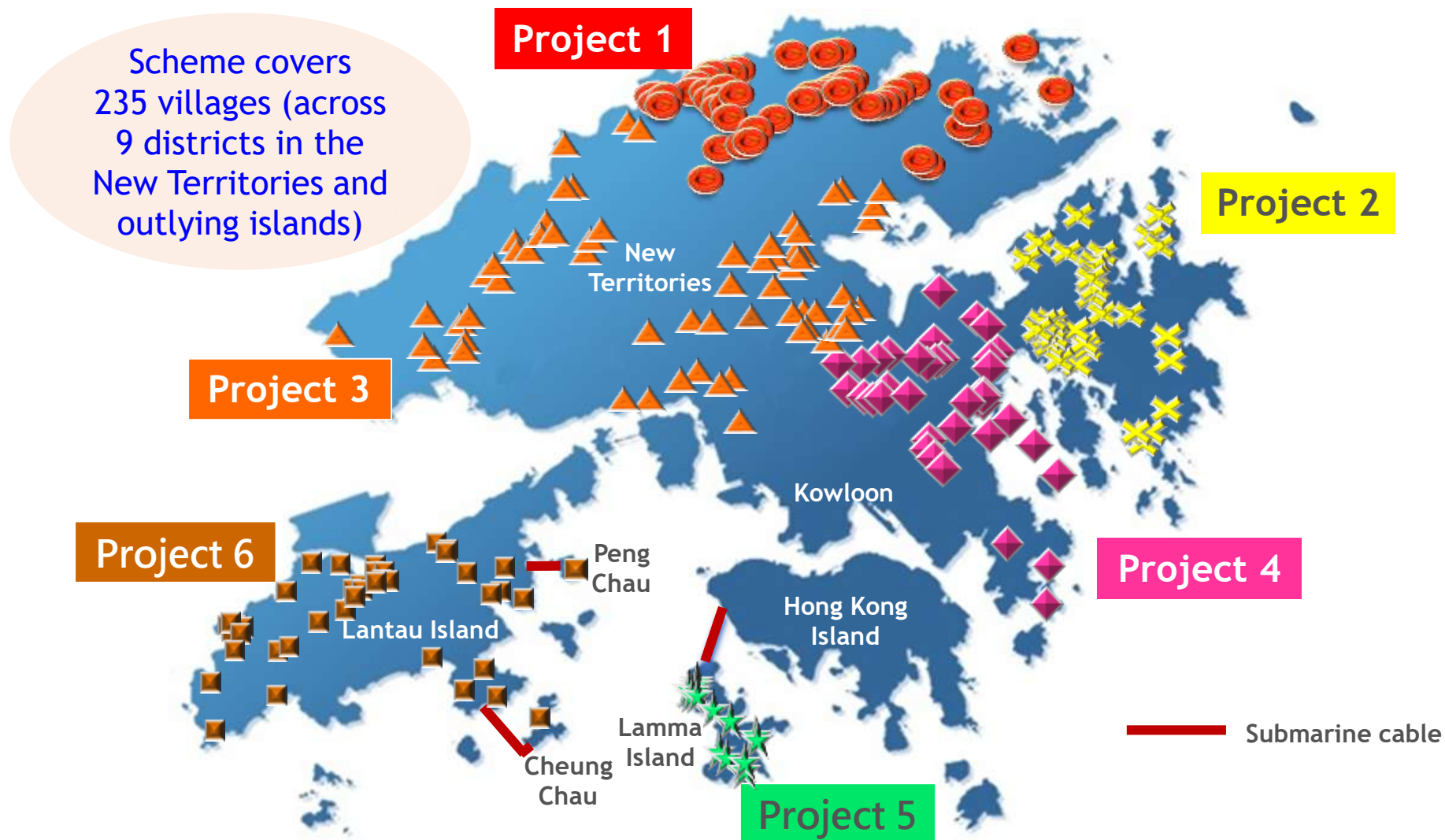
- protect existing TT&C stations operating at 3.4-3.7GHz band in order to coexist with 5G services operating at 3.5 GHz band
- MNOs may make use of other frequency bands (e.g. 4.9 GHz) or re-farm existing spectrum (e.g. 2.1 GHz band) to provide 5G services in the restriction zones

Resolving the problem of 5G Restriction Zone in Tai Po (2/2)

Facilitate relocation of 2 satellite operators' affected TT&C stations from Tai Po to Chung Hom Kok Teleport, with the aim to remove the restriction zone in Tai Po



Subsidy Scheme to Extend Fibre-based Networks to Remote Areas (1/2)



Subsidy Scheme to Extend Fibre-based Networks to Remote Areas (2/2)

2020 onwards

- awarded 6 projects to FNOs for network designs
- awarded FNOs to apply for relevant permits and commence projects

2021 onwards

- deployment of new optical fibre network to the villages concerned in phases



1. Improve optical fibre network coverage at remote villages to benefit residents in 235 villages
2. Provide network infrastructure for deployment of other telecommunications services, including 5G services

Subsidising Early Deployment of 5G Technologies (1/2)

- ❖ Government has earmarked a total of HK\$60 million under Anti-Epidemic Fund to support public and private sectors for early deployment of 5G technologies during economic uncertainty and epidemic
- ❖ Subsidise 50% of costs for projects deploying 5G technologies, subject to a cap of HK\$500,000 for each project



Subsidising Early Deployment of 5G Technologies (2/2)

Applications have been approved covering various sectors and applications:

Industry / sector	Example
Repair and Maintenance	Support remote repair of elevator and real-time monitoring of elevator safety
Construction	3D building information modelling for construction sites
E-sports	Remote e-Sports car racing
Entertainment & Recreation	Portable live streaming studio for fitness training
Others	In the field of property management, transportation, health care, environment protection, education, design etc.



Thank you

